

LilyPond

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The music typesetter

LilyPond Regression Tests

The LilyPond development team

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## Introduction

This document presents proofs for LilyPond dev. When the text corresponds with the shown notation, we consider LilyPond Officially BugFree (tm). This document is intended for finding bugs and for documenting bugfixes.

In the web version of this document, you can click on the file name or figure for each example to see the corresponding input file.

TODO: order of tests (file names!), test only one feature per test. Smaller and neater tests.

## Regression test cases

Natural signs don't displace accents.

`accidental-accent.ly`



Accidentals are available in different ancient styles, which all are collected here.

`accidental-ancient.ly`



When a tie is broken, the spacing engine must consider the accidental after the line break. The second and third lines should have the same note spacing.

`accidental-broken-tie-spacing.ly`



Test if cautionary accidentals have the same horizontal spacing correction as regular accidentals.

`accidental-cautionary-horizontal-spacing.ly`



Test if Scripts are placed over notes with accidentals the same way as over notes with cautionary accidentals.

`accidental-cautionary-script-placement.ly`



Cautionary accidentals may be indicated using either parentheses (default) or smaller accidentals.

`accidental-cautionary.ly`



Accidentals are invalidated at clef changes.

`accidental-clef-change.ly`



accidentals avoid stems of other notes too.

`accidental-collision.ly`



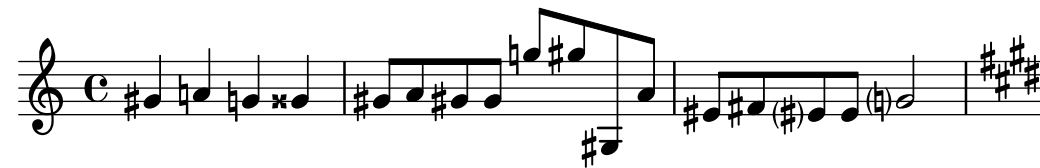
Several automatic accidental rules aim to reproduce contemporary music notation practices:

- 'dodecaphonic style prints accidentals on every note (including naturals)
- 'neo-modern style prints accidentals on every note (not including naturals), except when a note is immediately repeated
- 'neo-modern-cautionary style acts like neo-modern, adding cautionary parentheses around accidentals.
- 'teaching prints accidentals normally, but adds cautionary accidentals when an accidental is already included in the key signature.

Both scores should show the same accidentals.

`accidental-contemporary.ly`





If two forced accidentals happen at the same time, only one sharp sign is printed.  
accidental-double.ly



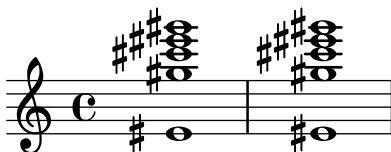
Horizontal Fingering grobs should not collide with accidentals.  
accidental-fingering-collision.ly



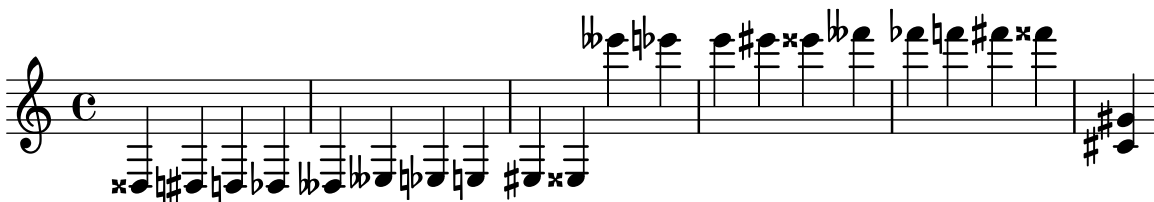
Accidentals can be forced with ! and ? even if the notes are tied. Cautionary accidentals applied to tied notes after a bar line are valid for the whole measure.  
accidental-forced-tie.ly



By setting accidentalGrouping to 'voice, LilyPond will horizontally stagger the accidentals of octaves in different voices as seen in this test's E-sharp.  
accidental-grouping.ly



Ledger lines are shortened when there are accidentals. This happens only for the single ledger line close to the note head, and only if the accidental is horizontally close to the head.  
accidental-ledger.ly



This shows how accidentals in different octaves are handled. The note names are also automatically printed but the octavation has been dropped out.

accidental-octave.ly



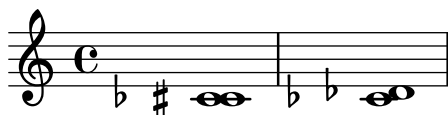
In piano accidental style, notes in both staves influence each other. In this example, each note should have an accidental.

accidental-piano.ly



Accidental padding works for all accidentals, including those modifying the same pitch.

accidental-placement-padding.ly



When two (or more) accidentals modify the same pitch, they are printed adjacent to one another unless they represent the same alteration, in which case they are printed in exactly the same position as one another. In either case, collisions with accidentals of different pitches are correctly computed.

accidental-placement-samepitch.ly



Accidentals are placed as closely as possible. Accidentals in corresponding octaves are aligned. The top accidental should be nearest to the chord. The flats in a sixth should be staggered.

accidental-placement.ly



accidental-quarter.ly



accidental-single-double.ly



accidental-styles.ly

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The key signature has three sharps (F#, C#, G#) and the time signature is common time (C). The melody is in the treble staff, and the accompaniment is in the bass staff. The melody starts with a quarter note G#4, followed by a quarter note A4, a quarter note B4, and a quarter note C5. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody continues with a quarter note B4, a quarter note A4, a quarter note G#4, and a quarter note F#4. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody then has a quarter note E4, a quarter note D4, a quarter note C4, and a quarter note B3. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody ends with a quarter note A3, a quarter note G#3, and a quarter note F#3. The bass staff has a whole note chord of F#3, C#3, and G#3.

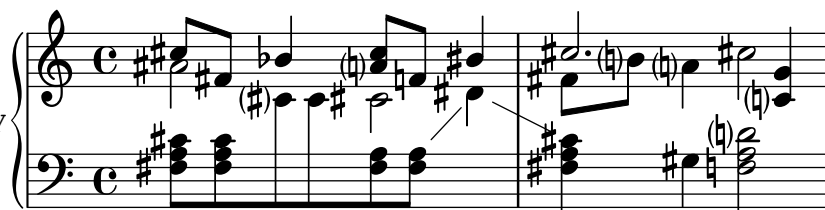
A musical score for the song 'The Rose Tree'. The score is written for voice and piano. The key signature is one sharp (F#), and the time signature is common time (C). The melody is in the treble clef, and the accompaniment is in the bass clef. The melody consists of a series of eighth and quarter notes, with a final half note. The accompaniment consists of a series of chords and single notes, with a final half note. The score is divided into two systems. The first system contains the first line of the melody and the first line of the accompaniment. The second system contains the second line of the melody and the second line of the accompaniment. The melody is written in a simple, folk-like style, and the accompaniment is written in a simple, folk-like style. The score is a public domain work.

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The key signature has three sharps (F#, C#, G#) and the time signature is common time (C). The melody is in the treble staff, and the accompaniment is in the bass staff. The melody starts with a quarter note G#4, followed by a quarter note A4, a quarter note B4, and a quarter note A4. The bass staff has a whole note chord of F#4, C#5, and G#4. The melody continues with a quarter note G#4, a quarter note F#4, a quarter note E4, and a quarter note D4. The bass staff has a whole note chord of F#4, C#5, and G#4. The melody then has a quarter note C#4, a quarter note B3, a quarter note A3, and a quarter note G3. The bass staff has a whole note chord of F#4, C#5, and G#4. The melody ends with a quarter note G#4, a quarter note F#4, a quarter note E4, and a quarter note D4. The bass staff has a whole note chord of F#4, C#5, and G#4.

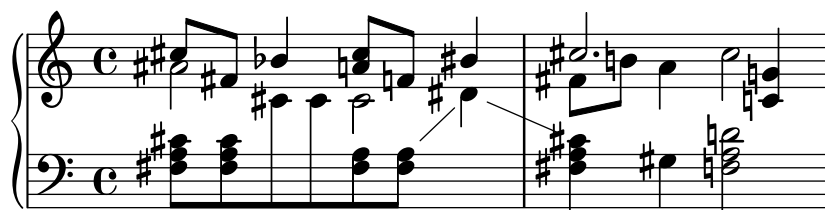
A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The key signature has three sharps (F#, C#, G#) and the time signature is common time (C). The melody is in the treble staff, and the accompaniment is in the bass staff. The melody starts with a quarter note G#4, followed by a quarter note A4, a quarter note B4, and a quarter note C5. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody continues with a quarter note B4, a quarter note A4, a quarter note G#4, and a quarter note F#4. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody then has a quarter note E4, a quarter note D4, a quarter note C4, and a quarter note B3. The bass staff has a whole note chord of F#3, C#3, and G#3. The melody ends with a quarter note A3, a quarter note G#3, and a quarter note F#3. The bass staff has a whole note chord of F#3, C#3, and G#3. There are some annotations in the image, including a circled 'b' in the treble staff and a circled 'b' in the bass staff.

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The key signature has three sharps (F#, C#, G#) and the time signature is common time (C). The melody is written in the treble staff, and the accompaniment is in the bass staff. The melody consists of a series of eighth and sixteenth notes, with some beamed sixteenth notes. The bass staff provides a harmonic accompaniment with chords and single notes. The score is divided into two systems by a double bar line.

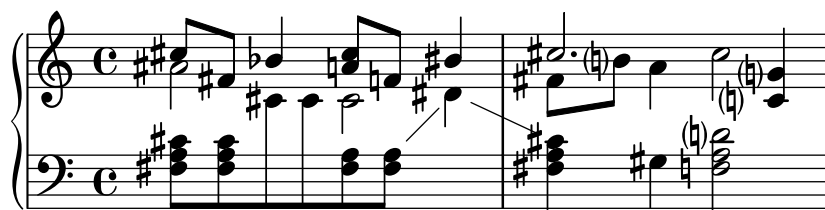
modern-voice-cautionary



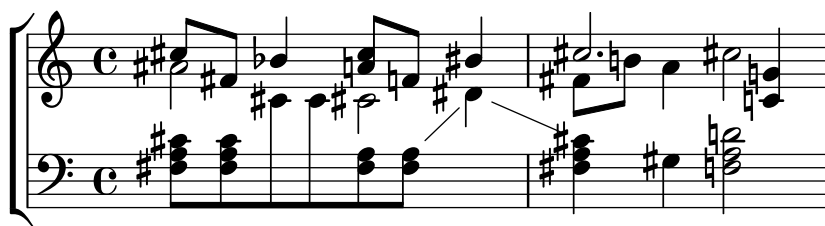
piano



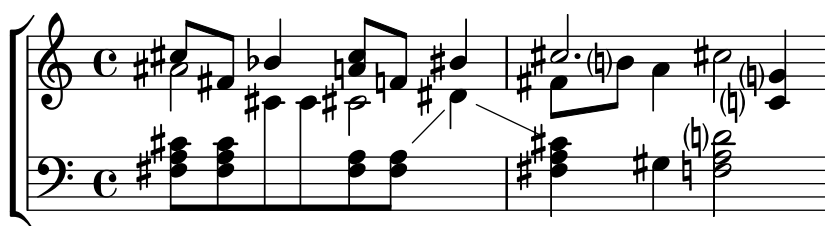
piano-cautionary



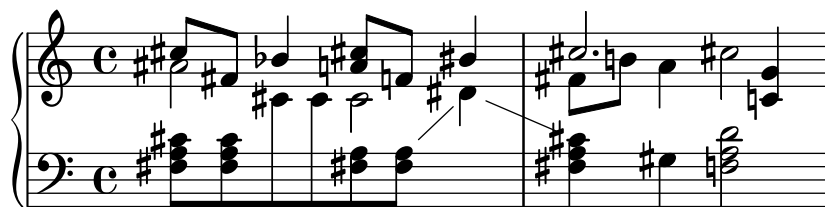
choral



choral-cautionary



neo-modern

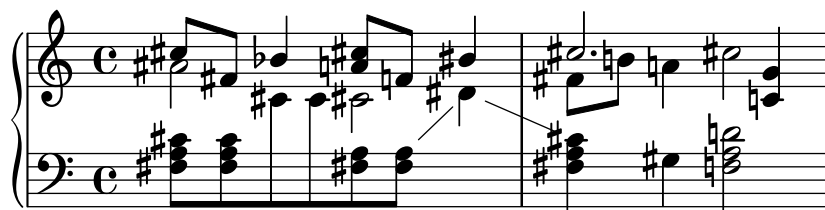


neo-modern-cautionary





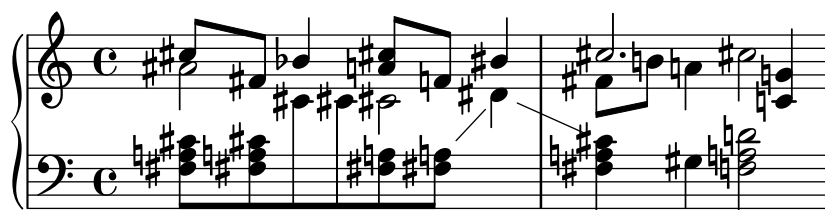
neo-modern-voice



neo-modern-voice-cautionary



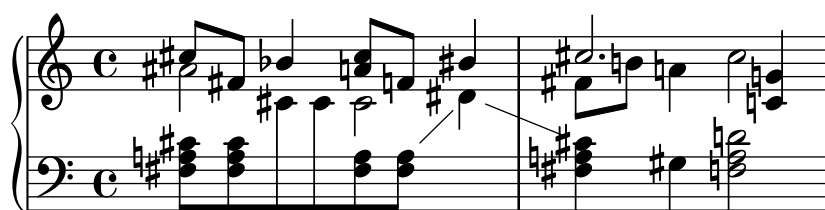
dodecaphonic



dodecaphonic-no-repeat



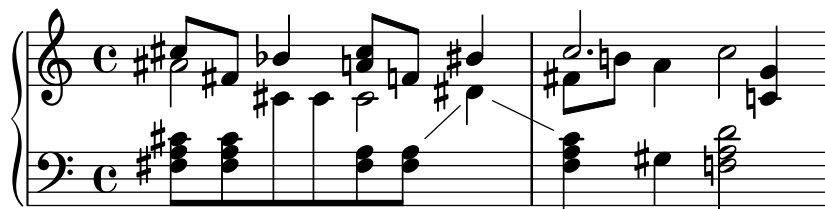
dodecaphonic-first



teaching



no-reset





because of previous measure. The last f gets cautionary natural because fis was only in the other voice.

accidental-voice.ly



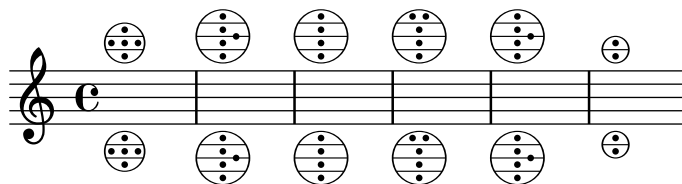
Accidentals work: the second note does not get a sharp. The third and fourth show forced and cautionary accidentals.

accidental.ly



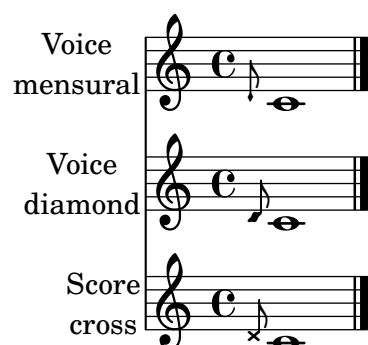
Accordion register symbols are available in the (lily accreg) module as \markup and as standalone music events.

accreg.ly



\add-grace-property can be used at various context levels in order to override grace properties. Overrides in different parallel contexts are independent.

add-grace-property.ly



add-stem-support can be removed or implemented only for beamed notes.

add-stem-support.ly

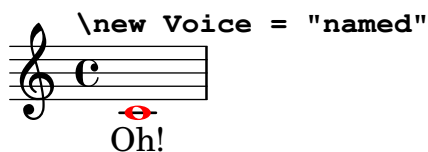
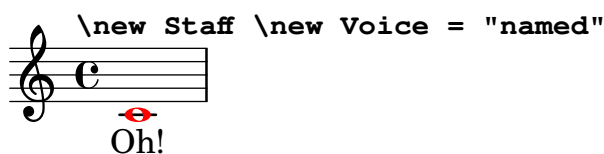
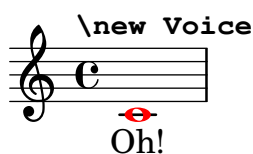
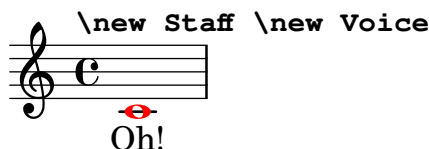


This is a test of combining post-events with various constructs. Problems are reported on the stderr of this run; there are no images produced.

added-post-event-test.ly

`\addlyrics` should be able to attach itself to named and unnamed `Voice` constructs. For all tests where this succeeds, the noteheads will be red.

addlyrics-existing-context.ly



`\addlyrics` may get used on a `Staff` context and will then consider all note events created below it for synchronization.

addlyrics-to-staff-context.ly

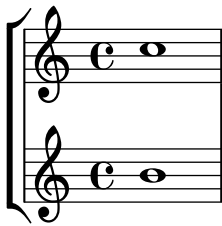


Delayed post-events and other types of music can be created with `\after` and `\afterGrace`.  
after.ly



A warning is emitted when the context specified in `alignAboveContext` or `alignBelowContext` does not exist, such as when the context having the `alignAboveContext` or `alignBelowContext` property is created before the context that this property refers to.

alignment-order-unfound-context.ly

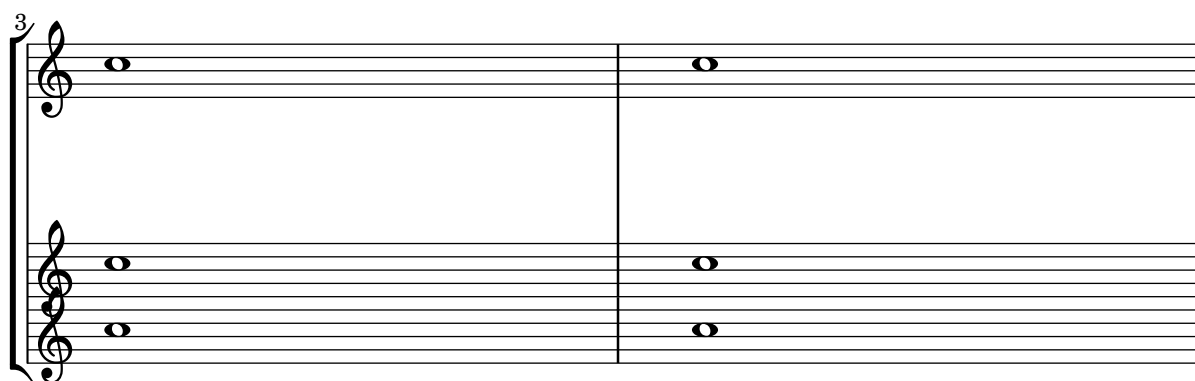
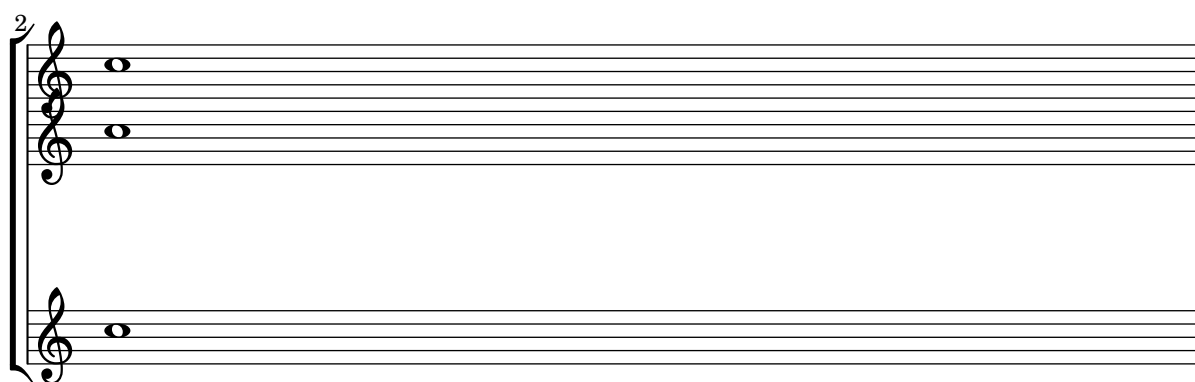
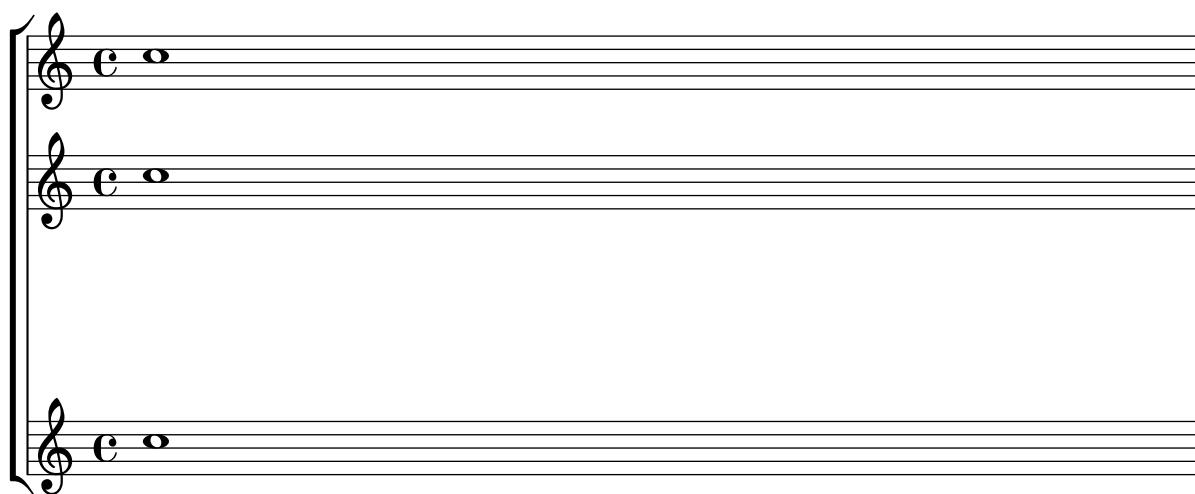


Newly created contexts can be inserted anywhere in the vertical alignment.

`alignment-order.ly`

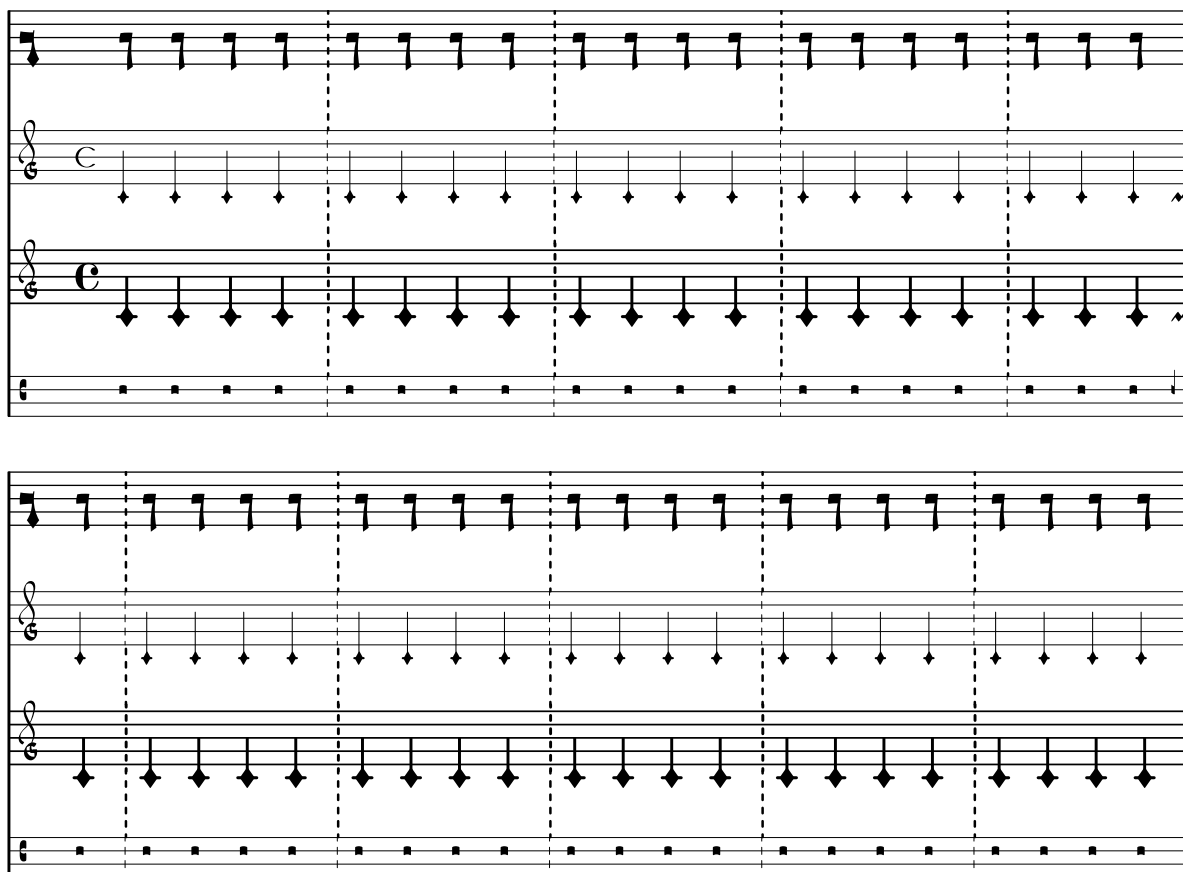
Alignments may be changed per system by setting `alignment-distances` in the `line-break-system-details` property

`alignment-vertical-manual-setting.ly`



By default, certain staff contexts for ancient music do not forbid line breaks between bar lines. The output should have a break at a point without a bar line.

`allow-break-ancient.ly`



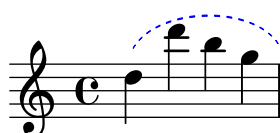
The `\allowBreak` command inserts a break point regardless of bar lines, unbreakable spanners, etc. This test should have a break in the middle of a measure.

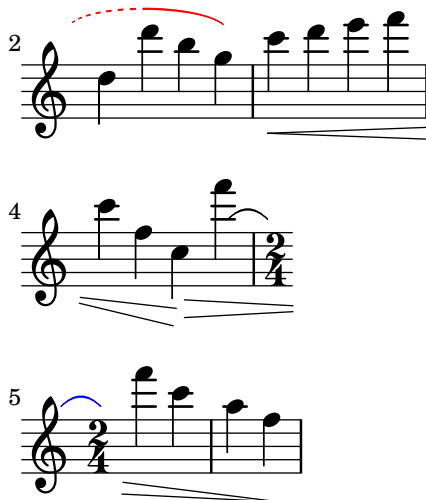
`allow-break.ly`



The command `\alterBroken` may be used to override the pieces of a broken spanner independently. The following example demonstrates its usage with a variety of data types.

`alter-broken.ly`





Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`alteration-glyphs.ly`

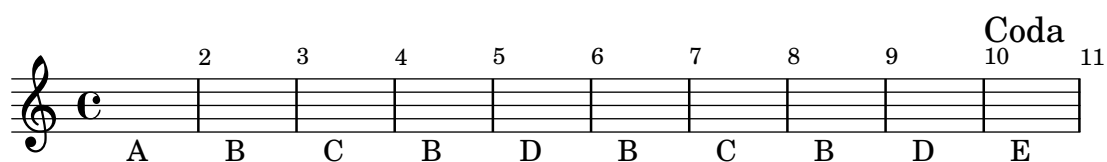
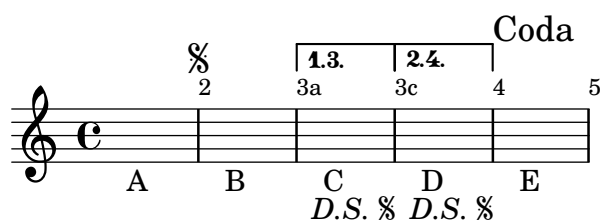
All  $\sharp$



This case places `\alternative` within the body of a `\repeat segno`, with the alternatives at the end of the repeated section, but with volta numbers out of order. Alternative bar numbering is enabled.

The alternatives are notated with brackets rather than coda signs. Repetition is notated with a segno and simplified *D.S.* instructions that have no return counts or section labels. Alternative bar numbers appear.

`alternative-end-segno.ly`





This case places `\alternative` within the body of a `\repeat volta`, with the alternatives at the end of the repeated section. The alternatives receive volta brackets, bar numbers, and ending repeat bar lines. They unfold as expected.

`alternative-end.ly`

This case places `\alternative` within the body of a `\repeat segno`, neither at the start nor the end of the section. The alternatives receive volta brackets and bar numbers, but no coda marks or repeat bar lines. They unfold as expected.

`alternative-middle-segno.ly`

This case places `\alternative` within the body of a `\repeat volta`, neither at the start nor the end of the section. The alternatives receive volta brackets and bar numbers, but no repeat bar lines. They unfold as expected.

`alternative-middle.ly`

A whole-measure rest starting in a volta alternative is placed correctly.

`alternative-mmrest.ly`

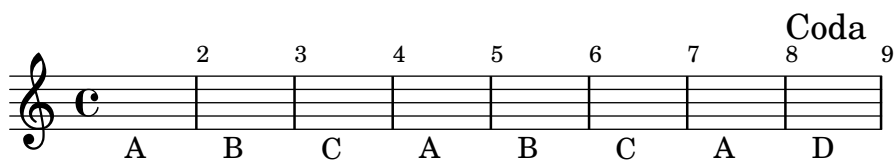
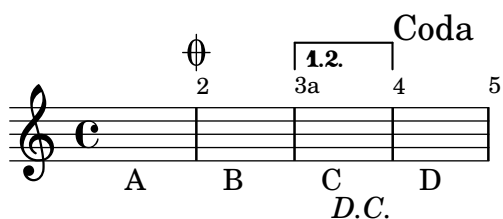
This case nests one `\alternative` within another at the tail end of a `\repeat segno`. Alternative bar numbering is enabled.

The outer alternative receives a coda mark, no volta bracket, and normal bar numbering.

The inner alternative receives a volta bracket. Alternative bar numbering is used because it is the outermost volta bracket. The bracket communicates the return count, so the return count is omitted from the *D.C.* instruction to avoid redundancy.

The music unfolds to ABC ABC AD.

`alternative-nest-end-end-segno1.ly`



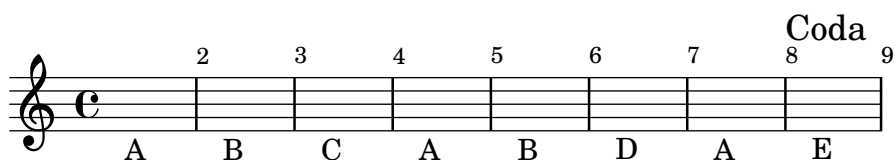
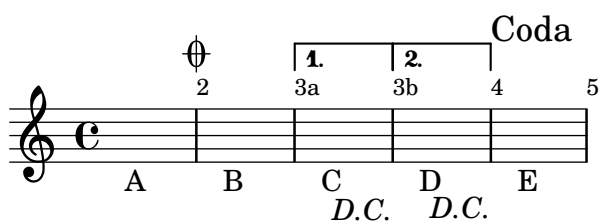
This case nests one `\alternative` within another at the tail end of a `\repeat segno`. Alternative bar numbering is enabled.

The outer alternative receives a coda mark, no volta bracket, and normal bar numbering.

The inner alternative receives volta brackets. Alternative bar numbering is used because they are the outermost volta brackets.

The music unfolds to ABC ABD AE.

`alternative-nest-end-end-segno2.ly`



This case nests one `\alternative` within another at the tail end of a `\repeat volta`. Alternative bar numbering is enabled.

The outer alternative receives a volta bracket and alternative bar numbering.

The inner alternative receives volta brackets and does not interrupt the bar numbering of the outer alternative.

The music unfolds to AB ACDE ACDF.

`alternative-nest-end-end.ly`

Two musical staves illustrating alternative repeat structures. The first staff shows a sequence of measures A through F, with first and second endings indicated by bracketed numbers 1 and 2. The second staff shows a sequence of measures A through F, with first and second endings indicated by bracketed numbers 1 and 2.

\alternative music can be assigned to a variable and used in multiple places, even with different repeat counts.

alternative-reuse.ly

Two musical staves illustrating alternative repeat structures. The first staff shows a sequence of measures V through I, with first and second endings indicated by bracketed numbers 1 and 2. The second staff shows a sequence of measures V through I, with first and second endings indicated by bracketed numbers 1 and 2.

This case places \alternative within the body of a \repeat segno, with the alternatives starting at the start of the repeated section and ending before the end of the section. The alternatives receive volta brackets and bar numbers, but no coda marks or ending repeat bar lines. They unfold as expected.

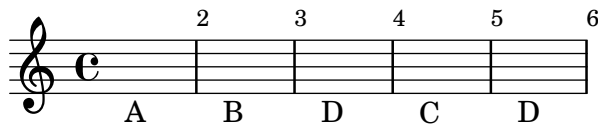
alternative-start-segno.ly

Two musical staves illustrating alternative repeat structures. The first staff shows a sequence of measures A through D, with first and second endings indicated by bracketed numbers 1 and 2. The second staff shows a sequence of measures A through D, with first and second endings indicated by bracketed numbers 1 and 2.

This case places \alternative within the body of a \repeat volta, with the alternatives starting at the start of the repeated section and ending before the end of the section. The alternatives receive volta brackets and bar numbers, but no ending repeat bar lines. They unfold as expected.

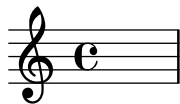
alternative-start.ly

A musical staff illustrating alternative repeat structures. The staff shows a sequence of measures A through D, with first and second endings indicated by bracketed numbers 1 and 2.



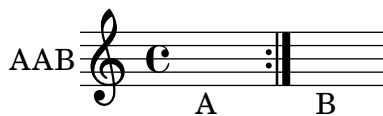
A score with `\alternative` outside of `\repeat` is processed gracefully. The visual output is not important.

`alternative-top-level.ly`



Alternative music in a variable does not automatically attach to preceding `\repeat`, but `\alternative` attaches it.

`alternative-trailing-var.ly`



Ambitus for pieces beginning with `\cueDuringWithClef`.

Cues are often used at or near the beginning of a piece. Furthermore, a cue is frequently in a different clef, so the `\cueDuringWithClef` command is handy. Using this command at the beginning of a piece should leave the ambitus displayed based on the main clef.

An `Ambitus_engraver` should ignore notes in `CueVoice` contexts.

`ambitus-cue.ly`



The gaps between an `AmbitusLine` and its note heads are set by the `gap` property. By default, `gap` is a function that reduces the gap for small intervals (e.g. a fourth), so that the line remains visible.

`ambitus-gap.ly`



Ambitus engraver should obey `middleCOffset`, `middleCPosition`, and the `staffLineLayoutFunction`.

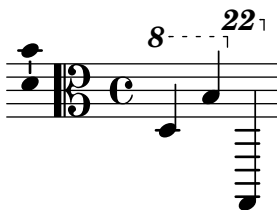
All three staves should look the same.

`ambitus-middleC.ly`



A voice with `\ottava` shouldn't confuse ambitus.

`ambitus-ottava.ly`



Adding ambitus to percussion contexts does not cause crashes, since the `Ambitus_engraver` will only acknowledge pitched note heads.

`ambitus-percussion-staves.ly`



Ambitus use actual pitch not lexicographic ordering.

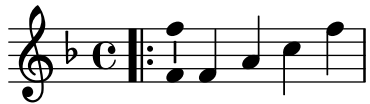
`ambitus-pitch-ordering.ly`



Ambitus can be moved to various positions with correct horizontal spacing in all cases.

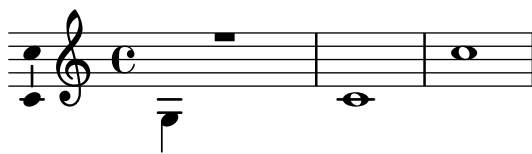
`ambitus-position.ly`





A voice with `Ambitus_engraver` that starts with a skip while another voice starts with a note does not cause a programming error.

`ambitus-skip-at-start.ly`



Ambitus accidentals (whether present or not) are ignored by the slur engravers.

`ambitus-slur.ly`



A `\Voice` should be able to contain both an `Ambitus_engraver` and a `Mensural_ligature_engraver` without segfaulting.

`ambitus-with-ligature.ly`



Ambitus indicate pitch ranges for voices.

Accidentals only show up if they're not part of key signature. `AmbitusNoteHead` grobs also have ledger lines. The noteheads are printed in overstrike, so there's only one visible; the accidentals are prevented from colliding.

`ambitus.ly`



Footnotes and balloons also work on system start delimiters.

`annotate-system-start-delimiter.ly`

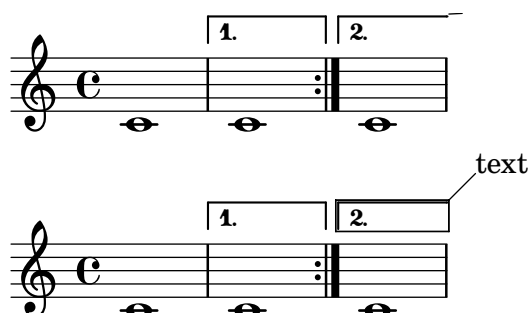


<sup>1</sup>note

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Footnotes and balloons also work on volta brackets running to the end of the piece.

`annotate-volta-spanner-end.ly`



<sup>1</sup>note

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

With `\applyContext`, `\properties` can be modified procedurally. Applications include: checking bar numbers, smart octavation.

This example prints a bar-number during processing on stdout.

`apply-context.ly`



The `\applyOutput` expression is the most flexible way to tune properties for individual grobs. Here, the layout of a note head is changed depending on its vertical position.

`apply-output.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`arabic-accidental-glyphs.ly`

All ♭



♭

A square bracket on the left indicates that the player should not arpeggiate the chord.

`arpeggio-bracket.ly`



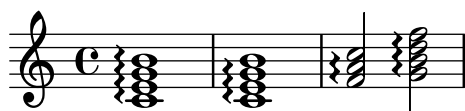
Arpeggio stays clear of accidentals and flipped note heads.

`arpeggio-collision.ly`



Arpeggios do not overshoot the highest note head. The first chord in this example simulates overshoot using 'positions for comparison with the correct behavior.

`arpeggio-no-overshoot.ly`



Arpeggios stil work in the absence of a staff-symbol.

`arpeggio-no-staff-symbol.ly`

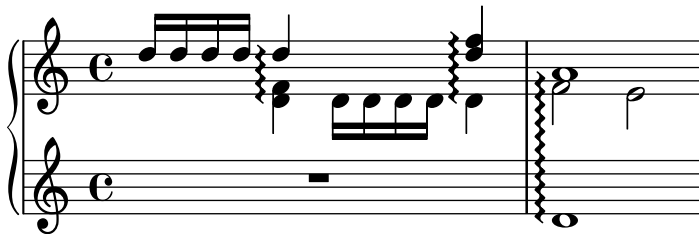




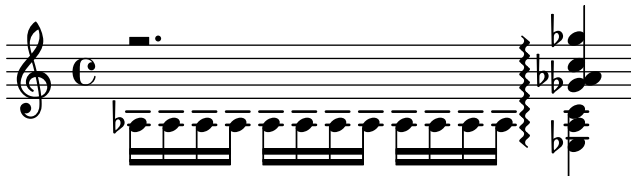
There is a variant of the arpeggio sign that uses a ‘vertical slur’ instead of the wiggle.  
[arpeggio-parenthesis.ly](#)



Cross-staff or -voice arpeggios which include single note heads as anchors do not collide with previous note heads or prefatory material.  
[arpeggio-span-collision.ly](#)



Span arpeggios that are not cross-staff do not have horizontal spacing problems.  
[arpeggio-span-one-staff-collision.ly](#)



Span arpeggios within one staff also work  
[arpeggio-span-one-staff.ly](#)



Arpeggios are supported, both cross-staff and broken single staff.  
[arpeggio.ly](#)



The snappizzicato articulation adds a snappizzicato sign to the note.  
[articulation-snappizzicato.ly](#)



Augmentum dots are accounted for in horizontal spacing.  
 augmentum.ly



No auto beams will be put over (manual) repeat bars.  
 auto-beam-bar.ly



Autobeamer remembers subdivideBeams and other beaming pattern related functions at the start of an autobeam.  
 auto-beam-beaming-override.ly



Automatic beams are ended early if a breathing sign is encountered.  
 auto-beam-breathe.ly



beamExceptions is used to modify the automatic beaming for certain durations; the expected grouping is given after the note duration.  
 auto-beam-exceptions.ly





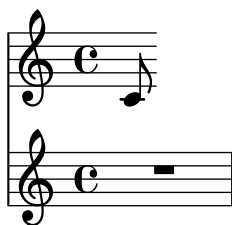
The autobeamer may be switched off for a single note with `\noBeam`.

`auto-beam-no-beam.ly`



Beamable notes do not extend a staff. The staff with the note should end immediately after the note.

`auto-beam-ossia.ly`



Grace notes at the start of a partial measure do not break autobeamming.

`auto-beam-partial-grace.ly`



Autobeamming works properly in partial measures.

`auto-beam-partial.ly`



In 4/4 time, the first and second and third and fourth beats should be beamed together if only eighth notes are involved. If any shorter notes are included, each beat should be beamed separately.

`auto-beam-recheck.ly`



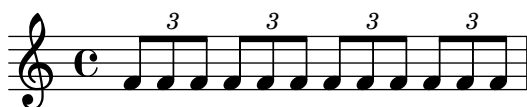
Automatic beaming is also done on triplets.

auto-beam-triplet.ly



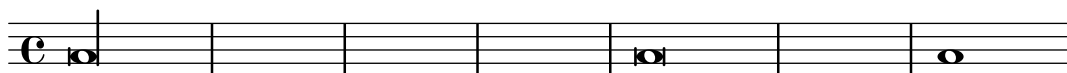
Tuplet-spanner should not put (visible) brackets on beams even if they're auto generated.

auto-beam-tuplets.ly



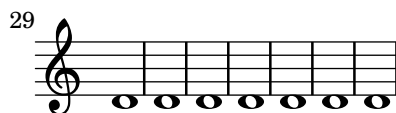
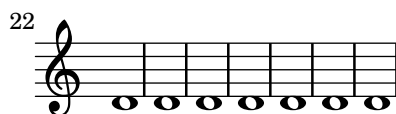
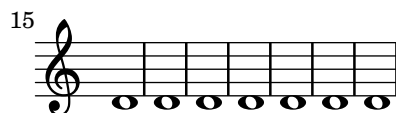
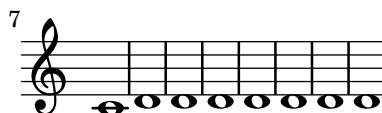
Beams are placed automatically; the last measure should have a single beam.

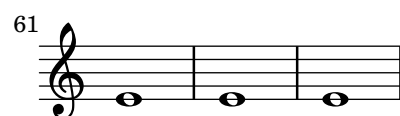
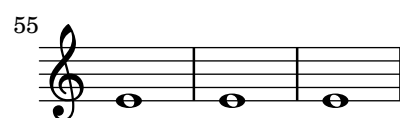
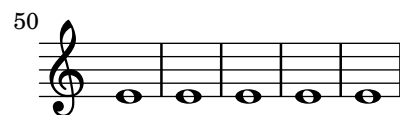
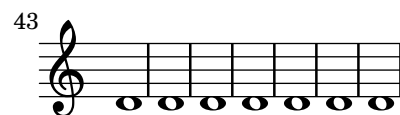
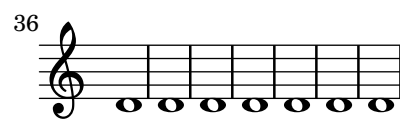
auto-beam.ly



`\autoBreaksOff` disables automatic line breaks and page breaks. `\autoBreaksOn` reenables both of them.

auto-breaks.ly





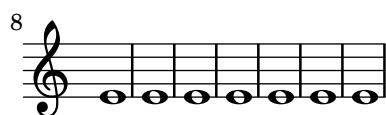
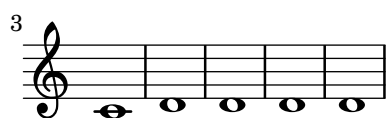
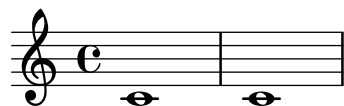
Auto change piano staff switches voices between up and down staves automatically; rests are switched along with the coming note. When central C is reached, staff is not yet switched (by default).

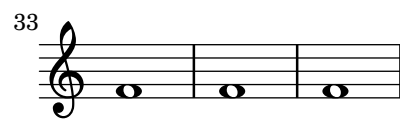
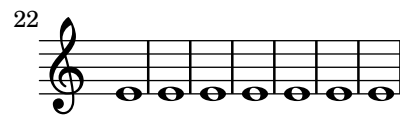
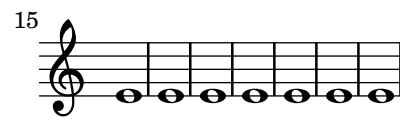
`auto-change.ly`



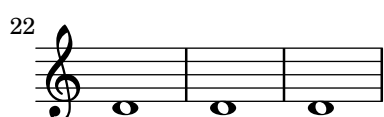
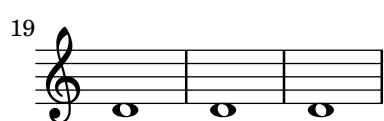
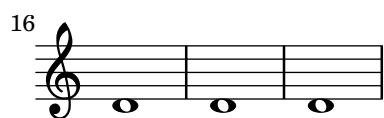
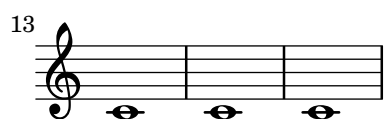
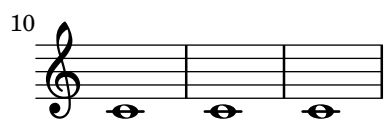
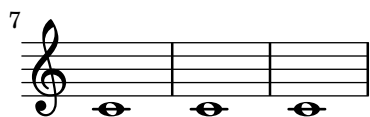
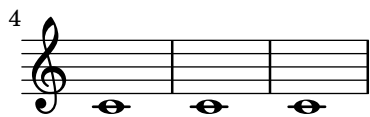
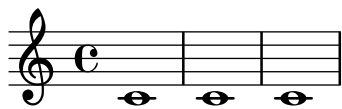
`\autoLineBreaksOff` can be used to turn off automatic line breaking. `\autoLineBreaksOn` reenables it.

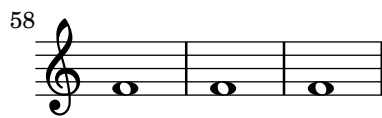
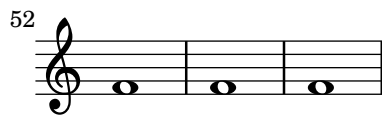
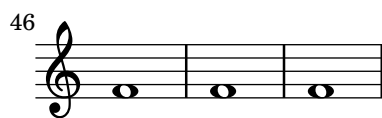
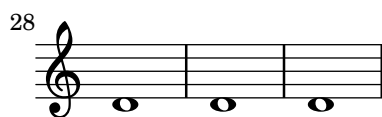
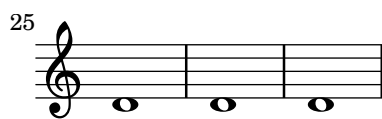
`auto-line-breaks.ly`





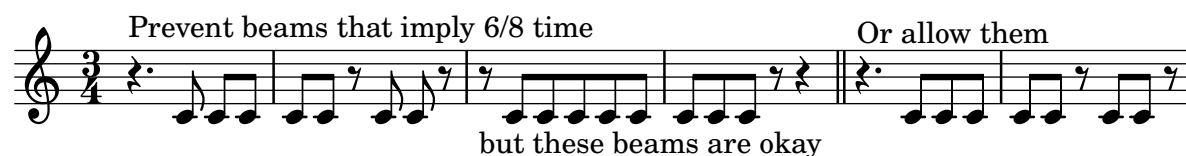
`\autoPageBreaksOff` turns off automatic page breaking; `\autoPageBreaksOn` reenables it.  
`auto-page-breaks.ly`





Beaming in 3/4 time has special treatment. By default six eighth notes are beamed in one. Beams that would imply 6/8 time may be avoided with `beamHalfMeasure = ##f`. When the beaming is changed, beams should start at the beginning of the measure.

`autobeam-3-4-rules.ly`



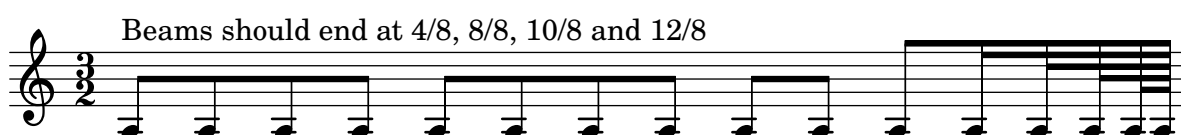
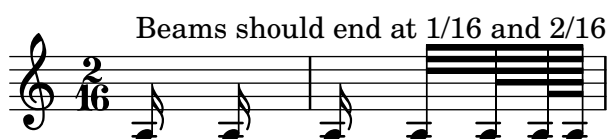
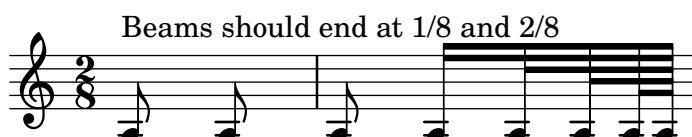
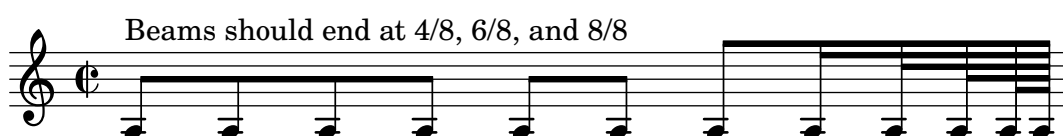
`\noBeam` should terminate an autobeam, even if it's not a recommended place for stopping a beam. In this example, the first three eighth notes should be beamed.

`autobeam-nobeam.ly`



Default autobeam settings have been set for a number of time signatures. Each score shows the desired beaming

`autobeam-show-defaults.ly`





1/8 beams should end at 3/4; smaller beams should end at 1/4, 2/4, and 3/4



Beams should end at 3/8



Beams should end at 1/16, 2/16, and 3/16



Beams should end at 4/8, 8/8, 12/8, 14/8, and 16/8



Beams should end at 4/8, 6/8, and 8/8



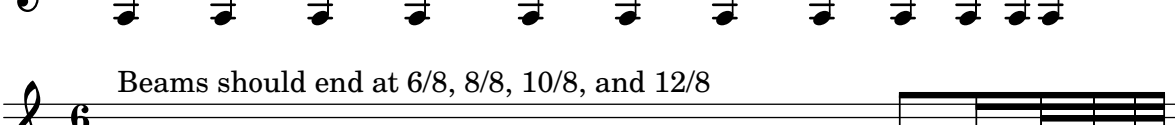
Beams should end at 1/16, 2/16, 3/16, and 4/16



Beams should end at 2/8 and 4/8



Beams should end at 6/8, 8/8, 10/8, and 12/8



Beams should end at 3/8 and 6/8

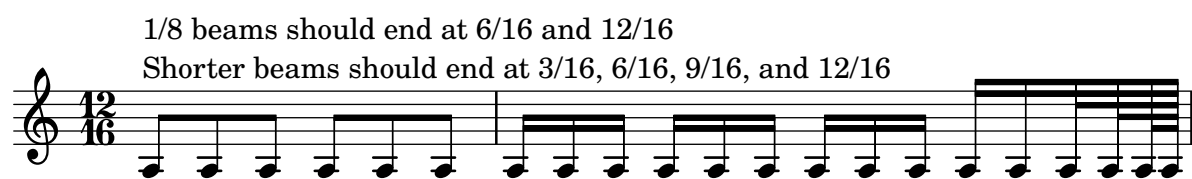
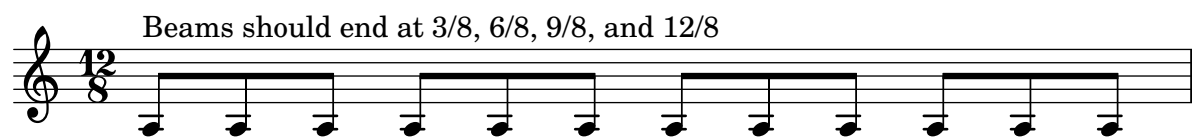


Beams should end at 6/8, 12/8, 14/8, 16/8, and 18/8



Beams should end at 3/8, 6/8, and 9/8





Autobeam rechecking works properly with tuplets. In the example, the first beat should be beamed completely together.

autobeam-tuplet-recheck.ly



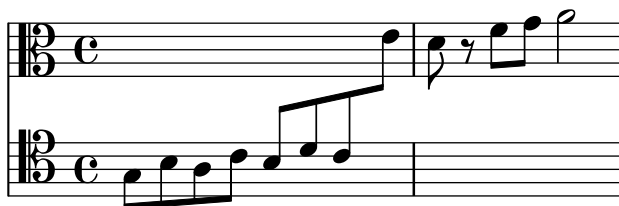
This is a regression test for an \autochange scenario reported in issue 6575. The stem of the C should point down.

autochange-after-rest.ly



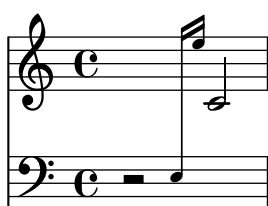
Other clefs for the `autoChanger` may be set. This works for implicitly created staves only. The first example should turn at `b` with soprano-clef in the upper Staff. The second example should turn at `d'` with alto-clef in the upper and tenor-clef in the lower Staff.

`autochange-clefs.ly`



Grace notes are placed on the appropriate staff.

`autochange-inside-grace.ly`



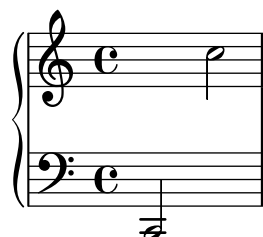
Music functions that scale durations also scale `\autoChange` decisions. The four measures should have identical notes.

`autochange-inside-scale-durations.ly`



`\keepWithTag` works with `\autoChange`.

`autochange-keep-with-tag.ly`



`\autoChange` needs to be given pitches in their final octaves, so if `\relative` is used it must be applied inside `\autoChange`. The pitches in `\autoChange` are unaffected by an outer `\relative`, so that the printed output shows the pitches that `\autoChange` used.

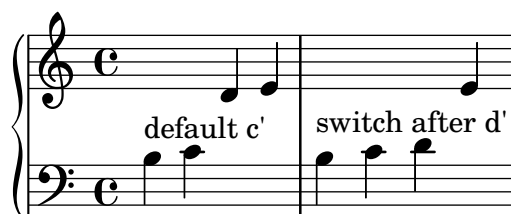
The expected output of this test is three identical measures.

`autochange-relative.ly`



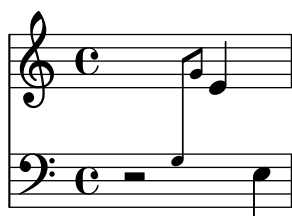
Other turning points for the `autoChanger` are possible.

`autochange-turning-pitch.ly`



Grace notes are placed on the appropriate staff.

`autochange-with-grace.ly`



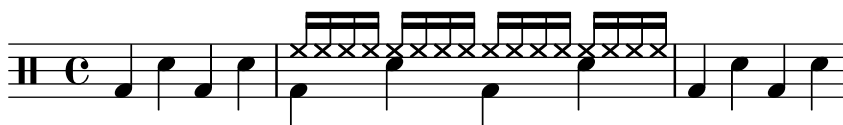
The bottom-level contexts in polyphony shorthand are allocated a context id in order of creation, starting with "1". This snippet will fail to compile if either voice has an invalid `context-id` string.

`automatic-polyphony-context-id.ly`



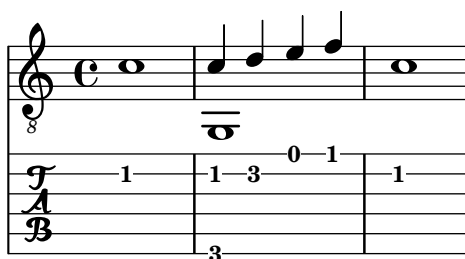
In a DrumStaff, automatic polyphony can be used without explicitly initializing separate voices.

`automatic-polyphony-drumstaff.ly`



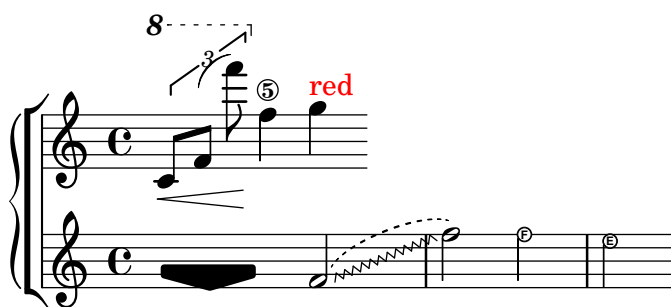
In a TabStaff, automatic polyphony can be used without explicitly initializing separate voices.

`automatic-polyphony-tabstaff.ly`



Exercise all output functions

`backend-exercise.ly`



The Bärenreiter edition of the Cello Suites is the most beautifully typeset piece of music in our collection of music (we both own one. It is also lovely on French Horn). This piece does not include articulation, but it does follow the same beaming and linebreaking as the printed edition. This is done in order to benchmark the quality of the LilyPond output.

As of lilypond 1.5.42, the spacing and beam quanting is almost identical.

There are two tweaks in this file: a line-break was forced before measure 25, we get back the linebreaking of Bärenreiter. The stem direction is forced in measure 24. The last beam of that measure is up in Bärenreiter because of context. We don't detect that yet.

Note that the Bärenreiter edition contains a few engraving mistakes. The second line begins with measure 6 (but prints 5). The |: half way in measure 13 has been forgotten.

`baerenreiter-sarabande.ly`

## Solo Cello Suite II

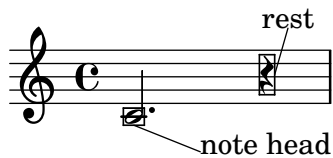
Johann Sebastian Bach (1685–1750)

### Sarabande

The image displays the musical score for the Sarabande from the Solo Cello Suite II by Johann Sebastian Bach. The score is written in bass clef, 3/4 time, and B-flat major. It consists of six staves of music, with measure numbers 6, 11, 16, 21, and 25 indicated at the beginning of each line. The music features a variety of note values, including eighth and sixteenth notes, as well as rests. Trills (tr) are marked above several notes. The score is presented in a clean, black-and-white format, typical of a printed musical score.

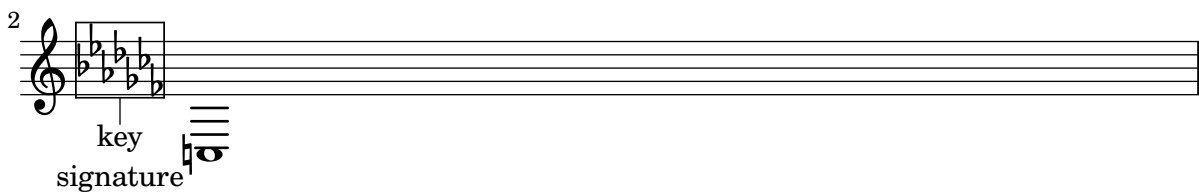
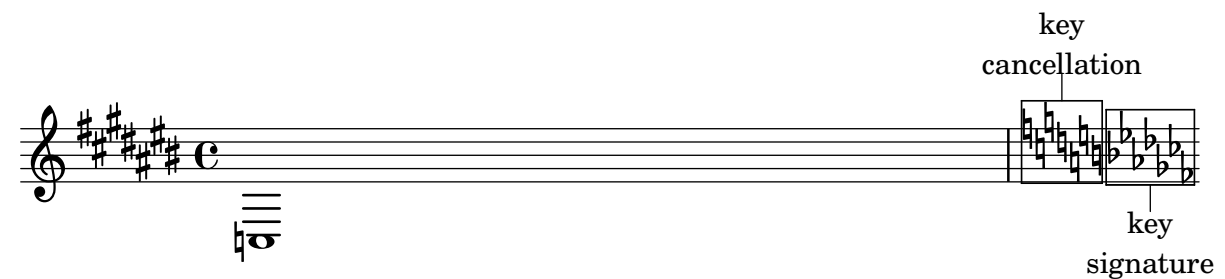
The alignment of a balloon text can be customized as well as the attachment point of the line connecting it to the frame.

`balloon-attachments.ly`



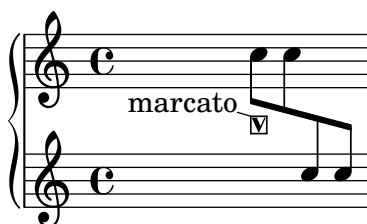
Balloons on breakable items are visible if and only if the item they annotate is visible.

`balloon-breakable.ly`



Balloons work on cross-staff grobs.

`balloon-cross-staff.ly`



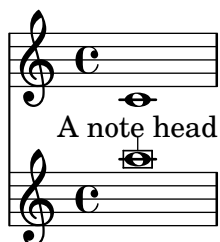
Balloons work on spanners that have no pure height.

`balloon-empty-pure-height.ly`

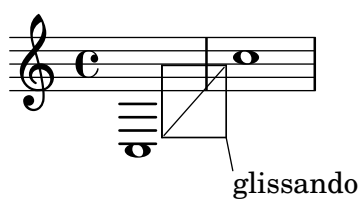


Balloons also reserve space vertically when the `Balloon_engraver` is in `Score` context.

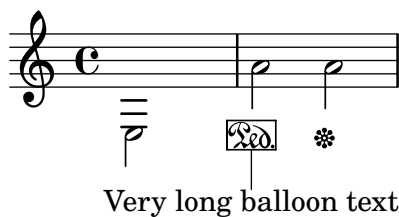
`balloon-engraver-score-spacing.ly`



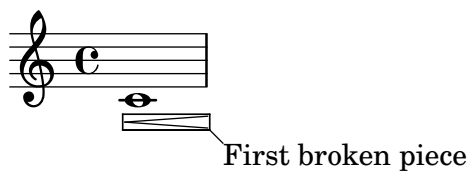
Balloons can be attached to glissandi.  
 balloon-glissando.ly



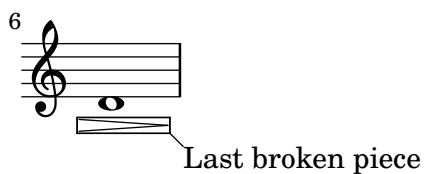
Outside-staff positioning correctly takes balloons into account.  
 balloon-outside-staff.ly



BalloonText supports the spanner-placement property.  
 balloon-spanner-placement.ly

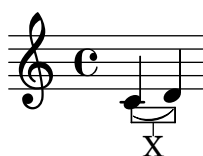






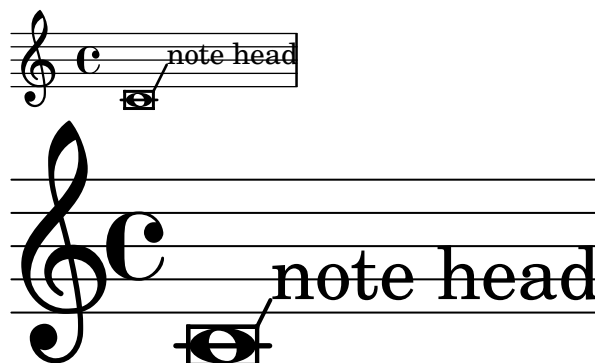
Balloons on spanners, such as slurs, are supported.

`balloon-spanner.ly`



The thickness of balloons scales with staff size.

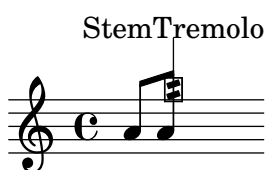
`balloon-staff-size.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

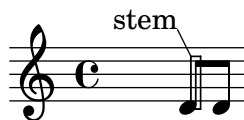
Balloons work on stem tremoli.

`balloon-stem-tremolo.ly`



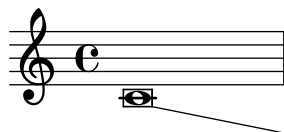
Balloons work on beamed stems.

`balloon-stem.ly`



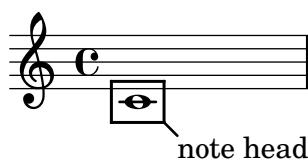
Stencils are copied before moved for Balloons instead of modified. In the test, the point-stencil in the second system should not inherit the extent from the `null-markup` in the first and the bar should be much shorter.

`balloon-stencil.ly`



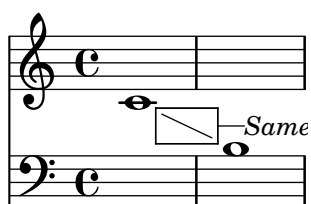
BalloonText has configurable thickness.

`balloon-thickness.ly`



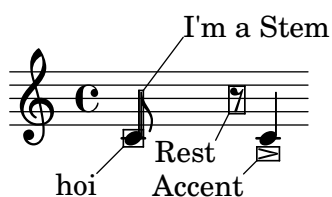
Balloons can be attached to voice followers.

`balloon-voice-follower.ly`



With balloon texts, objects in the output can be marked, with lines and explanatory text added.

`balloon.ly`



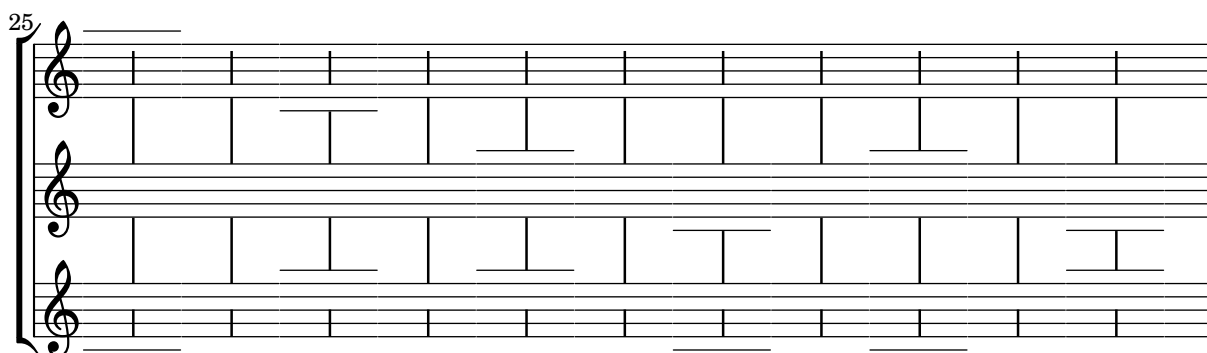
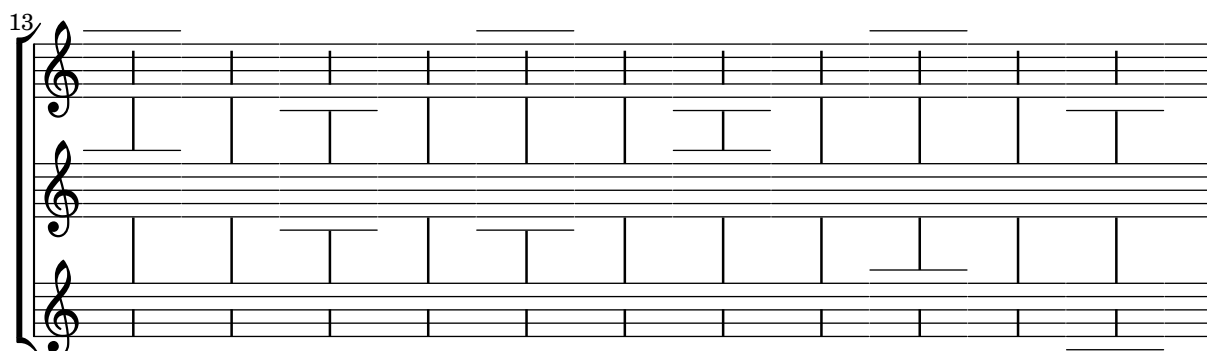
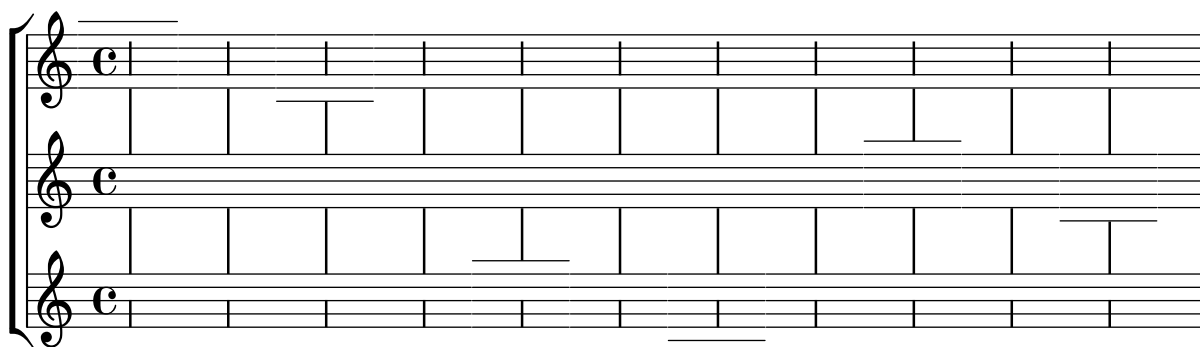
The meaning of `|` is stored in the identifier `"|"`.

`bar-check-redefine.ly`



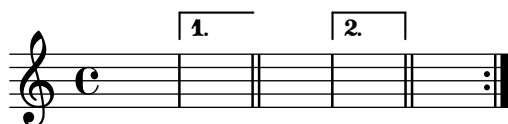
Bar line extent can be customised and the customised value must be respected when staff symbol is changed temporarily (e.g. to simulate ledger lines of renaissance prints and manuscripts); moreover, span bars should not enter the staves.

`bar-extent.ly`



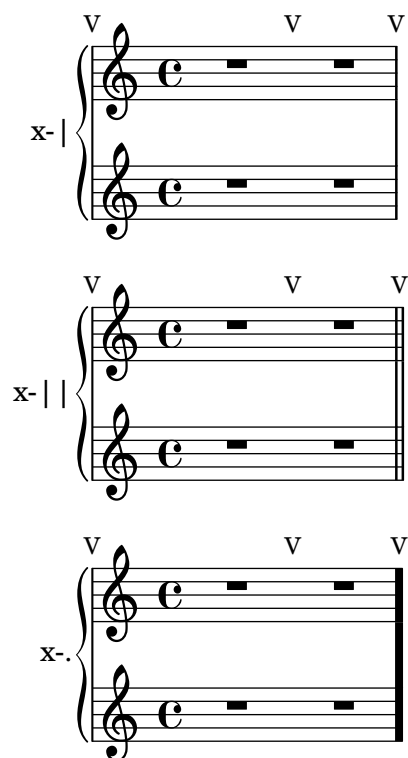
`\defineBarLine` accepts annotations in the end-of-line glyph name that can be used to distinguish bar lines that should close a volta bracket from those that should not. Bracket 1 should end open and bracket 2 should end closed.

`bar-line-allow-volta-hook.ly`



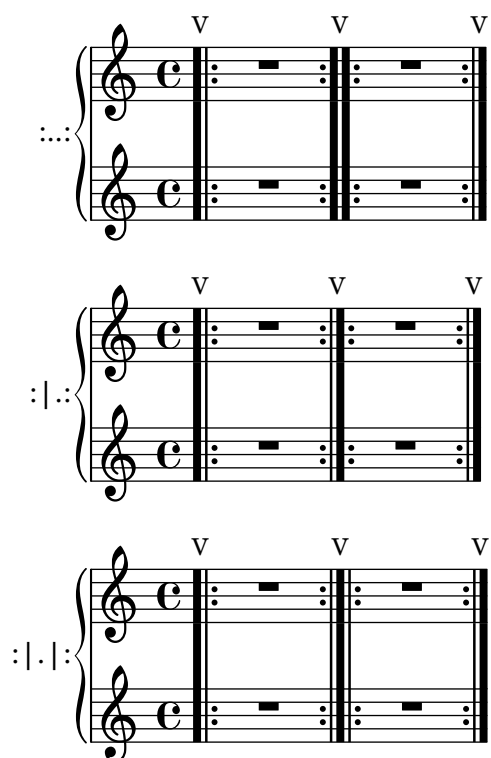
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for a caesura at a line break.

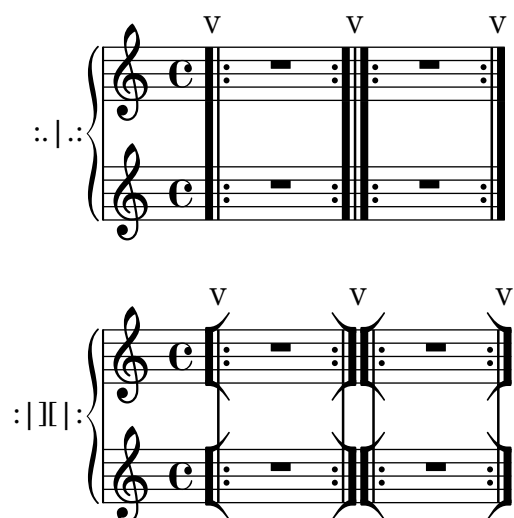
`bar-line-built-in-caesura-eol.ly`



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where one repeated section ends and another begins.

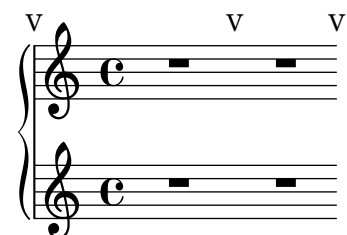
`bar-line-built-in-double-repeat.ly`





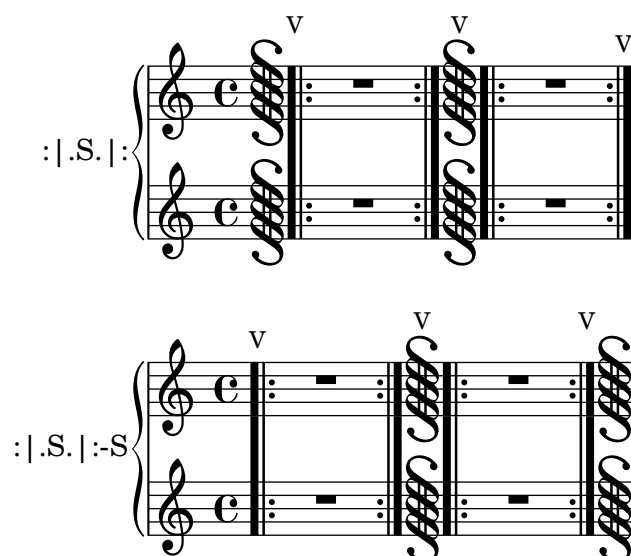
Test a spacer bar line at the beginning, middle, and end of a line.

`bar-line-built-in-empty.ly`



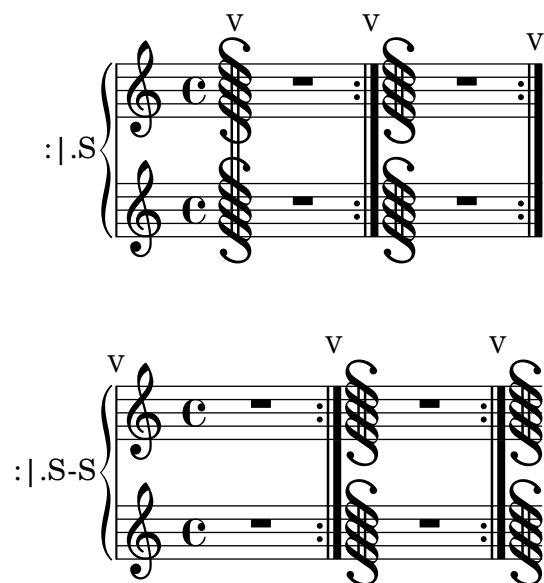
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where one repeated section ends, another begins, and there is an in-staff segno.

`bar-line-built-in-end-repeat-segno-start-repeat.ly`



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where a repeated section ends and there is an in-staff segno.

`bar-line-built-in-end-repeat-segno.ly`



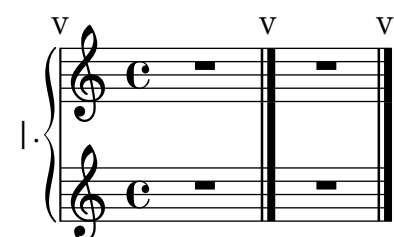
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the end of a repeated section.

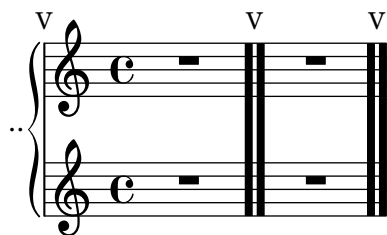
`bar-line-built-in-end-repeat.ly`



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the end of a section.

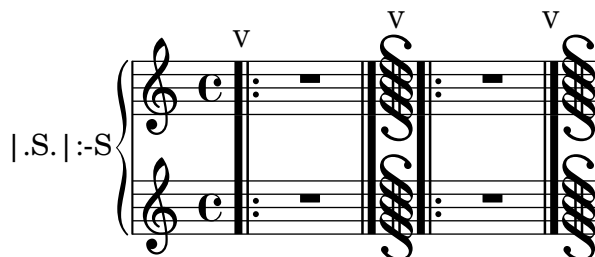
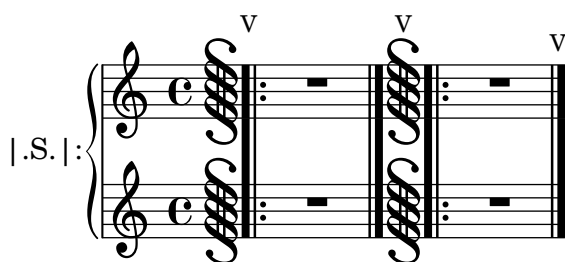
`bar-line-built-in-end-section.ly`





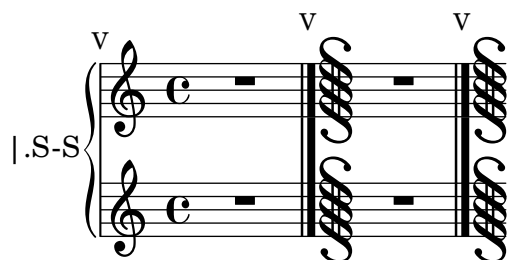
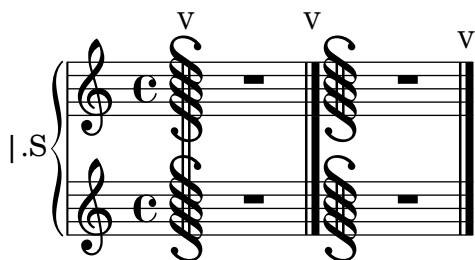
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where a repeated section begins and there are both a *Fine* and an in-staff segno.

`bar-line-built-in-fine-segno-start-repeat.ly`



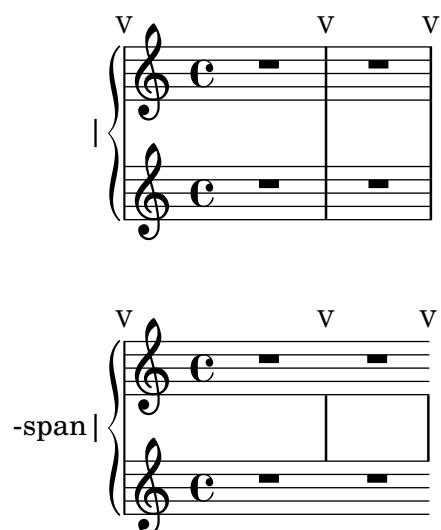
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where there are both a *Fine* and an in-staff segno.

`bar-line-built-in-fine-segno.ly`



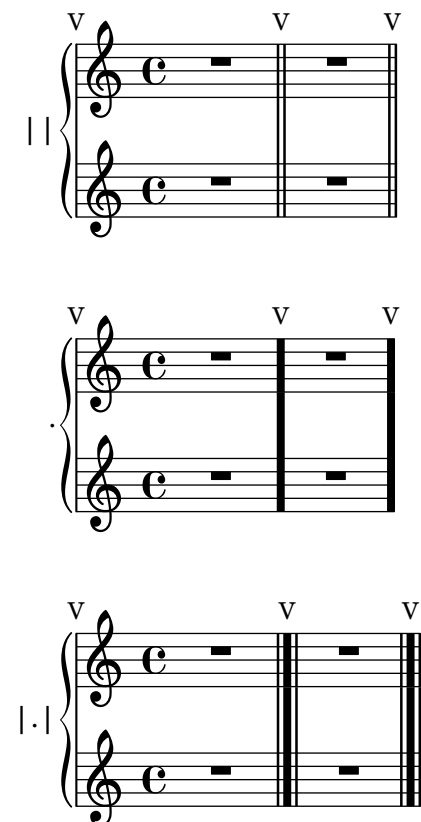
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use as measure bar lines.

bar-line-built-in-measure.ly



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use between sections.

bar-line-built-in-section.ly



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where a repeated section starts and there is an in-staff segno.

bar-line-built-in-segno-start-repeat.ly



Four musical staves are shown, each with a grand staff (treble and bass clefs) and a common time signature 'C'. Each staff contains two measures of music, each measure filled with a dense, wavy line representing a segno. Above each measure is a 'V' symbol. The staves are labeled on the left as follows:

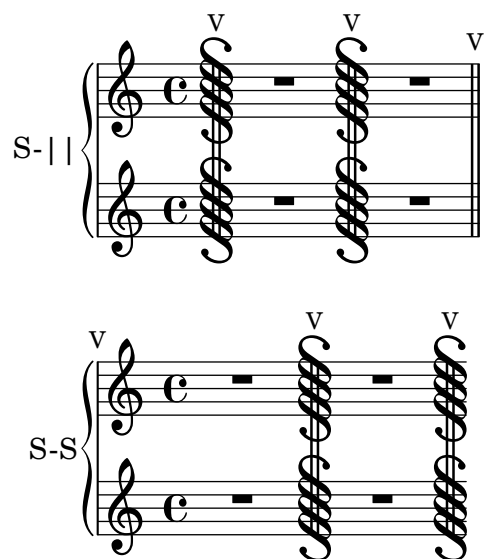
- Staff 1: S. | : |
- Staff 2: S. | : - |
- Staff 3: S. | : - | |
- Staff 4: S. | : - S

Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where there is an in-staff segno.

bar-line-built-in-segno.ly

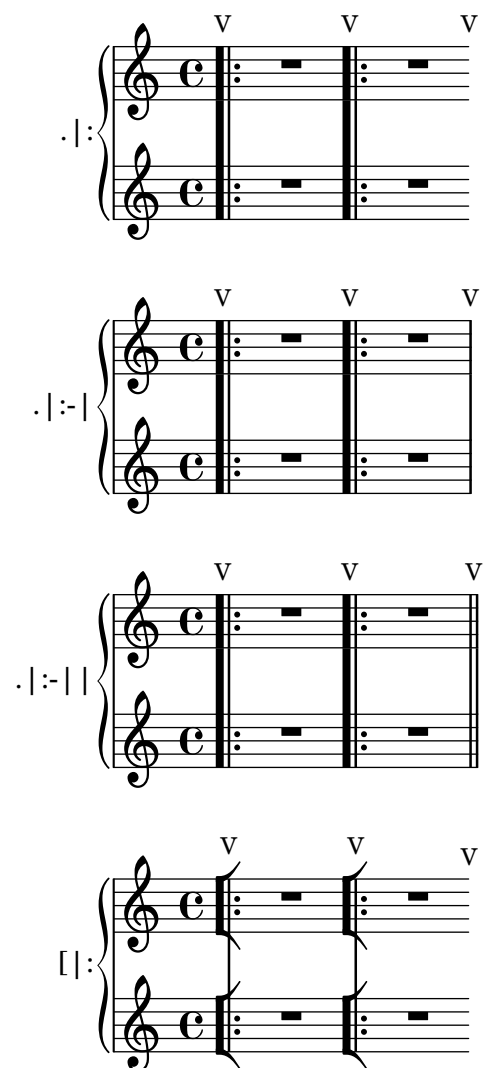
Two musical staves are shown, each with a grand staff (treble and bass clefs) and a common time signature 'C'. Each staff contains two measures of music, each measure filled with a dense, wavy line representing a segno. Above each measure is a 'V' symbol. The staves are labeled on the left as follows:

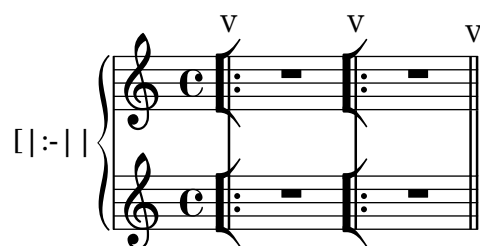
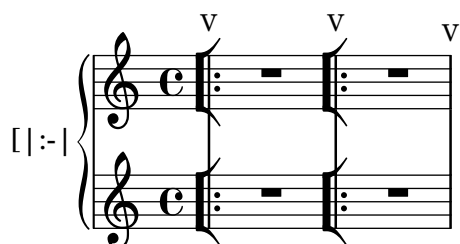
- Staff 1: S
- Staff 2: S - |



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the start of a repeated section.

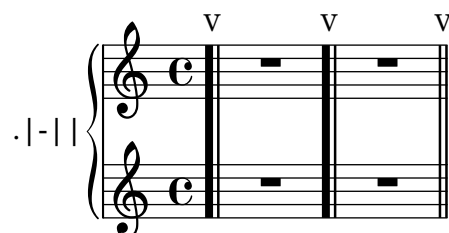
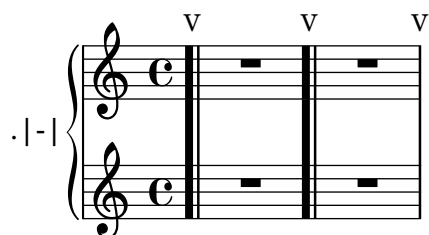
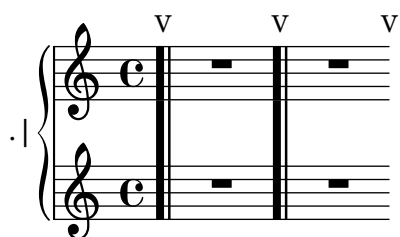
bar-line-built-in-start-repeat.ly





Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the start of a section.

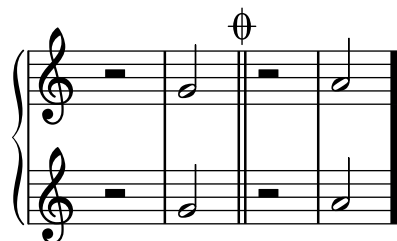
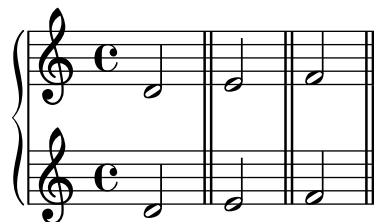
bar-line-built-in-start-section.ly



When `caesuraType` is set appropriately, `\caesura` inserts a double bar line with priority higher than a measure bar line and lower than a section bar line.

These notes should be followed by these bar lines: D, double; E, double; F, double; G, double; A, thick.

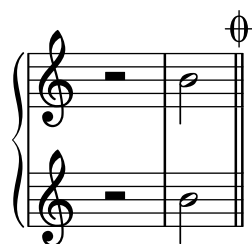
bar-line-caesura-double.ly



When `caesuraType` is set appropriately, `\caesura` inserts a double bar visible only at line break, with priority less than a measure bar.

These notes should be followed by these bar lines: D, none; E, single; F, dotted; G, single; A, double; B, double.

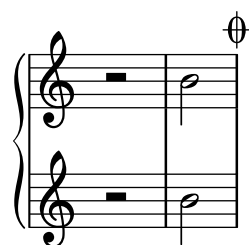
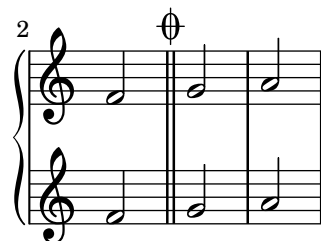
`bar-line-caesura-eol-double.ly`



When `caesuraType` is set appropriately, `\caesura` inserts a bar line that is visible only at a line break.

These notes should be followed by these bar lines: D, none; E, single; F, double; G, single; A, single; B, single.

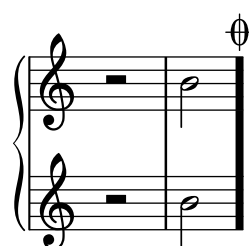
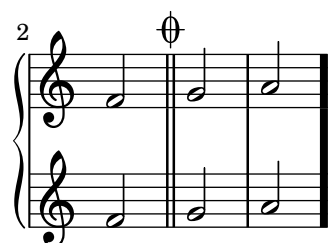
`bar-line-caesura-eol-single.ly`



When `caesuraType` is set appropriately, `\caesura` inserts a thick bar line that is visible only at a line break, with priority less than a measure bar.

These notes should be followed by these bar lines: D, none; E, single; F, double; G, single; A, thick; B, thick.

`bar-line-caesura-eol-thick.ly`



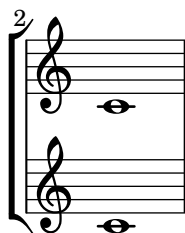
A user-defined empty bar glyph behaves like the built-in empty bar glyph. The horizontal space between notes should be the same in both measures.

`bar-line-define-bar-glyph-empty.ly`



New bar line glyphs can be defined in Scheme.

`bar-line-define-bar-glyph.ly`



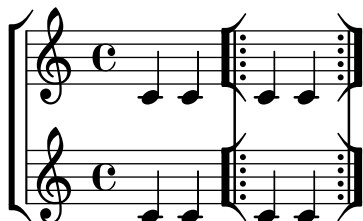
A user-defined empty bar line with an annotation in the name behaves like the built-in empty bar line. The horizontal space between notes should be the same in both measures.

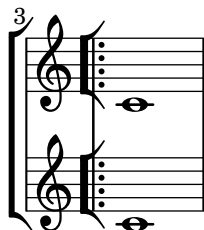
`bar-line-define-bar-line-empty.ly`



New bar line styles can be defined by `\defineBarLine`.

`bar-line-define-bar-line.ly`





Where `\fine` and `\inStaffSegno` occur together, user-defined bar lines can be printed by setting the `fineSegnoBarType`, `fineStartRepeatSegnoBarType`, `endRepeatSegnoBarType`, and `doubleRepeatSegnoBarType` context properties.

The output should show two adjacent repeated sections with doubled dots and thick bar lines, followed by a double thick bar line without dots. There should also be an in-staff segno in every case.

```
bar-line-define-fine-v-repeat-segno.ly
```



At `\fine` without `\inStaffSegno`, user-defined bar lines can be printed by setting the `fineBarType`, `startRepeatBarType`, `endRepeatBarType`, and `doubleRepeatBarType` context properties.

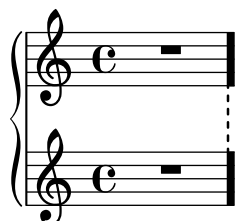
The output should show two adjacent repeated sections with doubled dots and thick bar lines, followed by a double thick bar line without dots.

```
bar-line-define-fine-v-repeat.ly
```



Customizing `measureBarType` is effective when appropriate bar lines are defined. The system should end with a single thick bar line with a dashed span.

```
bar-line-define-measure.ly
```



User-defined bar lines with in-staff segni can be printed by setting the `segnoBarType`, `startRepeatSegnoBarType`, `endRepeatSegnoBarType`, and `doubleRepeatSegnoBarType` context properties.

The output should show two adjacent repeated sections with unusually ornate bar lines with in-staff segni, followed by an in-staff segno that is flanked by thick bar lines.

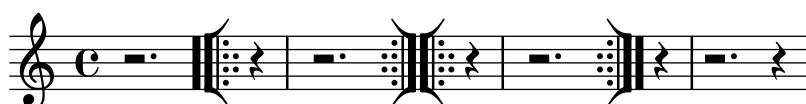
```
bar-line-define-repeat-segno.ly
```



User-defined bar lines can be printed for `\repeat volta` by setting the `startRepeatBarType`, `endRepeatBarType`, and `doubleRepeatBarType` context properties.

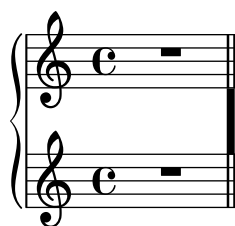
This output should show two adjacent repeated sections with unusually ornate bar lines.

`bar-line-define-repeat.ly`



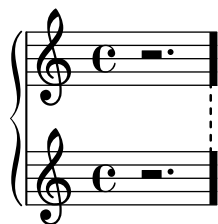
Customizing `sectionBarType` is effective when appropriate bar lines are defined. The system should end with a double bar line with a thick span.

`bar-line-define-section.ly`



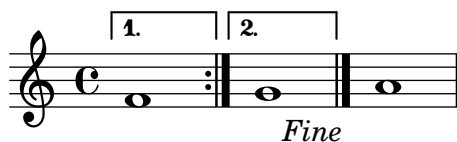
Customizing `underlyingRepeatBarType` is effective when appropriate bar lines are defined. The first system should end with a single thick bar line with a dashed span.

`bar-line-define-underlying-repeat.ly`



A final volta bracket closes at `\fine`.

`bar-line-fine-volta-hook.ly`

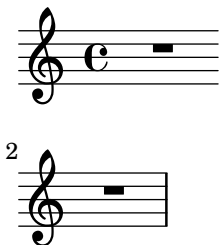


*Fine*



`\bar` can override repeat bar lines. The first system should end with no bar line. The second system should begin with no bar line and end with a measure bar line.

`bar-line-manual-v-repeat.ly`



An omitted bar line behaves like an empty bar line. The horizontal space between notes should be the same in both measures.

`bar-line-omit.ly`



This test shows the placement of the two-dot bar line element in various staff configurations.

`bar-line-placement-colon.ly`



This test shows the placement of dashed bar lines with span bars in various staff configurations.

bar-line-placement-dashed-span.ly

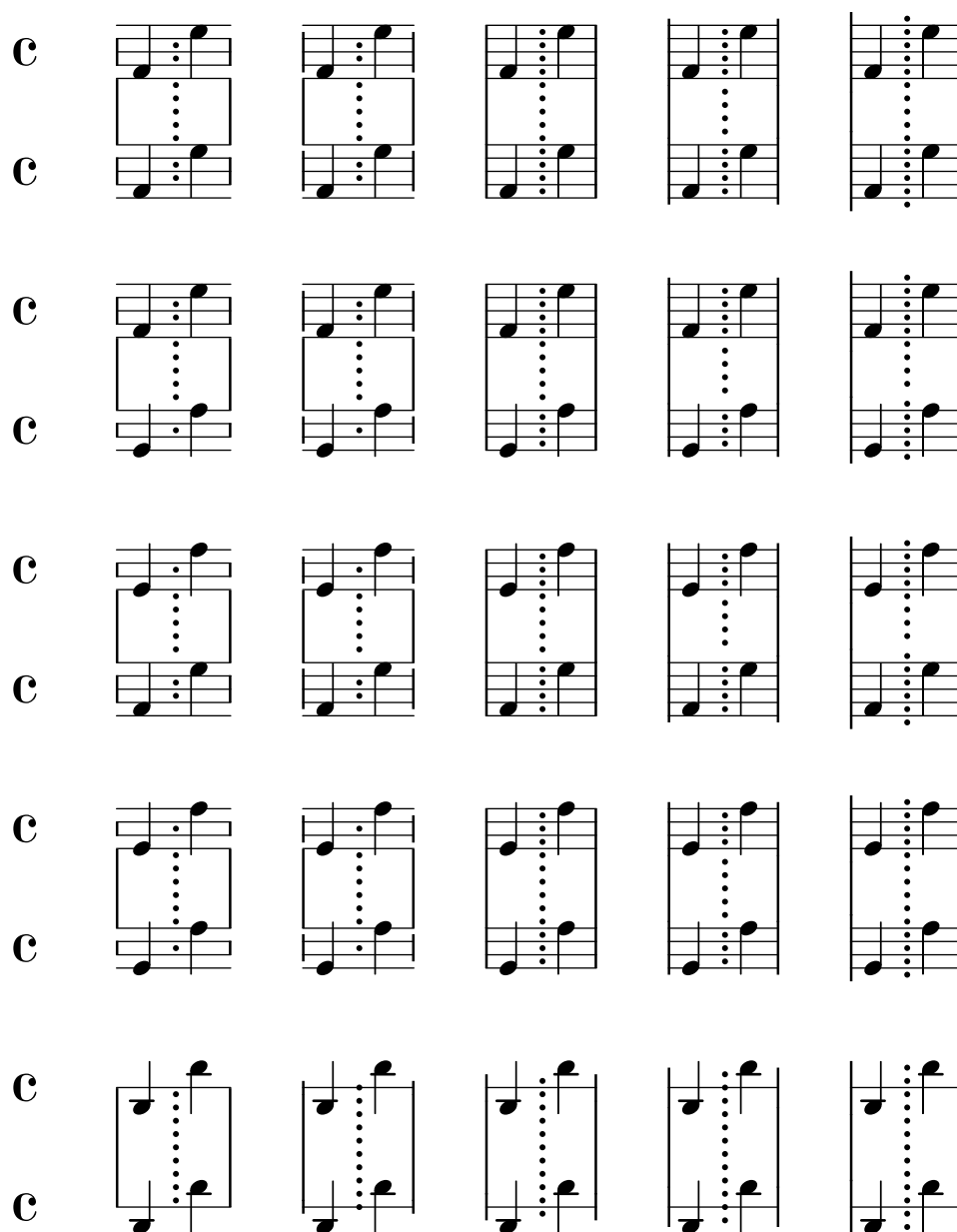


A dashed bar line extends approximately as far as a normal bar line. The center-to-center distance between dashes is uniformly one staff space. At the vertical center of the staff is either a dash or the midpoint between dashes.

bar-line-placement-dashed.ly



The center-to-center distance between the dots in a dotted span bar line is uniformly one staff space. The dots of the span bar do not collide with staff lines or with the dots of in-staff bar lines.



The center-to-center distance between the dots in a dotted bar line is uniformly one staff space. At the vertical center of the staff is either a dot or the midpoint between dots, whichever places fewer dots on staff lines.



The height of a short bar line is half the height of a normal bar line, rounded up to an integer number of staff spaces. It is usually centered vertically, but on very short staves, it is shifted down to distinguish it from a normal bar line.



A tick bar line is a short line the length of a staff space. It is usually centered on the topmost bar line, but if there are fewer than two bar lines, it floats at the height of a normal bar line.



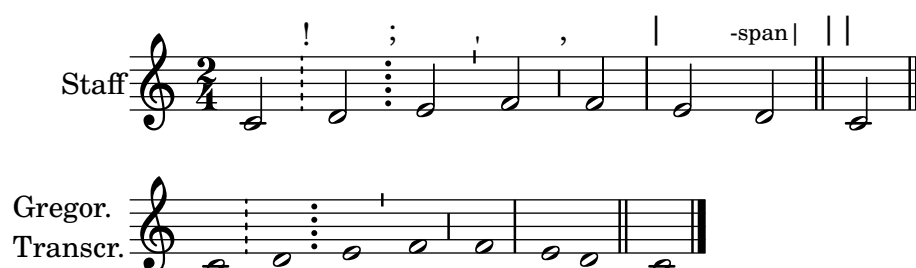
`\section` creates a section bar line whether or not it is aligned on a measure boundary, except at the start of the piece. This test should show a double bar line after each of the three notes.

`bar-line-section.ly`



This test exercises bar lines that are overridden in various built-in `Staff` contexts. Each `Staff` is in a separate `\score`.

`bar-line-staff-override-alone.ly`



Kievan

Mensural

Petrucchi

Vaticana

This test exercises bar lines that are overridden in various built-in `Staff` contexts. All staves are in one `StaffGroup`.

`bar-line-staff-override-grouped.ly`

Staff

Gregor.  
Transcr.

Kievan

Mensural

Petrucchi

Vaticana

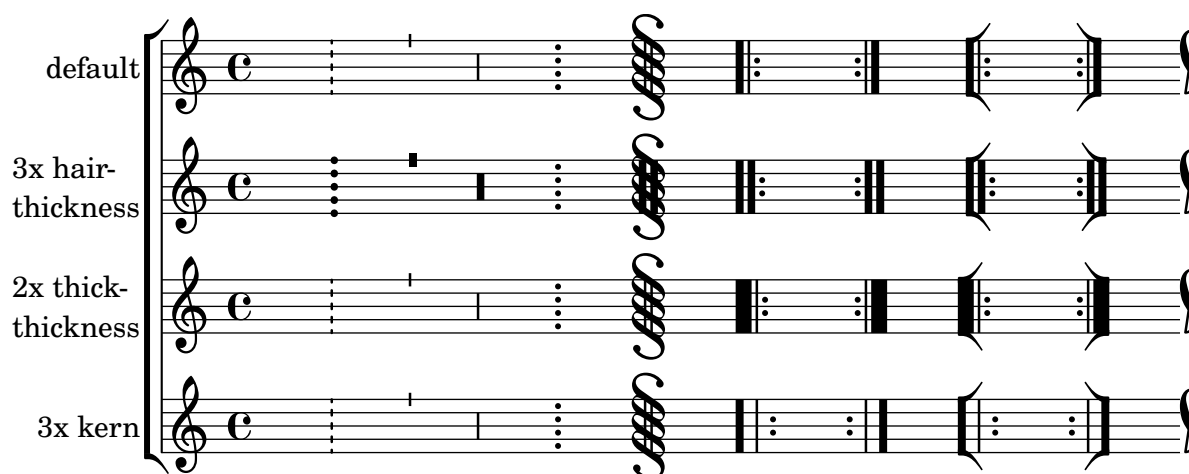
Bar lines account for user tweaks to staff symbol height.

`bar-line-staff-symbol-height-override.ly`

The `hair-thickness` property sets the thickness of thin bar lines, the `thick-thickness` property sets the thickness of thick bar lines, and the `kern` property sets the spacing within composite bar lines.

`bar-line-thickness.ly`





Automatic bar types that are set to '()' or are unset are ignored, allowing lower-priority bar types to appear. In this case, there should be no line breaks and a single thick bar line should appear at the end under a segno.

`bar-line-unset.ly`



Various types of bar lines can be drawn.

The dashes in a dashed bar line covers staff lines exactly. Dashed bar lines between staves start and end on a half dash precisely.

The dots in a dotted bar line are in spaces.

A thick bar line is created by `\bar ". "`, which is consistent with e.g. `\bar "|."`

A tick bar line is a short line of the same length as a staff space, centered on the top-most bar line.

A short bar line has a height of half the height of the staff, rounded up to an integer number of staff spaces. It is usually centered vertically, but on short staves, it is shifted down to distinguish it from a normal bar line.

`bar-lines.ly`

The image shows a musical score with 11 staves. Each staff begins with a 13/8 time signature, followed by a common time signature (C). The notation includes various musical symbols such as notes, rests, and repeat signs, demonstrating different bar-numbering schemes and styles in volta repeat alternatives.

The `alternativeNumberingStyle` context property controls the bar-numbering scheme and style in volta repeat alternatives.

`bar-number-alternative-style.ly`

(default)

The image shows a musical score snippet in treble clef with a common time signature. It illustrates a sequence of notes with first, second, and fourth endings marked above the staff. The first ending is marked "1." above bar 2, the second ending is marked "2.3." above bar 3, and the fourth ending is marked "4." above bar 4. The sequence ends with a final note in bar 6.

(unset)

#f

numbers

numbers-with-letters

Alignments for breakable items can have different values set for each break direction using the `break-alignment-list` function.

`bar-number-break-alignment-list.ly`

11 12 13

13 14 15

15 16 17

`\barNumberCheck` may be inserted to check whether the current bar number is correct. Checking is enabled by default for layout and disabled by default for MIDI.

`bar-number-check-warning.ly`

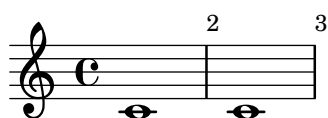
When there is a break without a bar line, a bar number can be printed nevertheless. Just like all bar numbers outside of measure boundaries, it is hidden by default, but it can be displayed using `barNumberVisibility`. On the other hand, a bar number resulting from a break point is not displayed if the break point does not become a break.

`bar-number-no-bar-line.ly`



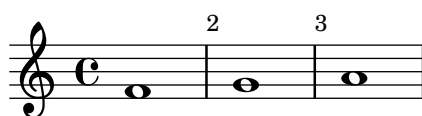
oBreak does not prevent bar numbers from being printed.

bar-number-nobreak.ly



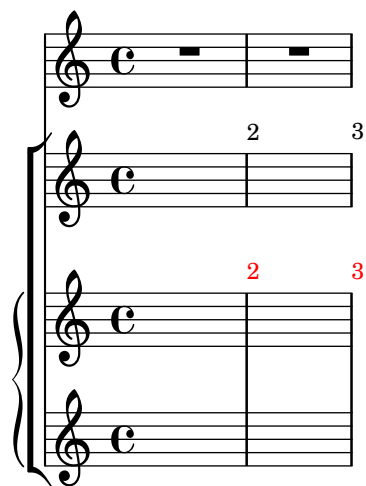
Alternative bar numbering does not apply to repeats in segno form. These measures should be numbered 1 to 3.

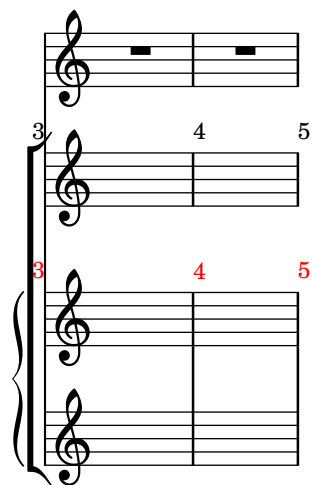
bar-number-segno-repeat.ly



Bar\_number\_engraver may be moved to staff-group contexts. Bar numbers should appear in black above the second staff from the top. The same numbers should appear in red above the third staff from the top.

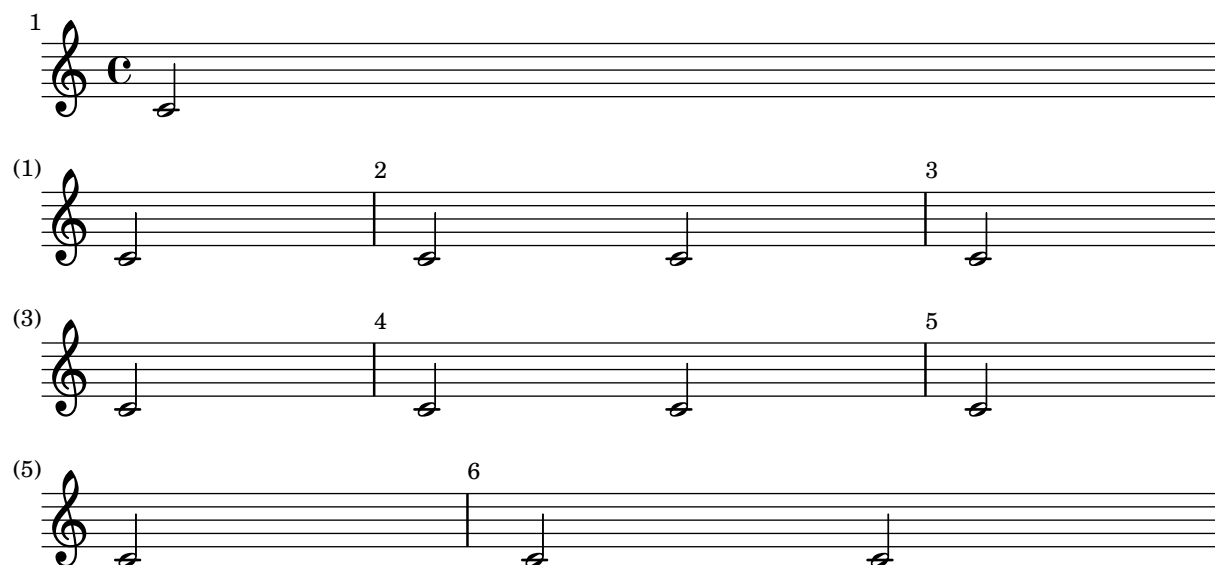
bar-number-staff-group-context.ly





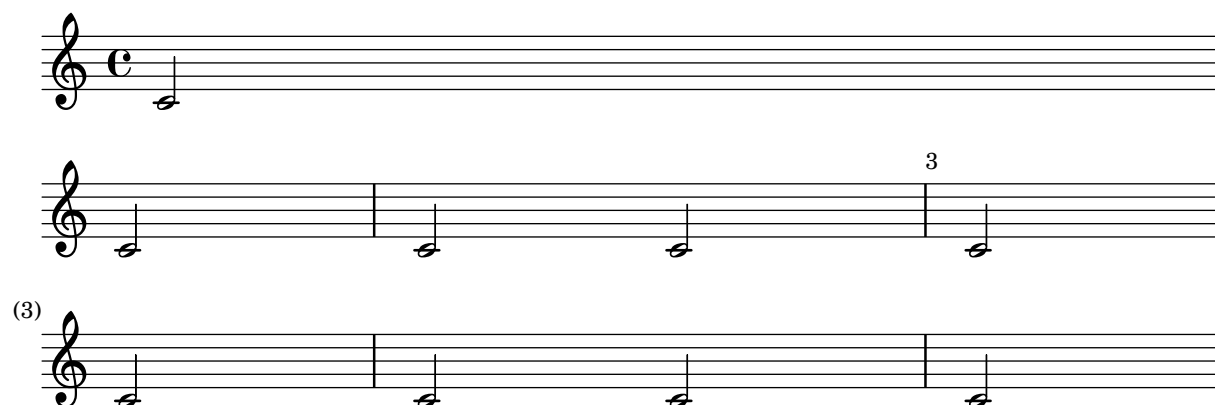
`all-bar-numbers-visible` is a bar number visibility where all bar numbers are printed, including bar numbers for the first measure and for broken measures.

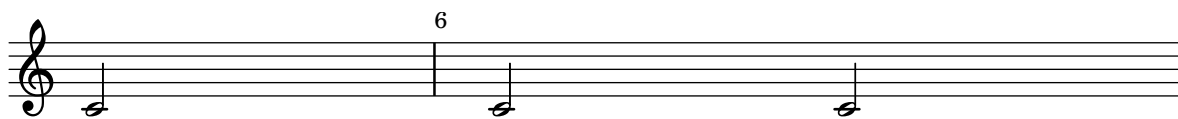
`bar-number-visibility-all-bar-numbers-visible.ly`



`every-nth-bar-number-visible` is a bar number visibility generator that prints bar numbers at regular intervals of  $n$ :  $n$ ,  $2n$ , etc.

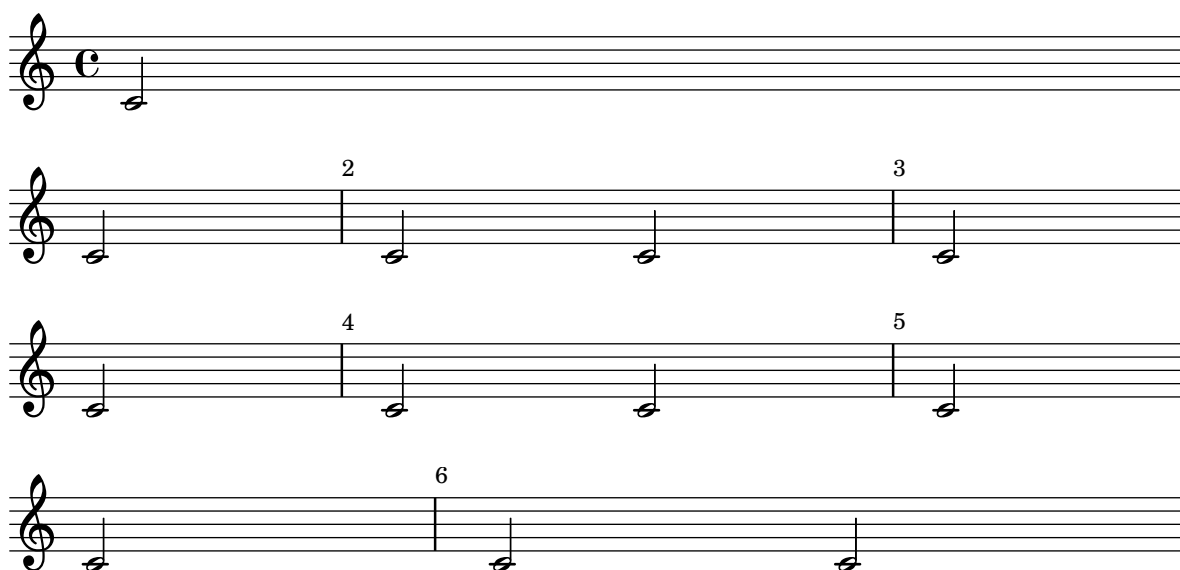
`bar-number-visibility-every-nth-bar-number-visible.ly`





`first-bar-number-invisible-and-no-parenthesized-bar-numbers` is a bar number visibility where bar numbers are printed except for the first, and except for broken measures.

`bar-number-visibility-first-bar-number-invisible-and-no-parenthesized-bar-numbers.ly`



`first-bar-number-invisible-save-broken-bars` is a bar number visibility that prints all bar numbers, including for broken bars, except for an unbroken number of the first bar.

`bar-number-visibility-first-bar-number-invisible-save-broken-bars.ly`



`first-bar-number-invisible` is a bar number visibility where all bar numbers can be printed, including for broken bars, except for the first measure, not even when broken.

`bar-number-visibility-first-bar-number-invisible.ly`

musical notation showing bar numbers 2, 3, 4, 5, and 6 visible at regular intervals.

`modulo-bar-number-visible` is a bar number visibility generator that generalizes `every-nth-bar-number-visible`, printing bar numbers at regular intervals of  $n$  that do not necessarily start at  $n$ :  $k$ ,  $k + n$ ,  $k + 2n$ , etc.

`bar-number-visibility-modulo-bar-number-visible.ly`

musical notation showing bar numbers 2 and 5 visible at regular intervals.

`numbers-with-letters` bar numbering resets at the end of the repeat even if the repeat ends where no bar number is visible.

`bar-number-volta-repeat-end.ly`

musical notation showing a repeat sign with first and second endings, and bar numbers 2a, 2b, and 3.

Bar numbers can automatically reset at volta repeats.

`bar-number-volta-repeat.ly`

Bar numbers may be set and their padding adjusted individually. The counting of bar numbers is started after the anacrusis.

To prevent clashes at the beginning of a line, the padding may have to be increased.

`bar-number.ly`

A knee is made automatically when a horizontal beam fits in a gap between note heads that is larger than a predefined threshold.

`beam-auto-knee.ly`

There are presets for the `auto-beam` engraver in the case of common time signatures.

`beam-auto.ly`



10

12

14

18

20

21

22

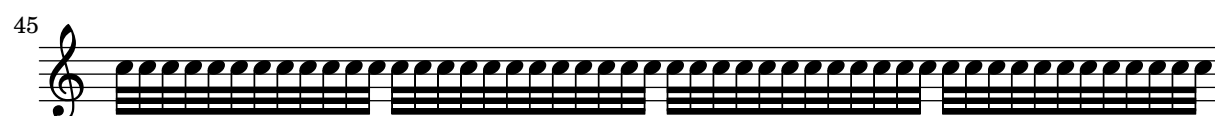
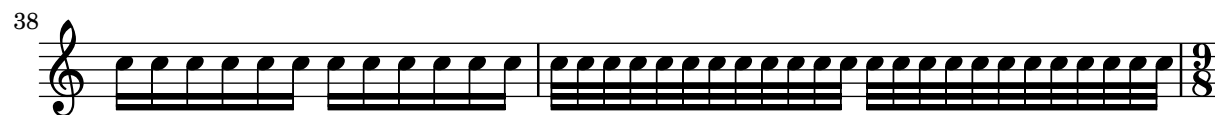
24

26

29

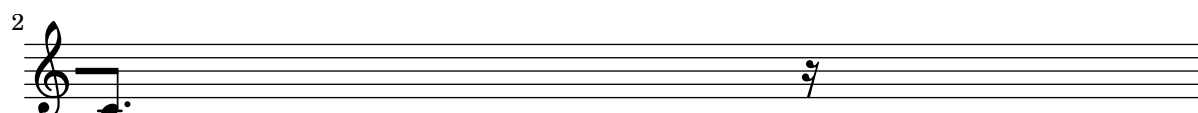
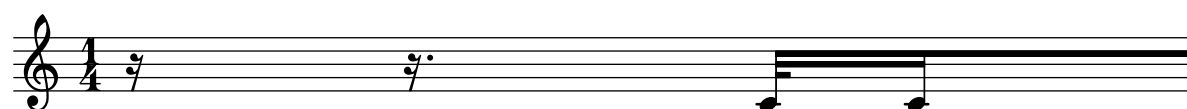
30

31



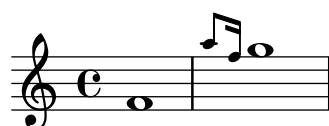
beamlets don't run to end of line if there are no other beamlets on the same height.

beam-beamlet-break.ly



Beamlets in grace notes remain readable.

beam-beamlet-grace.ly



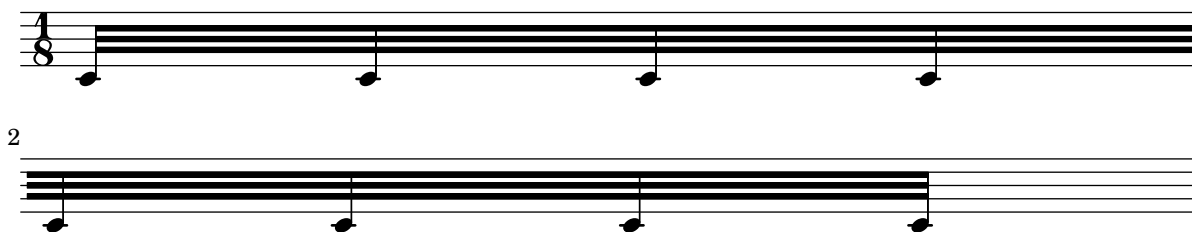
Default beaming patterns can be set for the current time signature.

beam-beat-grouping.ly



Broken beams have sane endings even if grobs are not present at the broken end.

beam-break-no-bar.ly



Beams can be printed across line breaks, if forced.

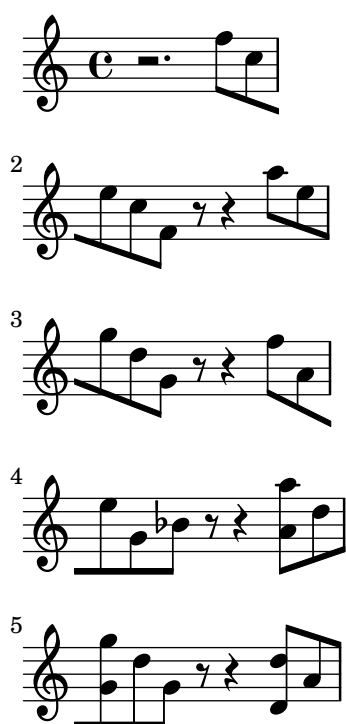
beam-break.ly



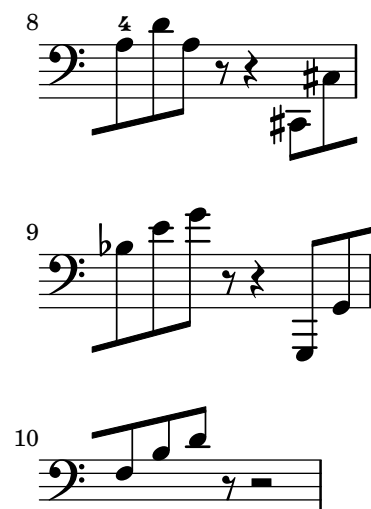
Some classic examples of broken beams, all taken from Scriabin Op. 11, No. 1.

beam-broken-classic.ly

\override Beam.positions = #beam::place-broken-parts-individually (default)



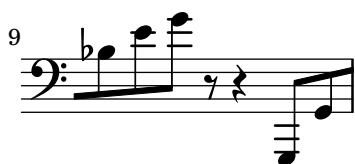
[illegible]



\override Beam.positions = #beam::slope-like-broken-parts

Approximates broken beam positioning in turn-of-the-century Editions Peters scores.





The functions passed to the `positions` property should handle complicated cases in the same manner that they handle more normal cases.

`beam-broken-difficult.ly`



Simple beams on middle staffline are allowed to be slightly sloped, even if the notes have ledgers. Beams reaching beyond middle line can have bigger slope.

`beam-center-slope.ly`



Beams only check for collisions with in-line accidentals.

beam-collision-accidentals.ly



Manual beams do not collide with notes.

beam-collision-basic.ly



Manual beams do not collide with notes.

beam-collision-beamcount.ly



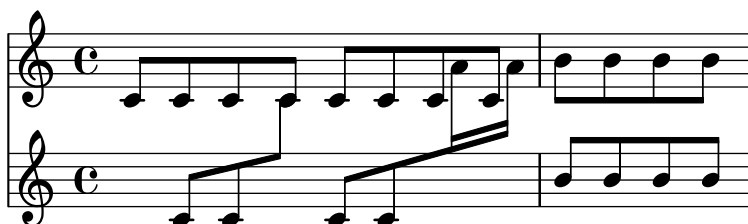
Beam collisions from modern works

beam-collision-classic.ly



cross staff beams work with collisions.

beam-collision-cross-staff.ly



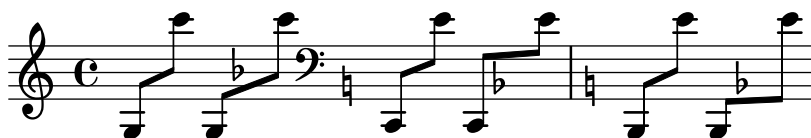
Cross staff beams do collision avoidance.

beam-collision-cross-staff2.ly



A rough guess for collisions is taken into account when choosing initial beam configurations; the initial position may be chosen to be either above or below large collisions.

beam-collision-feasible-region.ly



Beams do not collide with flags.

beam-collision-flag.ly



The beaming algorithm handles collisions between beams and grace notes too.

beam-collision-grace.ly







Behave sensibly in the presence of large collisions.

beam-collision-large-object.ly



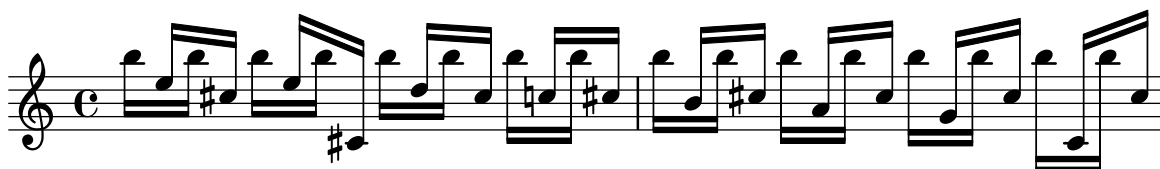
Beams can be allowed to collide with grobs by overriding the collision-interfaces property.

beam-collision-off.ly



Meshing stems in oppositely directed beams are handled correctly.

beam-collision-opposite-stem.ly



Beams do not collide with clefs, key signatures, time signatures

beam-collision-prefatory-matter.ly



Beam collisions are resistant to scaled down staves.

beam-collision-scaled-staff.ly



Beam collision can be tweaked to only apply to the grobs within the beam's original voice.

beam-collision-voice-only.ly



Concave beaming works for chords as well as monophonic music.

beam-concave-chord.ly



Beams that are not strictly concave are damped according to their concaveness.

beam-concave-damped.ly



Fully concave beams should be horizontal. Informally spoken, concave refers to the shape of the notes that are opposite a beam. If an up-beam has high notes on its center stems, then we call it concave.

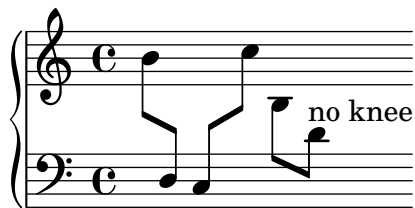
If a beam fails a test, the desired slope is printed next to it.

beam-concave.ly



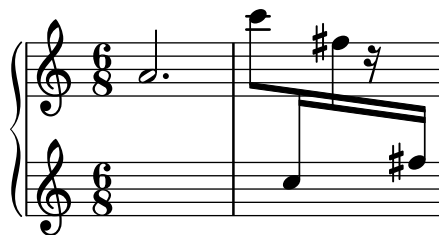
Automatic cross-staff knees work also (here they were produced with explicit staff switches).

beam-cross-staff-auto-knee.ly



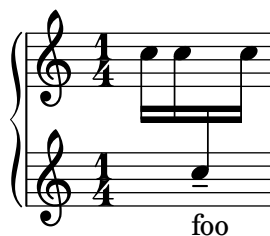
Placement of beamed cross staff rests should be reasonably close to beam.

beam-cross-staff-rest.ly



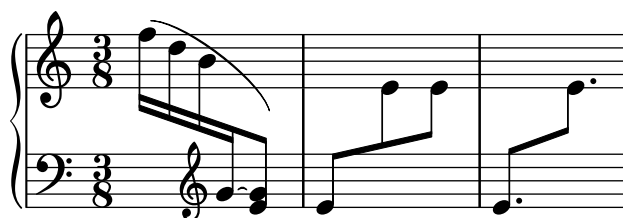
scripts don't trigger beam formatting. If this does happen, we can have a cyclic dependency on Y-positions of staves.

beam-cross-staff-script.ly



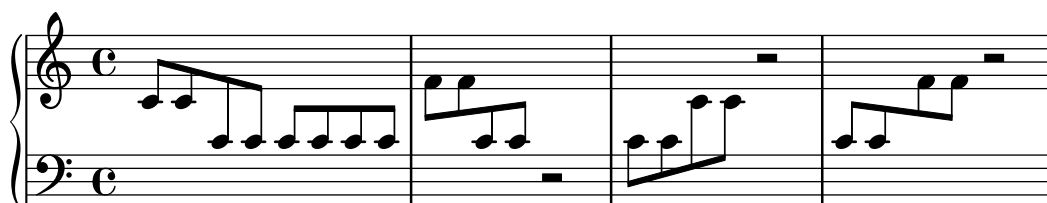
Cross staff (kneed) beams do not cause extreme slopes.

beam-cross-staff-slope.ly



Beams can be typeset over fixed distance aligned staves, beam beautification does not really work, but knees do. Beams should behave well, wherever the switching point is.

beam-cross-staff.ly



Beams are less steep than the notes they encompass.

beam-damp.ly



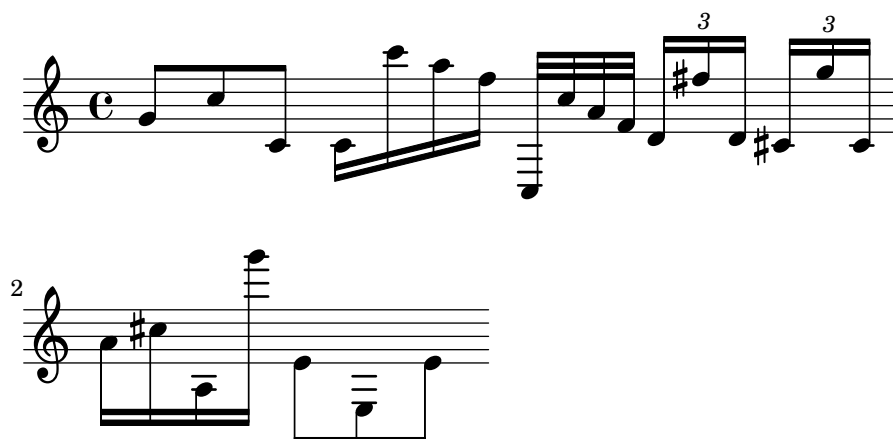
Beamed stems have standard lengths if possible. Quantization is switched off in this example.

beam-default-lengths.ly



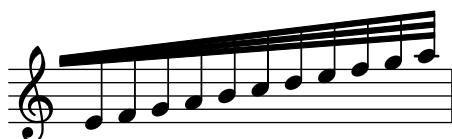
Beams should behave reasonably well, even under extreme circumstances. Stems may be short, but noteheads should never touch the beam. Note that under normal circumstances, these beams would get knees. Here `Beam.auto-knee-gap` was set to false.

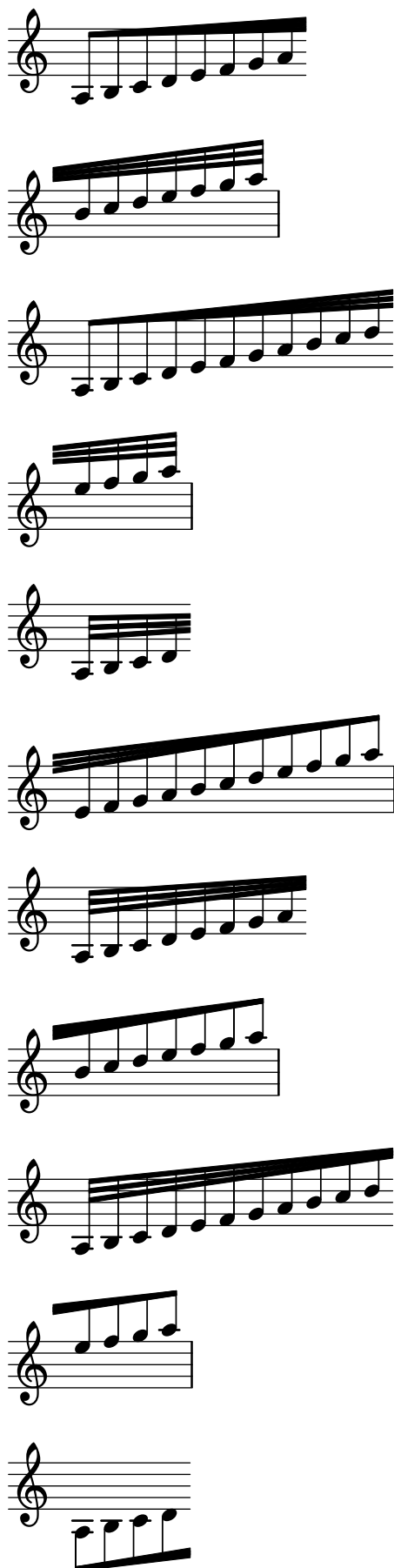
beam-extreme.ly

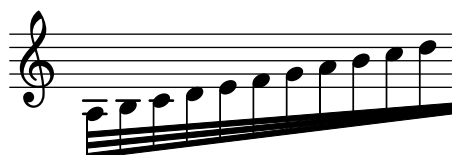
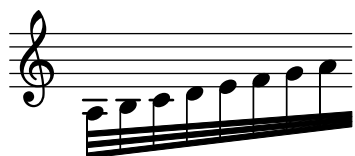
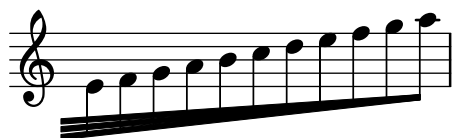
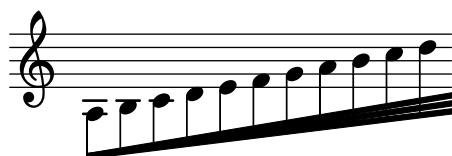
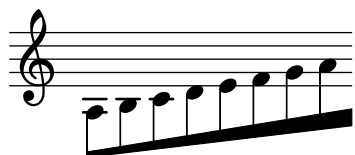
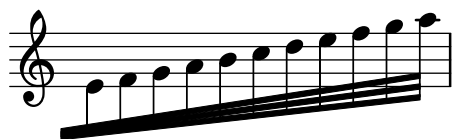


Feathered beams should have the same progress of their feathering at the end of a line break as they do at the beginning of the next line.

beam-feather-breaking.ly









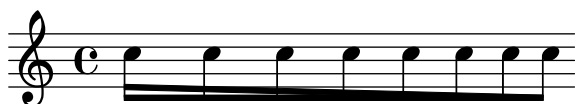
In feathered beams, stems in knees reach up to the feathered part correctly.

`beam-feather-knee-stem-length.ly`



Specifying `grow-direction` on a beam, will cause feathered beaming. The `\featherDurations` function can be used to adjust note durations.

`beam-feather.ly`



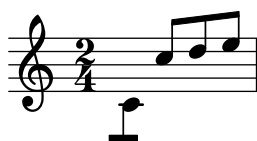
Even very flat but slanted patterns should give slanted beams.

`beam-flat-retain-direction.ly`



The direction of manual beams can be forced using `_` and `^`.

`beam-forced-direction.ly`



In French style beaming, the stems do not go between beams.

`beam-french.ly`



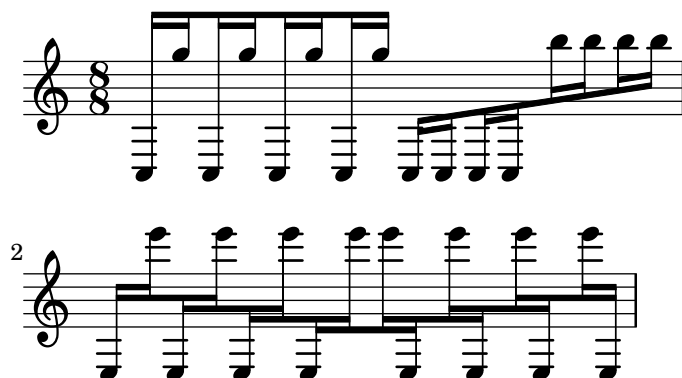
Funky kneed beams with beamlets also work. The beamlets should be pointing to the note head.

`beam-funky-beamlet.ly`



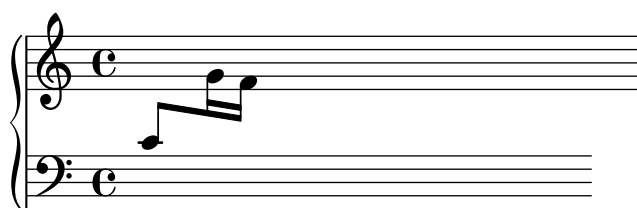
In complex configurations of knee beaming, according to Paul Roberts, the first stem of a beam determines the direction of the beam, and as such the way that following (kneed) stems attach to the beam. This is in disagreement with the current algorithm.

beam-funky.ly



Beams can be placed across a PianoStaff.

beam-isknee.ly



Kneed beams together with stemlets over rests work.

beam-knee-stemlet.ly



Point-symmetric beams should receive the same quanting. There is no up/down bias in the quanting code.

beam-knee-symmetry.ly



Beams should look the same.

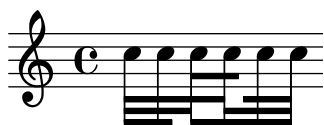
beam-length.ly



Beaming can be overridden for individual stems.



beam-manual-beaming.ly



Knead beams (often happens with cross-staff beams) should look good when there are multiple beams: all the beams should go on continuously at the staff change. Stems in both staves reach up to the last beam.

beam-multiple-cross-staff.ly



When a beam goes over a rest, beamlets should be as necessary to show the beat structure.

beam-multiplicity-over-rests.ly



Beams may overshoot stems. This is also controlled with `break-overshoot`.

beam-outside-beamlets.ly



Explicit beams may cross bar lines.

beam-over-barline.ly



Beams on ledgered notes should always reach the middle staff line. The second beam, counting from the note head side, should never be lower than the second staff line. This does not hold for grace note beams. Override with `no-stem-extend`.

beam-position.ly



This file tests a few standard beam quant, taken from Ted Ross' book. If LilyPond finds another quant, the correct quant is printed over the beam.

beam-quant-standard.ly

6 (2.19, 2.19)

12 (-0.19, -0.19) (-0.19, -0.19) (-0.19, -0.19)

18

24 (3.0, 3.0)

Stem lengths take precedence over beam quant: ‘forbidden’ quants are only avoided for 32nd beams when they are outside of the staff. However, that leads to very long stems, which is even worse.

beam-quanting-32nd.ly

5

In this test for beam quant positions for horizontal beams, staff lines should be covered in all cases. For 32nd beams, the free stem lengths are between 2 and 1.5.

beam-quanting-horizontal.ly

3

Beam quanting accounts for beam overhang. A beam ending above rests should always fall on a viable quant (straddle, sit, inter, or hang).

beam-quanting-overhang.ly



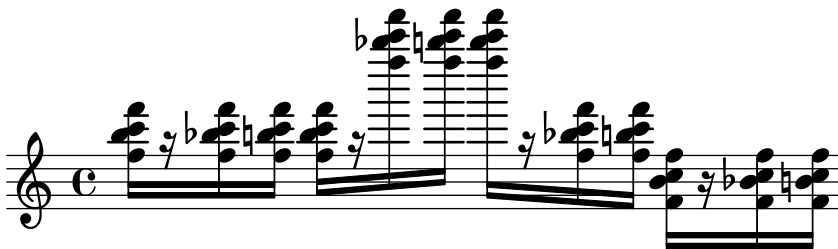
Quarter notes may be beamed: the beam is halted momentarily.

beam-quarter.ly



Beamed rests are given a pure height approximation that gets their spacing correct in the majority of circumstances.

beam-rest-extreme.ly



The number of beams does not change on a rest.

beam-rest.ly



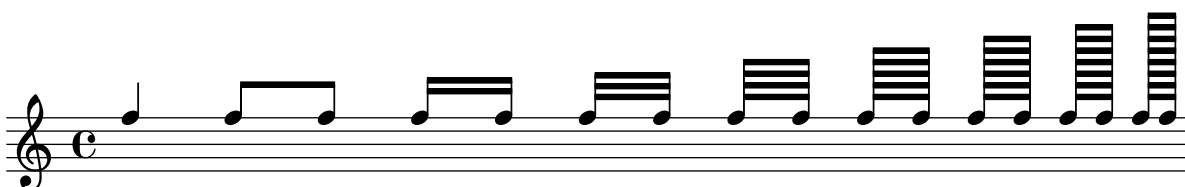
Engraving second intervals is tricky. We used to have problems with seconds being too steep, or getting too long stems. In a file like this, showing seconds, you'll spot something fishy very quickly.

beam-second.ly



Beams in unnatural direction, have shortened stems, but do not look too short.

beam-shortened-lengths.ly



Single stem beams are also allowed. For such beams, clip-edges is switched off automatically.

beam-single-stem.ly



Beams over skips do not cause a segfault.

beam-skip.ly



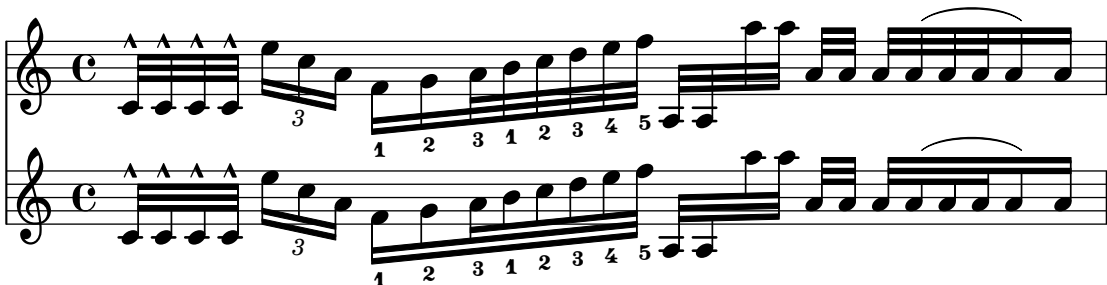
For slope calculations, stemlets are treated as invisible stems.

beam-slope-stemlet.ly



Beam positioning and placement of articulations, fingerings, tuplet numbers, and slurs must be identical in standard and French beaming style.

beam-standard-french-compare.ly



Beam count at subdivisions should match the location of the current subdivision. However, if the groups are equal or longer than quarter notes, one beam should always be left.

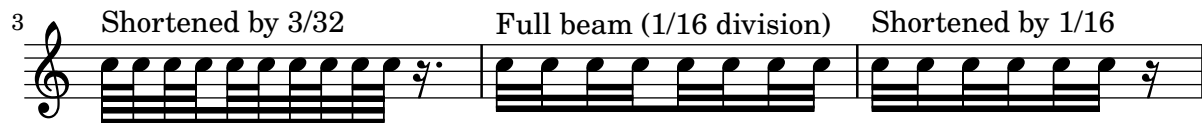
beam-subdivide-quarter-notes.ly



Beam count at subdivisions should match the count corresponding to the location of the current subdivision. However, if the remainder of the beam is shorter than that the beam count should be adopted accordingly.

beam-subdivide-shortened-beam.ly





If in a subdivided beam one single stem follows a subdivision the beam count should reflect the beam count of the subdivision as usual. That is, the beam count should not be increased according to the remaining length of the beam. The appended single stem has beamlets to the left.

beam-subdivide-trailing-stem.ly



Tuplets that span more than one beat should be subdivided if `subdivideBeams` is `#t`. In this example, the beams should be subdivided every 1/8.

beam-subdivide-tuplets.ly



Beam count at subdivisions should match the location of the current subdivision.

beam-subdivision.ly



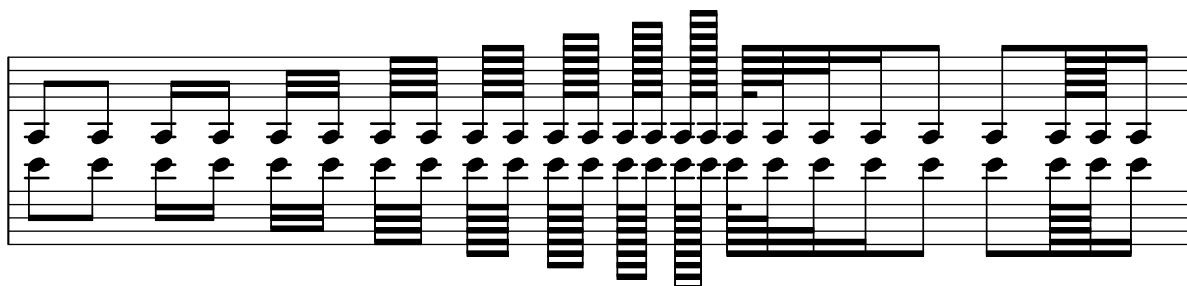
By setting `max-beam-connect`, it is possible to create pairs of unconnected beamlets.

beam-unconnected-beamlets.ly



Inside-staff beams should align with staff lines (sit, straddle, hang) as smoothly as possible (standard-sized beams). The outside-staff beams do not interfere with staff lines, so the inside-staff beams are more important when it comes to beam quanting/scoring/positioning.

beaming-more-than-4-beams-normal-size.ly



Automatic beaming works also in ternary time sigs. As desired, the measure is split in half, with beats 1-3 and 4-6 beamed together as a whole.

beaming-ternary-metrum.ly



Beams in a completed tuplet should be continuous.

beaming-tuplet-regular.ly



Beaming is generated automatically. Beams may cross bar lines. In that case, line breaks are forbidden.

beaming.ly



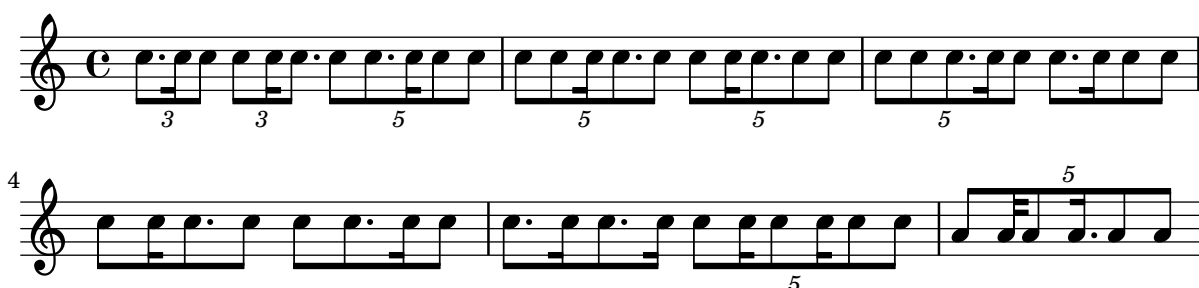
Beamlets can be set to point in the direction of the beat to which they belong. The first beam avoids sticking out flags (the default); the second beam strictly follows the beat.

beamlet-point-toward-beat.ly



Beamlets should point away from complete beat units and toward off-beat or broken beat units. This should work in triplets as well as in ordinary time.

beamlet-test.ly



Beaming can be also given explicitly.

beams.ly



Show the effect of the `Beat_performer` on drum tremolos: start of the bar and its beats are marked by `\marcato` and `\accent`, respectively, unless manual syncopes in less distance than the last 'regular' beat precede, indicated with one of those two articulations explicitly.

beat-performer.ly

Without `Beat_performer`

With `Beat_performer`

2

4

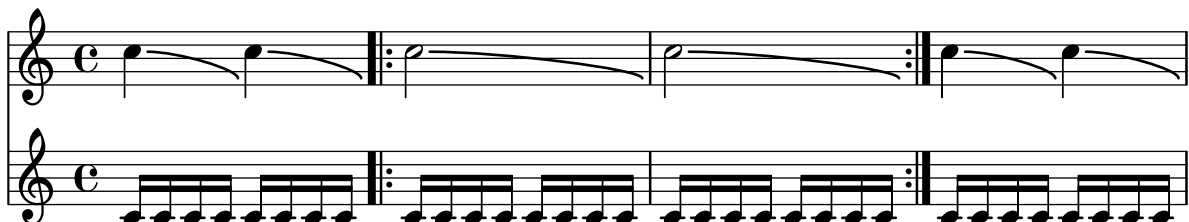
Falls and doits can be created with `bendAfter`. They run to the next note, or to the next bar line. Microtone bends (i.e., `\bendAfter #3.5`) are also supported.

bend-after.ly



Bends should not be affected by the full width of a `NonMusicalPaperColumn`. The bends should have identical X spans in the two scores. No bends should cross bar lines.

bend-bound.ly



3

200

(200) 201 (201)

202

(202) 203 (203)

Bends avoid dots, but only if necessary.

bend-dot.ly

Multiple consecutive BendSpanner grobs work. Every BendSpanner following another one starts at the arrow head of the previous one or at a TabNoteHead.

bend-spanner-consecutive.ly

consecutive bends up consecutive bends down with pre-bend-hold

Make first target parenthesized and visible



A musical score snippet starting at measure 6. The top staff is in treble clef with a key signature of one sharp (F#). The bottom staff is in bass clef. A BendSpanner is shown, starting at measure 6 and ending at measure 9. The label 'extreme' is placed above the first measure of the spanner. A curved arrow indicates a bend of  $1\frac{1}{2}$  units. The bottom staff contains fingerings: (2) in measure 6, (5) in measure 7, (4) in measure 8, (3) in measure 9, and (2) in measure 10.

A musical score snippet starting at measure 10. The top staff is in treble clef with a key signature of one sharp (F#). The bottom staff is in bass clef. A BendSpanner is shown, starting at measure 10 and ending at measure 14. The label '1/2' is placed above the first measure of the spanner. A curved arrow indicates a bend of  $\frac{1}{2}$  units. The bottom staff contains fingerings: (4) in measure 12.

A BendSpanner may be customized by tweaking the subproperties of 'details.

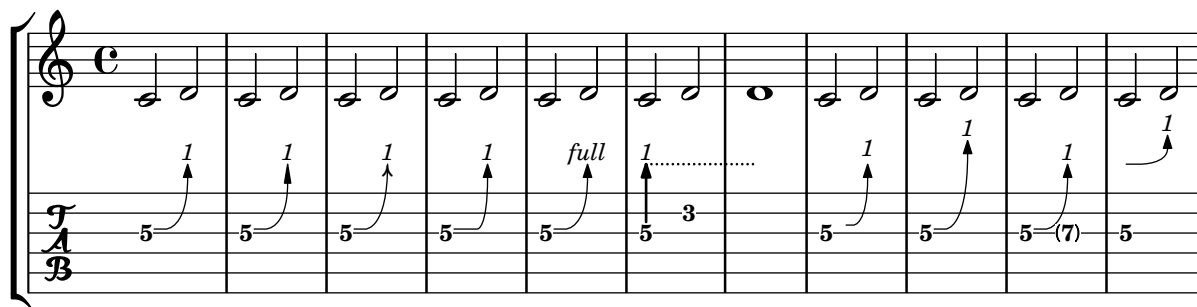
- 'bend-arrowhead-height
- 'bend-arrowhead-width
- 'arrow-stencil best to override it with a procedure (as an argument to the `after-line-breaking` property) setting this subproperty.
- 'curvature-factor
- 'bend-amount-strings
- 'dashed-line-settings
- 'horizontal-left-padding
- 'vertical-padding
- 'y-distance-from-tabstaff-to-arrow-tip
- 'target-visibility

Line-breaking behavior may be customized with:

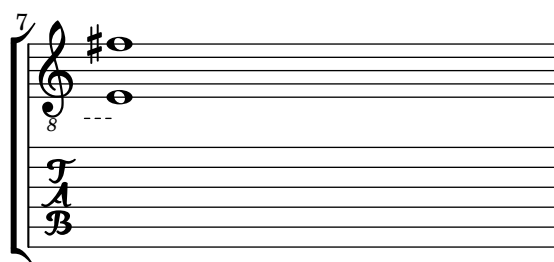
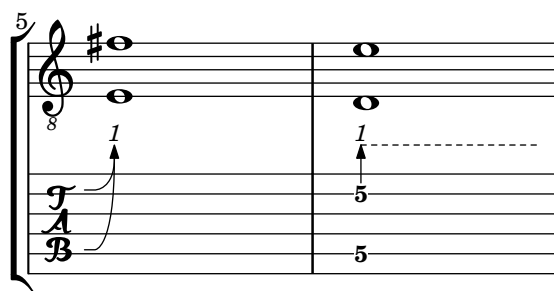
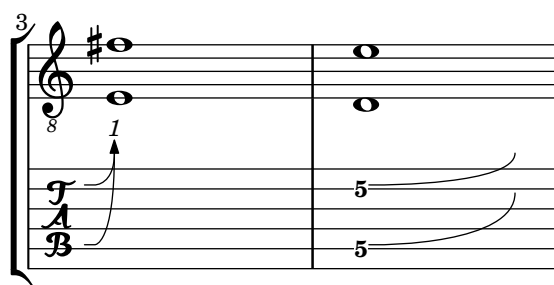
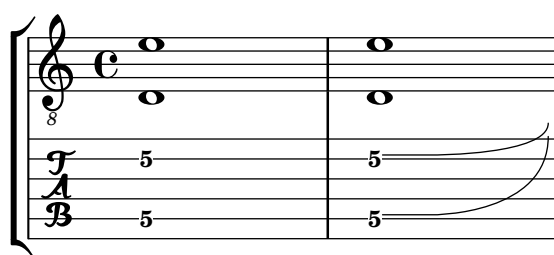
- 'curve-x-padding-line-end
- 'curve-y-padding-line-end
- 'head-text-break-visibility

`bend-spanner-details.ly`

subproperties of 'details



subproperties of 'details for line-breaking behavior



Per default notes played on open strings are disregarded by **BendSpanner** unless the property 'bend-me' is set to true for this note. Other notes may be excluded by setting the property 'bend-me' to false.

`bend-spanner-exclude-notes.ly`

open strings are not bent unless 'bend-me' is set true.

③ is open/bend                      ② is open/bend

① is open/bend

other notes excluded via \tweak bend-me ##f

At a line break the BendSpanner avoids changed TimeSignature, KeySignature, KeyCancellation and Clef in other staves.

bend-spanner-line-break.ly

A **BendSpanner** prints a line and/or curve to a certain point above the **TabStaff** or above the target **TabNoteHead**. This line or curve ends in an arrow head. For an up-pointing **BendSpanner** the amount of bending is printed above the arrow head. For a down-pointing **BendSpanner** the target **TabNoteHead** will be parenthesized. Works at line breaks.

bend-spanner-simple.ly

simple bends up and down

This musical score is for a guitar piece in C major, 4/4 time. It consists of six measures. The first measure shows a triplet of eighth notes (G4, A4, B4) on the treble staff and a triplet of eighth notes (E3, F3, G3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the G4 note to the A4 note. The second measure shows a triplet of eighth notes (A4, B4, C5) on the treble staff and a triplet of eighth notes (F3, G3, A3) on the bass staff. A bend-up arrow labeled '1 1/4' points from the A4 note to the B4 note. The third measure shows a triplet of eighth notes (B4, C5, D5) on the treble staff and a triplet of eighth notes (G3, A3, B3) on the bass staff. A bend-up arrow labeled '1' points from the B4 note to the C5 note. The fourth measure shows a triplet of eighth notes (C5, D5, E5) on the treble staff and a triplet of eighth notes (A3, B3, C4) on the bass staff. A bend-up arrow labeled '3/4' points from the C5 note to the D5 note. The fifth measure shows a triplet of eighth notes (D5, E5, F5) on the treble staff and a triplet of eighth notes (B3, C4, D4) on the bass staff. A bend-up arrow labeled '1' points from the D5 note to the E5 note. The sixth measure shows a triplet of eighth notes (E5, F5, G5) on the treble staff and a triplet of eighth notes (C4, D4, E4) on the bass staff. A bend-up arrow labeled '1' points from the E5 note to the F5 note. The score is written on a grand staff with treble, alto, and bass clefs.

double bends up and down

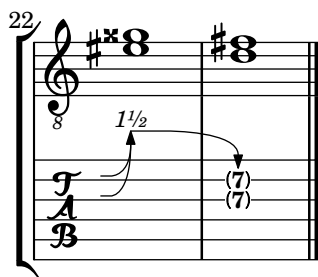
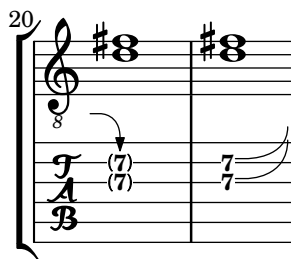
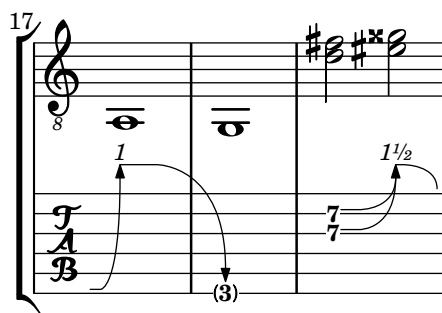
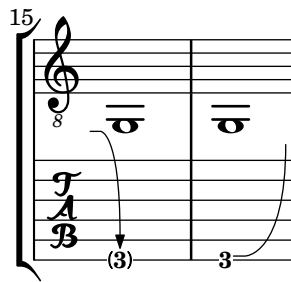
This musical score is for a guitar piece in C major, 4/4 time. It consists of four measures. The first measure shows a triplet of eighth notes (G4, A4, B4) on the treble staff and a triplet of eighth notes (E3, F3, G3) on the bass staff. A bend-up arrow labeled '1' points from the G4 note to the A4 note. The second measure shows a triplet of eighth notes (A4, B4, C5) on the treble staff and a triplet of eighth notes (F3, G3, A3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the A4 note to the B4 note. The third measure shows a triplet of eighth notes (B4, C5, D5) on the treble staff and a triplet of eighth notes (G3, A3, B3) on the bass staff. A bend-up arrow labeled '1' points from the B4 note to the C5 note. The fourth measure shows a triplet of eighth notes (C5, D5, E5) on the treble staff and a triplet of eighth notes (A3, B3, C4) on the bass staff. A bend-up arrow labeled '1 1/2' points from the C5 note to the D5 note. The score is written on a grand staff with treble, alto, and bass clefs.

11

This musical score is for a guitar piece in C major, 4/4 time. It consists of three measures. The first measure shows a triplet of eighth notes (G4, A4, B4) on the treble staff and a triplet of eighth notes (E3, F3, G3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the G4 note to the A4 note. The second measure shows a triplet of eighth notes (A4, B4, C5) on the treble staff and a triplet of eighth notes (F3, G3, A3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the A4 note to the B4 note. The third measure shows a triplet of eighth notes (B4, C5, D5) on the treble staff and a triplet of eighth notes (G3, A3, B3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the B4 note to the C5 note. The score is written on a grand staff with treble, alto, and bass clefs.

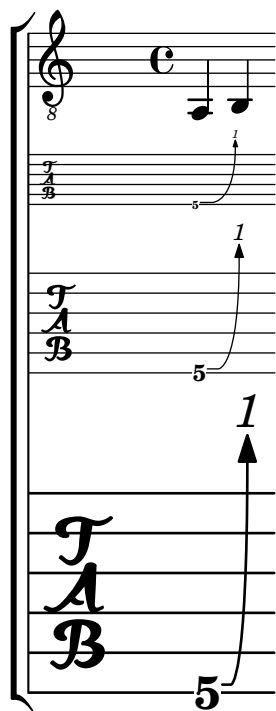
14 bends up and down

This musical score is for a guitar piece in C major, 4/4 time. It consists of one measure. The first measure shows a triplet of eighth notes (G4, A4, B4) on the treble staff and a triplet of eighth notes (E3, F3, G3) on the bass staff. A bend-up arrow labeled '1 1/2' points from the G4 note to the A4 note. The score is written on a grand staff with treble, alto, and bass clefs.



BendSpanner scales according to different staff sizes.

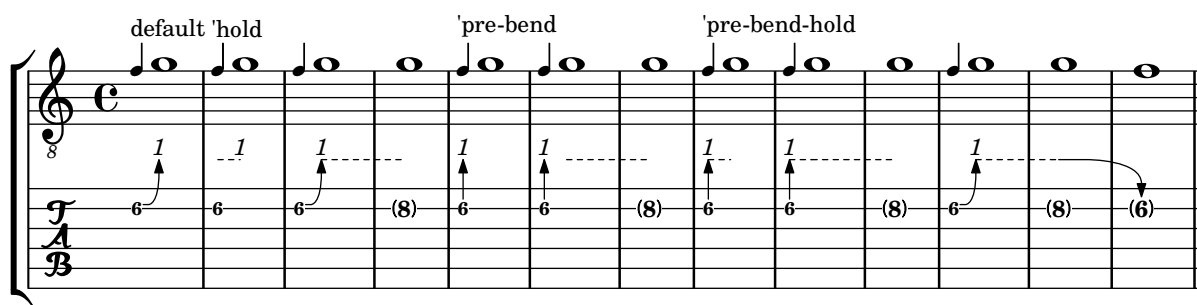
bend-spanner-staff-size.ly



`BendSpanner` can be used in different styles: the default, `'hold`, printing a dashed line (only useful in combination with a previous `BendSpanner`), `'pre-bend`, printing a vertical line, and `'pre-bend-hold`, printing a vertical line continued by a dashed horizontal line.

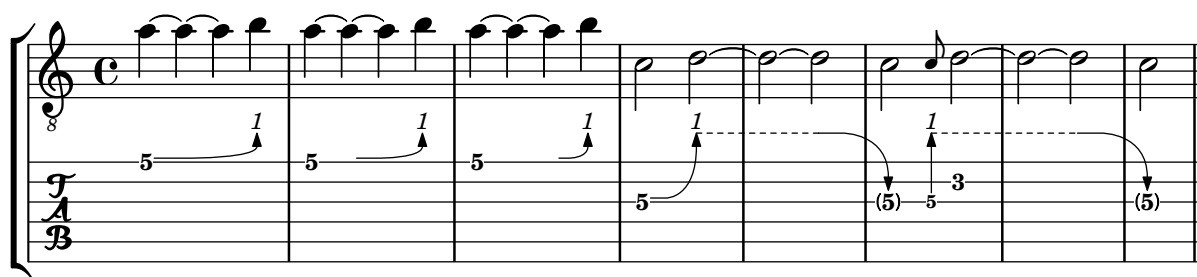
The `'style` property may be set using `\tweak`, `\override` or one of `\bendHold`, `\preBend` and `\preBendHold`.

`bend-spanner-styles.ly`



`BendSpanner` may be started at a tied note. To skip tied notes `NoteColumn.bend-me` should be set to false. The following `BendSpanner` continues without a gap.

`bend-spanner-tied-notes.ly`



This input file contains a UTF-8 BOM not at the very beginning, but on the first line after the first byte. LilyPond should gracefully ignore this BOM as specified in RFC 3629, but print a warning.

bom-mark.ly



Changing `global-staff-size` between consecutive `\books` must not impair font spacing. While the Pango fonts stay the same and may be re-used, the internal LilyPond scaling factor will not be correct any more. Not only `\abs-fontsize`, but even `\fontsize` (in extreme cases) will be affected. The following output shows a 10pt book after a standard 20pt book:

book-change-global-staffsize-abs-fonts.ly

**Changing global staff size  
from 20pt to 10pt in the 2nd book**

`\fontsize #6`  
`\fontsize #0`

`\abs-fontsize #10 text`  
`\abs-fontsize #10`

`\dynamic fff`

A `\book` or `\bookpart` identifier can contain top-level markup and page-markers.

book-identifier-markup.ly



Page ?

A book(part) can contain only a label without causing a segfault.

book-label-no-segfault.ly

foo



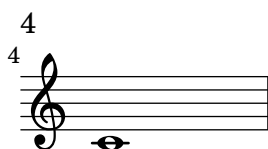
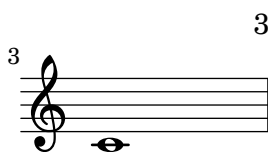
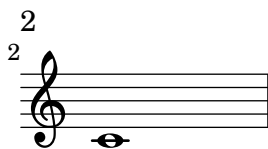
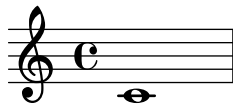
It is possible for one bookpart to have its independent page numbers while the others have a common sequence of page numbers.

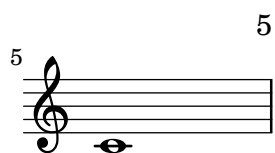
bookpart-level-page-numbering-one-bookpart.ly

Lorem ipsum  
dolor sit amet,  
consectetur  
adipiscing elit.  
Aenean aliquam  
elementum tortor,  
vitae euismod ex  
malesuada

ii  
lobortis. Nullam  
iaculis lorem ante,  
quis iaculis orci  
ultrices vitae.  
Suspendisse ac  
lacus eget dolor  
porttitor  
elementum vitae

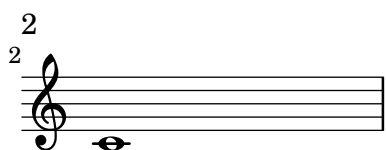
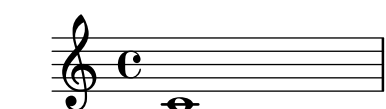
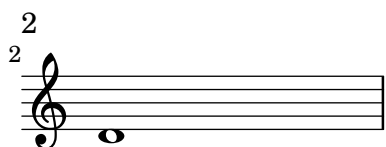
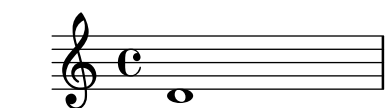
ut justo. Duis in  
commodo diam.

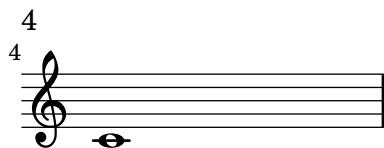




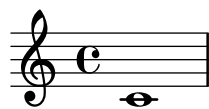
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Pages can be numbered per bookpart rather than per book.  
`bookpart-level-page-numbering.ly`





Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)



A book can be split into several parts with different paper settings, using `\bookpart`.

Fonts are loaded into the top-level paper. Page labels are also collected into the top-level paper.

`bookparts.ly`

## Book with several parts

First part  
with default paper settings.

ij SECOND PART

## Book with several parts

Second part, with different margins  
and page header.



3

## Book with several parts

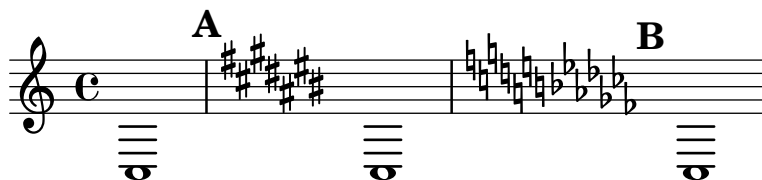
Third part

Table of Contents

<b>First part</b>	<b>1</b>
<b>Second part</b>	<b>2</b>
<b>Third part</b>	<b>3</b>

The default callback for break-align-anchor in clefs and time/key signatures reads the `break-align-anchor-alignment` property to align the anchor to the extent of the break-aligned grob.

`break-alignment-anchor-alignment.ly`



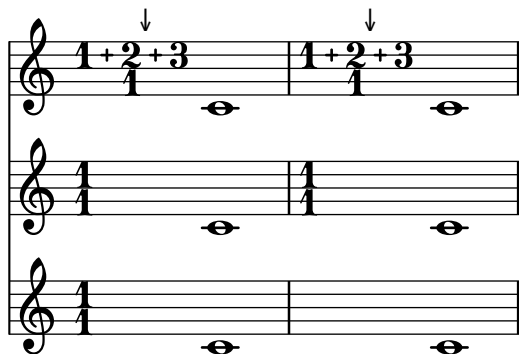
In this case, the compound time signature has a CENTER (0) anchor point and the 1/1 time signature has a LEFT (1) anchor point. The midpoint of these is 0.75, but it is not used for the “average” anchor point of the group because it would fall outside the range of anchor points that the isolated time signatures would choose. Instead, the average anchor point is the closer extreme of that range, which is the center of the compound time signature. The arrow should point there.

`break-alignment-anchor-average-clamp.ly`



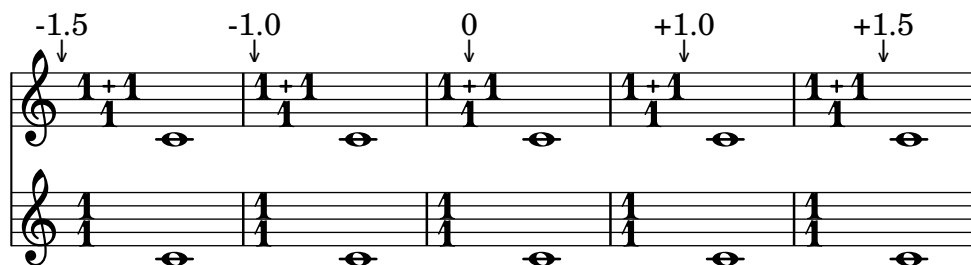
The “average” anchor of a diverse group of break-aligned items depends on the range of the particular anchors, but not on the number of items. In this case, the arrows should appear at the same horizontal position in both measures though the 1/1 time signature appears twice in one measure and only once in the next.

`break-alignment-anchor-average-midpoint.ly`



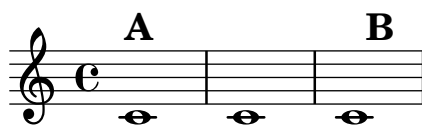
When a group of break-aligned items agree on the position of their own anchors with respect to their own extents, the “average” anchor of the group falls at that position with respect to the extent of the group. In this case, each rehearsal mark should point to the stated point relative to the compound time signature.

`break-alignment-anchor-average-unanimous.ly`



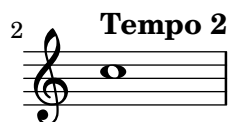
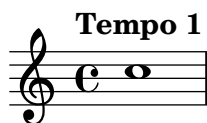
The break-align-anchor property of a break-aligned grob gives the horizontal offset at which other grobs should attach.

`break-alignment-anchors.ly`



A **Dynamics** context over a **Staff** does not impact the spacing of bar numbers relative to the staff at a line break. Bar number 2 should appear in its usual spot.

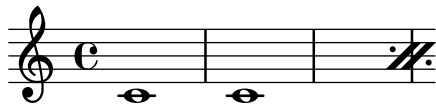
`break-alignment-dynamics-over-staff.ly`



`\break` forces a break, even in circumstances where LilyPond would normally not allow a break.

`break-bypass-default-break-points.ly`





A clef is printed at a break, even without a bar line.

`break-no-bar-clef.ly`



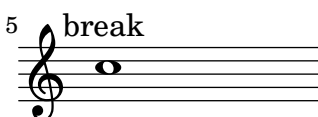
A key signature is printed at a break, even without a bar line.

`break-no-bar-key.ly`

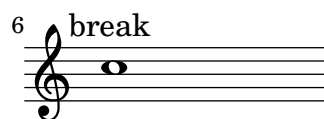


Breaks can be encouraged and discouraged using `\break` and `\noBreak`.

`break.ly`







The `breathMarkType` context property controls the sign that `\breathe` produces. The output should show two default breathing signs then two tick marks (check marks).

`breath-mark-type.ly`



Breathing signs do not collide with accidentals.

`breathing-sign-accidentals.ly`



Gregorian chant notation sometimes also uses commas and ticks, but in smaller font size (we call it ‘virgula’ and ‘caesura’). However, the most common breathing signs are *divisio minima*/*maior*/*maxima* and *finalis*, the latter three looking similar to bar glyphs.

`breathing-sign-ancient.ly`



Breathing signs are positioned correctly on custom staves which use `line-positions`.

`breathing-sign-custom-staff.ly`



Breathing signs do not collide with note heads even in very constrained spacing situations.

breathing-sign-tight-spacing.ly



This test shows the predefined values available for context properties that specify a type of BreathingSign. The dotted lines are bar lines.

breathing-sign-types-one-voice.ly

default

(default) \* caesura \* chantdoublebar \* chantfullbar \* chanthalfbar \* chantquarterbar

DOWN

\* comma \* curvedcaesura \* outsidecomma \* spacer \* tickmark \* upbow \* varcomma

Breathing signs are available in different tastes: commas (default), ticks, vees and ‘railroad tracks’ (caesura).

breathing-sign.ly



LilyPond knows that breves and longas are wider than whole notes (because of vertical lines on their sides). Breves and longas don’t collide with accidentals, bar lines, neighbor notes, etc. The distance between accidental and note is the same for whole notes, breves and longas.

breve-extent.ly



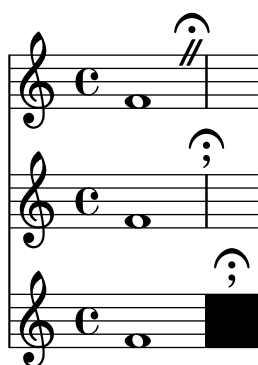
A grace note after \cadenzaOff does not keep autobeaming from resuming properly.

cadenza-grace-autobeam.ly



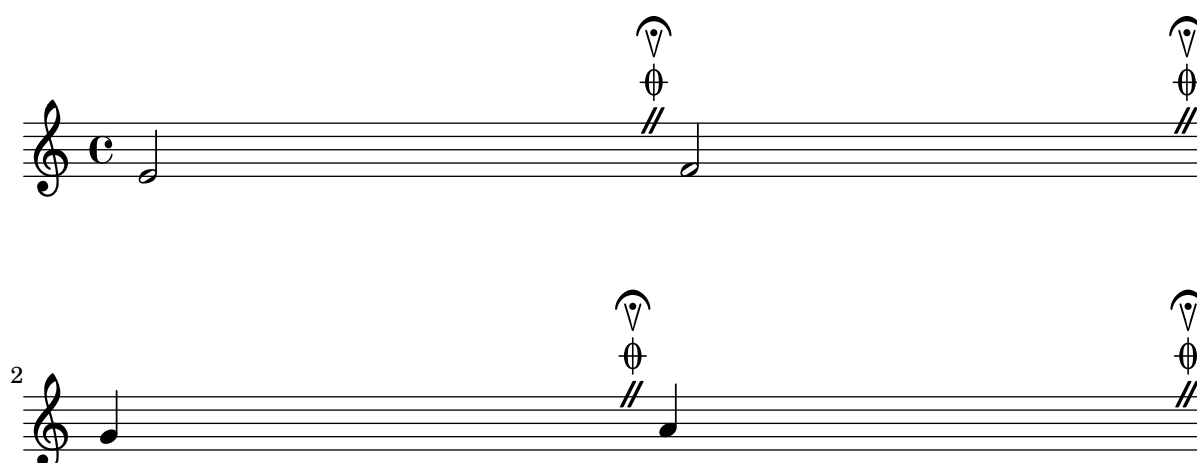
Caesura scripts can align to breath marks in some staves and to bar lines in others. The output should have one staff with a fermata over ‘railroad tracks’. The other staves should have a fermata over a comma at bar lines, and the scripts should align to the bar lines individually.

caesura-alignment-multiple.ly



Articulations following \caesura are stacked according to the same priorities as articulations following notes. These articulations should look the same though the input order is different each time.

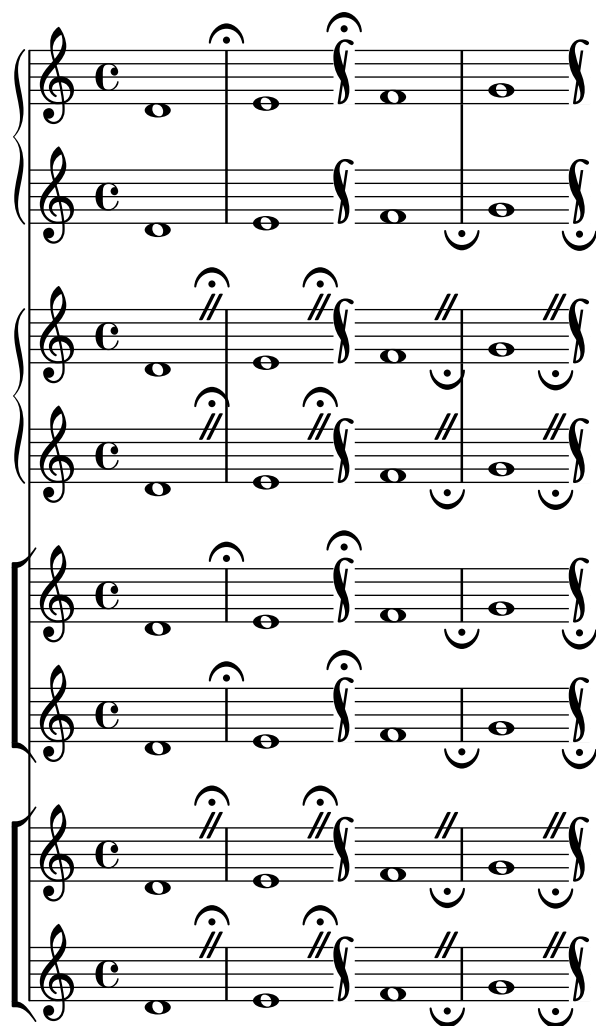
caesura-articulation-multiple.ly



In staff groups where span bar lines are engraved, caesura marks aligned on bar lines appear outside the extremal staves only, even at points where no span bar is visible.

The top PianoStaff should not have fermatas between the staves where the other PianoStaff and ChoirStaffs do.

caesura-over-span-bar-line.ly

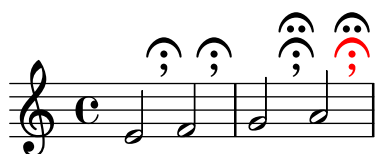


A caesura script is automatically shifted up to avoid colliding with a tall bar line.  
 caesura-over-tall-bar-line.ly



Context modifications can make `\caesura` appear as a stack of scripts. In this case, the caesura itself is engraved as a fermata over a comma, and a double-dot fermata is added as an articulation. The final caesura is colored red with `\tweak ... \caesura ...`, which affects both the fermata and the comma, but not the additional articulation.

caesura-script-multiple.ly



This test customization of `\caesura`. In mid measure, the caesura appears as a comma outside the staff. At a bar line, no caesura mark appears, but optional articulations still appear.

caesura-style-comma-not-at-bar-line.ly

The image displays four systems of musical staves, each with a B.Clef and a C.Clef. The staves are labeled as follows: System 1 (B.Sign ↑, C.Script ↑), System 2 (B.Sign ↓, C.Script ↑), System 3 (B.Sign ↑, C.Script ↓), and System 4 (B.Sign ↓, C.Script ↓). Above the first system, four caesura styles are defined: 'No Art.' (a comma), 'Art. ↓' (a comma with a downward arrow), 'Art. ↑' (a comma with an upward arrow), and 'Art. Neutral' (a comma with a neutral symbol). The score shows these caesuras placed at various points within the measures, not necessarily at bar lines.

This test customization of `\caesura`. In mid measure, the caesura appears as a comma outside the staff. At a bar line it appears as a fermata.

caesura-style-comma-or-fermata.ly

The image displays four systems of musical staves, each with a B.Clef and a C.Clef. The staves are labeled as follows: System 1 (B.Sign ↑, C.Script ↑), System 2 (B.Sign ↓, C.Script ↑), System 3 (B.Sign ↑, C.Script ↓), and System 4 (B.Sign ↓, C.Script ↓). Above the first system, four caesura styles are defined: 'No Art.' (a comma), 'Art. ↓' (a comma with a downward arrow), 'Art. ↑' (a comma with an upward arrow), and 'Art. Neutral' (a comma with a neutral symbol). The score shows these caesuras placed at various points within the measures, not necessarily at bar lines.

Context modifications can make `\caesura` appear as a comma outside the staff. In this case, when the caesura comes at a measure boundary, the comma is aligned over the bar line rather than like a breath mark.

caesura-style-comma-over-bar-line.ly

Art. ↑      Art. Neutral

No Art.      Art. ↓      ,      ;      ;      ;      ;

B.Sign ↑

C.Script ↑

B.Sign ↓

C.Script ↑

B.Sign ↑

C.Script ↓

B.Sign ↓

C.Script ↓

Context modifications can make `\caesura` appear as a comma outside the staff. In this case, all commas are horizontally aligned like breath marks, even when the caesura comes at a measure boundary.

`caesura-style-comma.ly`

Art. ↑      Art. Neutral

No Art.      Art. ↓      ,      ;      ;      ;      ;

B.Sign ↑

C.Script ↑

B.Sign ↓

C.Script ↑

B.Sign ↑

C.Script ↓

B.Sign ↓

C.Script ↓

This test shows the default caesura mark style.

`caesura-style-default.ly`

The image shows a musical score with four systems. Each system has two staves: 'B. Sign' and 'C. Script'. The first system is labeled 'No Art.' and the others are labeled 'Art. ↓', 'Art. ↑', and 'Art. Neutral'. The caesura marks are represented by double slashes (//) in the B. Sign staff and a small circle with a dot in the C. Script staff.

This test customization of `\caesura`. In mid measure, the caesura appears as ‘railroad tracks’. At a bar line it appears as a fermata.

`caesura-style-straight-or-fermata.ly`

The image shows a musical score with four systems. Each system has two staves: 'B. Sign' and 'C. Script'. The first system is labeled 'No Art.' and the others are labeled 'Art. ↓', 'Art. ↑', and 'Art. Neutral'. The caesura marks are represented by double slashes (//) in the B. Sign staff and a small circle with a dot in the C. Script staff.

Long titles should be properly centered.

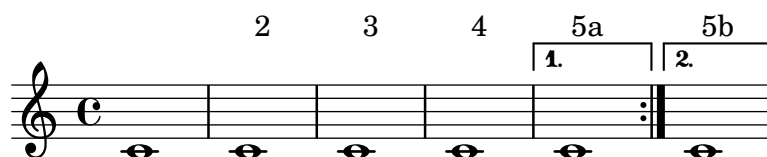
`center-title.ly`

## How Razorback Jumping Frogs Level Six Piqued Gymnast



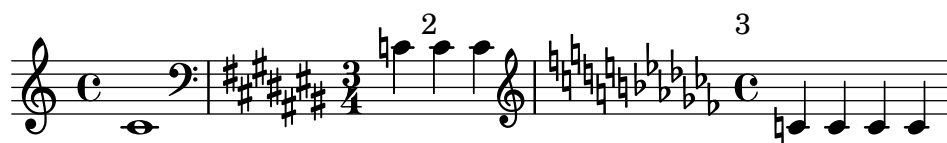
Centered bar numbers may be altered according to alternatives just like regular bar numbers.

`centered-bar-numbers-alternative.ly`



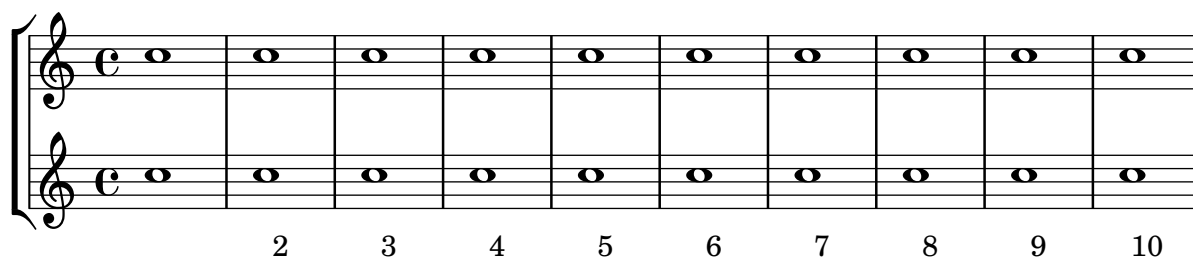
The centering of measure-centered bar numbers does not take prefatory material (such as clefs and time signatures) into account in the extent of the measure. This may be overridden by the user.

centered-bar-numbers-centering.ly



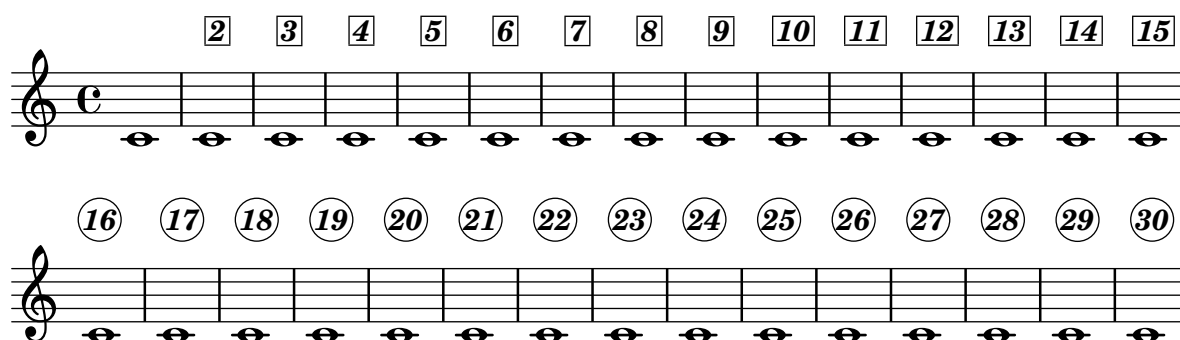
Measure-centered bar numbers may be placed beneath the staves.

centered-bar-numbers-down.ly



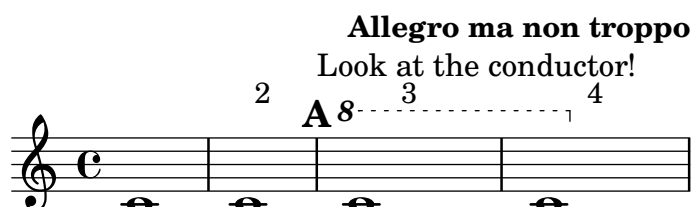
Centered bar numbers may be boxed or circled. Their appearance can be changed through properties of the text-interface.

centered-bar-numbers-formatting.ly

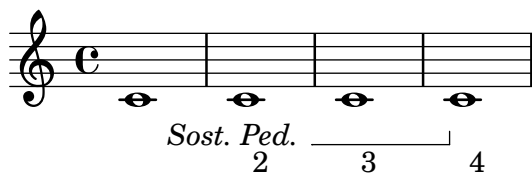


Test the stacking of measure-centered bar numbers with other objects.

centered-bar-numbers-priority.ly







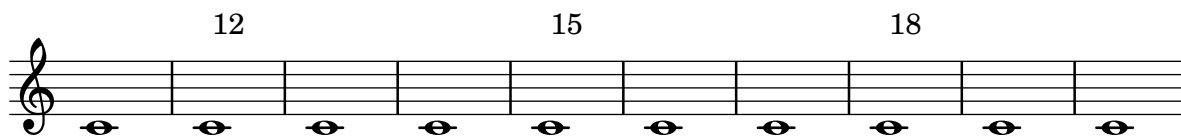
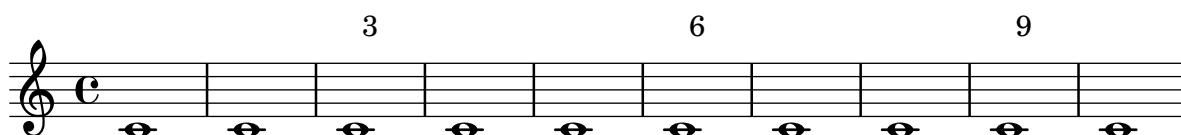
self-alignment-X can be overridden on centered bar numbers.

centered-bar-numbers-self-alignment-X.ly



Centered bar numbers honor the `barNumberVisibility` context property.

centered-bar-numbers-visibility.ly



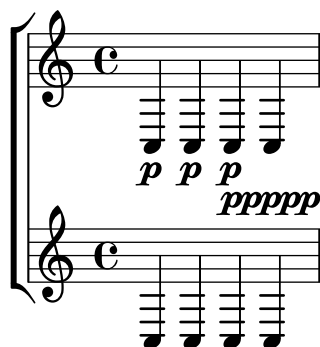
Bar numbers may be centered within their measure.

centered-bar-numbers.ly



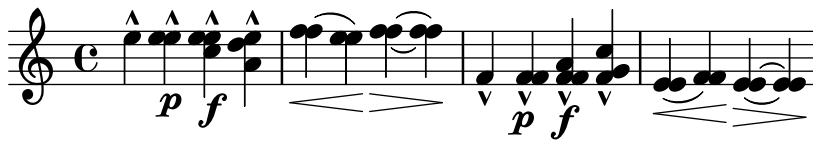
In `ChoirStaff` contexts, dynamics are allowed to cross columns.

choirstaff-dynamics-spacing.ly



Chords containing unisons or seconds: Center articulation marks, dynamics, slurs, etc., on the notehead that is on the “correct” side of the stem.

chord-X-align-on-main-noteheads.ly

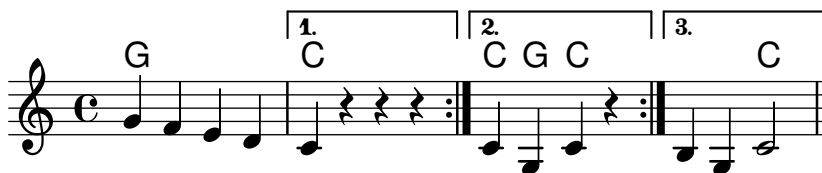


The prefix of additional chord pitches can be tuned with `additionalPitchPrefix`.  
`chord-additional-pitch-prefix.ly`

`C9 Cadd9`

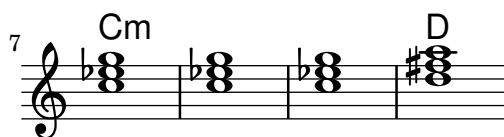
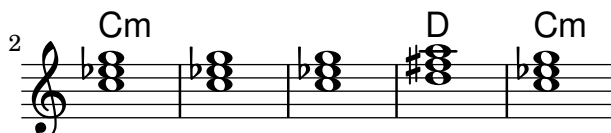
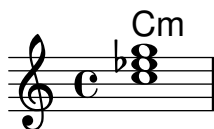
Chord change detection in repeat alternatives happens in relation to the chord active at the beginning of the first alternative.

`chord-changes-alternative.ly`



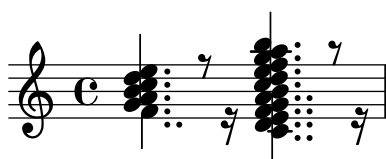
Property `chordChanges`: display chord names only when there's a change in the chords scheme, but always display the chord name after a line break.

`chord-changes.ly`



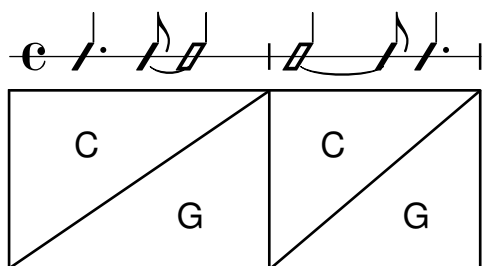
The column of dots on a chord is limited to the height of the chord plus `chord-dots-limit` staff-positions.

`chord-dots.ly`

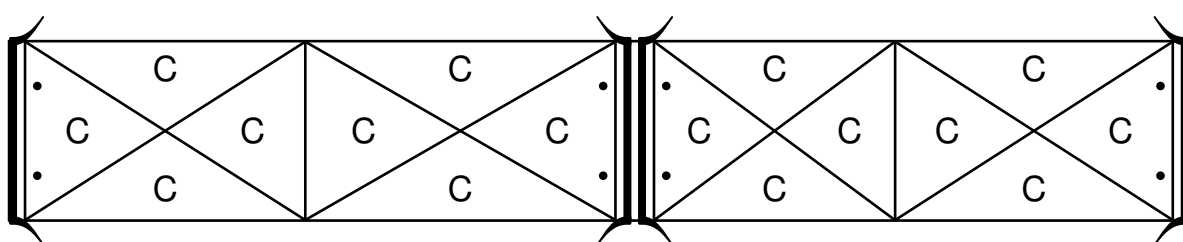


Contexts can be created in parallel with `ChordGrid` by instantiating a `ChordGridScore` explicitly.

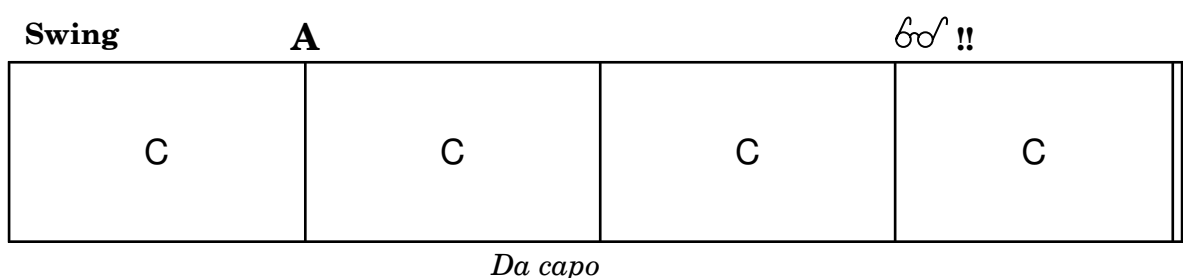
`chord-grid-additional-contexts.ly`



In chord grids, lines inside squares attach to the innermost line of the bar line.  
 chord-grid-bar-line-attachment.ly



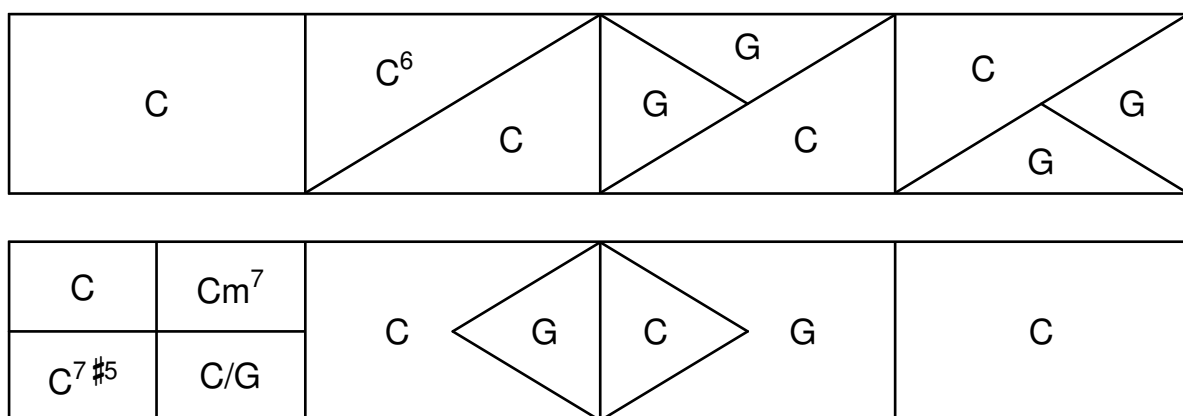
Various kinds of marks can be used within ChordGrid contexts.  
 chord-grid-marks.ly



*Da capo*

In chord grids, the `\medianChordGridStyle` command causes measures split in 4 equal parts to be printed with median rather than diagonal lines. This is the style recommended in Philippe Baudoin's book *Jazz, mode d'emploi*.

chord-grid-median-style.ly



Individual chords can be parenthesized in chord grids.  
 chord-grid-parentheses.ly

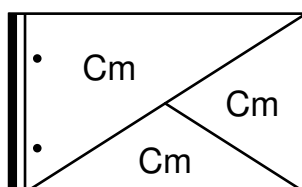
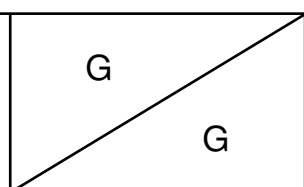
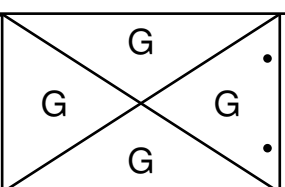
C	(C)	D	(D)
---	-----	---	-----

Repeat notation can be used in chord grids.

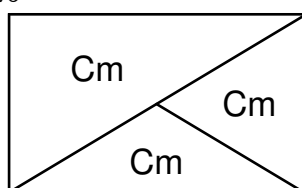
`chord-grid-repeats.ly`

C	$\text{\textbackslash}$	C	C
---	-------------------------	---	---

C	C	$\text{\textbackslash}$ .	
---	---	---------------------------	--

	E		
---	---	--	---

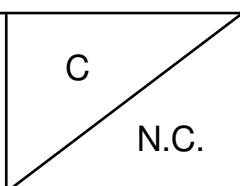
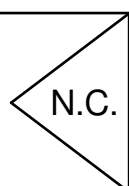
$\%$

	E	E	E
---	---	---	---

*D.S.*  $\%$

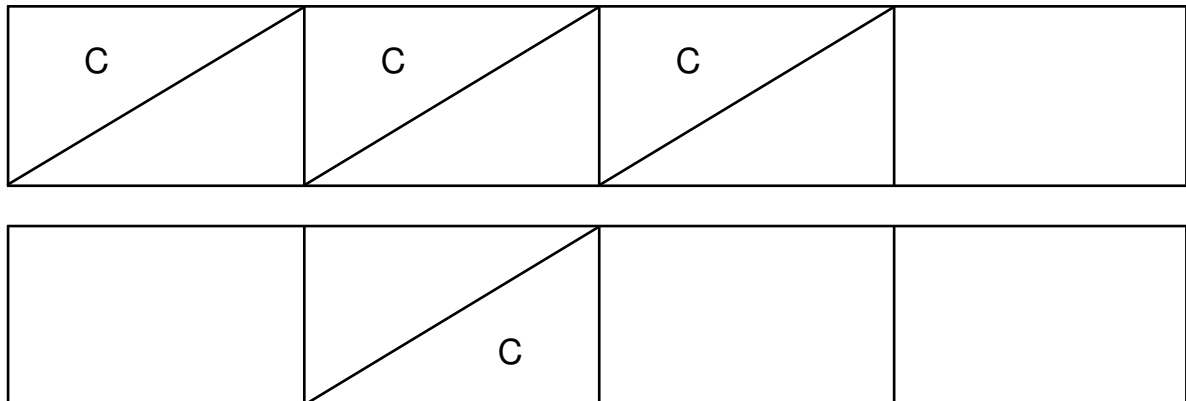
Chord grids can contain rests. This causes the `noChordSymbol` to be printed.

`chord-grid-rests.ly`

C	N.C.			N.C.
---	------	---	---	------

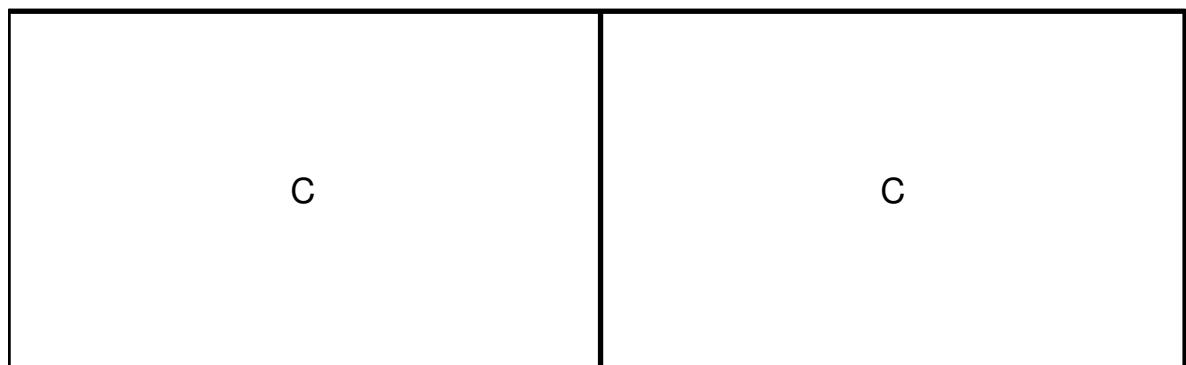
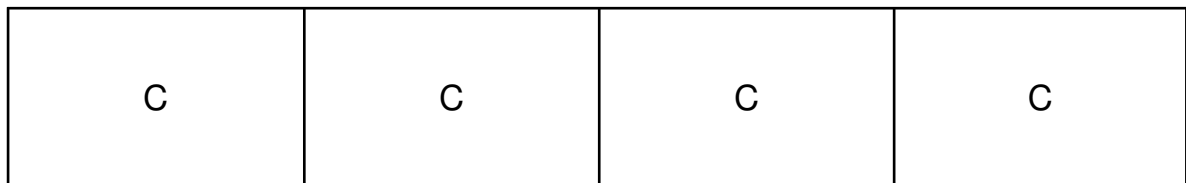
Chord grids may contain skips. They cause a blank space in chord squares.

`chord-grid-skips.ly`



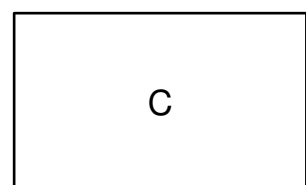
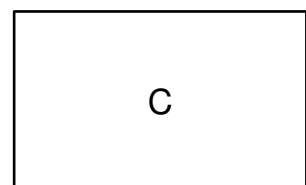
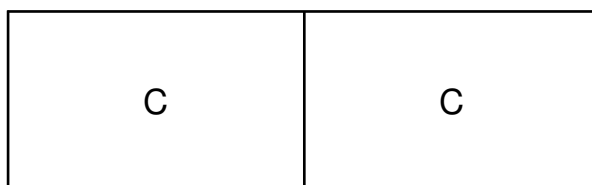
Chord grids are properly scaled with staff size.

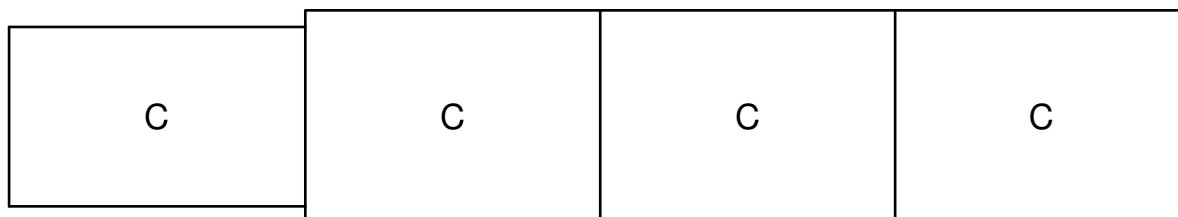
`chord-grid-staff-sizes.ly`



`\stopStaff` and `\startStaff` can be used in chord grids.

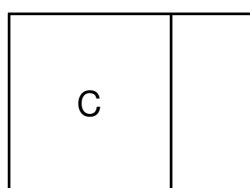
`chord-grid-stopstaff.ly`





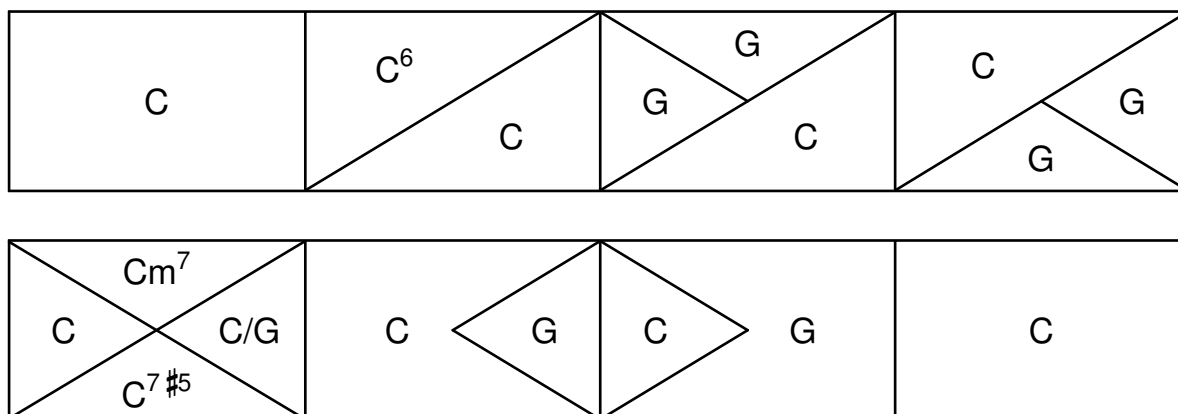
Within chord grids, an unterminated measure should be handled gracefully.

`chord-grid-unterminated-measure.ly`



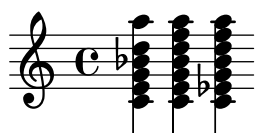
The ChordGrid context creates chord grid notation.

`chord-grid.ly`



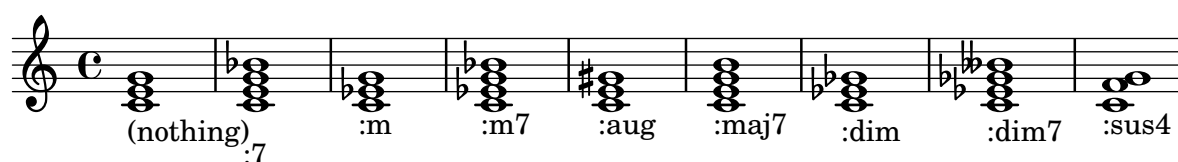
The 11 is only added to major-13 if it is mentioned explicitly.

`chord-name-11-entry.ly`



Chords can be produced with the `chordname` entry code (`\chordmode mode`), using a pitch and a suffix. Here, the suffixes are printed below pitches.

`chord-name-entry.ly`



10

19

The property `chordNameExceptions` can be used to store a list of special notations for specific chords.

`chord-name-exceptions.ly`

The layout of the major 7 can be tuned with `majorSevenSymbol`. It does not break if `majorSevenSymbol` is unset. One should see: triangle - j7 - triangle - #7.

`chord-name-major7.ly`

$C^{\Delta} C^{j7} C^{\Delta} C^{\#7}$

The layout of the minor chord can be tuned with `minorChordModifier`.

`chord-name-minor.ly`

$C_m C_m^7 C^- C^{-7}$

Users can override the `text` property of `ChordName`.

`chord-name-override-text.ly`

A B  $C^7$  foo

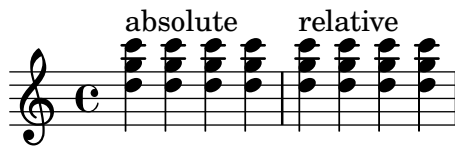
In `ignatzek` inversions, a note is dropped down to act as the bass note of the chord. Bass note may be also added explicitly. Above the staff: computed chord names. Below staff: entered chord name.

`chord-names-bass.ly`

`GrandStaff` contexts accept chord names. The chord name in this example should be printed above the top staff.

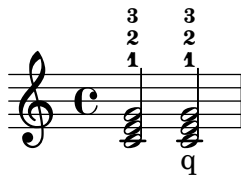






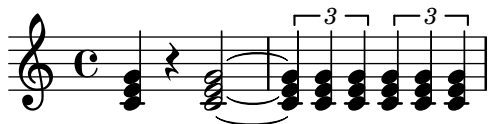
Post events such as fingerings and scripts added to a chord repetition follow the same basic stacking order as chords.

`chord-repetition-script-stack.ly`



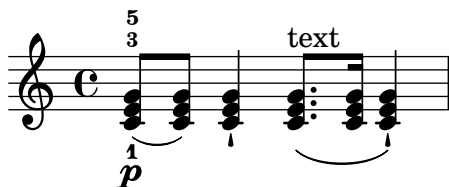
Chord repetitions are expanded late in the processing order and get their note events only then. Check that `\times` still works correctly on them.

`chord-repetition-times.ly`



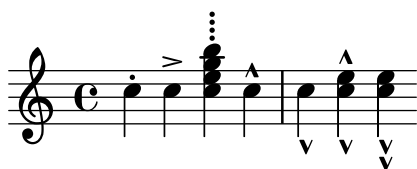
A repetition symbol can be used to repeat the previous chord and save typing. Only note events are copied: articulations, text scripts, fingerings, etc are not repeated.

`chord-repetition.ly`



Scripts can also be attached to chord elements. They obey manual direction indicators.

`chord-scripts.ly`



The layout of chord inversions can be tuned with `slashChordSeparator`.

`chord-slash-separator.ly`

## D $\flat$ /C D $\flat$ over C

Chord tremolos adapt to the presence of accidentals.

`chord-tremolo-accidental.ly`



Articulations on chord tremolos should not confuse the time-scaling of the notes. In particular, only the number of real notes should be considered.

chord-tremolo-articulations.ly



To calculate the total duration of chord tremolos, only real notes shall be counted, no other commands.

chord-tremolo-other-commands.ly



Don't allow scaled durations to confuse the tremolo beaming. The tremolos should each have 3 beams.

chord-tremolo-scaled-durations.ly



Tremolo repeats can be constructed for short tremolos (total duration smaller than 1/4) too. Only some of the beams are connected to the stems.

chord-tremolo-short.ly



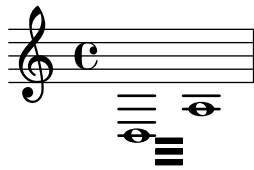
Chord tremolos on a single note.

chord-tremolo-single.ly



Stem directions influence positioning of whole note tremolo beams.

chord-tremolo-stem-direction.ly



chord tremolos don't collide with whole notes.

chord-tremolo-whole.ly



Chord tremolos look like beams, but are a kind of repeat symbol. To avoid confusion, chord tremolo beams do not reach the stems, but leave a gap. Chord tremolo beams on half notes are not ambiguous, as half notes cannot appear in a regular beam, and should reach the stems.

In this example, each tremolo lasts exactly one measure.

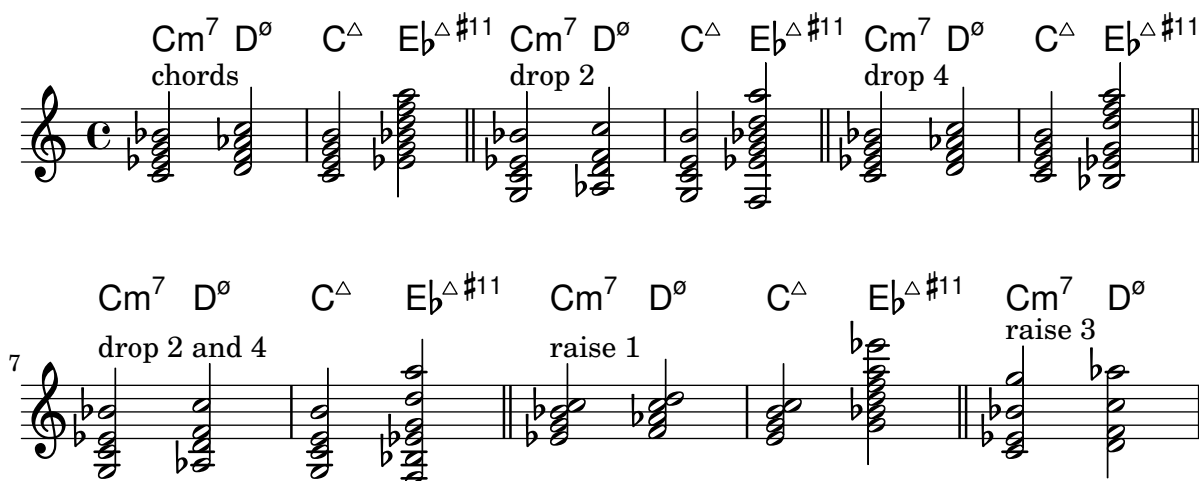
(To ensure that the spacing engine is not confused we add some regular notes as well.)

chord-tremolo.ly



Chord voicings may be transformed or inverted automatically through Scheme functions. These work even when chord notes are not entered in order (e.g. from the lowest to the uppermost note), and may also be used in chordmode. Even when using voicings, chord names remain unchanged.

chord-voicings.ly



$C^{\Delta}$   $E_b^{\Delta \#11}$   $Cm^7$   $D^{\emptyset}$   $C^{\Delta}$   $E_b^{\Delta \#11}$   $Cm^7$   $D^{\emptyset}$   $C^{\Delta}$   $E_b^{\Delta \#11}$

12

2nd inversion

"down" inversion

Rests in music passed to ChordNames context display noChordSymbol. noChordSymbol is treated like a ChordName with respect to chordChanges.

chordnames-nochord.ly

$C$  N.C. N.C.

$C$  N.C.  $G$   $C$

$C$  N.C.

$C$   $G$   $C$

$C$  N.C.

$C$   $G$   $C$

Jazz chords may have unusual combinations.

chords-funky-ignatzek.ly

$C^{sus4\ sus2}$   $C^{sus4\ sus2\ 3}$   $C^{sus2\ 3}$   $C^{b6\ sus2\ b3}$   $C^{11\ sus4\ sus2\ 3}$   $C^{7\ sus4\ sus2\ 3\ 8\ 9\ 10}$

$C^+$   $C^{\circ}$   $C^{\emptyset}$   $C^{\circ 7}$   $C^{7\ 8\ 9\ 10}$   $C^{7\ 6}$   $C^{6\ 9}$   $C^{lyd}$   $C^{alt}$

`staffLineLayoutFunction` is used to change the position of the notes. This sets `staffLineLayoutFunction` to `ly:pitch-semitones` to produce a chromatic scale with the distance between a consecutive space and line equal to one semitone.

`chromatic-scales.ly`



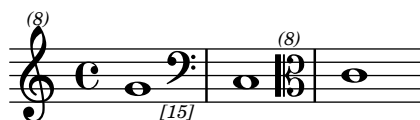
Ottava brackets and clefs both modify `Staff.middleCPosition`, but they don't confuse one another.

`clef-ottava.ly`



Clef transposition symbols may be parenthesized or bracketed by using parentheses or brackets in the command string.

`clef-transposition-optional.ly`



Transposition symbols should be correctly positioned close to the parent clef. Horizontal alignment is fine-tuned for standard C, G and F clefs: for example, downwards transposition of a G clef should be centered exactly under the middle of clef hook. For clefs that don't have fine-tuned alignment the transposition number should be centered.

`clef-transposition-placement.ly`

Even the smallest positioning changes may indicate a prob

The image displays a complex musical score for regression testing, organized into four systems of staves. Each system contains two staves, with the top staff using a treble clef and the bottom staff using a bass clef. The staves are filled with musical notation, including notes, rests, and accidentals. The notation is divided into measures by vertical bar lines. The first system shows a sequence of notes and rests, with some measures containing multiple notes. The second system continues this sequence, with some measures containing multiple notes. The third system shows a sequence of notes and rests, with some measures containing multiple notes. The fourth system continues this sequence, with some measures containing multiple notes. The notation is complex, with many notes and rests, and some measures containing multiple notes. The staves are labeled with numbers 8, 15, (8), and (141) below them, indicating specific measures or groups of measures. The overall layout is clean and professional, with a clear focus on the musical notation.

Clefs may be transposed. By default, break-visibility of `ClefModifiers` is derived from the associated clef, but it may be overridden explicitly. The initial `treble_8` clef should not have an 8, while the `treble_8` clef after the tenor clef should. These settings also need to apply to clefs on new lines.

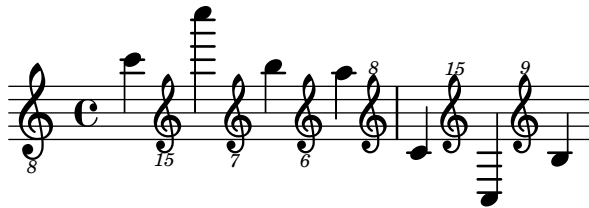
`clef-transposition-visibility.ly`





Clefs may be transposed up or down by arbitrary amount, including 15 for two octaves.

clef-transposition.ly



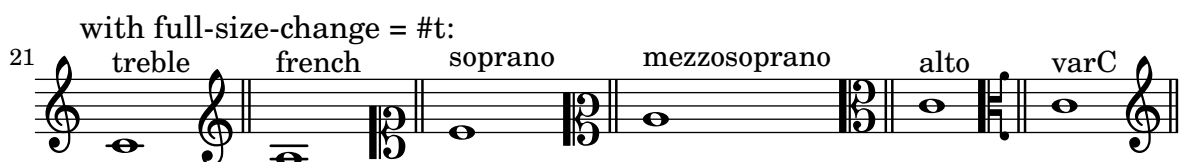
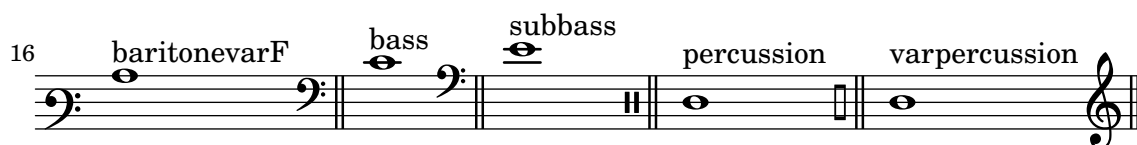
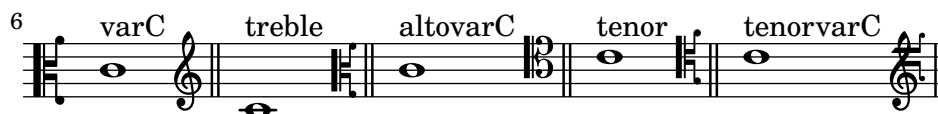
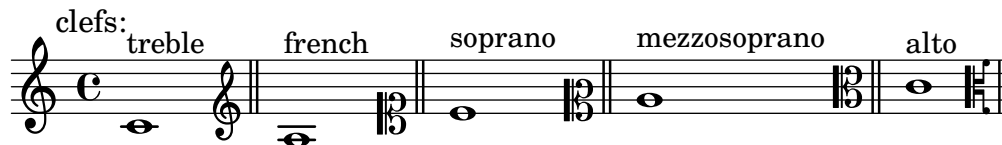
Unknown clef name warning displays available clefs

clef-warn.ly



Clefs with full-size-change should be typeset in full size.

clefs.ly



27 treble altovarC tenor tenorvarC tenorG GG

33 baritone varbaritone baritonevarC baritonevarF bass

38 subbass percussion varpercussion

Clipping snippets from a finished score

Notes:

- If system starts and ends are included, they include extents of the System grob, eg. instrument names.
- Grace notes at the end point of the region are not included
- Regions can span multiple systems. In this case, multiple EPS files are generated.

This file needs to be run separately with `-dclip-systems`; the collated-files.html of the regression test does not adequately show the results.

The result will be files named `base-from-start-to-end[-count].eps`.

When using Cairo, this file only works when using the PostScript format.

`clip-systems.ly`





## clips

from-2.0.1-to-4.0.1-clip.eps

The image shows a single staff of musical notation in treble clef with a common time signature (C). It contains four measures: the first has a whole note on G4, the second has a whole note on A4, the third has a quarter note on B4 followed by a whole note on A4, and the fourth has a quarter note on B4, a quarter note on A4, and a whole note on G4. A small number '5' is positioned to the left of the staff.

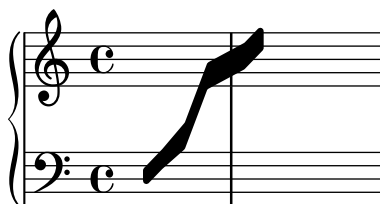
Clusters behave well across line breaks.

`cluster-break.ly`



Clusters can be written across staves.

`cluster-cross-staff.ly`



don't crash on single chord clusters.

`cluster-single-note.ly`



Clusters behave well across line breaks.

`cluster-style.ly`



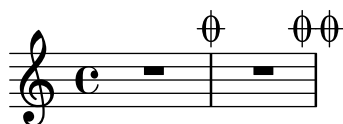
Clusters are a device to denote that a complete range of notes is to be played.

`cluster.ly`



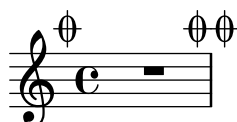
`\codaMark \default` at the beginning of the score does not create a mark. A single coda mark should appear at the beginning of the second measure and a double coda mark should appear at the end.

`coda-mark-begin-score-default.ly`



`\codaMark 1` at the beginning of the score creates a visible mark. A single coda mark should appear at the beginning of the measure and a double coda mark should appear at the end.

`coda-mark-begin-score-specific.ly`



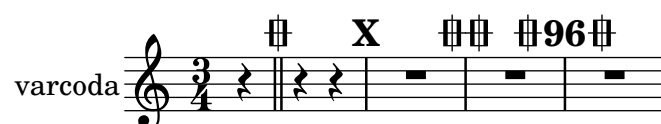
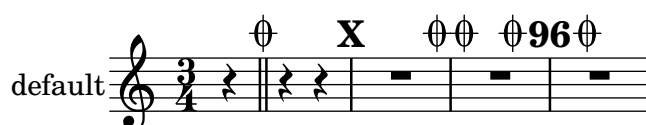
A coda mark at a line break appears at the end of the line.

`coda-mark-break.ly`



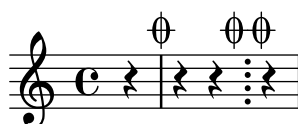
Coda marks are formatted with `codaMarkFormatter`, which the user can override. Rehearsal marks and coda marks are sequenced independently.

`coda-mark-formatters.ly`



Where a coda mark is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the single coda sign should have a normal bar line and the double coda sign should have a dotted bar line.

`coda-mark-unaligned.ly`



When notes are colliding, the resolution depends on the dots: notes with dots should go to the right, if there could be confusion to which notes the dots belong.

`collision-dots-invert.ly`



If dotted note heads must remain on the left side, collision resolution moves the dots to the right.

`collision-dots-move.ly`



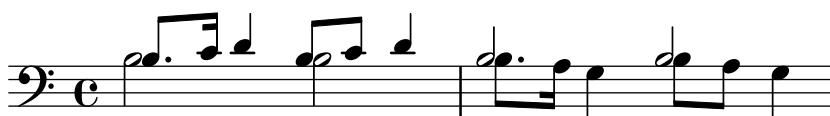
For collisions where the upper note is dotted and in a space, the upper is moved to right. This behavior can be tuned by `prefer-dotted-right`.

`collision-dots-up-space-dotted.ly`



Collision resolution tries to put notes with dots on the right side.

`collision-dots.ly`



Collision resolution involving dotted harmonic heads succeeds when dots are hidden since `rhythmic-head-interface` will only retrieve 'dot-count' from live grobs.

`collision-harmonic-no-dots.ly`



Note heads in collisions should be merged if they have the same positions in the extreme note heads.

`collision-head-chords.ly`



'fa' shape note heads ('fa', 'faThin', etc.), which are right triangles, are merged to avoid creating a rectangular note.

Using property `NoteCollision.fa-merge-direction`, the direction of the merged ‘fa’ can be controlled independently of the stem direction. If this property is not set, the ‘down’ glyph variant is used.

`collision-head-solfa-fa.ly`



Open and black note heads are not merged by default.

`collision-heads.ly`



Colliding note-columns may be shifted manually with `force-hshift`. Arrangements of notes after collision-resolution have their main columns (not suspended notes) left-aligned, excluding columns with forced shifts.

`collision-manual.ly`



If `NoteCollision` has `merge-differently-dotted = ##t` note heads that have differing dot counts may be merged anyway. Dots should not disappear when merging similar note heads.

`collision-merge-differently-dotted.ly`



If `merge-differently-headed` is enabled, then open note heads may be merged with black noteheads, but only if the black note heads are from 8th or shorter notes.

`collision-merge-differently-headed.ly`



When merging heads, the dots are merged too.

`collision-merge-dots.ly`



Oppositely stemmed chords, meshing into each other, are resolved.

`collision-mesh.ly`



Seconds do not confuse the collision algorithm. The first pair of chords in each measure should merge, mesh, or come relatively close, but the second in each measure needs more space to make clear which notes belong to which voice.

`collision-seconds.ly`



Single head notes may collide.

`collision-single-head.ly`



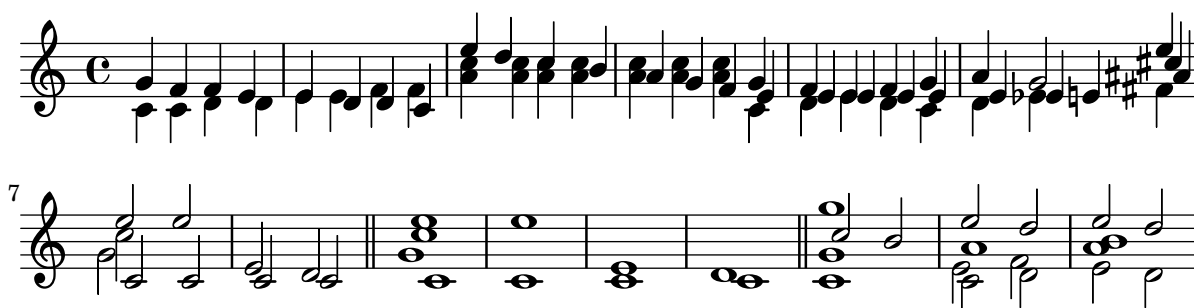
Mixed collisions with whole and longer notes require asymmetric shifts.

`collision-whole.ly`



In addition to normal collision rules, there is support for polyphony, where the collisions are avoided by shifting middle voices horizontally.

`collisions.ly`



CSS-style color codes are supported and must be prefixed with a hash. In SVG backend, the given color codes (as hexadecimal strings or predefined color names) are used directly; `rgb-color` lists are converted to `rgb()` or `rgba()` appropriately.

This test's output should be perceivably the same as `input/regression/color.ly`; alpha transparency is only visible in SVG output.

`color-css.ly`



Each grob can have a color assigned to it. Use the `\override` and `\revert` expressions to set the `color` property.

Colors may include an alpha channel, but that is only apparent in SVG output.

`color.ly`



Complex completion heads work properly in a polyphonic environment.

`completion-heads-alternating-polyphony.ly`



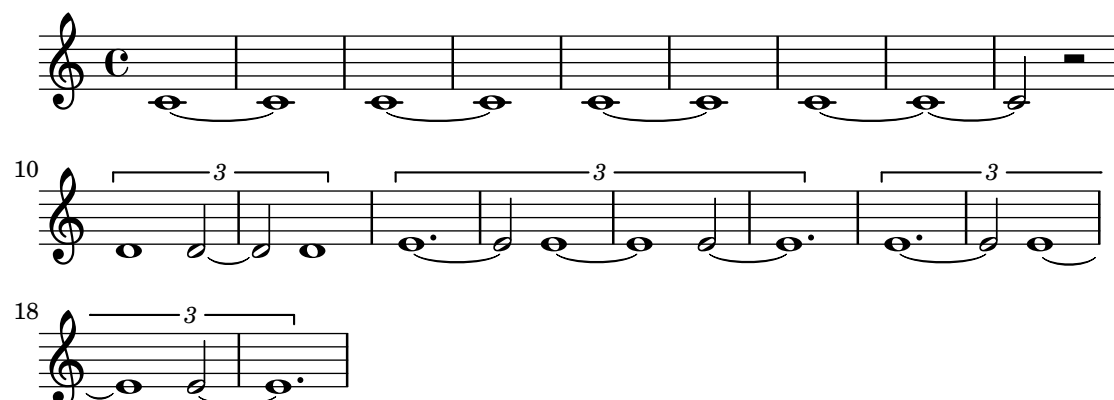
The `Completion_heads_engraver` uses dotted breve/longa durations if possible.

`completion-heads-dotted-durations.ly`



If the `Note_heads_engraver` is replaced by the `Completion_heads_engraver`, long notes, longer than `measureLength`, are split into un-scaled notes, even if the original note used a `scale-factor`. `completionFactor` controls this behavior.

`completion-heads-factor.ly`



You can put lyrics under completion heads.

`completion-heads-lyrics.ly`



The `Completion_heads_engraver` correctly handles notes that need to be split into more than 2 parts.

`completion-heads-multiple-ties.ly`



Completion heads are broken across bar lines. This was intended as a debugging tool, but it can be used to ease music entry. Completion heads are not fooled by polyphony with a different rhythm.

`completion-heads-polyphony.ly`



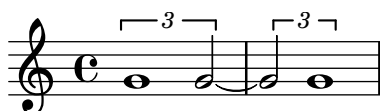
Completion heads will remember ties, so they are started on the last note of the split note.

`completion-heads-tie.ly`



Completion heads may be used with tuplets (and compressed music) too.

`completion-heads-tuplets.ly`



Note head completion may be broken into sub-bar units by setting the `completionUnit` property.

`completion-heads-unit.ly`



If the `Note_heads_engraver` is replaced by the `Completion_heads_engraver`, notes that cross bar lines are split into tied notes.

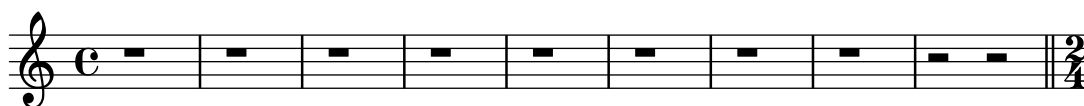
`completion-heads.ly`





If the `Rest_engraver` is replaced by the `Completion_rest_engraver`, long rests, longer than `measureLength`, are split into un-scaled rests, even if the original duration used a scale-factor. `completionFactor` controls this behavior.

`completion-rest.ly`



This tests `\once` applied to multiple property operations.

`complex-once.ly`



Simple-fraction components of a compound time signature are numeric regardless of the time signature style.

`compound-time-signature-style.ly`



Create compound time signatures. The argument is a Scheme list of lists. Each list describes one fraction, with the last entry being the denominator, while the first entries describe the summands in the numerator. If the time signature consists of just one fraction, the list can be given directly, i.e. not as a list containing a single list. For example, a time signature of  $(3+1)/8$  +  $2/4$  would be created as `\compoundMeter #'((3 1 8) (2 4))`, and a time signature of  $(3+2)/8$  as `\compoundMeter #'((3 2 8))` or shorter `\compoundMeter #'(3 2 8)`.

`compound-time-signatures.ly`



7 

8 

9 

11 

13 

15 

A `\defaultchild` cycle does not induce an endless loop. The output of this test is not important.

`context-defaultchild-cycle.ly`

`\defaultchild` can be overridden in a context definition. `CREATED` should appear in the left margin.

`context-defaultchild-def.ly`

CREATED 

`\defaultchild` can be overridden in `\with` blocks. `CREATED` should appear in the left margin.

`context-defaultchild-mod.ly`

CREATED 

`\denies context` in a context definition cancels a prior `\defaultchild context`. `CREATED` should appear in the left margin.

`context-denies-defaultchild-def.ly`

CREATED 

`\denies context` in a `\with` block cancels a prior `\defaultchild context`. CREATED should appear in the left margin.

context-denies-defaultchild-mod.ly



A `\denies` statement in a `\with` block applies to the local context only; it does not change the global context definition. The lower staff should hold a B-sharp.

context-denies-nondestructive-mod.ly



If the descend-to-context function cannot find or create its context below the current context, then it does not create its context anywhere, and it leaves the current context unchanged.

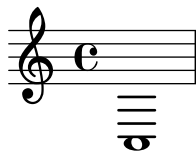
The expected output of this test is one staff with two notes.

context-descend-only-not-found.ly



a staff should die if there is reference to it.

context-die-staff.ly



`\context` finds a child by type and ID even when the parent also matches.

StaffGroup A

\

StaffGroup B (from here, find StaffGroup A)

\

StaffGroup A (this is found)

RESULT should appear in the left margin.

context-find-child.ly

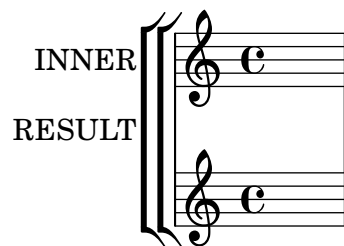


`\context` finds the current context by type and ID even when there are matching contexts both above and below.

```
StaffGroup A
  \
  StaffGroup A (from here, find StaffGroup A)
    \
    StaffGroup A
```

INNER and RESULT should appear in the left margin.

`context-find-current.ly`

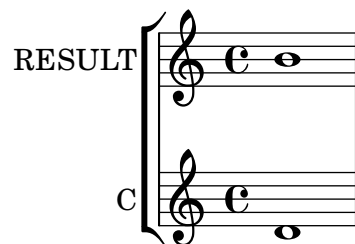


`\context` finds a grandchild by type and ID when there are multiple matching contexts.

```
      StaffGroup A (from here, find Staff D)
      /      \
StaffGroup B  StaffGroup C
  /           \
Staff D        Staff D
```

RESULT and either B or C should appear in the left margin.

`context-find-grandchild-ambiguous.ly`



`\context` finds a grandchild by type and ID even when the parent also matches.

```
StaffGroup A
  \
  StaffGroup B (from here, find StaffGroup A)
    \
    StaffGroup C
      \
      StaffGroup A (this is found)
```

RESULT should appear in the left margin.

`context-find-grandchild.ly`



`\context` can find the parent context by type and ID.

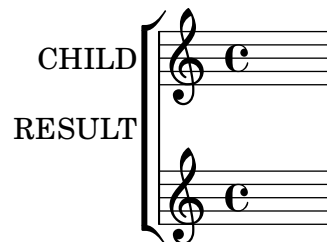
StaffGroup A

\

StaffGroup B (from here, find StaffGroup A)

CHILD and RESULT should appear in the left margin.

`context-find-parent.ly`



Attempting to find a Score context by alias before it exists triggers creation of a Score context. The output should have a note on the middle line of the staff.

`context-find-score-alias.ly`



`\context` creates a new context rather than finding a matching context in another branch.

StaffGroup A

/

StaffGroup B

\

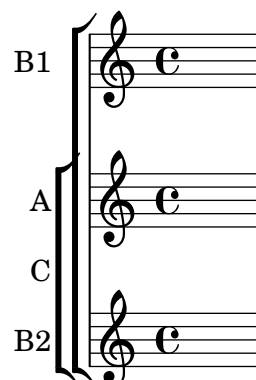
StaffGroup C (from here, find StaffGroup B)

\

[StaffGroup B] (this is created)

B1, A, C, and B2 should appear in the left margin.

`context-find-sibling.ly`



User code is not allowed to access the Global context. The visual output of this test is not important.

`context-global-find.ly`



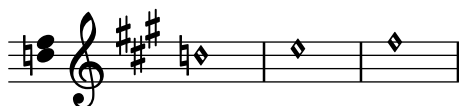
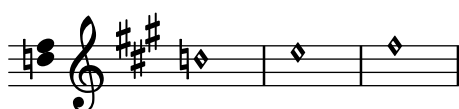
User code is not allowed to create a Global context. The visual output of this test is not important.

context-global-new.ly



Context modifications can be stored into a variable as a \with object. They can be later inserted directly into a context definition.

context-mod-context.ly



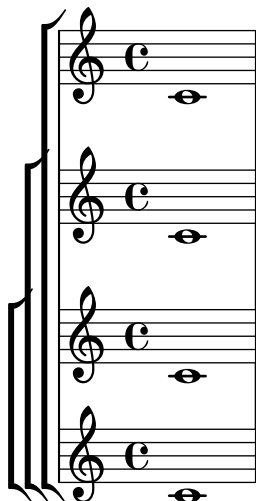
Context modifications can be stored into a variable as a \with object. They can be later inserted into another \with block.

context-mod-with.ly

	No modifications
	Remove time sig, add ambitus, set staff to 4 lines
	The same mods using a variable
	The same mods using a variable and \with
	Remove clef and use variable to add other changes as above
	Also remove clef and key engravers
	The same mods as staff 2
	Back to default

Contexts of the same type can be nested.

`context-nested-staffgroup.ly`



`\new` can create a child of the same type and name as its parent. PASS should appear in the left margin.

`context-new-child-same-name.ly`



`\new` can create a sibling of an existing context with the same type and name. The instrument name should be PASS.

`context-new-sibling-same-name.ly`



Let `ly:context-output-def` access some output variables from inside a `\applyContext` expression.

`context-output-def.ly`



It is possible to define contexts that, when instantiated, take the normal place of **Score**. This test should show a score with proportional notation and bigger note heads.

`context-score-level.ly`



Using `\contextStringTuning` does not break compiling.  
`context-string-tuning.ly`



Test for cross-staff beams. Three issues are covered. All stems, beams, and note heads should be positioned correctly and there should be no programming errors.

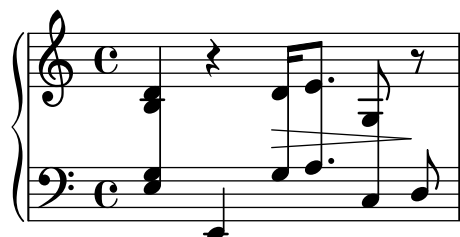
`cross-staff-beams.ly`



Test for cross-staff stems. The test produces a piano staff with cross-staff connected crochet, semi-quaver, dotted quaver (beamed with the semi-quaver) and finally a quaver. All stems should connect, showing correct spacing and stem length. The lower connected notes should have no flags.

`cross-staff-stems.ly`





Cue clefs can be printed after a bar line.

cue-clef-after-barline.ly



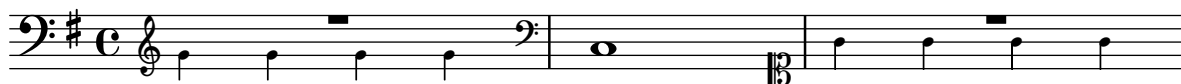
Clefs for cue notes at the start of a score should print the standard clef plus a small cue clef after the time/key signature.

cue-clef-begin-of-score.ly



Clefs for cue notes should not influence the printed key signature.

cue-clef-keysignature.ly

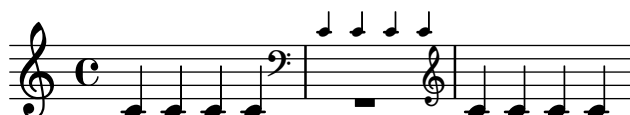


4



Cue clefs can be printed manually.

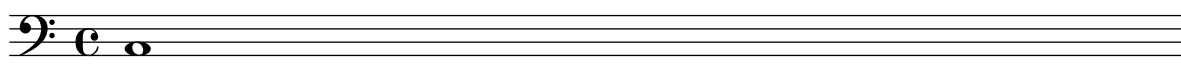
cue-clef-manually.ly

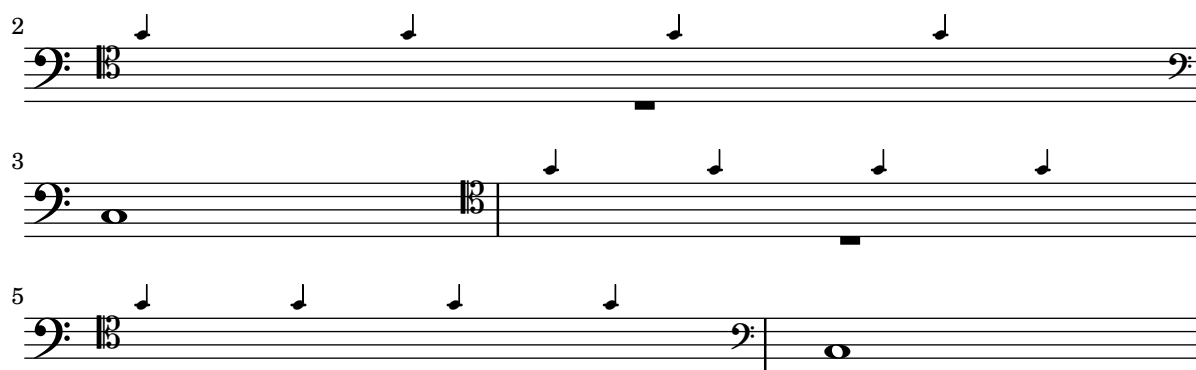


Clefs for cue notes and line breaks. If the cue notes start in a new line, the cue clef should not be printed at the end of the previous line. Similarly, an end clef for cue notes ending at a line break should only be printed at the end of the line.

Cue notes going over a line break should print the standard clef on the new line plus an additional cue clef after the time/key signature.

cue-clef-new-line.ly





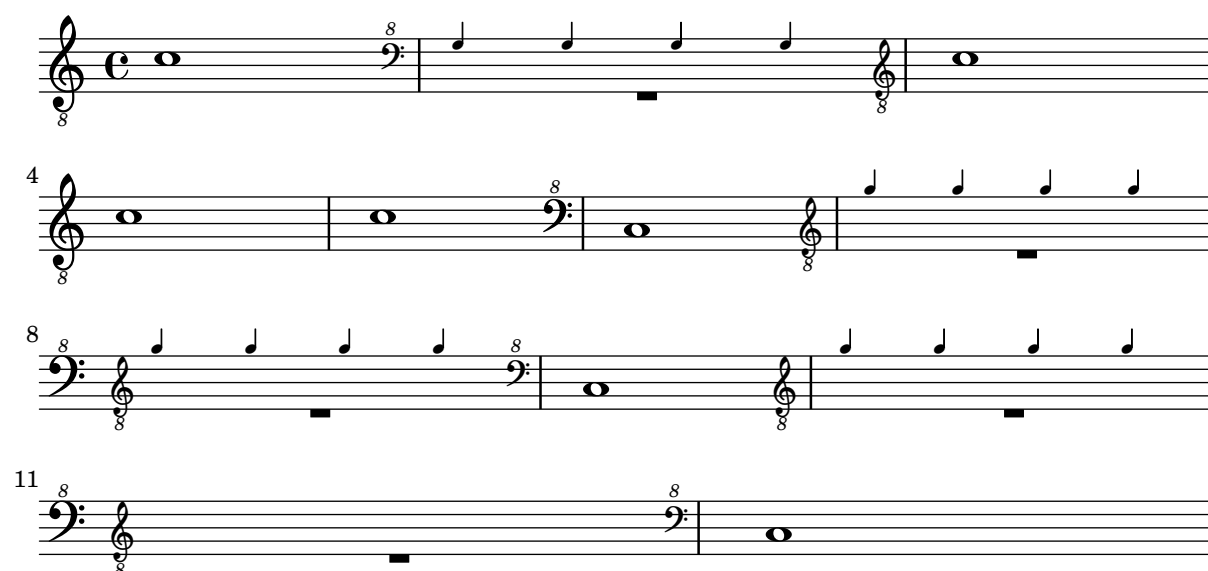
Optional transposition for clefs for cue notes is supported by using parentheses or brackets around the transposition number.

cue-clef-transposition-optional.ly



Transposition for clefs for cue notes.

cue-clef-transposition.ly



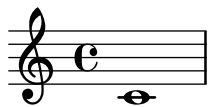
Clefs for cue notes: Print a cue clef at the begin of the cue notes and a canceling clef after the cue notes.

cue-clef.ly



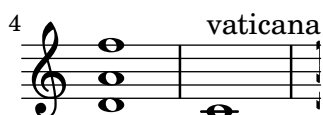
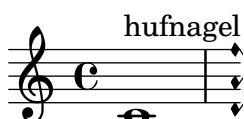
Custos\_engraver accepts (and ignores) unpitched notes.

custos-unpitched.ly



Custodes may be engraved in various styles.

custos.ly



Muted notes (also called dead notes) are supported within normal staves and tablature. They are printed correctly, even if another font for TabNoteHead is used.

dead-notes.ly

default-font	
TabNoteHead-	
font: DejaVu	
Sans Mono	

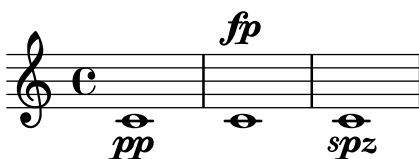
Cyclic dependencies are detected and warned about. When the `debug-property-callbacks` option is set, a backtrace is printed with the warning.

`debug-property-callbacks.ly`



Tests `define-event-function` by creating a trivial function converting a markup into a dynamic script post-event. As opposed to music functions, a direction indicator is not required.

`define-event-function.ly`



The `VerticalAxisGroup.remove-layer` property can be used for typesetting temporary divisi staves where the switch to split staves is done only at line breaks such that all complex passages are rendered in separate staves.

`divisi-staves.ly`

Violins

6

V I&II

12

V I&II

18

V I&II

24

V I

V II

30  
V I&II

36  
V I&II

41  
V I&II

46  
V I&II

This test exercises semantic divisions with settings that are overridden in various built-in Staff contexts. Each Staff is in a separate `\score`.

`divisions-staff-override-alone.ly`

Meas. \caesura ...

Staff

Gregor. Sec.

Transcr.

Kievan

Mensural

Petrucchi

Vaticana

By default, `GregorianTranscriptionStaff` creates `BarLine` grobs for `\divisio...` commands, but `\EnableGregorianDivisiones` makes it create `Divisio` grobs like the ancient notation staves.

`divisions-staff-override-gregorian-transcription-style.ly`

Staff

G.T.Staff defaults

w/ chant-quarterbar

preferring Divisio

Meas. \caesura ... Sec.

This test exercises semantic divisions with settings that are overridden in various built-in `Staff` contexts. All staves are in one `StaffGroup`.

`divisions-staff-override-grouped.ly`

Staff

Gregor. Transcr.

Kievan

Mensural

Petrucci

Vaticana

Meas. \caesura ... Sec.

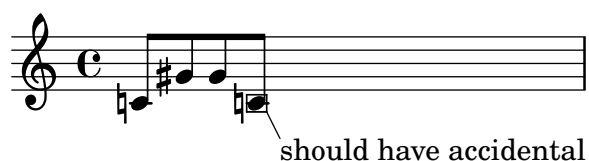
`\cadenzaOn` should not confuse the `dodecaphonic-no-repeat` accidental style. In this test, the second C should have a printed accidental since it is not immediately repeated.

`dodecaphonic-no-repeat-cadenza.ly`



Partials do not confuse the `dodecaphonic-no-repeat` accidental style. In this test, the second C should have a printed accidental since it is not immediately repeated.

`dodecaphonic-no-repeat-partial.ly`



Dot Columns are engraved in the Staff by default, enabling dots to move vertically to make room for dots from another voice. If `Dot_column_engraver` is moved to Voice, separate dot columns are engraved, and these dots avoid notes in other voices.

`dot-column-engraver.ly`



move `Dot_column_engraver` to Voice :



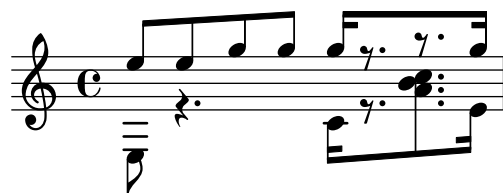
Dots and note-heads should not collide.

`dot-column-note-collision.ly`



Dot columns do not trigger beam slanting too early. This input should compile with no programming error message, and the dots should be correctly placed on their rests.

`dot-column-rest-collision.ly`



Dot columns should not trigger vertical spacing before line breaking. If the regtest issues a `programming_error` saying that vertical spacing has been called before line breaking, it has failed.

`dot-column-vertical-positioning.ly`



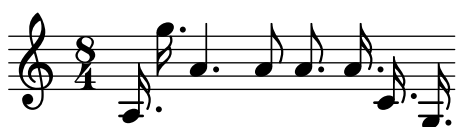
The `dot-count` property for `Dots` can be modified by the user.

`dot-dot-count-override.ly`



Dots move to the right when a collision with the (up)flag happens.

`dot-flag-collision.ly`



Dotted rests connected with beams do not trigger premature beam calculations. In this case, the beam should be sloped, and there should be no `programming_error()` warnings.

`dot-rest-beam-trigger.ly`



The dots on a dotted rest are correctly accounted for in horizontal spacing.

`dot-rest-horizontal-spacing.ly`



in collisions, the dots of outer voices avoid stems and flags of the inner voices.

`dot-up-voice-collision.ly`



Both noteheads and rests can have dots. Augmentation dots should never be printed on a staff line, but rather be shifted vertically. They should go up, but in case of multiple parts, the down stems have down shifted dots. In case of chords, all dots should be in a column. The dots follow the shift of rests when avoiding collisions.

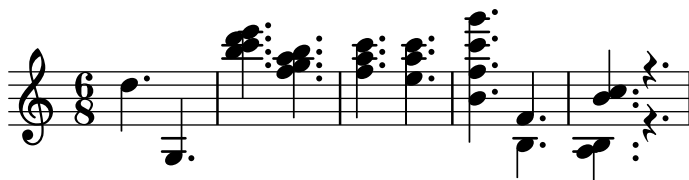
The priorities to print the dots are (ranked in importance):

- keeping dots off staff lines,



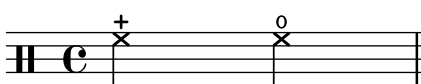
- keeping dots close to their note heads,
- moving dots in the direction specified by the voice,
- moving dots up.

`dots.ly`

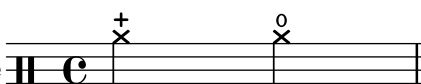


Pitches for drums may have a defined articulation sign. This test checks the predefined drum-styles and prints only drum-pitches with an articulation sign.

`drum-scripts.ly`

`drums-style`   
closedhihat openhihat

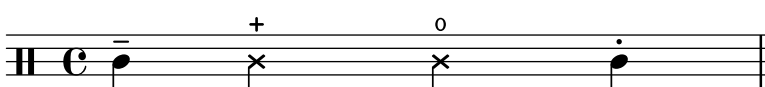
`agostini-drums-style`   
No scripts defined

`weinberg-drums-style`   
closedhihat openhihat

`timbales-style`   
No scripts defined

`congas-style`   
mutehiconga muteloconga openhiconga openloconga

`bongos-style`   
mutehibongo mutelobongo openhibongo openlobongo

`percussion-style`   
longguiro mutetriangle opentriangle shortguiro

In drum notation, there is a special clef symbol, drums are placed to their own staff positions and have note heads according to the drum, an extra symbol may be attached to the drum, and the number of lines may be restricted.

`drums.ly`

timbales

crash

h.h.

drums

3

The compression factor of a duration identifier is correctly accounted for by the parser.

duration-identifier-compressed.ly

At line break a broken DurationLine, like Glissando, avoids items with break-aligned-interface, like KeySignature, BreathingSign etc., but not items with the break-alignable-interface, like TextMark, MetronomeMark, etc..

duration-line-at-line-break.ly

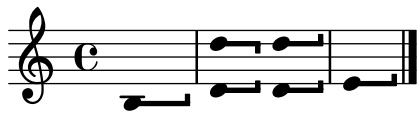
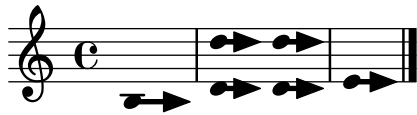
long mark

2 Allegretto, ma non troppo

3

A DurationLine grob may end with a special behavior. Currently available are hooks (with settable direction) and arrows.

duration-line-end-items.ly



Duration lines are placed vertically correct for non-default staff sizes and all styles.

duration-line-magnified-staff.ly

A complex musical notation snippet showing multiple staves. The notation is organized into three main groups, each labeled on the left with a brace and a label: 'Standard', '\magnifyStaff', and '\staffSize'. Each group contains three staves. The 'Standard' group shows a treble clef, common time signature 'C', and a series of eighth notes with horizontal duration lines. The '\magnifyStaff' group shows a treble clef, common time signature 'C', and a series of eighth notes with horizontal duration lines. The '\staffSize' group shows a treble clef, common time signature 'C', and a series of eighth notes with horizontal duration lines. The duration lines are placed vertically below the notes, and the notation is consistent across all groups.

A musical score snippet showing four systems of staves. Each system contains two staves. The first staff of each system has a treble clef and a key signature of one sharp (F#). The second staff has a bass clef and a key signature of one sharp (F#). The score is divided into three measures. In the first measure, the first staff has a wavy line (arpeggio) and the second staff has a dotted line. In the second measure, both staves have a dotted line. In the third measure, both staves have a dotted line. The duration lines (wavy and dotted) are continuous across the staff changes.

Duration lines work across staff changes.

`duration-line-staff-change.ly`

A musical score snippet showing two systems of staves. Each system contains two staves. The first staff of each system has a treble clef and a key signature of one sharp (F#). The second staff has a bass clef and a key signature of one sharp (F#). The score is divided into two measures. In the first measure, the first staff has a wavy line (arpeggio) and the second staff has a dotted line. In the second measure, both staves have a dotted line. The duration lines (wavy and dotted) are continuous across the staff changes.

A `DurationLine` grob may start/end at `NoteHead`, `Rest`, `skip-event` (if forced, otherwise skips are passed), `NoteHeads` of `EventChord` or at an entire `NoteColumn`. Start/end at `MultiMeasureRest` is only basically supported.

It stops automatically if the `Voice` pauses, i.e., no rhythmical events happen for some time, and at end of score.

Avoids `Dots` (if forced), `Accidentals` and `Arpeggio` (per changeable default).

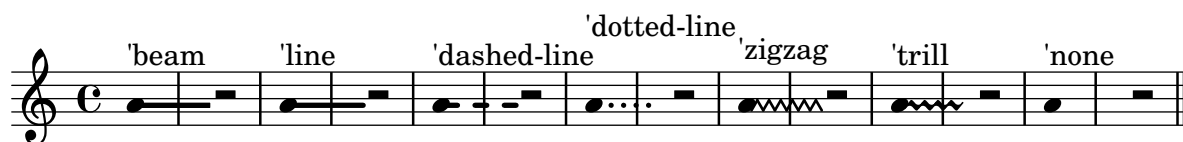
`duration-line-start-stop.ly`

A musical score snippet showing a single staff with a treble clef and a key signature of one sharp (F#). The score is divided into eight measures. The first measure has a wavy line (arpeggio). The second measure has a dotted line. The third measure has a dotted line. The fourth measure has a dotted line. The fifth measure has a dotted line. The sixth measure has a dotted line. The seventh measure has a dotted line. The eighth measure has a dotted line. The duration lines (wavy and dotted) are continuous across the staff changes.



Several styles for the `DurationLine` grob are available: `'beam`, `'line`, `'dashed-line`, `'dotted-line`, `'zigzag`, `'trill` and `'none`.

`duration-line-styles.ly`

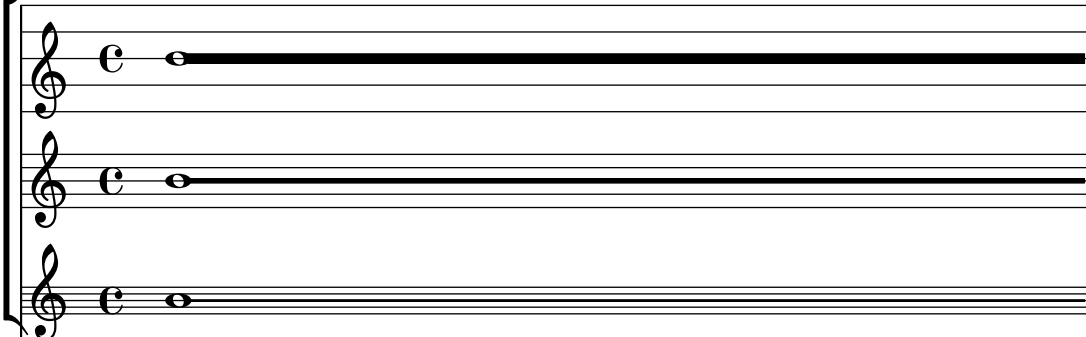


The visible thickness of a duration line is adjusted properly according to the staff space for all styles, like for long compressed `MultiMeasureRest`. Changes in `StaffSymbol.thickness` are disregarded.

`duration-line-thickness-staff-sizes.ly`

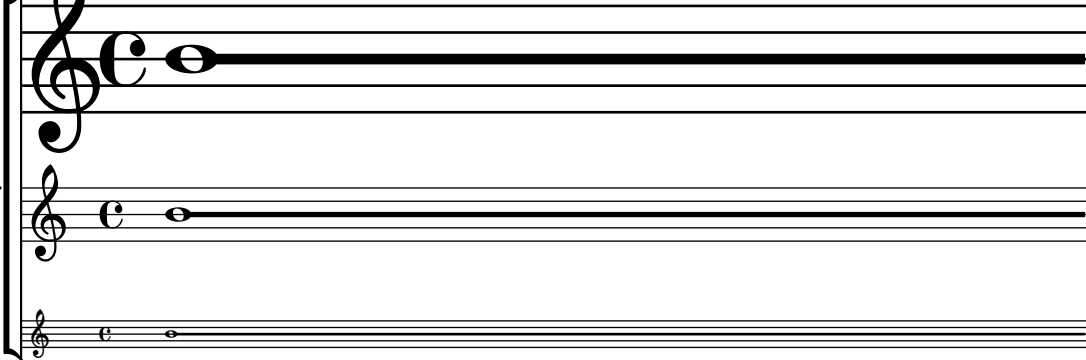
With changed staff-space (and unchanged `StaffSymbol.thickness`), `DurationLine` is adjusted nicely. For trill style one would need to set `grob.font-size` (here done) or `context.fontSize` additionally.

changed  
StaffSymbol  
staff-space



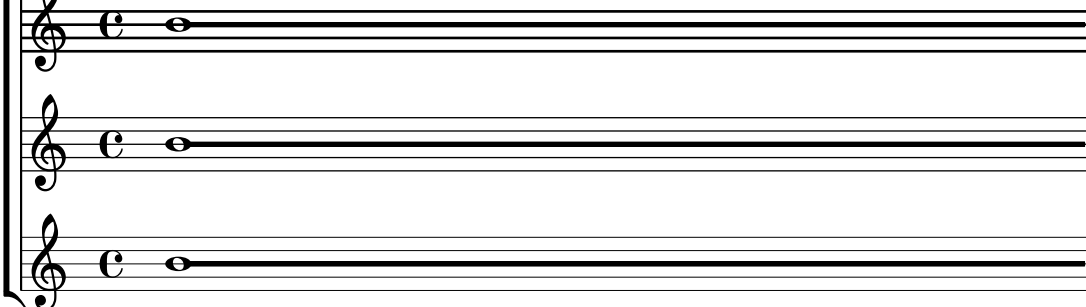
`\magnifyStaff`

`\magnifyStaff`



With unchanged staff-space and modified `StaffSymbol.thickness`, `DurationLine` keeps unchanged.

changed  
StaffSymbol  
thickness



The diagram illustrates a complex musical score structure with three systems of staves. Each system consists of three staves. The first staff of each system contains a sequence of notes with various dynamic markings (accents, crescendos, decrescendos, and hairpins) and a final measure with a '20' multiplier. The second and third staves of each system also contain notes and dynamic markings, with the third staff having a '20' multiplier. The entire diagram is labeled with '2' at the top left and '20' at the top right.

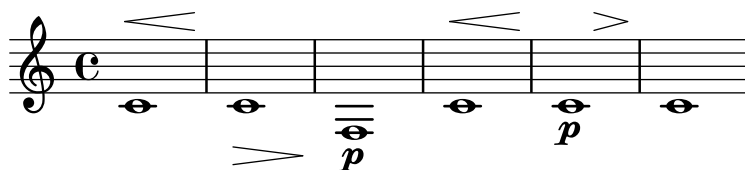
Duration multipliers can be specified as scheme expressions, either as rationals or as a moment.

`duration-multiplier-scheme.ly`

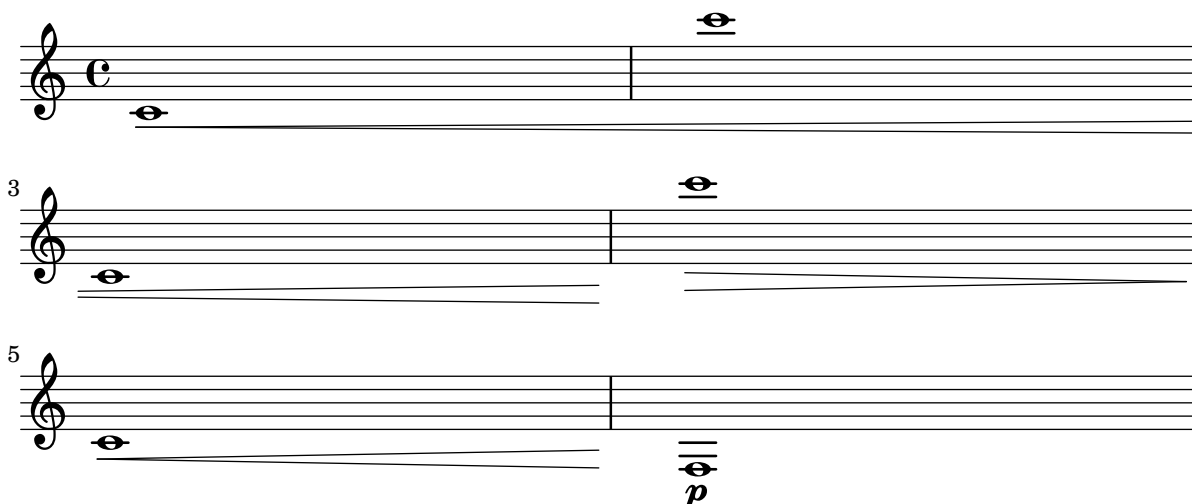
The diagram illustrates a musical score structure with two staves. The top staff contains a sequence of notes with a dynamic marking (crescendo) and a final measure with a '20' multiplier. The bottom staff contains a sequence of notes with a dynamic marking (crescendo) and a final measure with a '20' multiplier.

If a dynamic has an explicit direction that differs from the dynamic line spanner's direction, automatically break the dynamic line spanner.

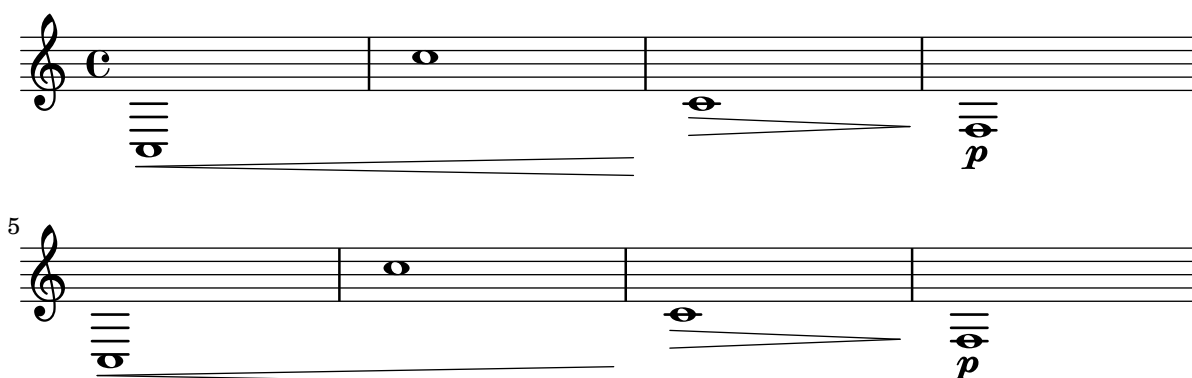
`dynamics-alignment-autobreak.ly`



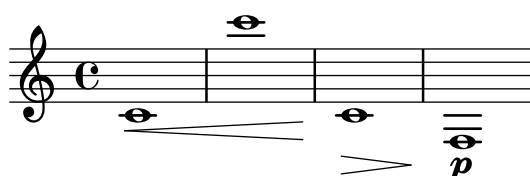
`\breakDynamicSpan` shall also work if a dynamic spanner crosses a line break.  
 dynamics-alignment-breaker-linebreak.ly



`\breakDynamicSpan` work whether it is placed together with the start or the end of a spanner.  
 Both lines should be identical.  
 dynamics-alignment-breaker-order.ly



`\breakDynamicSpan` shall only have an effect on the current spanner, not on subsequent spanners.  
 dynamics-alignment-breaker-subsequent-spanner.ly



Hairpins, `DynamicTextSpanners` and dynamics can be positioned independently using `\breakDynamicSpan`, which causes the alignment spanner to end prematurely.



dynamics-alignment-breaker.ly



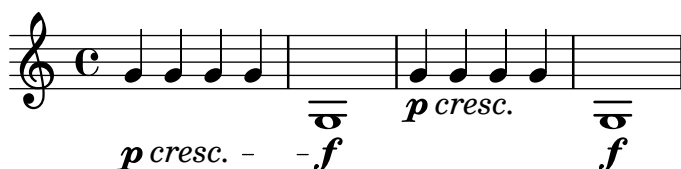
Setting the style of a DynamicTextSpanner to 'none' to hide the line altogether should also work over line breaks.

dynamics-alignment-no-line-linebreak.ly



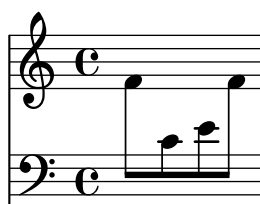
If the line for a DynamicTextSpanner is hidden, the alignment spanner for dynamics is ended early. This allows consecutive dynamics to be unlinked.

dynamics-alignment-no-line.ly



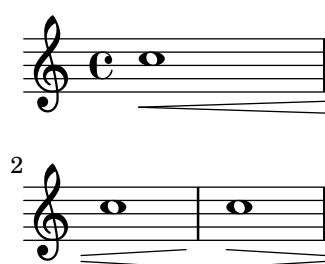
Cross-staff Dynamic does not trigger a cyclic dependency for direction look-up.

dynamics-avoid-cross-staff-stem.ly



When a hairpin is broken, the broken parts should be open at the 'breaking point'.

dynamics-broken-hairpin.ly





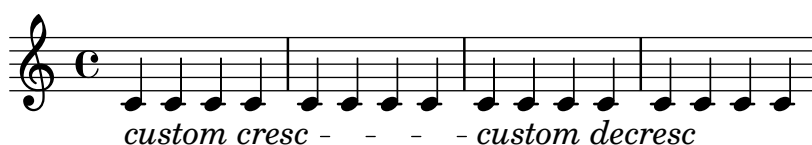
Text spanners work in the `Dynamics` context.

`dynamics-context-textspan.ly`



Postfix functions for custom crescendo text spanners. The spanners should start on the first note of the measure. One has to use `-\mycresc`, otherwise the spanner start will rather be assigned to the next note.

`dynamics-custom-text-spanner-postfix.ly`



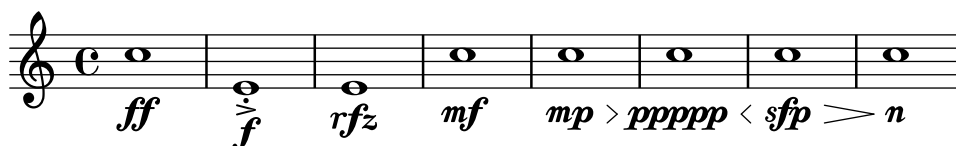
An empty `Dynamics` context does not confuse the spacing.

`dynamics-empty.ly`



Dynamic letters are kerned, and their weight matches that of the hairpin signs. The dynamic scripts should be horizontally centered on the note head. Scripts that should appear closer to the note head (staccato, accent) are reckoned with.

`dynamics-glyphs.ly`



By default hairpins extend to the extremes of the bound if there is no adjacent hairpin or dynamic text. A hairpin may instead extend to the `LEFT`, `CENTER` or `RIGHT` of `NoteColumn` grobs by overriding property `endpoint-alignments`, which is a pair of numbers representing the left and right ends of the hairpin. `endpoint-alignments` are expected to be directions (either -1, 0

or 1). Other values will be transformed with a warning. The right end of a hairpin terminating at a rest is not affected, always ending at the left edge of the rest.

dynamics-hairpin-endpoint-alignment.ly

**endpoint-alignments = #`,(LEFT . ,RIGHT)**

10 **endpoint-alignments = #`,(LEFT . ,LEFT)**

19 **endpoint-alignments = #`,(RIGHT . ,LEFT)**

28 **endpoint-alignments = #`,(RIGHT . ,RIGHT)**

37 **endpoint-alignments = #`,(CENTER . ,CENTER)**

46 **Ends adjacent to dynamic text are not influenced by endpoint-alignments**

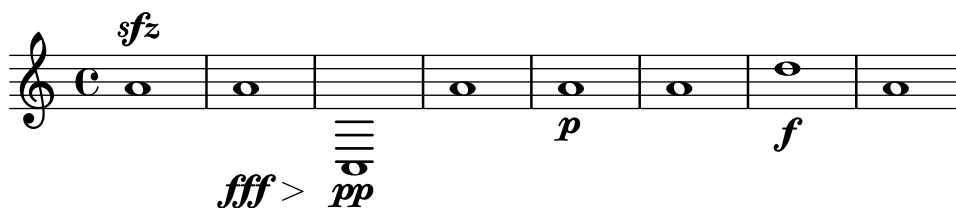
48

Hairpins extend to the extremes of the bound if there is no adjacent hairpin or dynamic-text. If there is, the hairpin extends to the center of the column or the bound of the text respectively.

dynamics-hairpin-length.ly

Dynamics appear below or above the staff. If multiple dynamics are linked with (de)crescendi, they should be on the same line. Isolated dynamics may be forced up or down.

dynamics-line.ly



DynamicText, DynamicLineSpanner, and Hairpin do not have `outside-staff-priority` in Dynamics contexts. This allows grobs with `outside-staff-priority` set to be positioned above and below them.

dynamics-outside-staff-priority.ly



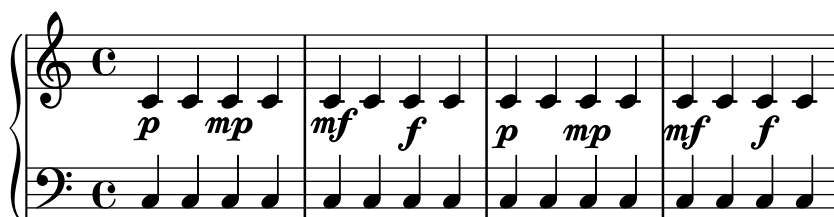
Text dynamics are positioned correctly on rests, i.e., centered on the parent object.

dynamics-rest-positioning.ly



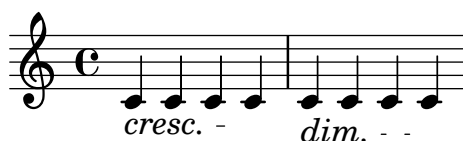
The X-offset of DynamicText grobs in a Dynamics context should be averaged over the center of NoteColumn grobs in the DynamicText's PaperColumn.

dynamics-text-dynamics-context.ly



The left text of a DynamicTextSpanner is left-aligned to its anchor note.

dynamics-text-left-text-alignment.ly



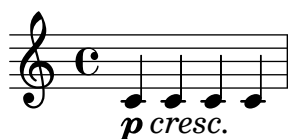
The space between an absolute dynamic and a dynamic text span can be changed using `'right-padding`.

dynamics-text-right-padding.ly



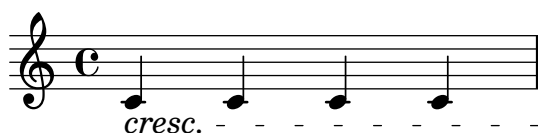
left attach dir for text crescendi starting on an absolute dynamic is changed, so `cresc.` and the absolute dynamic don't overstrike.

`dynamics-text-spanner-abs-dynamic.ly`



The 2nd half of the `cresc.` stays at a reasonable distance from the notes.

`dynamics-text-spanner-padding.ly`



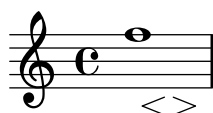
The `\cresc`, `\dim` and `\decresc` spanners are now postfix operators and produce one text spanner. Defining custom spanners is also easy. Hairpin and text crescendi can be easily mixed. `\<` and `\>` produce hairpins by default, `\cresc` etc. produce text spanners by default.

`dynamics-text-spanner-postfix.ly`



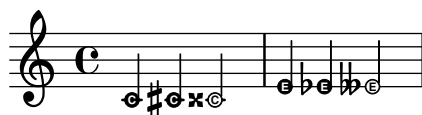
Crescendi may start off-notes, however, they should not collapse into flat lines.

`dynamics-unbound-hairpin.ly`



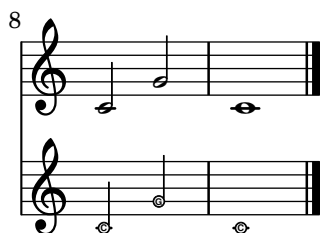
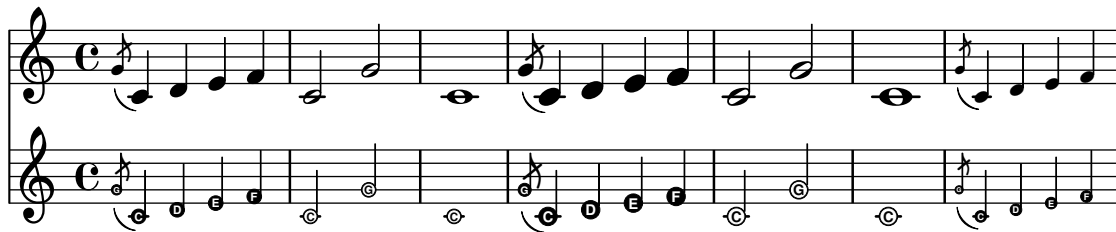
Accidentals are positioned correctly when using Easy notation.

`easy-notation-accidentals.ly`



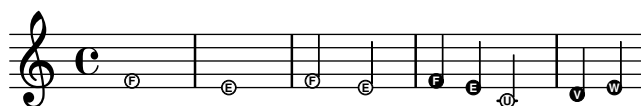
Easy noteheads should be scalable in size, like in grace notes.

`easy-notation-size.ly`



Easy-notation (or Ez-notation) prints names in note heads. You also get ledger lines, of course.

`easy-notation.ly`



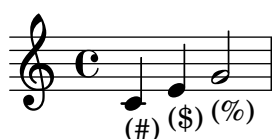
PostScript code can be directly inserted inside a `\markup` block.

`embedded-postscript.ly`



Strings and comments inside of `#{...#}` should not be confusing to the embedded LilyPond parser. If this test succeeds, three notes with `(#)`, `($)`, and `(%)` underneath will get displayed here.

`embedded-strings-comments.ly`



The Emmentaler font contains kerning for many number pairs.

`emmentaler-number-kerning.ly`

time-signatures:

<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>0-</b>	<b>0+</b>	<b>0.</b>	<b>0,</b>
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>1-</b>	<b>1+</b>	<b>1.</b>	<b>1,</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>2-</b>	<b>2+</b>	<b>2.</b>	<b>2,</b>
<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>3-</b>	<b>3+</b>	<b>3.</b>	<b>3,</b>
<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>4-</b>	<b>4+</b>	<b>4.</b>	<b>4,</b>
<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>5-</b>	<b>5+</b>	<b>5.</b>	<b>5,</b>
<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>6-</b>	<b>6+</b>	<b>6.</b>	<b>6,</b>
<b>70</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>7-</b>	<b>7+</b>	<b>7.</b>	<b>7,</b>
<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>8-</b>	<b>8+</b>	<b>8.</b>	<b>8,</b>
<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>9-</b>	<b>9+</b>	<b>9.</b>	<b>9,</b>
<b>-0</b>	<b>-1</b>	<b>-2</b>	<b>-3</b>	<b>-4</b>	<b>-5</b>	<b>-6</b>	<b>-7</b>	<b>-8</b>	<b>-9</b>	<b>-</b>	<b>+</b>	<b>.</b>	<b>,</b>
<b>+0</b>	<b>+1</b>	<b>+2</b>	<b>+3</b>	<b>+4</b>	<b>+5</b>	<b>+6</b>	<b>+7</b>	<b>+8</b>	<b>+9</b>	<b>+-</b>	<b>++</b>	<b>+</b>	<b>,</b>
<b>.0</b>	<b>.1</b>	<b>.2</b>	<b>.3</b>	<b>.4</b>	<b>.5</b>	<b>.6</b>	<b>.7</b>	<b>.8</b>	<b>.9</b>	<b>.-</b>	<b>.+</b>	<b>..</b>	<b>.,</b>
<b>,0</b>	<b>,1</b>	<b>,2</b>	<b>,3</b>	<b>,4</b>	<b>,5</b>	<b>,6</b>	<b>,7</b>	<b>,8</b>	<b>,9</b>	<b>,-</b>	<b>,+</b>	<b>,.</b>	<b>,,</b>

figured bass (tnum, cv47, ss01):

00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	-+	-.	-,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+-	++	+.	+,
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.-	.+	..	.,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,-	,+	,.	,,



fingering (cv47, ss01):

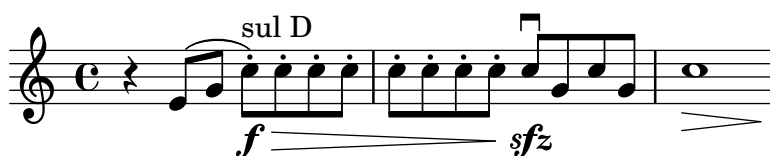
<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>0-</b>	<b>0+</b>	<b>0.</b>	<b>0,</b>
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>1-</b>	<b>1+</b>	<b>1.</b>	<b>1,</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>2-</b>	<b>2+</b>	<b>2.</b>	<b>2,</b>
<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>3-</b>	<b>3+</b>	<b>3.</b>	<b>3,</b>
<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>4-</b>	<b>4+</b>	<b>4.</b>	<b>4,</b>
<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>5-</b>	<b>5+</b>	<b>5.</b>	<b>5,</b>
<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>6-</b>	<b>6+</b>	<b>6.</b>	<b>6,</b>
<b>70</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>7-</b>	<b>7+</b>	<b>7.</b>	<b>7,</b>
<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>8-</b>	<b>8+</b>	<b>8.</b>	<b>8,</b>
<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>9-</b>	<b>9+</b>	<b>9.</b>	<b>9,</b>
<b>-0</b>	<b>-1</b>	<b>-2</b>	<b>-3</b>	<b>-4</b>	<b>-5</b>	<b>-6</b>	<b>-7</b>	<b>-8</b>	<b>-9</b>	<b>-</b>	<b>+</b>	<b>.</b>	<b>,</b>
<b>+0</b>	<b>+1</b>	<b>+2</b>	<b>+3</b>	<b>+4</b>	<b>+5</b>	<b>+6</b>	<b>+7</b>	<b>+8</b>	<b>+9</b>	<b>+-</b>	<b>++</b>	<b>+</b>	<b>,</b>
<b>.0</b>	<b>.1</b>	<b>.2</b>	<b>.3</b>	<b>.4</b>	<b>.5</b>	<b>.6</b>	<b>.7</b>	<b>.8</b>	<b>.9</b>	<b>.-</b>	<b>.+</b>	<b>..</b>	<b>.,</b>
<b>,0</b>	<b>,1</b>	<b>,2</b>	<b>,3</b>	<b>,4</b>	<b>,5</b>	<b>,6</b>	<b>,7</b>	<b>,8</b>	<b>,9</b>	<b>,-</b>	<b>,+</b>	<b>,.</b>	<b>,,</b>

fixed-width (tnum, cv47, -kern):

00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	+	.	,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+	++	+	+
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.	+	..	,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,	+	,	,

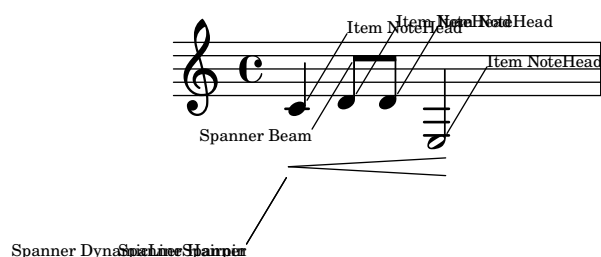
Empty chords accept articulations, occupy no time, and leave the current duration unchanged.

`empty-chord.ly`



The functions `ly:engraver-make-item` and `ly:engraver-make-spanner` are similar to `ly:engraver-make-grob`. They are useful when the grob definition does not mandate a particular grob class.

`engraver-make-item-spanner.ly`



An episema can be typeset over a single neume or a melisma. Its position is quantized between staff lines.

`episema.ly`



Music events can be extracted from a score with event listeners.

`event-listener-output.ly`

## Black-box Testing

Graham Percival

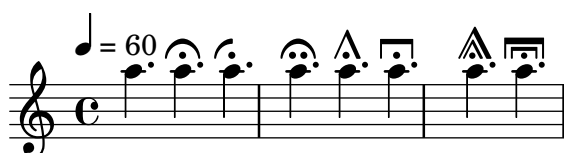
A mode switching command like `\lyricsto` will ‘pop state’ when seeing the lookahead token `\time`, a music function, after its non-delimited argument. This must not cause the extra token parsing state for the music function to disappear.

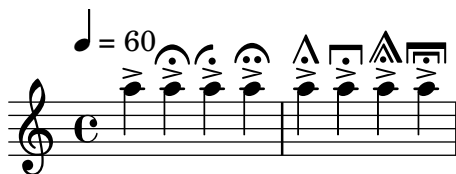
`extratoken.ly`



Fermatas have an appropriate distance to dots, note heads and other articulations.

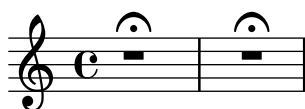
`fermata-dot-position.ly`





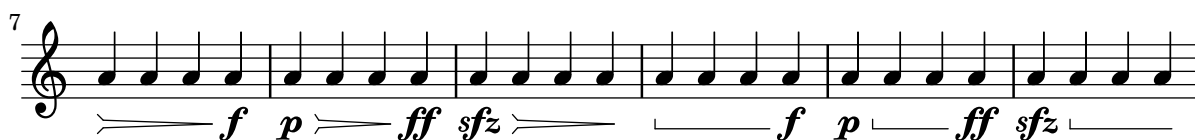
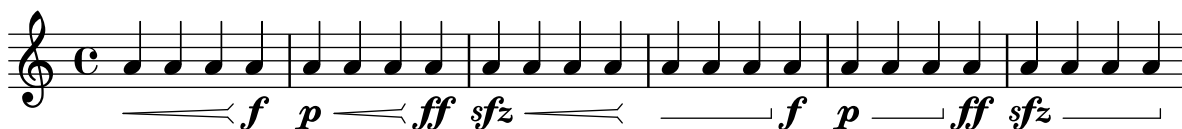
Fermatas over multimeasure rests are positioned as over normal rests.

fermata-rest-position.ly



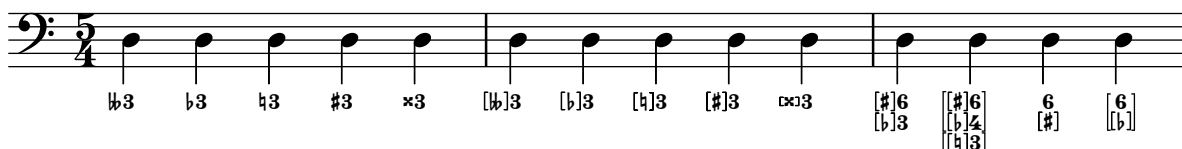
LilyPond creates hairpins found in Ferneyhough scores.

ferneyhough-hairpins.ly



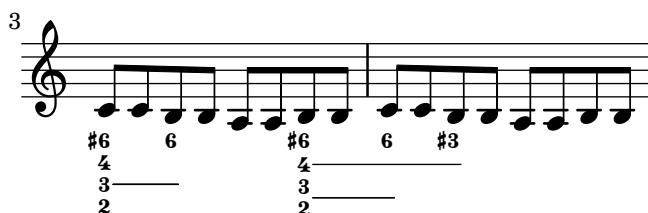
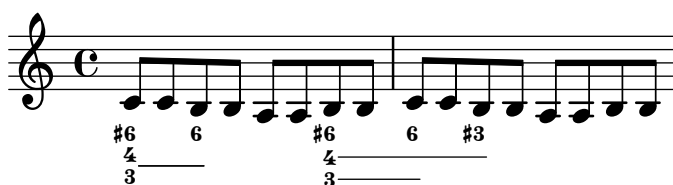
Bass figures can carry alterations, which may also be bracketed.

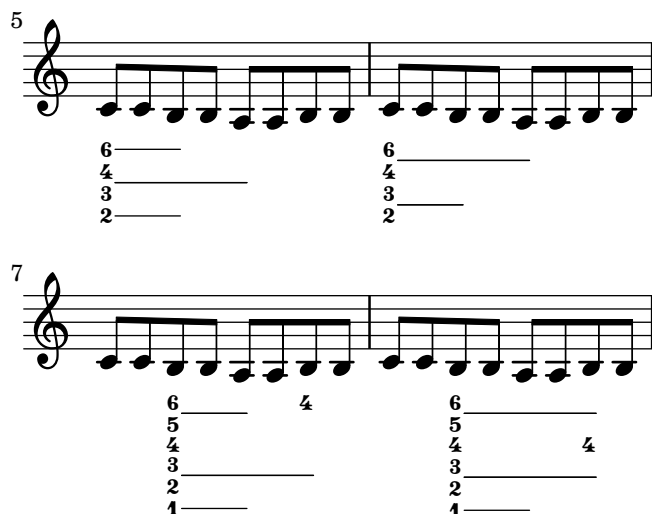
figured-bass-alteration.ly



Pairs of congruent figured bass extender lines are vertically centered if figuredBassCenterContinuations is set to true.

figured-bass-continuation-center.ly





Figured bass extender for figures of different width (e.g. with alteration or two-digit figures) should still stop at the same position.

`figured-bass-continuation-end-position.ly`



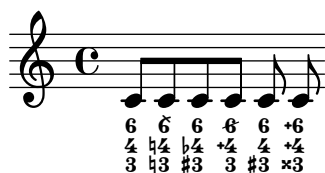
By adorning a bass figure with `\!`, an extender may be forbidden.

`figured-bass-continuation-forbid.ly`



Figured bass extender lines shall be broken when a figure has a different alteration, augmentation or diminishment.

`figured-bass-continuation-modifiers.ly`



Figured bass extender lines run between repeated bass figures. They are switched on with `useBassFigureExtenders`

`figured-bass-continuation.ly`



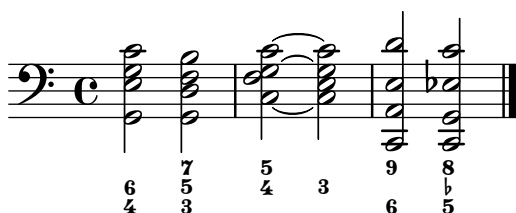
Bass figures and extenders shall also work correctly if the figure has a different duration than the bass note. In particular, if a timestep does not have a new figure (because the old figure still goes on), extenders should be drawn and not be reset.

figured-bass-durations.ly



Bass figures may be empty and still take up space.

figured-bass-empty-figures.ly



When using extender lines in FiguredBass, markup objects should be treated like ordinary figures and work correctly with extender lines.

Extenders should only be used if the markup is really identical.

figured-bass-extenders-markup.ly



Figured bass extenders do not distort vertical spacing.

figured-bass-extenders-spacing.ly



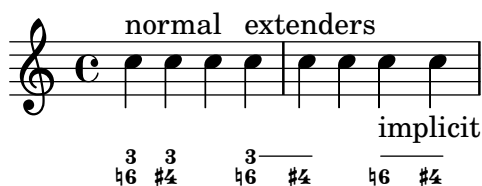
When figures appear inside a voice, `ignoreFiguredBassRest` causes all figures on rests to be discarded and all spanners ended. If set to `#f`, figures on rests are printed.

figured-bass-ignore-rest.ly



Implicit bass figures are not printed, but they do get extenders.

figured-bass-implicit.ly



Bass figures with more than a single digit can be positioned differently.

`figured-bass-large-numbers.ly`



Figured bass supports numbers with slashes through them.

`figured-bass-slashed-numbers.ly`

0 3 6 9 12 0 3 6 9 12 +3  
1 4 7 10 13 1 4 7 10 13 6  
2 5 8 11 14 2 5 8 11 14 7

Figured bass can also be added to `Staff` context directly. In that case, the figures must be entered with `\figuremode` and be directed to an existing `Staff` context.

Since these engravers are on `Staff` level, properties controlling figured bass should be set in `Staff` context.

`figured-bass-staff.ly`



Figured bass is created by the `FiguredBass` context which responds to figured bass events and rest events. You must enter these using the special `\figuremode { }` mode, which allows you to type numbers, like `<4 6+>` and add slashes, backslashes and pluses.

You can also enter markup strings. The vertical alignment may also be tuned.

`figured-bass.ly`



The fill-line markup command should align texts in columns. For example, the characters in the center should form one column.

`fill-line-test.ly`

[illegible]



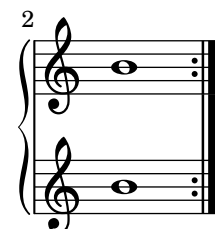
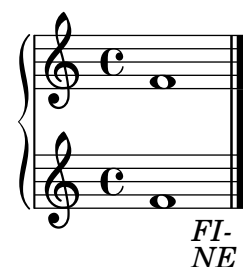
Context modification via `\with` filters translators of the wrong type: performers for an `Engraver_group` and engravers for a `Performer_group`. In this test, the `Instrument_name_engraver` is added to a `StaffGroup`, but does not affect midi output, since it is filtered out.

`filter-translators.ly`



`\fine` places a performance instruction below all staves and at end-of-line at a break, except at the written end of the music. The context property `fineText` controls the text.

`fine.ly`



Scripts left of a chord avoid accidentals.

`finger-chords-accidental.ly`



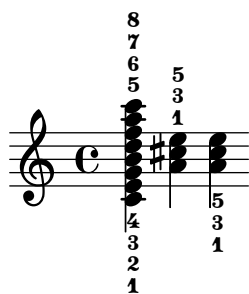
Scripts right of a chord avoid dots.

`finger-chords-dot.ly`



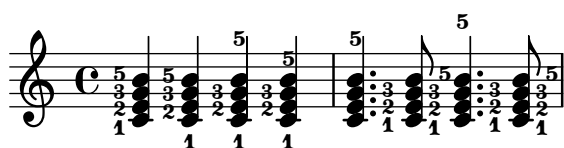
Ordering of the fingerings depends on vertical ordering of the notes, and is independent of up/down direction.

`finger-chords-order.ly`



It is possible to associate fingerings uniquely with notes. This makes it possible to add horizontal fingerings to notes. Fingering defaults to not clearing flags and stems unless there is a collision or a beam.

`finger-chords.ly`

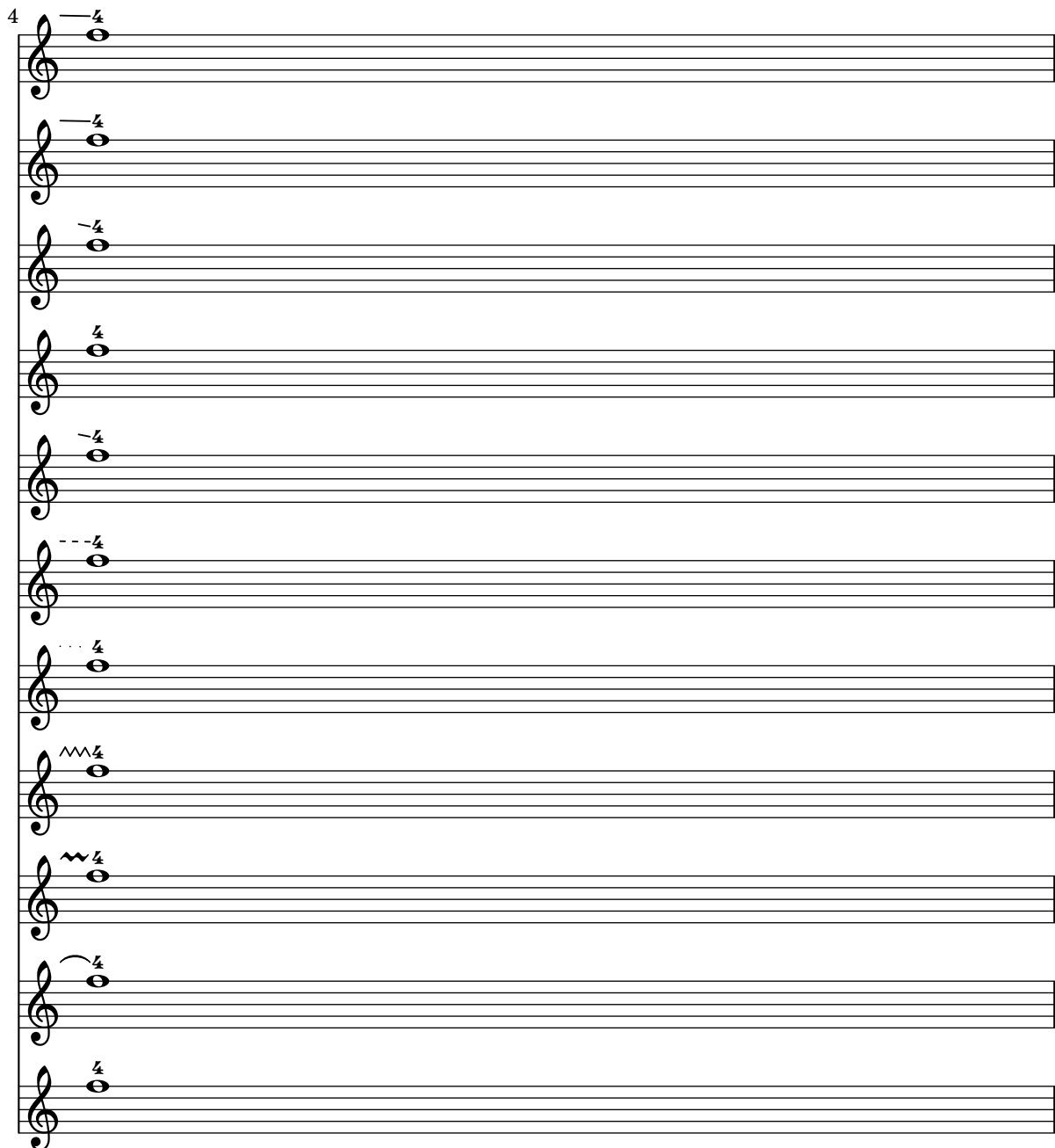


The `FingerGlideSpanner` grob prints nicely for all styles if there are line breaks. For the styles `stub-right`, `stub-left` and `stub-right` the printed line is intentionally shorter.

`finger-glide-spanner-line-break-styles.ly`

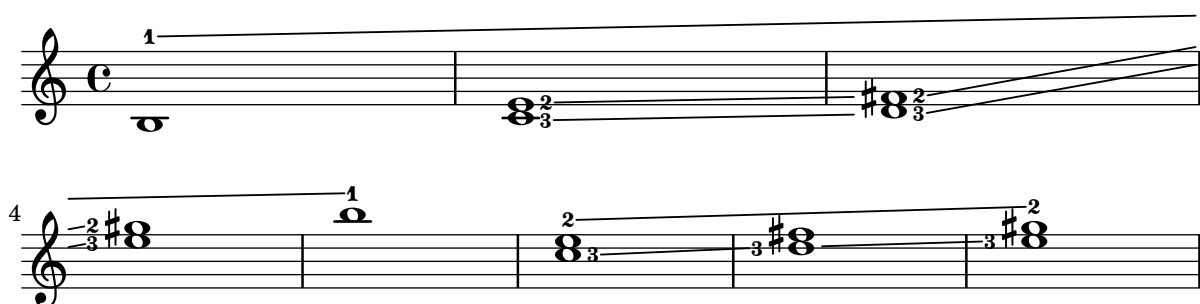
The image displays a musical score consisting of 12 staves, each containing a single note. The notes are positioned on the first line of each staff, specifically on the first space (F4). The staves are organized into three groups of four, each with a common time signature 'C' at the beginning. The musical notations and symbols on the notes are as follows:

- Staff 1: A single note with a slur above it.
- Staff 2: A single note with a slur above it.
- Staff 3: A single note with a slur above it.
- Staff 4: A single note with a slur above it.
- Staff 5: A single note with a slur above it.
- Staff 6: A single note with a slur above it.
- Staff 7: A single note with a slur above it.
- Staff 8: A single note with a slur above it.
- Staff 9: A single note with a slur above it.
- Staff 10: A single note with a slur above it.
- Staff 11: A single note with a slur above it.
- Staff 12: A single note with a slur above it.



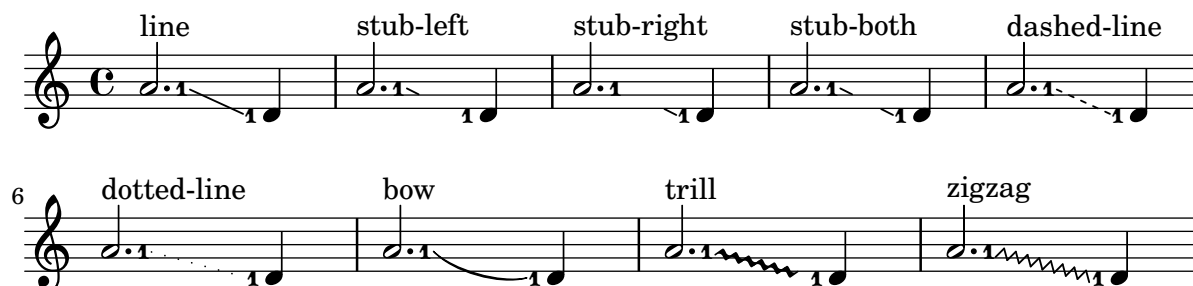
Nested `FingerGlideSpanner` grobs work. A breaking line does not disturb the printing, the part after the break continues with the same angle.

`finger-glide-spanner-nested-line-break.ly`



The `FingerGlideSpanner` may be printed in several styles.

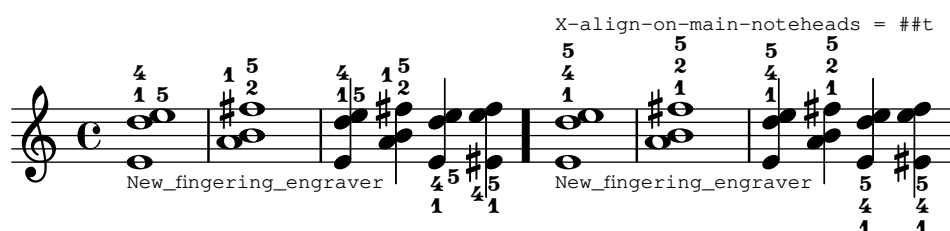
`finger-glide-spanner-styles.ly`



Fingering grobs created by the `New_fingering_engraver` (i.e. fingerings entered outside `<>`) with `fingeringOrientations` set to `up` or `down` avoid accidentals of displaced notes that might get into the way in chords containing adjacent notes (seconds) or unison notes.

With `\override Fingering.X-align-on-main-noteheads = ##t`, the fingerings oriented `up` and `down` will be arranged in a straight column aligned on the noteheads on the “correct” side of the stem.

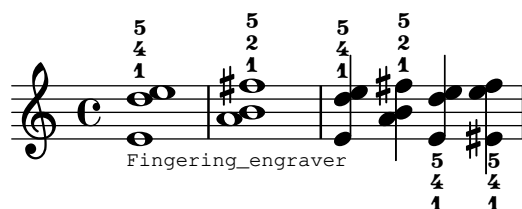
`fingering-adjacent-note-chord-new.ly`



Fingering grobs created by the `Fingering_engraver` (i.e. fingerings entered inside `<>`) above/below chords containing adjacent notes (seconds) or unison notes should be aligned on the main noteheads, i.e., on the noteheads that are on the “correct” side of the stem.

Incidentally, this also avoids collisions with accidentals.

`fingering-adjacent-note-chord.ly`



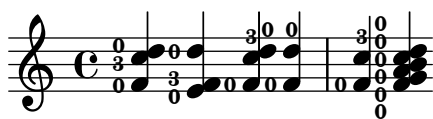
Horizontally-offset Fingerings align along the Y axis when they are within `FingeringColumn.snap-radius` of each other.

`fingering-column-snap-radius.ly`



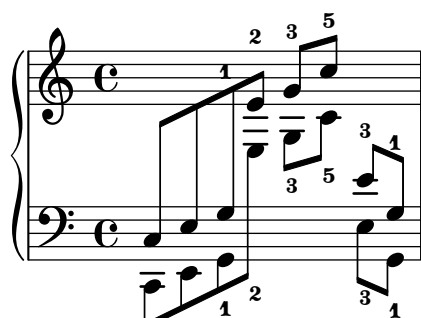
Horizontal Fingering grobs that collide do not intersect. Non-intersecting Fingering grobs are left alone. This is managed by the `FingeringColumn` grob.

fingering-column.ly



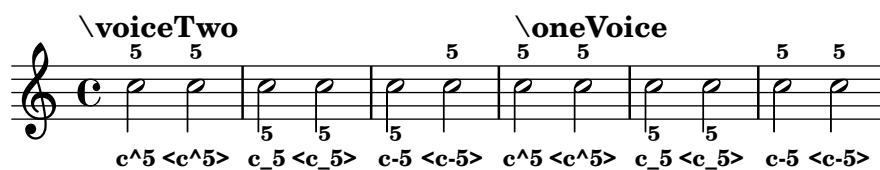
Fingerings work correctly with cross-staff beams.

fingering-cross-staff.ly



Fingering directions in directed and undirected contexts.

fingering-directions.ly



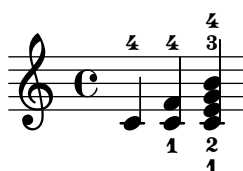
Fingerings don't segfault when their stencil is set to ##f.

fingering-no-stencil.ly



Automatic fingering tries to put fingering instructions next to noteheads.

fingering.ly



Stems reach correct begin points of merged noteheads.

flag-stem-begin-position.ly





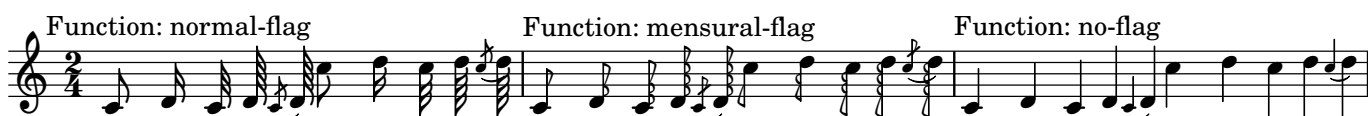
`\flageolet` draws a small circle on top of the note when a natural harmonic is needed.

`flageolet.ly`



Default flag styles: `'()`, `'mensural` and `'no-flag`. Compare all three methods to print them:  
 (1) C++ default implementation, (2) Scheme implementation using the `'style` grob property and  
 (3) setting the `'flag` property explicitly to the desired Scheme function. All three systems should  
 be absolutely identical.

`flags-default.ly`



The `'stencil` property of the `Flag` grob can be set to a custom scheme function to generate the glyph for the flag.

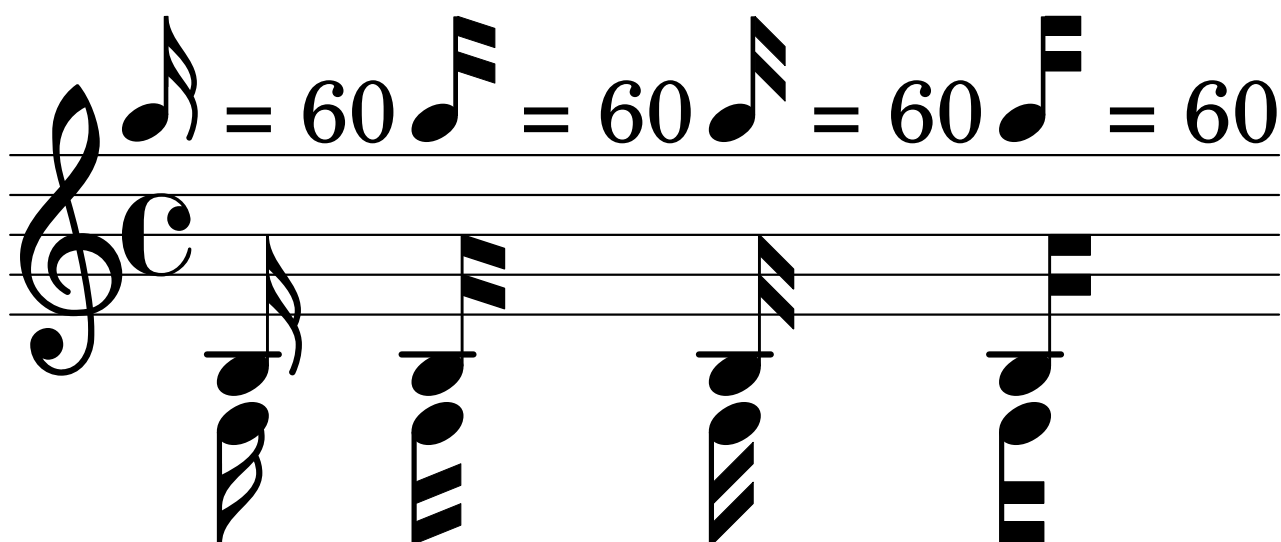
`flags-in-scheme.ly`



Straight flags scale according to `layout-set-staff-size` in `MetronomeMark`, `TextScript` and `music`.

`flags-straight-layout-staff-size.ly`





Flags can be drawn straight in the style used by Stockhausen and Boulez.

flags-straight-stockhausen-boulez.ly



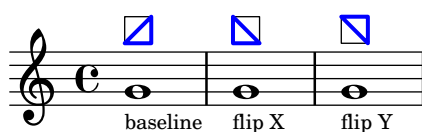
Straight flag styles.

flags-straight.ly



Stencils can be flipped horizontally or vertically within their bounding box using flip-stencil.

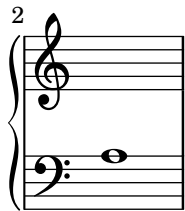
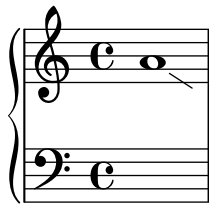
flip-stencil.ly



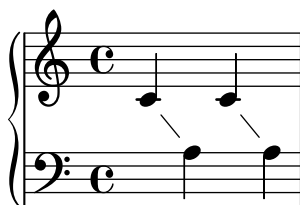
The line-spanners connects to the Y position of the note on the next line. When put across line breaks, only the part before the line break is printed.

follow-voice-break.ly



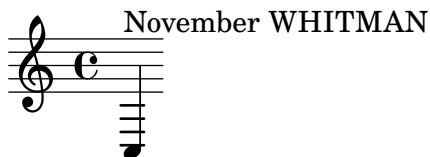


The voice follower is not confused when set for consecutive sets of staff switches.  
`follow-voice-consecutive.ly`



TM and No should not be changed into trademark/number symbols. This may happen with incorrect font versions.

`font-bogus-ligature.ly`



The default font families for text can be overridden with `make-pango-font-tree`.  
`font-family-override.ly`



Exercise font features. Requires a font that supports the features. This ensures no errors using the interface.

`font-features.ly`

Hello

HELLO

HELLO

Hello

Hello

0123456789

0123456789

Hello 0123456789

Text gets kerned if the used font supports that.

font-kern.ly

With kerning:

VAVAVAmp

Without kerning:

VAVAVAmp

External fonts may be used without being installed on the operating system, by loading either a specific font file or a directory that contains font files. In this example two logos ('GPL' and 'GFDL') should be printed, rather than letter glyphs.

font-name-add-files.ly

GPL logo: A

GFDL logo: A

Setting the `font-name` property does not change the font size. The two strings below should be concatenated and have the same font size.

Note that 'the same font size' is related to what lilypond reports on the console if in verbose mode (3.865234375 units for this regression test). If you actually look at the two fonts the optical size differs enormously.

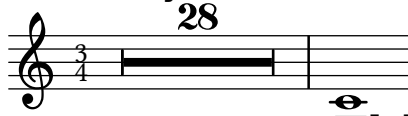
font-name-font-size.ly

pfsmp<sub>psm</sub>

Other fonts can be used by setting `font-name` for the appropriate object. The string should be a Pango font description without size specification.

font-name.ly

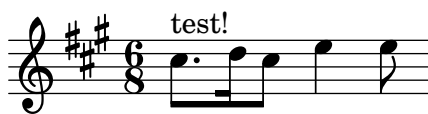
Rest in DejaVu Sans Mono



**This text is in large Vera Sans Bold**

This file demonstrates how to load different (postscript) fonts. The file `font.scm` shows how to define the scheme-function `make-default-fonts-tree`.

font-postscript.ly



This is an example of automatic footnote numbering where the number is reset on each page. It uses the symbol-footnotes numbering function, which assigns the symbols \*, †, ‡, § and ¶ to successive footnotes, doubling up on the symbol after five footnotes have been reached.

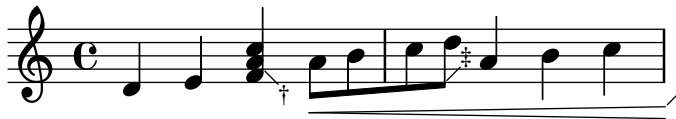
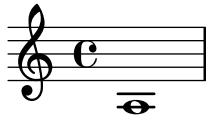
footnote-auto-numbering-page-reset.ly

a b\* d† f‡  
h i



\*c  
†e  
‡g  
§j

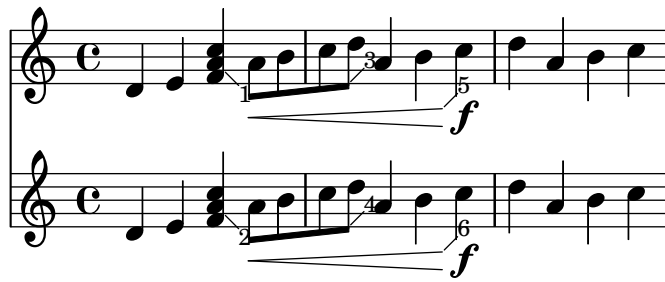
2  
k l\*



\*m  
†n  
‡o  
§p

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

This regtest makes sure that footnote numbers are laid out in the correct vertical order.



1n  
2n  
3o  
4o  
5p  
6p  
7n  
8n  
9o  
10o  
11p  
12p



13n  
14n  
15o  
16o  
17p  
18p

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

This is an example of automatic footnote numbering where the number is not reset on each page. It uses the default numbering function, which assigns numbers starting at 1 to successive footnotes.

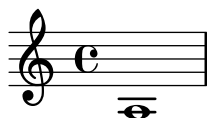
a b<sup>1</sup> d<sup>2</sup> f<sup>3</sup>  
h i



1c  
2e  
3g  
4j



2  
k l<sup>5</sup>



5m  
6n  
7o  
8p

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Balloons and footnotes on multi-measure rest numbers and percent repeat counters are correctly placed.

footnote-balloon-on-counter.ly

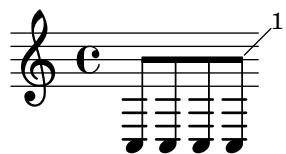


<sup>1</sup>Rest during three measures

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

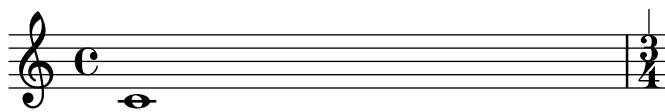


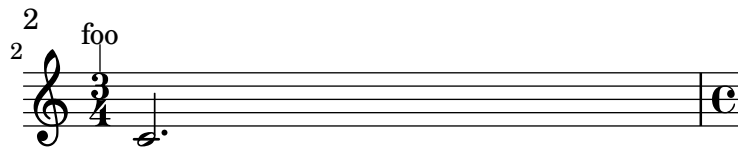
Automatic beams may receive footnotes.



With grobs that have break visibility, footnotes will automatically take the break visibility of the grob being footnoted. This behavior can be overridden.

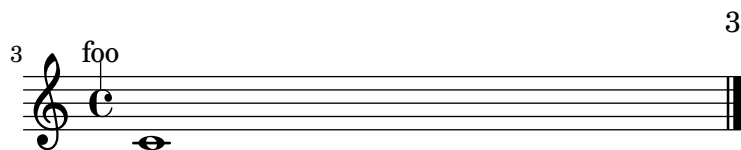
footnote-break-visibility.ly





bar





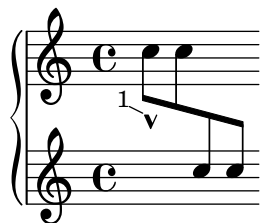

---

bar

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Footnotes work on cross-staff grobs.

`footnote-cross-staff.ly`



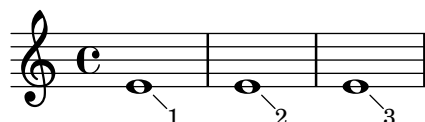

---

<sup>1</sup>marcato

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The padding between a footnote and the footer can be tweaked.

footnote-footer-padding.ly



- 
1. Tiny space below.
  2. Tiny space below.
  3. Big space below.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Lyrics may receive footnotes.

footnote-lyrics.ly

aaah<sub>1</sub>

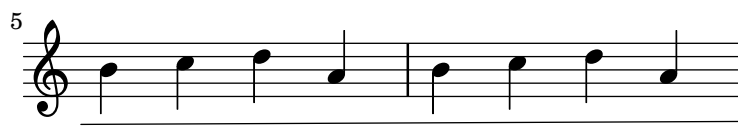
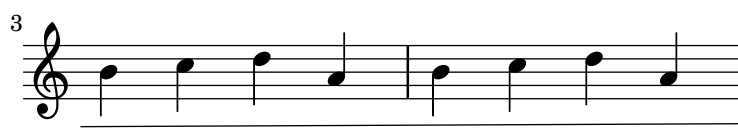
Multi-measure rests may receive footnotes.





Footnotes are annotated at the correct place, and the annotation goes to the correct page.

footnote-spanner.ly



1. Goes to the first broken spanner.



25  3

28



31



34 

2. Goes to the last broken spanner.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Footnotes on volta brackets also work

footnote-volta-spanner.ly

Lilypond does footnotes.

footnote.ly

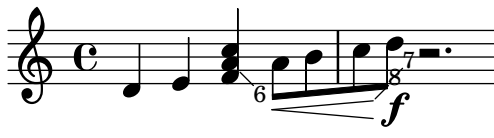
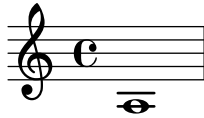
a b<sup>1</sup> d<sup>2</sup> f<sup>3</sup>  
h i



1. c
2. e
3. g
4. j



2  
k l<sup>5</sup>



5. m  
6. n  
7. o  
8. p

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

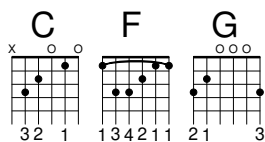
`forbidBreakBetweenBarLines` controls whether `Bar_engraver` forbids line breaks where there is no bar line. The output should have a break in the middle of a measure.

`forbid-break-between-bar-lines.ly`



`FretBoards` should be aligned in the Y direction at the fret-zero, string 1 intersection.

`fret-board-alignment.ly`



Frets can be assigned automatically. The results will be best when one string number is indicated in advance

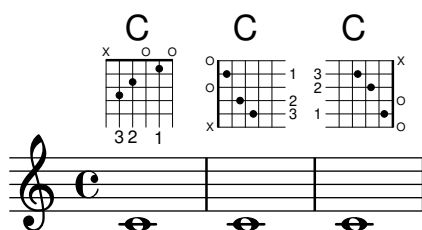
`fret-boards.ly`

autofrets



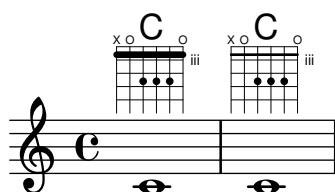
Fret diagrams of different orientation should share a common origin of the topmost fret or string.

`fret-diagram-origins.ly`



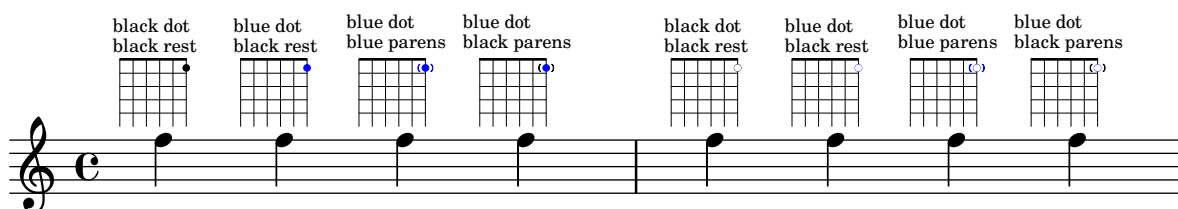
A capo indicator can be added with a fret-diagram-verbose string, and its thickness can be changed.

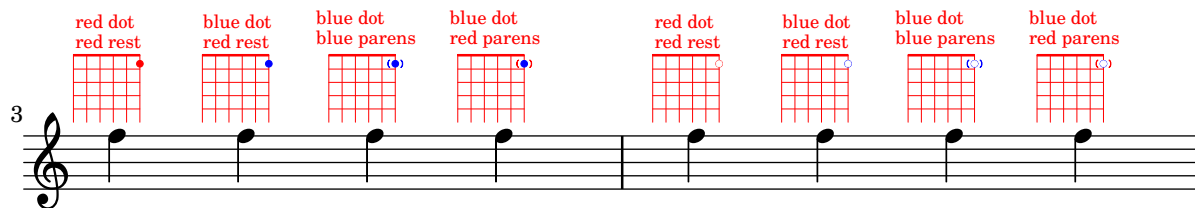
`fret-diagrams-capo.ly`



Dots in fret diagrams may be colored as well as the entire fret diagram. Not explicitly colored dots take the color from `TextScript` grob or from `with-color`. Otherwise the specified color is preserved. Parentheses take their color from the dot, if `default-paren-color` is used they take their color from the overall color. Works for inverted dots as well.

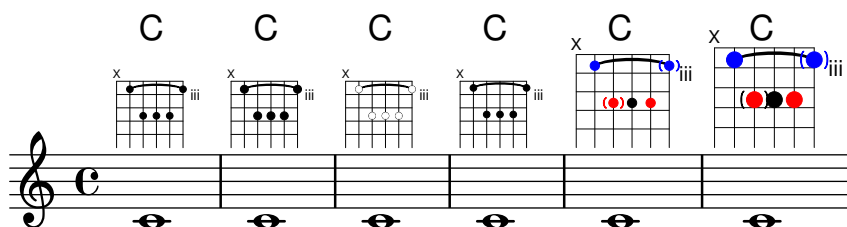
`fret-diagrams-dot-color.ly`





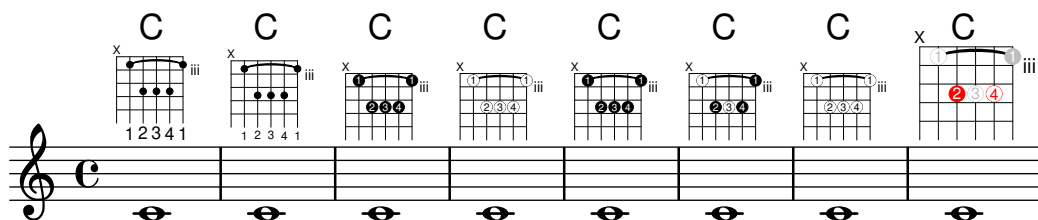
Dots indicating fingerings can be changed in location, size, and coloring. It is possible to parenthesize a single dot. The color of the parenthesis may be taken from dot or default. A possible collision between parenthesis and fret-label- indication can be resolved by an override for `fret-label-horizontal-offset` in `fret-diagram-details`.

`fret-diagrams-dots.ly`



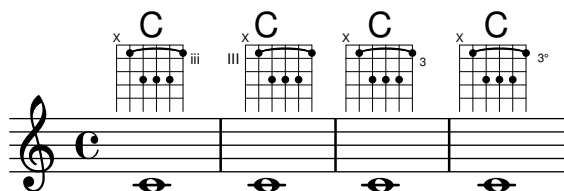
Finger labels can be added, either in dots or below strings. Dot color can be changed globally or on a per-dot basis, and fingering label font size can be adjusted.

`fret-diagrams-fingering.ly`



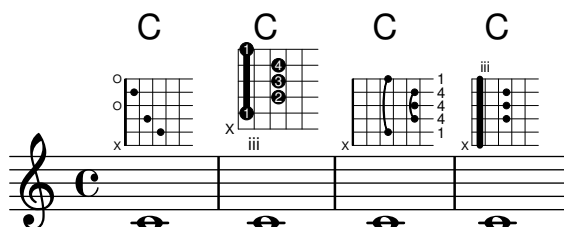
The label for the lowest fret can be changed in location, size, and number type.

`fret-diagrams-fret-label.ly`



Fret diagrams can be presented in landscape mode.

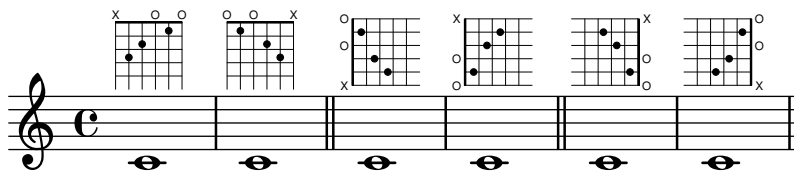
`fret-diagrams-landscape.ly`





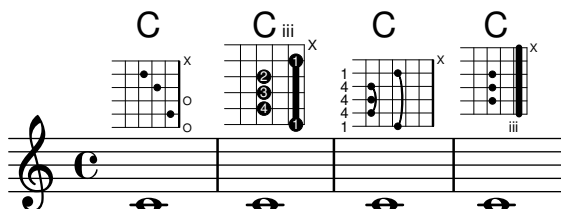
Fret-diagrams may be printed left-handed

`fret-diagrams-left-handed.ly`



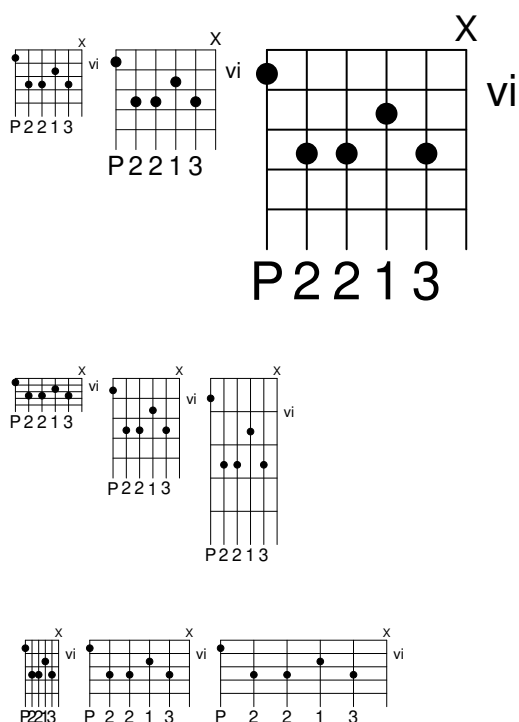
Fret diagrams can be presented in landscape mode.

`fret-diagrams-opposing-landscape.ly`



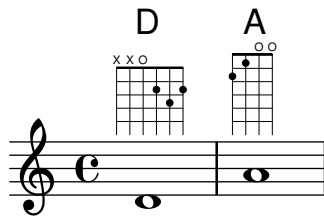
Fret diagrams can be scaled using the `size` property. Also, scaling the distance between the frets and/or strings is possible with the properties `fret-distance` and/or `string-distance` of `fret-diagram-details`. The position and size of first fret label, mute/open signs, fingers, relative to the diagram grid, shall be the same in all cases.

`fret-diagrams-size.ly`



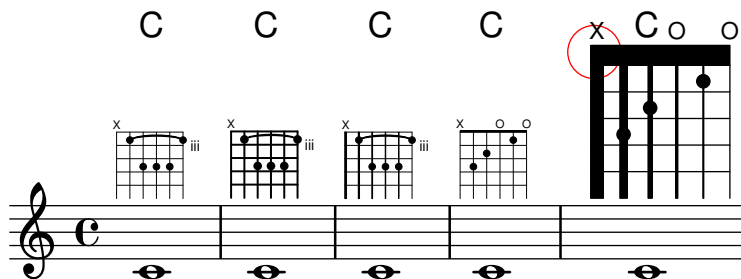
Number of frets and number of strings can be changed from the defaults.

`fret-diagrams-string-frets.ly`



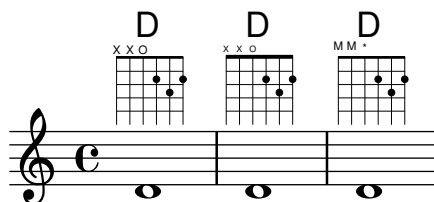
String thickness can be changed, and diagrams can have variable string thickness. The thick zero-fret is adjusted accordingly for changed size, `fret-diagram-details.string-thickness-factor` and `fret-diagram-details.top-fret-thickness`. There should be no visible gap inside the red circle.

`fret-diagrams-string-thickness.ly`



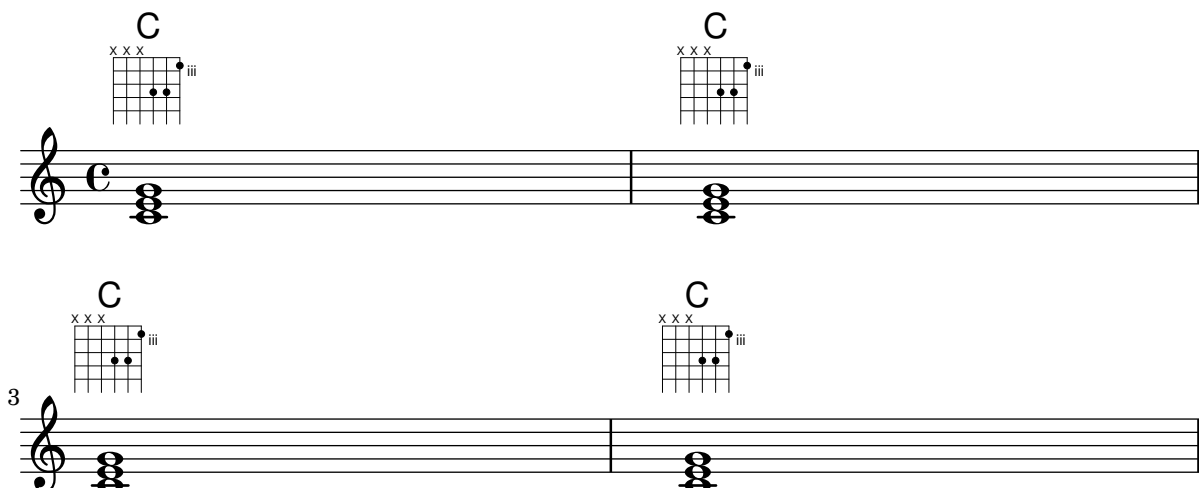
The size, spacing, and symbols used to indicate open and muted strings can be changed.

`fret-diagrams-xo-label.ly`



FretBoards can be set to display only when the chord changes or at the beginning of a new line.

`fretboard-chordchanges.ly`



Three musical staves are shown, each with a chord diagram for a C major triad (C-E-G) above it. The diagrams show fingerings (i, iii, i) and a 'C' label. The first staff is labeled '5', the second '6', and the third '8'.

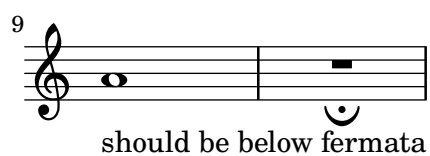
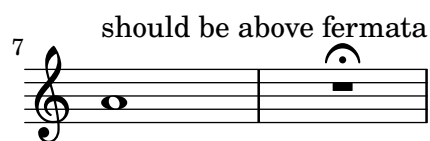
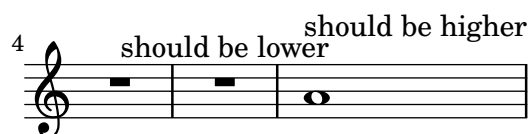
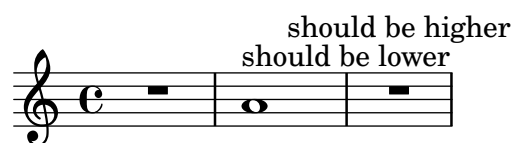
Markups can be put into the dots of a fret-diagram. Those markups are scaled automatically to fit into the dots.

fretdiagram-markup-in-dots.ly

Two fret diagrams are shown, each with a chord diagram for a C major triad (C-E-G) above it. The diagrams show fingerings (i, iii, i) and a 'C' label. The first diagram is labeled 'e#' and the second 'g#'.

Fermata over full-measure rests should invert when below and be closer to the staff than other articulations.

full-measure-rest-fermata.ly



This file tests various Scheme utility functions.

`general-scheme-bindings.ly`

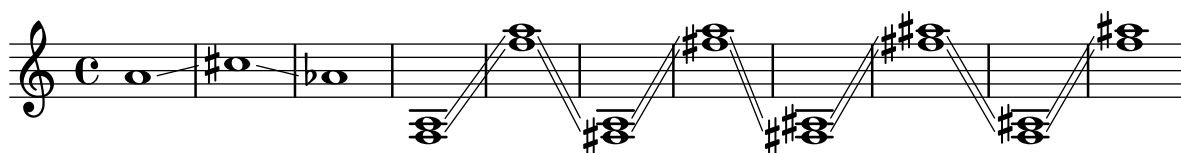
As a last resort, the placement of grobs can be adjusted manually, by setting the `extra-offset` of a grob.

`generic-output-property.ly`



Glissandi stop before hitting accidentals. Chord glissandi stop at the same horizontal position and have the same slope, they do not cross.

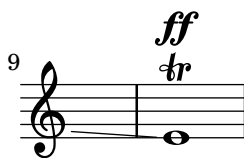
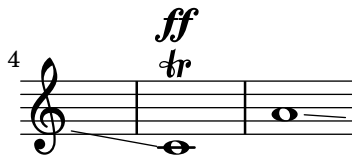
`glissando-accidental.ly`



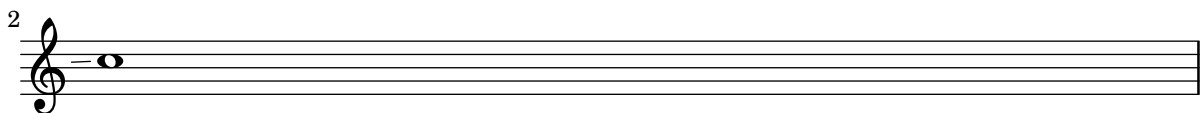
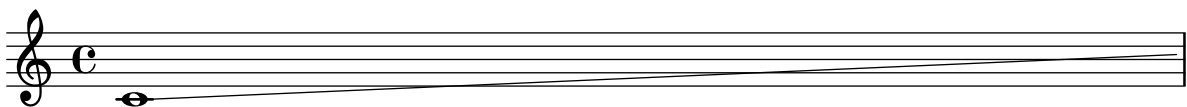
When broken, glissandi can span multiple lines.

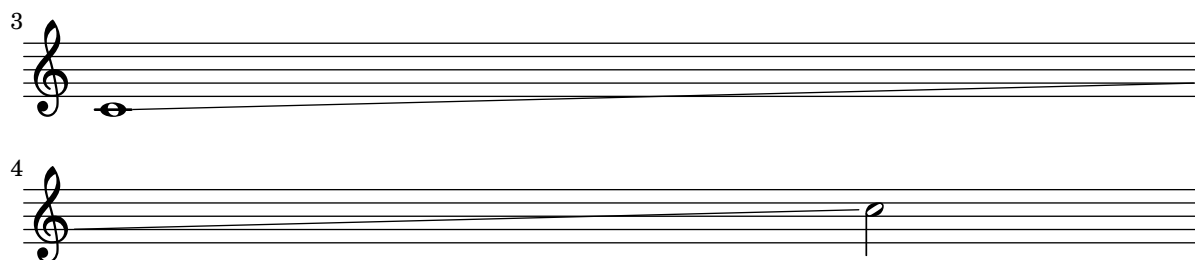
`glissando-broken-multiple.ly`





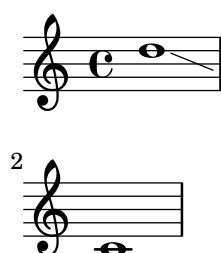
Broken glissandi anticipate the pitch on the next line.  
glissando-broken-unkilled.ly





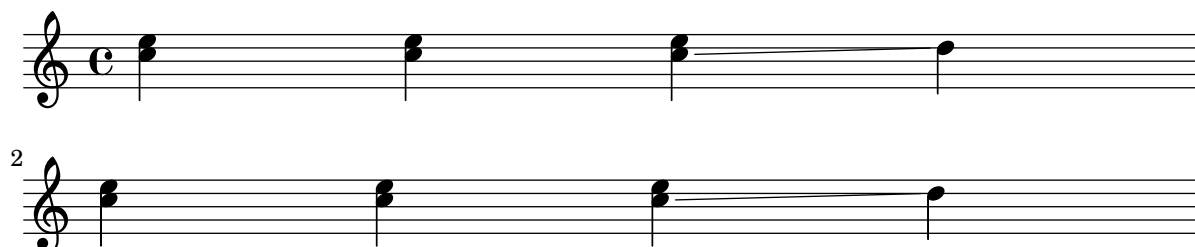
If broken, Glissandi anticipate on the pitch of the next line.

`glissando-broken.ly`



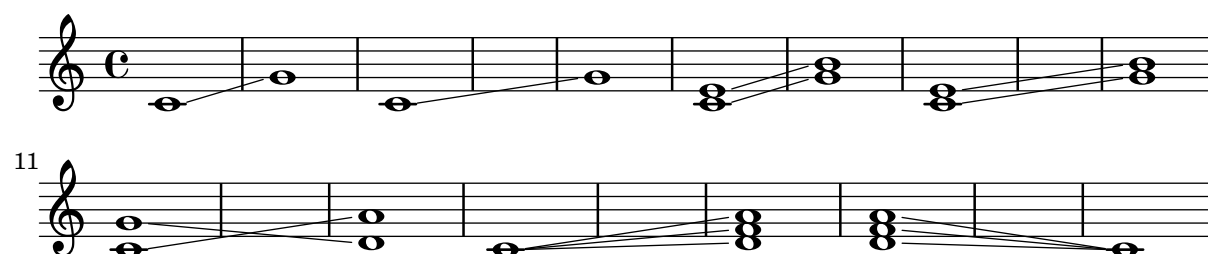
A glissando between chords should not interfere with line breaks. In this case, the music should be in two lines and there should be no warning messages issued. Also, the glissando should be printed.

`glissando-chord-linebreak.ly`



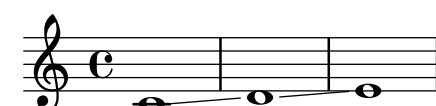
LilyPond typesets glissandi between chords.

`glissando-chord.ly`



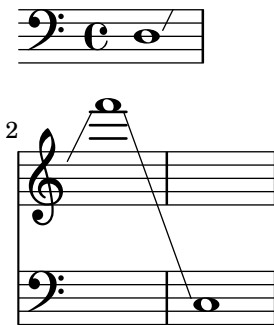
Lilypond prints consecutive glissandi.

`glissando-consecutive.ly`



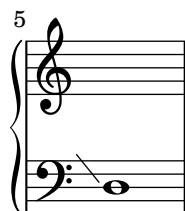
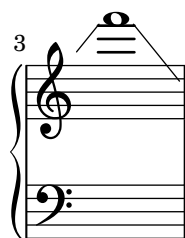
Broken cross-staff glissandi have acceptable slopes when one staff is removed.

glissando-cross-staff-broken-remove-empty.ly



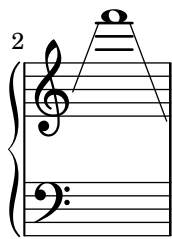
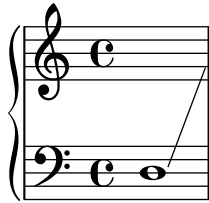
Broken cross-staff glissandi can span more than two systems.

glissando-cross-staff-broken-several-systems.ly



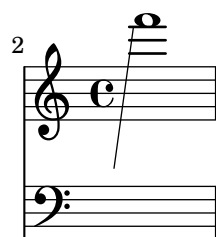
Cross-staff glissandi have acceptable slopes when they cross line breaks.

`glissando-cross-staff-broken.ly`



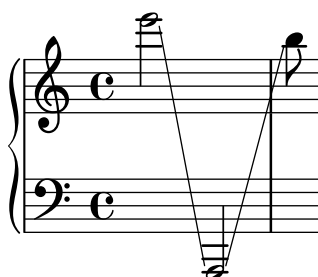
Broken cross-staff glissandi have acceptable slopes when one staff is removed.

`glissando-cross-staff-staff-absent.ly`



Cross staff glissandi reach their endpoints correctly.

`glissando-cross-staff.ly`





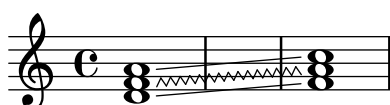
Glissandi begin after dots by default. This behavior may be changed by overriding the `start-at-dot` property.

`glissando-dots.ly`



Individual glissandi within a chord can be tweaked.

`glissando-index.ly`



Glissandi are not broken. Output of this test is expected to run off the page.

`glissando-no-break.ly`



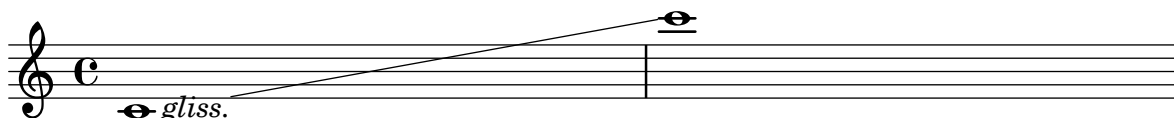
NoteColumn grobs can be skipped over by glissandi.

`glissando-skip.ly`



`stencil-align-dir-y` also works on glissandi.

`glissando-stencil-align-dir-y.ly`

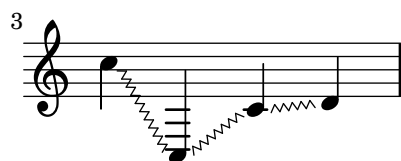


Between notes, there may be simple glissando lines. Here, the first two glissandi are not consecutive.

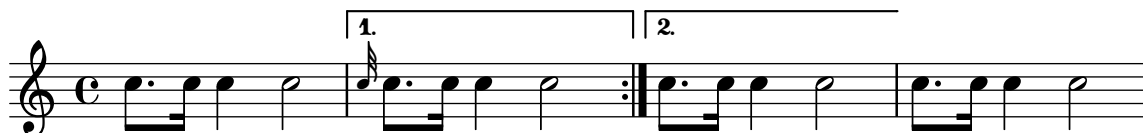
The engraver does no time-keeping, so it involves some trickery to get `<< { s8 s8 s4 } { c4 \gliss d4 } >>` working correctly.

`glissando.ly`





A grace in the first alternative does not cause the beaming to go awry in subsequent material  
`grace-alternative.ly`



A separate 'Grace\_auto\_beam\_engraver' initiates autobeaming at the start of each `\grace` command.

`grace-auto-beam-engraver.ly`



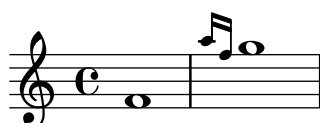
The autobeamer is not confused by grace notes.

`grace-auto-beam.ly`



Bar line should come before the grace note.

`grace-bar-line.ly`



Grace notes do tricky things with timing. If a measure starts with a grace note, the measure does not start at 0, but earlier. Nevertheless, lily should not get confused. For example, line breaks should be possible at grace notes, and the bar number should be printed correctly.

`grace-bar-number.ly`



Grace beams and normal beams may occur simultaneously. Unbeamed grace notes are not put into normal beams.

`grace-beam.ly`



The `\voiceOne` setting is retained after finishing the grace section.

`grace-direction-polyphony.ly`



Grace notes at the end of an expression don't cause crashes.

`grace-end-expression.ly`



Grace notes after the last note do not confuse the timing code.

`grace-end.ly`



Grace-timed elements in sequence line up before the next main note in the obvious way.

`grace-multiple.ly`



`startGraceMusic` and `stopGraceMusic` may be overridden to change the properties of grace notes. In this test, the stems of the grace notes point down.

`grace-music-override.ly`



Grace code should not be confused by nested sequential music containing grace notes; practically speaking, this means that the end-bar and measure bar coincide in this example.

`grace-nest1.ly`



Grace code should not be confused by nested sequential music containing grace notes; practically speaking, this means that the end-bar and measure bar coincide in this example.

`grace-nest2.ly`



In nested syntax, graces are still properly handled.

`grace-nest3.ly`



Also in the nested syntax here, grace notes appear rightly.

`grace-nest4.ly`



Graces notes may have the same duration as the main note.

`grace-nest5.ly`



Grace notes may be put in a `partCombiner`.

`grace-part-combine.ly`



A `\partial` may be combined with a `\grace`.

`grace-partial.ly`



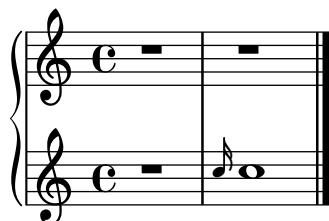
Create grace notes with slashed stem, but no slur. That can be used when the grace note is tied to the next note.

`grace-slashed-no-slur.ly`



Stripped version of `trip.ly`. Staves should be of correct length.

`grace-staff-length.ly`



Pieces may begin with grace notes.

`grace-start.ly`



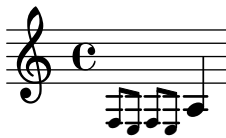
Stem lengths for grace notes should be shorter than normal notes, if possible. They should never be longer, even if that would lead to beam quanting problems.

grace-stem-length.ly



Here `startGraceMusic` should set `no-stem-extend` to true; the two grace beams should be the same here.

grace-stems.ly



Grace notes in different voices/staves are synchronized.

grace-sync.ly



There are three different kinds of grace types: the base grace switches to smaller type, the *appoggiatura* inserts also a slur, and the *acciaccatura* inserts a slur and slashes the stem.

grace-types.ly



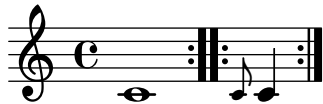
When grace notes are entered with unfolded repeats, line breaks take place before grace notes.

grace-unfold-repeat.ly



A volta repeat may begin with a grace. Consecutive ending and starting repeat bars are merged into one :...:

`grace-volta-repeat-merge-barline.ly`



Repeated music can start with grace notes. Bar checks preceding the grace notes do not cause synchronization effects.

`grace-volta-repeat.ly`



You can have beams, notes, chords, stems etc. within a `\grace` section. If there are tuplets, the grace notes will not be under the brace.

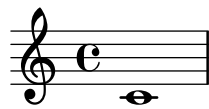
Main note scripts do not end up on the grace note.

`grace.ly`



The `graphviz` feature draws dependency graphs for grob properties.

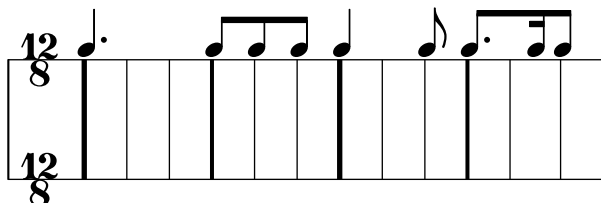
`graphviz.ly`





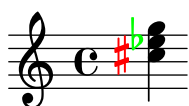
With grid lines, vertical lines can be drawn between staves synchronized with the notes.

`grid-lines.ly`



With the full form of the `\tweak` function, individual grobs that are indirectly caused by events may be tuned.

`grob-indirect-tweak.ly`



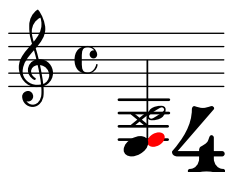
`ly:grob-object` supports a third optional parameter, the fallback value to use when the property is undefined in the grob. This test should print 'Test OK' twice.

`grob-object-fallback.ly`



With the `\tweak` function, individual grobs that are directly caused by events may be tuned directly.

`grob-tweak.ly`



Hairpins in Dynamics contexts do not collide with arpeggios.

`hairpin-arpeggio.ly`



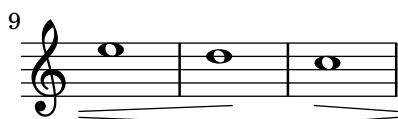
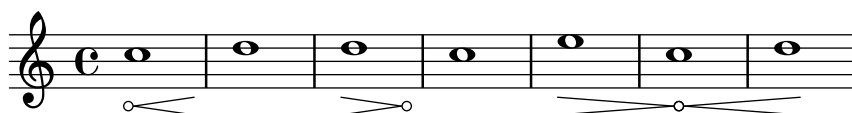
If a hairpin ends on the first note of a new staff, we do not print that ending. But on the previous line, this hairpin should not be left open, and should end at the bar line.

`hairpin-barline-break.ly`



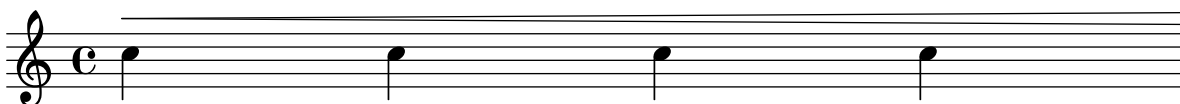
Hairpins can have circled tips. A decrescendo del niente followed by a crescendo al niente should only print one circle.

hairpin-circled.ly



Broken hairpins are not printed too high after treble clefs.

hairpin-clef.ly



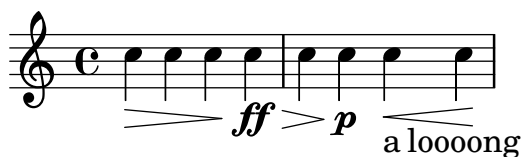
Hairpin crescendi may be dashed.

hairpin-dashed.ly



Hairpin dynamics start under notes if there are no text-dynamics. If there are text dynamics, the hairpin does not run into them.

hairpin-ending.ly



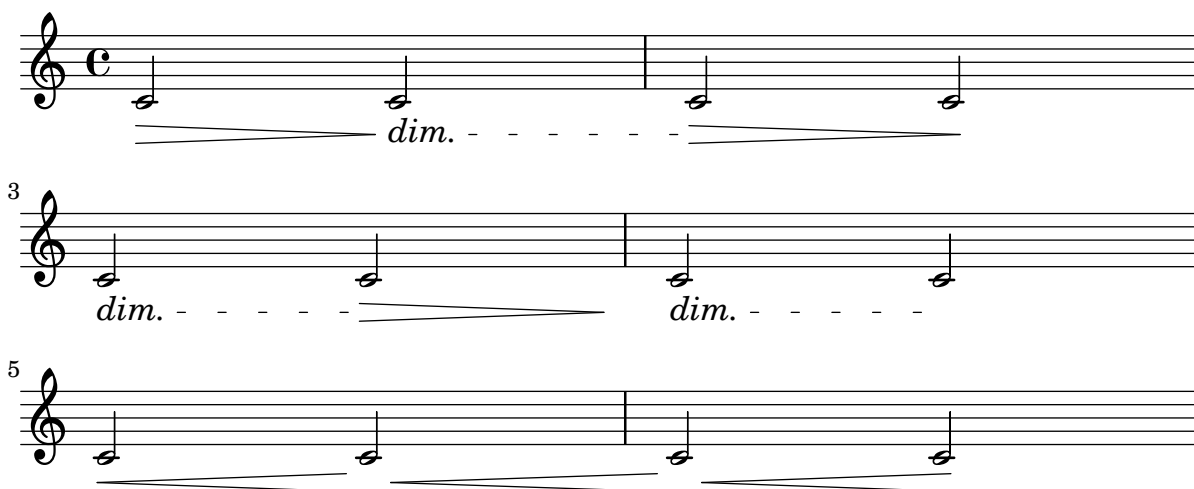
Broken hairpins are not printed too high after key signatures.

hairpin-key-signature.ly



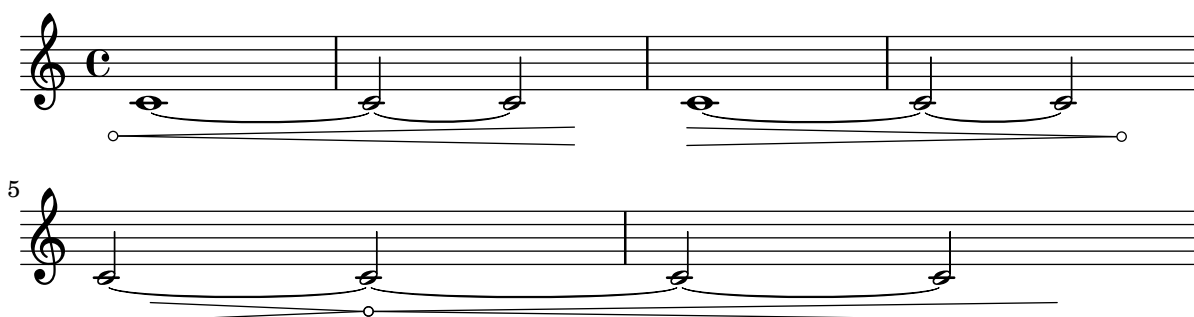
Bound padding for hairpins also applies before following DynamicTextSpanner grobs. In this case, bound-padding is not scaled down.

hairpin-neighboring-span-dynamics.ly



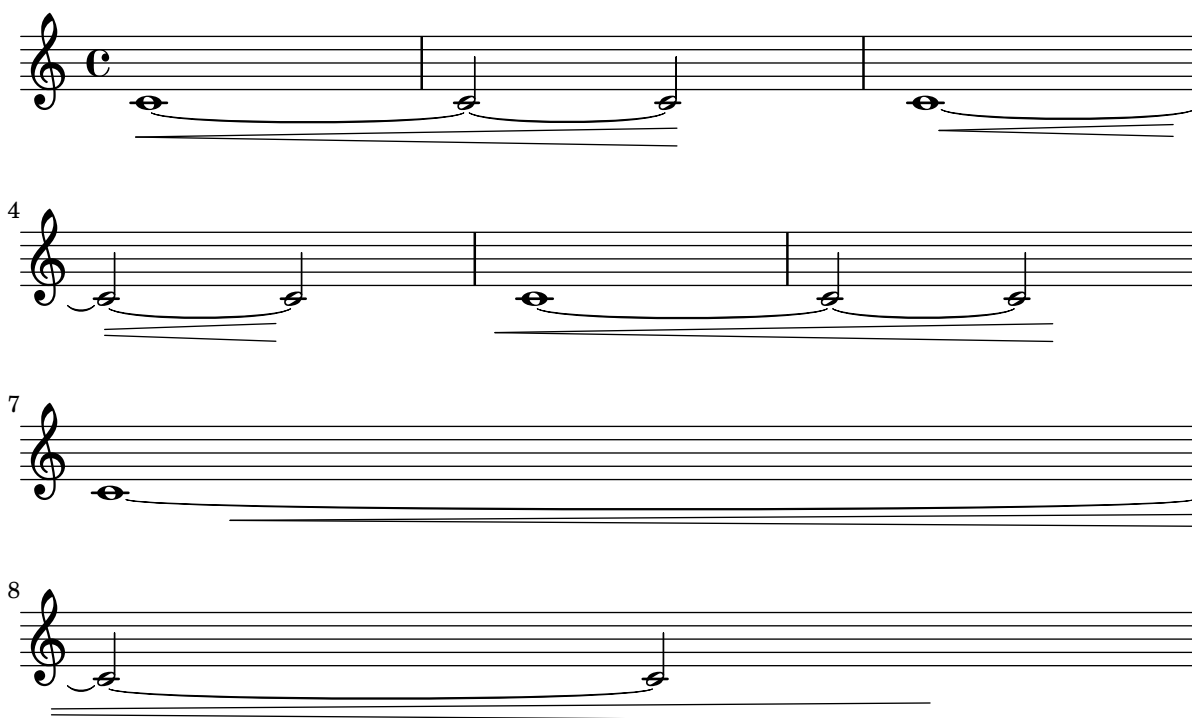
The shorten-pair property works with circled-tip hairpins. When two hairpins share a circle, the adjoining ends are not moved.

hairpin-shorten-pair-circled-tip.ly



The ends of hairpins may be offset with the `shorten-pair` property. Positive values offset ends to the right, negative values to the left.

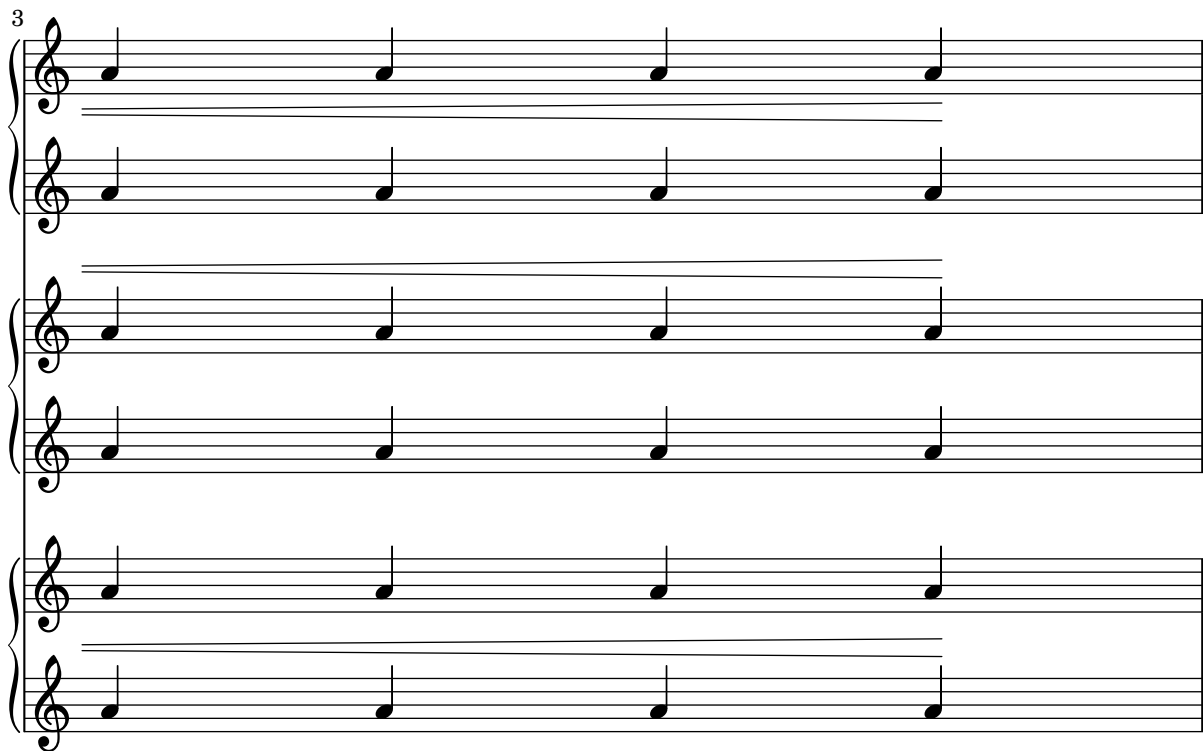
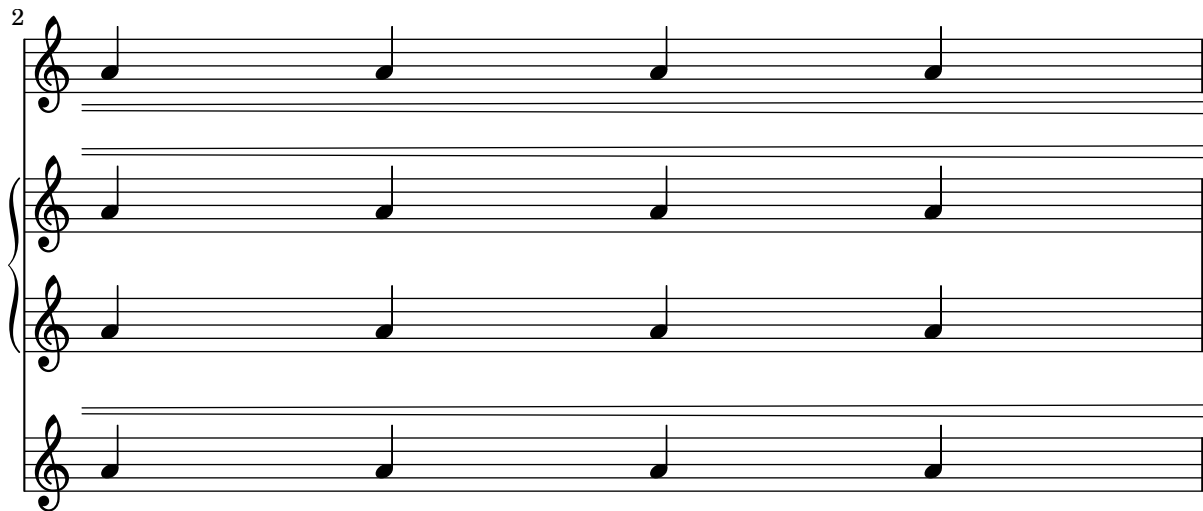
`hairpin-shorten-pair.ly`



Hairpin grobs do not collide with `SpanBar` grobs. Hairpin grobs should, however, go to the end of a line when the `SpanBar` is not present.

`hairpin-span-bar.ly`

The image displays a system of musical notation with four staves. Each staff contains a single hairpin spanning the entire system. The staves are numbered 1, 2, 3, and 4 respectively. The hairpins are represented by horizontal lines with curved ends, and they do not collide with the `SpanBar` grobs.



'to-barline is not confused by very long marks.

hairpin-to-barline-mark.ly

This is quite a long mark text



Hairpins whose end note is preceded by a bar line should end at that bar line.

hairpin-to-barline.ly



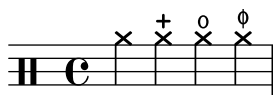
Hairpins end at the left edge of a rest.

hairpin-to-rest.ly



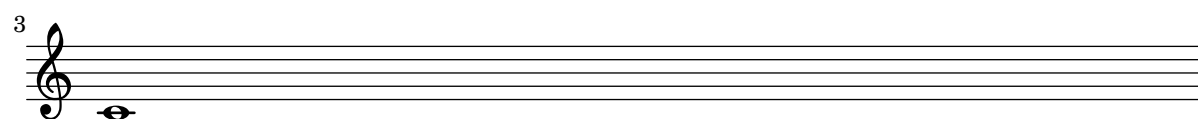
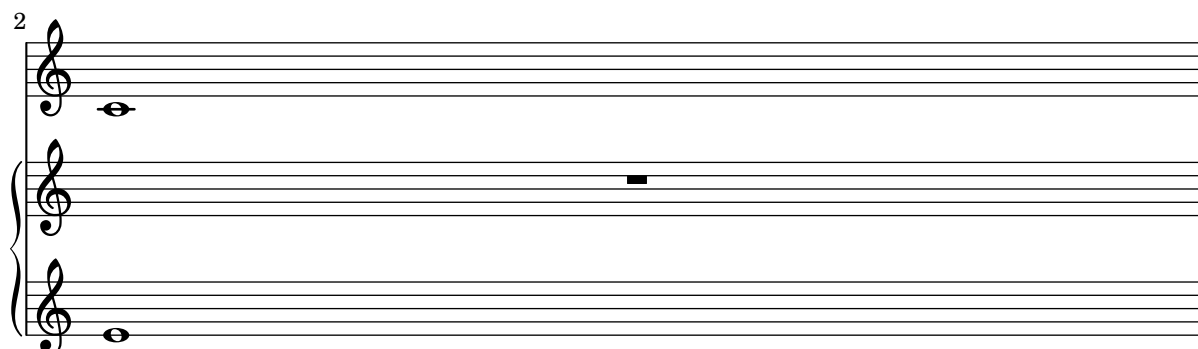
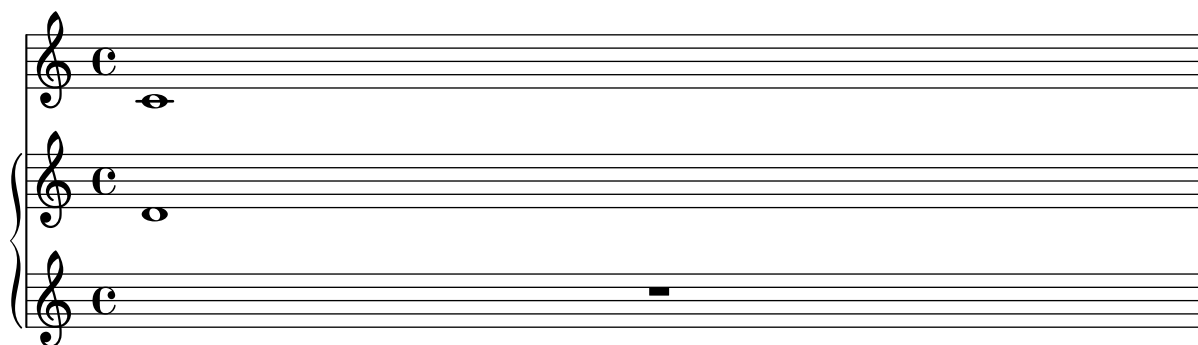
The halfopenvertical articulation is available.

halfopenvertical.ly



Staves in a PianoStaff remain alive as long as any of the staves has something interesting.

hara-kiri-alive-with.ly

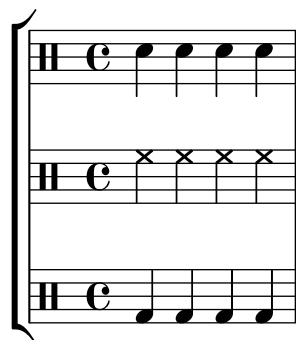


Hara-kiri staves are suppressed if they are empty. This example really contains three drum staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number

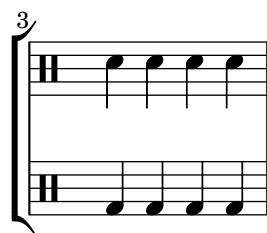
is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

Any staff brackets and braces are removed, both in the single staff and no staff case.

`hara-kiri-drumstaff.ly`



2



4

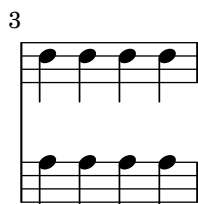


Inserting the harakiri settings globally into the Staff context should not erase previous settings to the Staff context.

`hara-kiri-keep-previous-settings.ly`



2



3

4



Staves, RhythmicStaves, TabStaves and DrumStaves with percent repeats are not suppressed.

`hara-kiri-percent-repeat.ly`

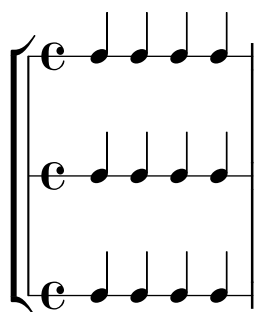
3

Hara-kiri staves are suppressed if they are empty. This example really contains three rhythmic staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

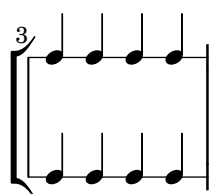
Any staff brackets and braces are removed, both in the single staff and no staff case.

`hara-kiri-rhythmicstaff.ly`





2



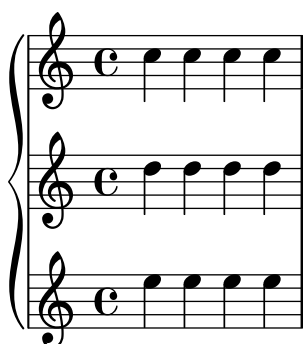
4



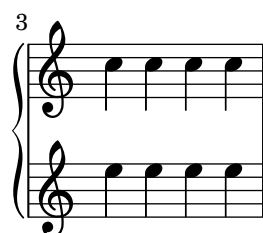
Hara-kiri staves kill themselves if they are empty. This example really contains three staves, but as they progress, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

Any staff brackets and braces are removed, both in the single staff and no staff case.

`hara-kiri-staff.ly`



2





stanza numbers remain, even on otherwise empty lyrics lines.

`hara-kiri-stanza-number.ly`



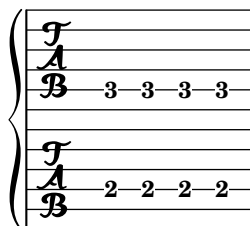
Hara-kiri staves are suppressed if they are empty. This example really contains three tab staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

`hara-kiri-tabstaff.ly`

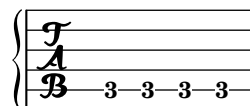


2

3

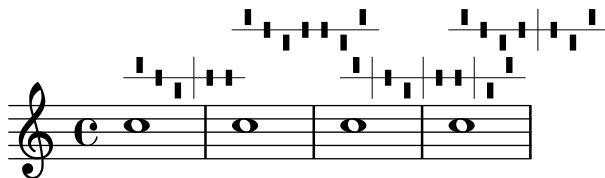


4



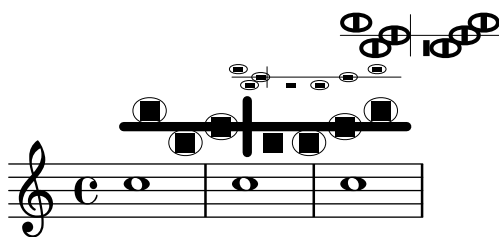
The harp-pedal markup function does some sanity checks. All the diagrams here violate the standard (7 pedals with divider after third), so a warning is printed out, but they should still look okay.

harp-pedals-sanity-checks.ly



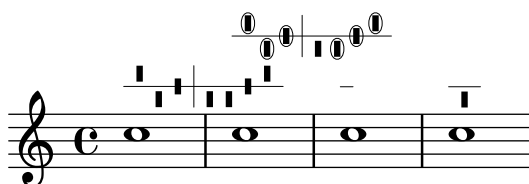
Harp pedals can be tweaked through the size, thickness and harp-pedal-details properties of TextScript.

harp-pedals-tweaking.ly



Basic harp diagram functionality, including circled pedal boxes. The third diagram uses an empty string, the third contains invalid characters. Both cases will create warnings, but should still not fail with an error.

harp-pedals.ly



A second book-level header block and headers nested in bookpart and score should not clear values from the first header block. This score should show composer, piece, subtitle and title.

header-book-multiple.ly

**Title correct (superseded at book level)**

**Subtitle correct (superseded in bookpart)**

Composer correct (set in book)

**Note:** title, subtitle, piece, and composer expected.

Piece correct (superseded in score)



Changing the header fields in a book or a bookpart shall not have any effect on the global default values.

# Title correct (set at top level)

## Subtitle (set at book level)

**Note:** expect title and subtitle.



A second bookpart-level header block shall retain previously set values from a first header block at the same or higher levels unless overridden.

**Title correct (set in book)**  
**Subtitle correct (superseded in bookpart)**

Composer correct (set at top level)

**Note:** expect title, subtitle, piece and composer.

Piece correct (superseded at bookpart level)





Cyclic references in header fields should cause a warning, but not crash LilyPond with an endless loop

`header-cyclic-reference.ly`

## Cyclic reference to

Cyclic reference to Cyclic reference to



A second score-level header block shall not entirely replace a first header block, but only update changed variables.

`header-score-multiple.ly`

**Note:** expect piece and opus.

Piece correct (set in score)

Opus correct (superseded at score level)



Header blocks may appear before and after the actual music in a score.

`header-score-reordered.ly`

**Note:** expect piece and opus.

Piece correct (set in score)

Opus correct (superseded at score level)



A second top-level header block shall not entirely replace a first header block, but only changed variables.

`header-toplevel-multiple.ly`

## Title correct (superseded at top level)

**Note:** expect title and piece.

Piece correct (set at top level)



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`hel-arabic-accidental-glyphs.ly`

All  $\text{accidental}$

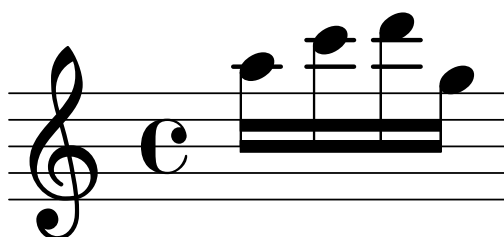


$\text{accidental}$

Using `\override Beam.damping = #+inf.0` should always make beams horizontal. A threshold is implemented to avoid rounding errors that would cause non-horizontal beams otherwise.

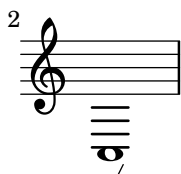
Here, the beam should be horizontal.

`horizontal-beams-damping.ly`



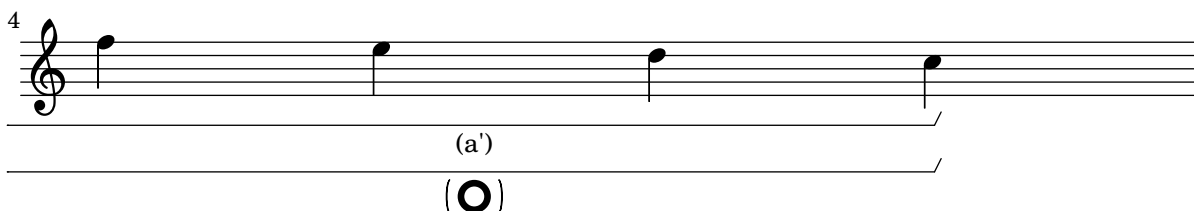
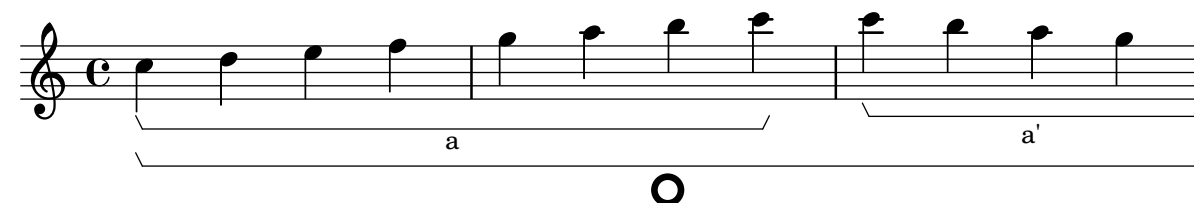
Horizontal brackets connect over line breaks.

horizontal-bracket-break.ly



Text is parenthesized when analysis brackets cross line breaks.

horizontal-bracket-broken-texted.ly



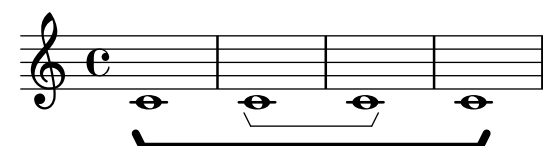
Labels may be added to analysis brackets through the `text` property of the `HorizontalBracketText` object. Use of the `weak` command is necessary for assigning text uniquely to brackets beginning at the same moment. Text assignments reflect the usual nesting order of brackets.

horizontal-bracket-texted.ly



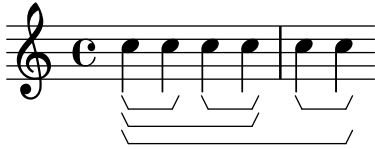
Horizontal brackets are created with the correct event-cause, ensuring tweaks are applied to the correct spanner.

horizontal-bracket-tweak.ly



Note grouping events are used to indicate where analysis brackets start and end.

`horizontal-bracket.ly`



Shows the id property of a grob being set. This should have no effect.

`id.ly`



Music variables may be structured into alists indexed by numbers or symbols.

`identifier-alists.ly`



Identifiers following a chordmode section are not interpreted as chordmode tokens. In the following snippet, the identifier 'm' is not interpreted by the lexer as a minor chord modifier.

`identifier-following-chordmode.ly`



Music identifiers containing arbitrary characters may be initialized using

```
"violin1" = { c''4 c'' c'' c'' }
```

and used as:

```
\new Voice { "\"violin1" }
```

`identifier-quoted.ly`



test identifiers.

identifiers.ly

**title**

Composer

*hoi polloi*



LilyPond does in-notes.

in-note.ly

The image displays a musical score for the phrase "this is a test" in a single melodic line. The score is written in treble clef with a common time signature (C). The melody consists of a sequence of eighth notes, with some notes beamed in pairs. The score is divided into six measures, each containing four eighth notes. The first measure starts with a common time signature (C). The second measure is marked with a "4" above the staff. The third measure is marked with an "8" above the staff. The fourth measure is marked with a "12" above the staff. The fifth measure is marked with a "16" above the staff. The sixth measure is marked with a "20" above the staff. The phrase "this is a test" is written above the staff in a box. The score is annotated with "in-note.ly" at the bottom left, with a "1" above the first measure and a "2" above the second measure.

1<sup>1</sup>foobar  
2<sup>2</sup>foobar

2  
24



this is a test

28



32



36



this is a test

40

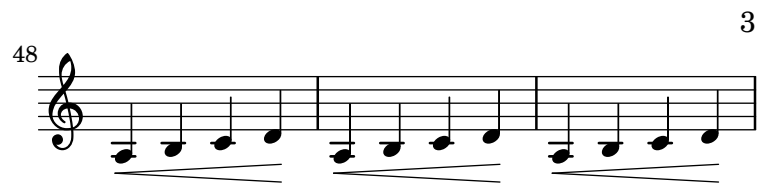


44



1foobar  
2foobar  
3foobar

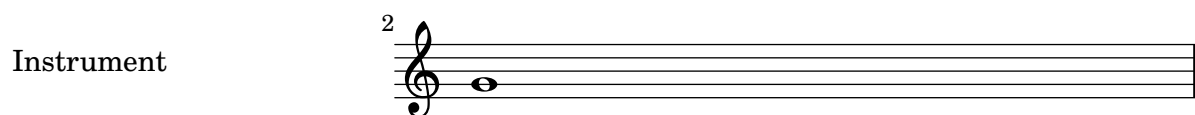
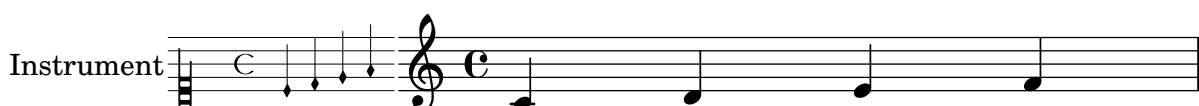




Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Incipits can be printed using an `InstrumentName` grob. In the second line of the second score the `InstrumentName` grob should appear left-aligned.

`incipit.ly`



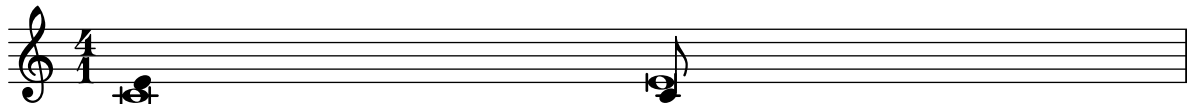
`ly:parser-include-string` should include the current string like a file `\include`.

`include-string.ly`



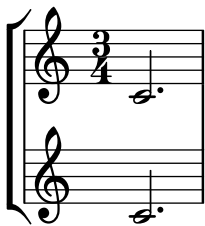
Combine several kinds of stems in parallel voices.

`incompatible-stem-warning.ly`



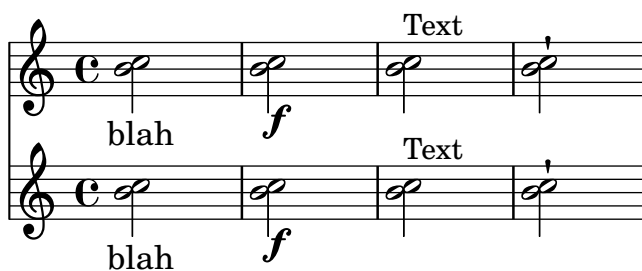
`\inherit-acceptability` allows for one context def to be accepted wherever an existing one is.

`inherit-acceptability.ly`



Alignment of lyrics, dynamics, textscripts and articulations attached to chords with suspended notes doesn't depend on input order. All these items are aligned on the "main" notehead (the one at the end of the stem).

`input-order-alignment.ly`



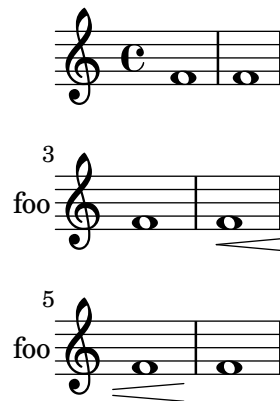
The `Voice.instrumentCueName` property generates instrument names for cue notes. It can also be unset properly.

`instrument-cue-name.ly`



Instrument names (aligned on axis group spanners) ignore dynamic and pedal line spanners.

`instrument-name-dynamic.ly`



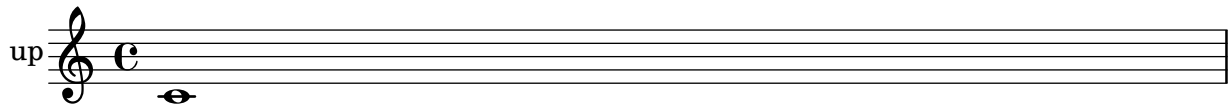
Instrument names can also be attached to staff groups.  
`instrument-name-groups.ly`

A musical score with five systems of staves. The first system is a grand staff with a brace on the left labeled 'PianoStaff', containing two staves labeled 'Right' and 'Left'. The second system is a choir staff with a brace on the left labeled 'ChoirStaff', containing three staves. The third system is a grand staff with a brace on the left labeled 'GrandStaff', containing two staves labeled 'I' and 'II'. The fourth system is a staff group with a brace on the left labeled 'nested group', containing three staves. The fifth system is a staff group with a brace on the left labeled 'nested group', containing three staves. Each staff contains a common time signature 'C' and a single note.

Instrument names are removed when the staves are killed off.

In this example, the second staff (marked by the bar number 2) disappears, as does the instrument name.

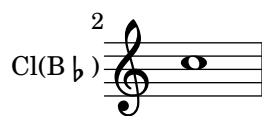
```
instrument-name-hara-kiri.ly
```



2

Instrument names are set with `Staff.instrument` and `Staff.instr`. You can enter markup texts to create more funky names, including alterations.

```
instrument-name-markup.ly
```



Instrument names are also printed on partial starting measures.

```
instrument-name-partial.ly
```



Dynamics and Lyrics lines below a `PianoStaff` do not affect the placement of the instrument name.

```
instrument-name-pedal-lyrics.ly
```

Three systems of musical notation for a piano. Each system consists of a grand staff (treble and bass clefs) with a common time signature 'C'. The first system has a 'Piano' label to the left. The second system has a 'Piano' label to the left and a 'Red.' annotation with a flower symbol above the treble staff. The third system has a 'Piano' label to the left and 'la la' annotations above the treble staff.

InstrumentName is reasonable positioned even for unusual system-start-delimiters.

Below, the `instrumentName` neither collides with the `SystemStartBracket` nor moves to far to the left.

`instrument-name-system-start-delimiter.ly`

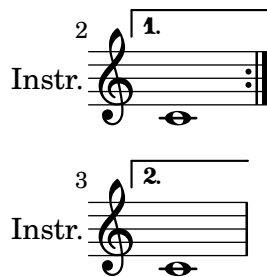
Musical notation for a StaffGroup. It consists of two staves, both with a common time signature 'C'. The top staff has a whole rest, and the bottom staff has a whole rest. A large left-facing curly bracket groups the two staves. The label 'StaffGroup' is to the left of the bracket.

Musical notation for a StaffGroup. It consists of two staves, both with a common time signature 'C'. The top staff has a whole rest, and the bottom staff has a whole rest. A large left-facing curly bracket groups the two staves. The label 'StaffGroup' is to the left of the bracket.

Moving the `Volta_engraver` to the `Staff` context does not affect `InstrumentName` alignment.

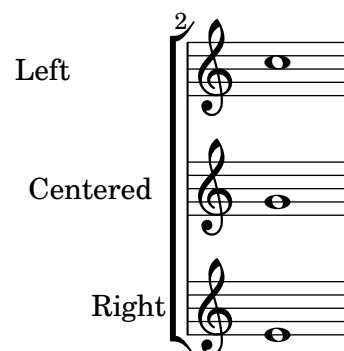
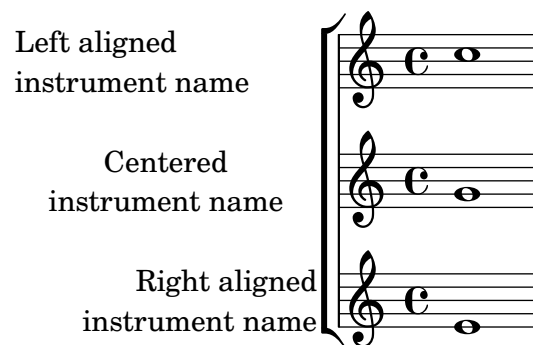
`instrument-name-volta.ly`

Musical notation for a single staff. It has a common time signature 'C' and a whole rest. The label 'InstrumentName' is positioned below the staff, aligned with the rest.



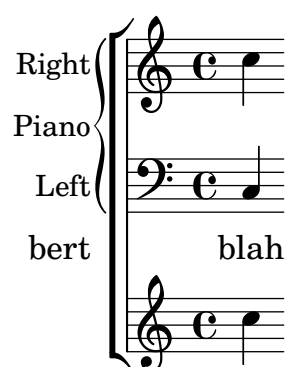
Instrument names horizontal alignment is tweaked by changing the `Staff.InstrumentName.self-alignment-X` property. The `\layout` variables `indent` and `short-indent` define the space where the instrument names are aligned before the first and the following systems, respectively.

`instrument-name-x-align.ly`



Staff margins are also markings attached to bar lines. They should be left of the staff, and be centered vertically with respect to the staff. They may be on normal staves, but also on compound staves, like the `PianoStaff`.

`instrument-name.ly`



The `switchInstrument` music function prints a warning if the given instrument definition does not exist.

`instrument-switch-invalid-warning.ly`



The `switchInstrument` music function modifies properties for an in staff instrument switch.

`instrument-switch.ly`



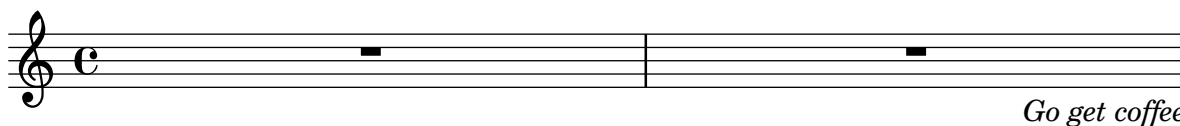
Engravers which do not exist produce a warning.

`invalid-engraver.ly`



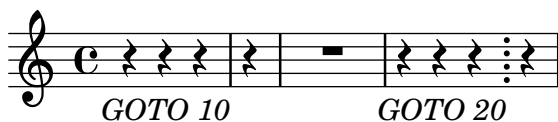
When `\jump` is at a line break, the text appears at the end of the line.

`jump-break.ly`



Where a `\jump` is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, “GOTO 10” should have a normal bar line and “GOTO 20” should have a dotted bar line.

`jump-unaligned.ly`



Each clef has its own accidental placing rules, which can be adjusted using `sharp-positions` and `flat-positions`.

`key-clefs.ly`

The image displays a musical score for the file `key-clefs.ly`. It consists of five staves, each starting with a measure number (5, 8, 11, 15, 19). The staves are written in different clefs: Treble, Bass, Bass, Bass, and Treble. Each staff contains a series of notes with various accidentals (sharps and flats) and key signature changes. The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file. The staves are labeled with measure numbers 5, 8, 11, 15, and 19. The first staff (measure 5) is in Treble clef and has a key signature of one sharp (F#). The second staff (measure 8) is in Bass clef and has a key signature of one flat (Bb). The third staff (measure 11) is in Bass clef and has a key signature of one sharp (F#). The fourth staff (measure 15) is in Bass clef and has a key signature of one flat (Bb). The fifth staff (measure 19) is in Treble clef and has a key signature of one sharp (F#). The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file. The staves are labeled with measure numbers 5, 8, 11, 15, and 19. The first staff (measure 5) is in Treble clef and has a key signature of one sharp (F#). The second staff (measure 8) is in Bass clef and has a key signature of one flat (Bb). The third staff (measure 11) is in Bass clef and has a key signature of one sharp (F#). The fourth staff (measure 15) is in Bass clef and has a key signature of one flat (Bb). The fifth staff (measure 19) is in Treble clef and has a key signature of one sharp (F#). The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file.

Key cancellation signs consists of naturals for pitches that are not in the new key signature. Naturals get a little padding so the stems don't collide.

`key-signature-cancellation.ly`

The image displays a musical score for the file `key-signature-cancellation.ly`. It consists of a single staff with a Treble clef. The staff contains a series of notes with various accidentals (sharps and flats) and key signature changes. The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file. The staff is labeled with measure numbers 1, 2, 3, 4, and 5. The first staff (measure 1) is in Treble clef and has a key signature of one sharp (F#). The second staff (measure 2) is in Treble clef and has a key signature of one flat (Bb). The third staff (measure 3) is in Treble clef and has a key signature of one sharp (F#). The fourth staff (measure 4) is in Treble clef and has a key signature of one flat (Bb). The fifth staff (measure 5) is in Treble clef and has a key signature of one sharp (F#). The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file.

If the clef engraver is removed, the key signature shall use a proper padding > 0 to the start of the staff lines.

`key-signature-left-edge.ly`

The image displays a musical score for the file `key-signature-left-edge.ly`. It consists of two staves, each with a Treble clef. The first staff contains a series of notes with various accidentals (sharps and flats) and key signature changes. The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file. The second staff contains a series of notes with various accidentals (sharps and flats) and key signature changes. The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file. The staves are labeled with measure numbers 1, 2, 3, 4, and 5. The first staff (measure 1) is in Treble clef and has a key signature of one sharp (F#). The second staff (measure 2) is in Treble clef and has a key signature of one flat (Bb). The third staff (measure 3) is in Treble clef and has a key signature of one sharp (F#). The fourth staff (measure 4) is in Treble clef and has a key signature of one flat (Bb). The fifth staff (measure 5) is in Treble clef and has a key signature of one sharp (F#). The notes are placed on the staff lines, and the accidentals are positioned according to the rules defined in the file.

With the `padding-pairs` property, distances between individual key signature items can be adjusted.

`key-signature-padding.ly`





When a custom key signature has entries which are limited to a particular octave, such alterations should persist indefinitely or until a new key signature is set.

Here, only the fis' shows an accidental, since it is outside the octave defined in `keyAlterations`.

`key-signature-scordatura-persist.ly`



By setting `Staff.keyAlterations` directly, key signatures can be set individually per pitch.

`key-signature-scordatura.ly`



Key signatures get the required amount of horizontal space.

`key-signature-space.ly`



Key signatures may appear on key changes, even without a bar line. In the case of a line break, the restoration accidentals are printed at end of a line. If `createKeyOnClefChange` is set, key signatures are created also on a clef change.

`keys.ly`



Kievan notation can contain dots, also in ligatures.

`kievan-notation-dots.ly`



LilyPond typesets Kievan notation.

`kievan-notation.ly`



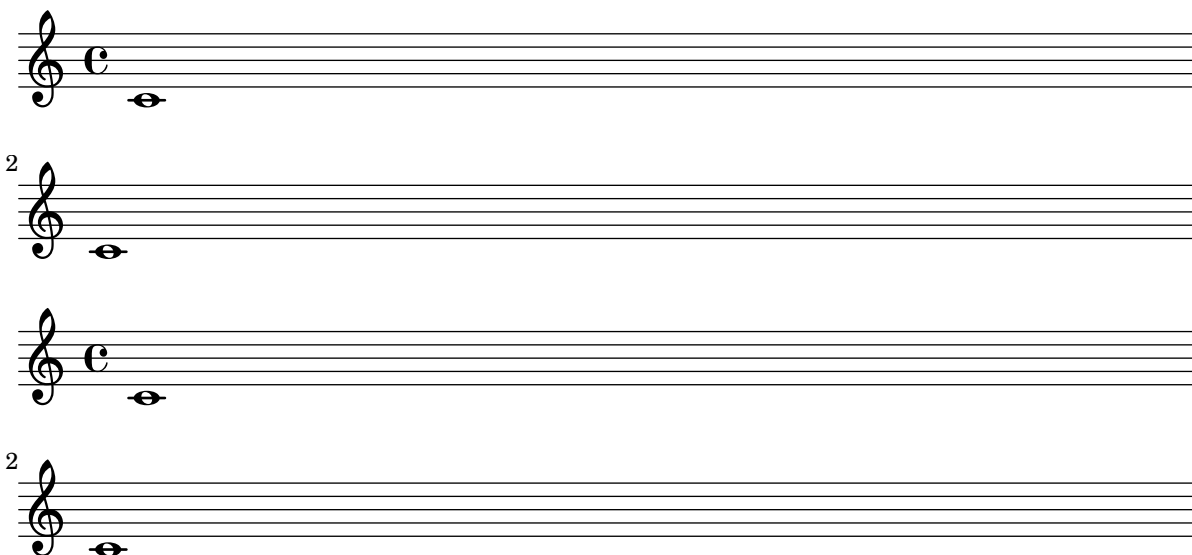
When a label straddles at a page break, the chosen page is the second one. This also works when there are several bookparts.

Note: you need to compile this regtest on its own to check it, as the `lilypond-book` setup does not work for page references.

`label-straddling-page-break-bookparts.ly`

Should be 3:??

Should be 5:??



l.v. ties should not collide with arpeggio indications.

`laissez-vibrer-arpeggio.ly`



`\laissezVibrer` ties should also work on individual notes of a chord.

`laissez-vibrer-chords.ly`



`\laissezVibrer` ties on beamed notes don't trigger premature beam slope calculation.

`laissez-vibrer-tie-beam.ly`



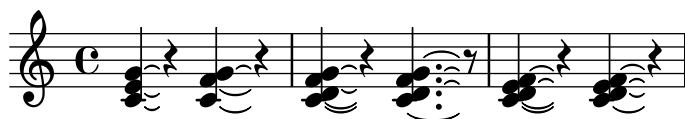
The 'head-direction' of a LaissezVibrerTieColumn should be able to be set without causing a segmentation fault.

`laissez-vibrer-tie-head-direction.ly`



l.v. ties should avoid dots and staff lines, similar to normal ties. They have fixed size. Their formatting can be tuned with `tie-configuration`.

`laissez-vibrer-ties.ly`



Scores may be printed in landscape mode.

`landscape.ly`



The image displays a musical score consisting of 15 staves, numbered 2 through 15. Each staff begins with a treble clef and contains a single quarter note on the first line (F4). The notes are positioned at regular intervals across the staves. At the end of staff 11, there is a measure number '3'. The staves are arranged in two groups: staves 2-5, 7-10, and 11-15.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Inside of output definitions like `\layout` or `\midi`, music is harvested for layout definitions in order to turn them into context modifications.

`layout-from.ly`



A `\layout` block inside a `\paper` block does not error out, and the variables from `\paper` are accessible in `\layout`.



The ledger-extra grob property increases the number of ledger lines drawn, but they are not drawn on top of staff lines.

ledger-extra.ly



When ledgered notes are very close, for example, in grace notes, they are kept at a minimum distance to prevent the ledgers from disappearing.

ledger-line-minimum.ly



Ledger lines are shortened when they are very close. This ensures that ledger lines stay separate.

ledger-line-shorten.ly



Dynamics and other outside staff objects avoid ledger lines.

ledger-lines-dynamics.ly



In some rare cases like these the extents of two ledger lines at the same vertical position in the same note column do not overlap horizontally, and they should not be merged into a single ledger line. See LSR 505: Displaying complex chords <http://lsr.di.unimi.it/LSR/Item?id=505>

ledger-lines-non-merging.ly



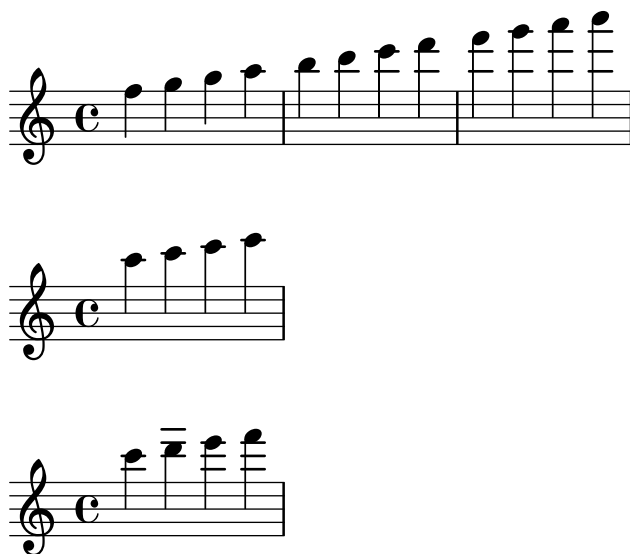
Ledger lines should appear at every other location for a variety of staves using both `line-count` and `line-positions`.

`ledger-lines-varying-staves.ly`



3 ways to customize ledger line positions.

`ledger-positions-customization.ly`



Highly tweaked example of lilypond output

`les-nereides.ly`



# LES NÉRÉIDES

## THE NEREIDS

ARTHUR GRAY

Allegretto scherzando

The musical score is written for piano and violin. The piano part is in the upper system, and the violin part is in the lower system. The key signature is two sharps (F# and C#), and the time signature is common time (C). The tempo is marked "Allegretto scherzando".

**Piano Part:**

- First system: Treble clef, common time. The right hand has a whole rest. The left hand starts with a forte (*f*) dynamic, playing a series of eighth notes. There are two "red." (redaction) marks in the left hand.
- Second system: Treble clef, common time. The right hand has a whole rest. The left hand continues with eighth notes, marked *f*. There are two "red." marks in the left hand.
- Third system: Treble clef, common time. The right hand has a whole rest. The left hand continues with eighth notes, marked *f*. There are two "red." marks in the left hand.
- Fourth system: Treble clef, common time. The right hand has a whole rest. The left hand continues with eighth notes, marked *f*. There are two "red." marks in the left hand.

**Violin Part:**

- First system: Treble clef, common time. The violin part starts with a whole rest. The left hand has a whole rest. The right hand has a whole rest.
- Second system: Treble clef, common time. The violin part starts with a whole rest. The left hand has a whole rest. The right hand has a whole rest.
- Third system: Treble clef, common time. The violin part starts with a whole rest. The left hand has a whole rest. The right hand has a whole rest.
- Fourth system: Treble clef, common time. The violin part starts with a whole rest. The left hand has a whole rest. The right hand has a whole rest.

**Performance Instructions:**

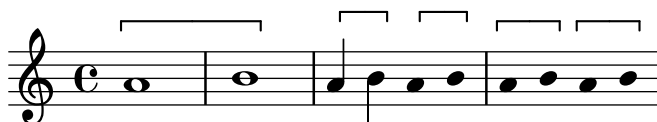
- f*: forte
- m.g.*: mezzo-giochi
- m.d.*: mezzo-dolce
- mf*: mezzo-forte
- rall.*: rallentando
- a tempo*: a tempo

**Other Notations:**

- Two asterisks (\*) are placed below the piano part in the first and third systems.
- Two "red." marks are placed below the violin part in the first and third systems.
- Two "red." marks are placed below the violin part in the second and fourth systems.
- Two "red." marks are placed below the violin part in the third and fifth systems.

Ligature brackets should align to visible or transparent stems only. For stemless notes they should span the whole note width.

`ligature-bracket-X-positions.ly`



The ligature bracket right-end is not affected by other voices.

`ligature-bracket.ly`



LilyPond syntax can be used inside scheme to build music expressions, with the `#{ ... #}` syntax. Scheme forms can be introduced inside these blocks by escaping them with a `$`, both in a LilyPond context or in a Scheme context.

In this example, the `\withpaddingA`, `\withpaddingB` and `\withpaddingC` music functions set different kinds of padding on the `TextScript` grob.

`lily-in-scheme.ly`



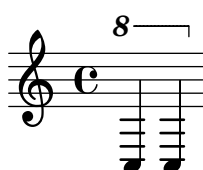
Arrows can be applied to text-spanners and line-spanners (such as the Glissando)

`line-arrows.ly`



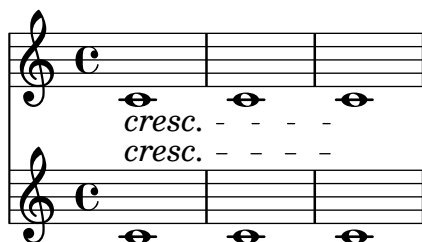
Generate valid postscript even if dash-period is small compared to line thickness.

`line-dash-small-period.ly`



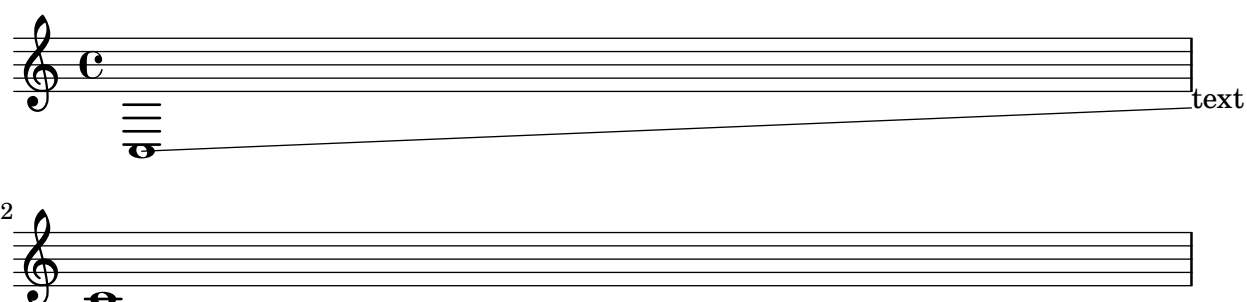
The period of a dashed line is adjusted such that it starts and ends on a full dash.

`line-dashed-period.ly`



The absence of `left` or `right` in the `bound-details` of a line spanner combined with the presence of non-empty `left-broken` or `right-broken` should not cause an error.

`line-spanner-bound-details-right-broken-without-right.ly`



Setting `'zigzag` style for spanners does not cause spacing problems: in this example, the first text markup and zigzag trillspanner have the same outside staff positioning as the second markup and default trillspanner.

`line-style-zigzag-spacing.ly`



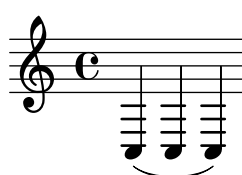
Cover all line styles available.

`line-style.ly`



Test the different loglevels of lilypond. Run this file with `-loglevel=NONE`, `ERROR`, `WARNING`, `PROGRESS`, `DEBUG` to see the different loglevels. The errors are commented out. Comment them in to check the output manually.

`loglevels.ly`



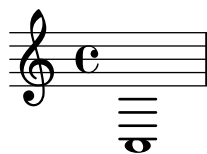
For Voice-derived contexts like CueVoice, the lyrics should still start with the first note.

`lyric-combine-derived-voice.ly`



If lyrics are assigned to a non-existing voice, a warning should be printed. However, if the lyrics context does not contain any lyrics, then no warning should be printed.

lyric-combine-empty-warning.ly



This tests `\lyricsto` as the first element of sequential music.

lyric-combine-in-sequential.ly



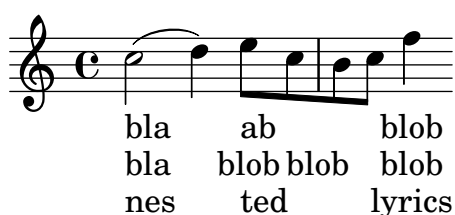
This tests `\lyricsto` as an element of simultaneous music.

lyric-combine-in-simultaneous.ly



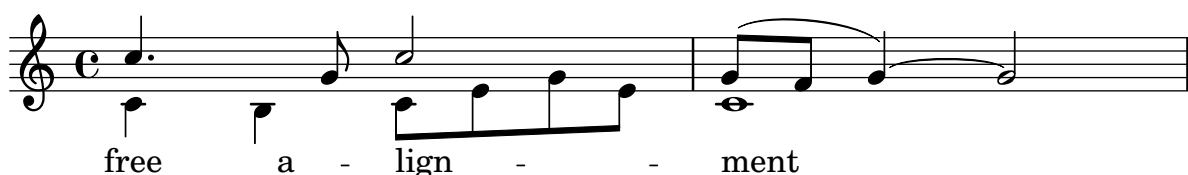
With the `\lyricsto` mechanism, individual lyric lines can be associated with one melody line. Each lyric line can be tuned to either follow or ignore melismata.

lyric-combine-new.ly



Lyrics can be aligned to a `NullVoice` context, which prints no notes, with the usual mechanisms for melismata.

lyric-combine-nullvoice.ly



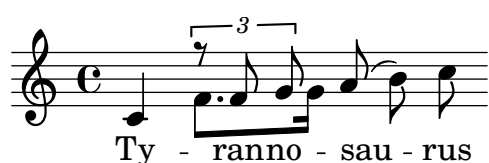
Polyphonic rhythms and rests do not disturb `\lyricsto`.

lyric-combine-polyphonic.ly



Switching the melody to a different voice works even if the switch occurs together with context instantiation.

lyric-combine-switch-new-voice.ly



switching voices in the middle of the lyrics is possible using lyricsto.

lyric-combine-switch-voice.ly

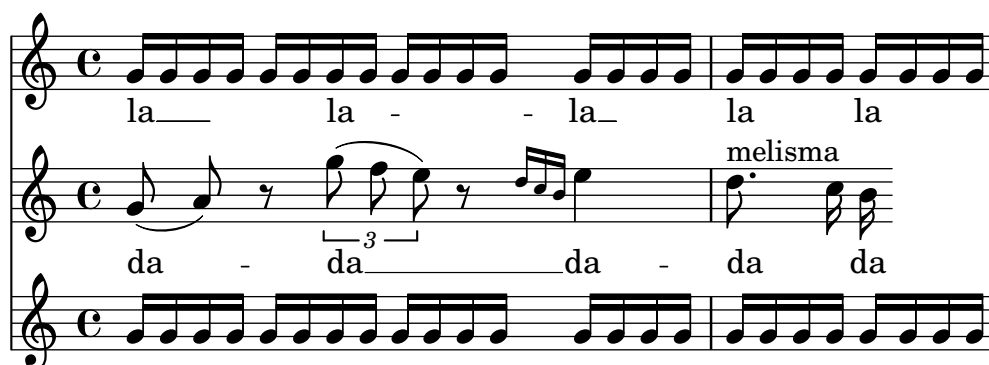


A score with lyrics and no music fails gracefully.

lyric-combine-top-level-no-music.ly

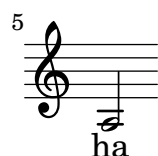
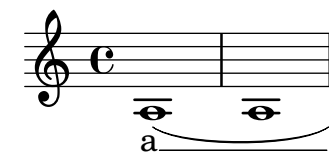
Lyrics can be set to a melody automatically. Excess lyrics will be discarded. Lyrics will not be set over rests. You can have melismata either by setting a property `melismaBusy`, or by setting `automaticMelismas` (which will set melismas during slurs and ties). If you want a different order than first Music, then Lyrics, you must precook a chord of staves/lyrics and label those. Of course, the lyrics ignore any other rhythms in the piece.

lyric-combine.ly



Lyric extenders run to the end of the line if it continues the next line. Otherwise, it should run to the last note of the melisma.

lyric-extender-broken.ly



A LyricExtender should end at the right place even if there are more notes in the voice than lyrics.

lyric-extender-completion.ly



If `includeGraceNotes` is enabled, lyric extenders work as expected also for syllables starting under grace notes.

lyric-extender-includegraces.ly



Extender engraver also notices the lack of note heads. Here the extender ends on the 2nd quarter note, despite the grace note without a lyric attached.

lyric-extender-no-heads.ly



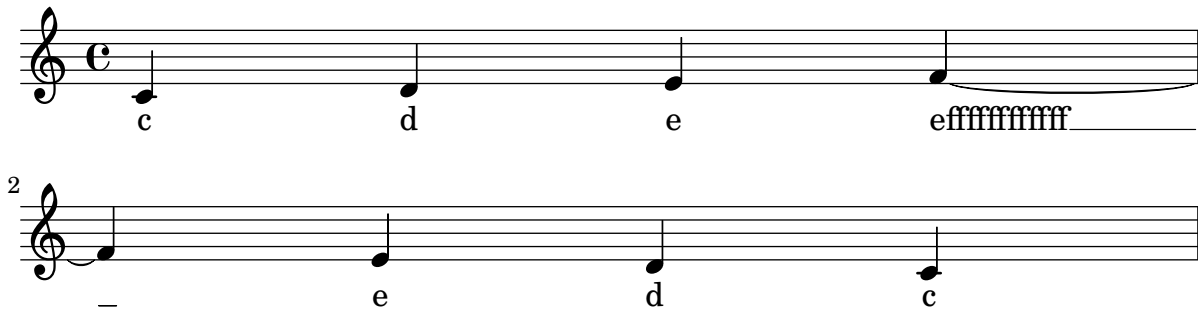
If `extendersOverRests` is set, an extender is not terminated upon encountering a rest.

lyric-extender-rest.ly



Extenders will not protrude into the right margin

lyric-extender-right-margin.ly



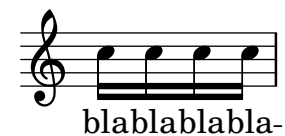
A LyricExtender may span several notes. A LyricExtender does not extend past a rest, or past the next lyric syllable.

lyric-extender.ly



Hyphens are printed at the beginning of the line only when they go past the first note, or when property after-line-breaking is #t.

lyric-hyphen-break.ly



No hyphen should be printed under a grace note at the start of a line if the grace's main note starts a new syllable.

lyric-hyphen-grace.ly

1

2

3

4

The minimum distance between lyrics is determined by the `minimum-distance` of `LyricHyphen` and `LyricSpace`.

The ideal length of a hyphen is determined by its `length` property, but it may be shortened down to `minimum-length` in tight situations. If in this it still does not fit, the hyphen will be omitted.

Like all overrides within `\lyricsto` and `\addlyrics`, the effect of a setting is delayed is one syllable.

lyric-hyphen-retain.ly

syllab word syl-lab word syl-labword

A lyric hyphen or vowel transition may occur anywhere in a sequence of skips. It spans the entire sequence.



lyric-hyphen-skip.ly

x→a      -      b      -      c

x a      -      b————→c

a      -      b      -      c

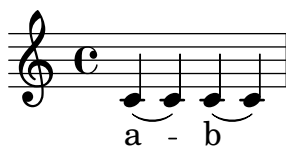
a————→b

a      -      b

a.b

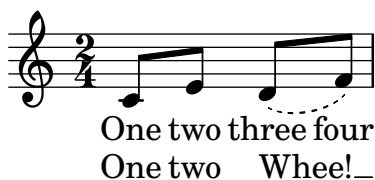
In lyrics, hyphens may be used.

lyric-hyphen.ly



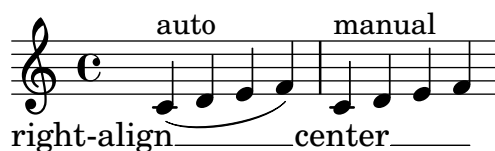
If ignoreMelismata is set, lyrics should remain center-aligned.

lyric-ignore-melisma-alignment.ly



lyricMelismaAlignment sets the default alignment for melismata. It works with both automatic and manual melismata.

lyric-melisma-alignment.ly



Melismata may be entered manually by substituting \_ for lyrics on notes that are part of the melisma.

lyric-melisma-manual.ly



A syllable aligned with a melisma delimited with \melisma and \melismaEnd should be left-aligned.

lyric-melisma-melisma.ly



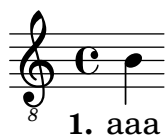
When lyrics are not associated with specific voices, the lyric placement should follow lyric rhythms. In particular, the second syllable here should not be attached to the first note of the first staff.

lyric-no-association-rhythm.ly



Lyrics should still slide under TimeSignature when an OctaveEight is present.

lyric-octave-eight.ly



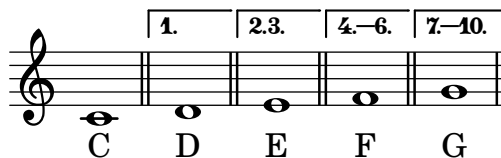
Normally, the lyric is centered on the note head. However, on melismata, the text is left aligned on the left-side of the note head.

lyric-phrasing.ly



No lyric repeat count appears at the end of a volta alternative.

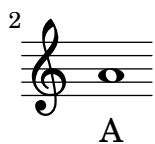
lyric-repeat-count-alternatives.ly



At a line break, a lyric repeat count is visible at the end of the line.

lyric-repeat-count-break.ly

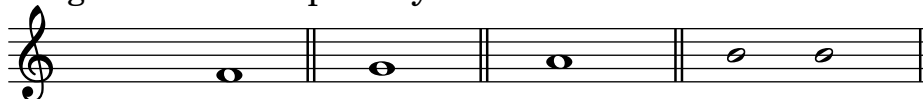




This shows the default format of `LyricRepeatCount` and that it can be overridden.

`lyric-repeat-count-format.ly`

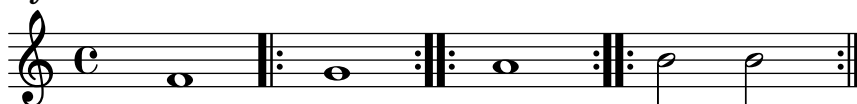
### GregorianTranscriptionLyrics



**default:** Once. *j.* Twice. *ij.* Thrice. *ij.* Four times. *iv.*

**uppercase:** Once. *J.* Twice. *IJ.* Thrice. *IJ.* Four times. *IV.*

### Lyrics

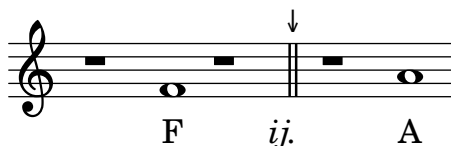


**default:** Once. *j.* Twice. *ij.* Thrice. *ij.* Four times. *iv.*

**silly:** Once. ① Twice. ② Thrice. ③ Four times. ④

A lyric repeat count is placed at the end of a repeated section even when that occurs during a rest. In this test, an arrow marks the expected position of the repeat count.

`lyric-repeat-count-rest.ly`



This tests the default appearance of repeats for modern transcriptions of Gregorian chant. The repeat count appears in the lyric line under the finalis sign (double line) that ends the repeated section, even if the repeat count is 1. The count is an italicized lowercase roman number followed by a period. A final “i” is replaced by “j”.

`lyric-repeat-count.ly`



Lorem. *ij.* Ipsum. *ij.* Dolor. *iv.* Sit. *j.* A-met.



Lorem. Lorem. Ipsum. Ipsum. Ipsum. Dolor. Dolor. Dolor. Dolor. Sit.



Tildes in lyric syllables are converted to tie symbols.

lyric-tie.ly

wa o a

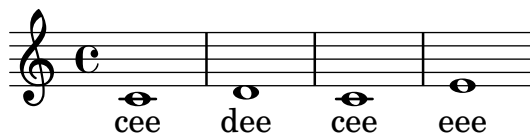
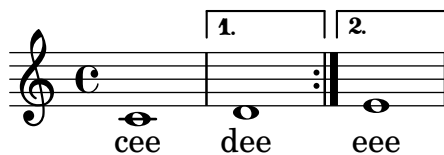
The `\tweak` function can be used in Lyrics.

lyric-tweak.ly

One fish, *two* fish, *red* fish, *blue* fish.

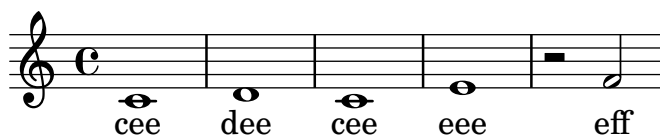
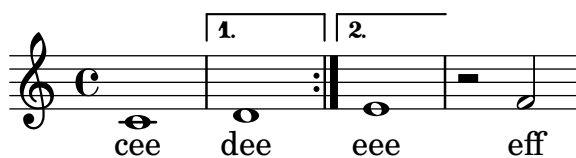
Lyrics can be structured using repeats with alternative endings. This case has a repeat that ends at the end of the score.

lyric-volta-alternative-end.ly



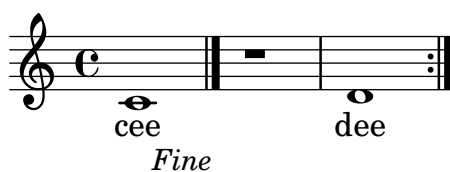
Lyrics can be structured using repeats with alternative endings. This case has a repeat that ends before the end of the score. The volta bracket ends before the rest.

lyric-volta-alternative.ly



Lyrics can be structured using repeats and `\fine`. In the folded output, *Fine* should appear at the end of the first measure.

lyric-volta-fine.ly



Lyrics are ignored for aftergrace notes.

lyrics-after-grace.ly



Lyrics aligned above a context should stay close to that context when stretching. The Bass I lyric line stays with the Bass staff.

lyrics-aligned-above-stay-close-to-staff.ly

## Aligned-above lyrics should stay close to their staff

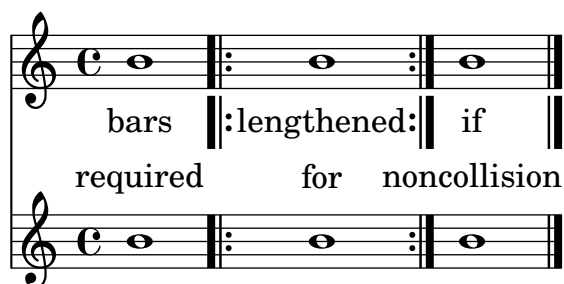
A musical score for two staves, Treble and Bass, in common time. The Treble staff has a key signature of one flat (Bb) and a common time signature 'C'. It contains a half note 'Te', a half note 'nor', and a half note 'ses'. The Bass staff contains a half note 'Te', a half note 'nor', and a half note 'ses'. The lyrics 'Te - - - - nor' and 'Bas - - - - ses' are written above and below the staves respectively. The lyrics are aligned with the notes and stay close to their respective staves.

A musical score for two staves, Treble and Bass, in common time. The Treble staff has a key signature of one flat (Bb) and a common time signature 'C'. It contains a half note 'one!', a half note 'two!', and a half note 'one!'. The Bass staff contains a half note 'one!', a half note 'two!', and a half note 'one!'. The lyrics 'one!' and 'two!' are written above and below the staves respectively. The lyrics are aligned with the notes and stay close to their respective staves.

A musical score for two staves, Treble and Bass, in common time. The Treble staff has a key signature of one flat (Bb) and a common time signature 'C'. It contains a half note 'bove!', a half note 'low!', and a half note 'bove!'. The Bass staff contains a half note 'bove!', a half note 'low!', and a half note 'bove!'. The lyrics 'bove!' and 'low!' are written above and below the staves respectively. The lyrics are aligned with the notes and stay close to their respective staves.

Adding a Bar\_engraver to the Lyrics context makes sure that lyrics do not collide with bar lines.

lyrics-bar.ly



Setting `includeGraceNotes` enables lyric syllables to be assigned to grace notes.

`lyrics-includegraces.ly`



Lyric syllables of widely varying length do not disproportionately affect bar lengths. In this example both scores should fit on one line. The first score's system should not exceed line-width. The bars in the second score's system should be of roughly equal length.

`lyrics-long-syllables.ly`



Melismata are triggered by manual beams. Notes in a melisma take their natural spacing over a long syllable.

`lyrics-melisma-beam.ly`



Lyric syllables without note attachment are aligned correctly even if the paper column is very wide.

`lyrics-no-notes.ly`



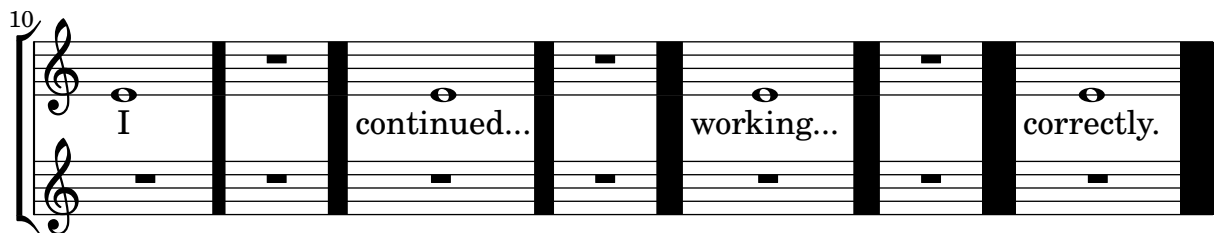
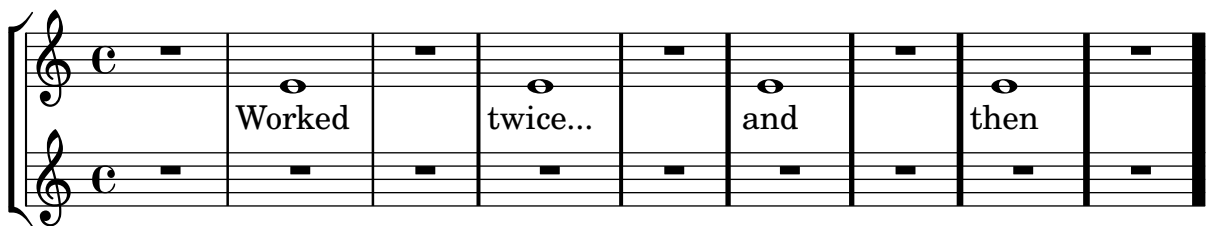
Long lyrics should be allowed to pass under the bar line.

lyrics-pass-under-bar.ly



Empty measures and extraordinary bar-line thickness do not confuse `SpanBarStub`. These lyrics should remain clear of the span bars.

lyrics-spanbar.ly



Lyrics are not lowered despite the presence of a clef transposition (8 below the clef).

lyrics-tenor-clef.ly



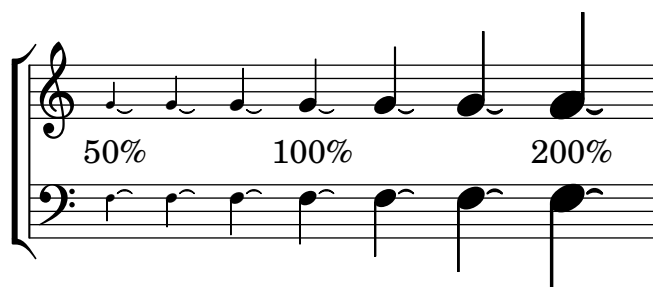
Dot size and beamlet length should be scaled along with notation size when using the `\magnifyMusic` command.

magnifyMusic-dots-beamlets.ly



Laissez vibrer ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

magnifyMusic-laissez-vibrer-ties.ly



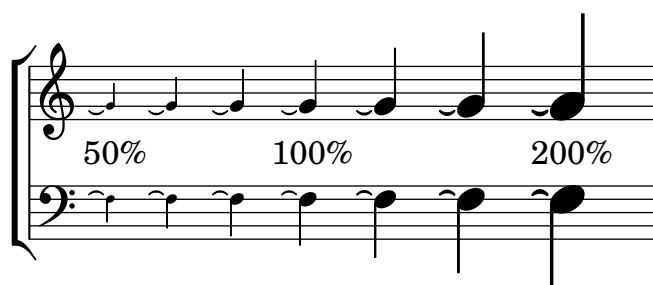
Phrasing slurs should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

`magnifyMusic-phrasing-slurs.ly`



Repeat ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

`magnifyMusic-repeat-ties.ly`



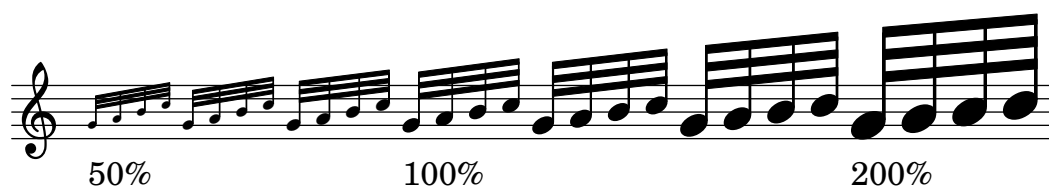
Slurs should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

`magnifyMusic-slurs.ly`



Stem length/thickness, beam spacing/thickness, and horizontal spacing should be scaled along with notation size when using the `\magnifyMusic` command. Stems can get thicker than the default, but not thinner.

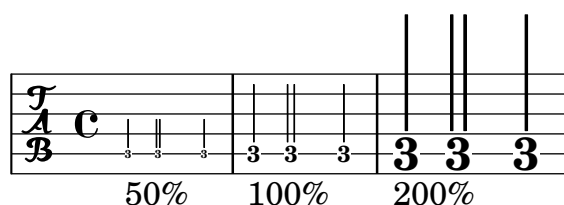
`magnifyMusic-stem-beam-spacing.ly`





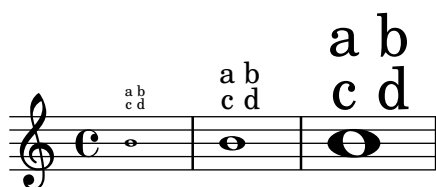
Tablature half-note double-stems should be scaled along with notation size when using the `\magnifyMusic` command.

`magnifyMusic-tablature-double-stems.ly`



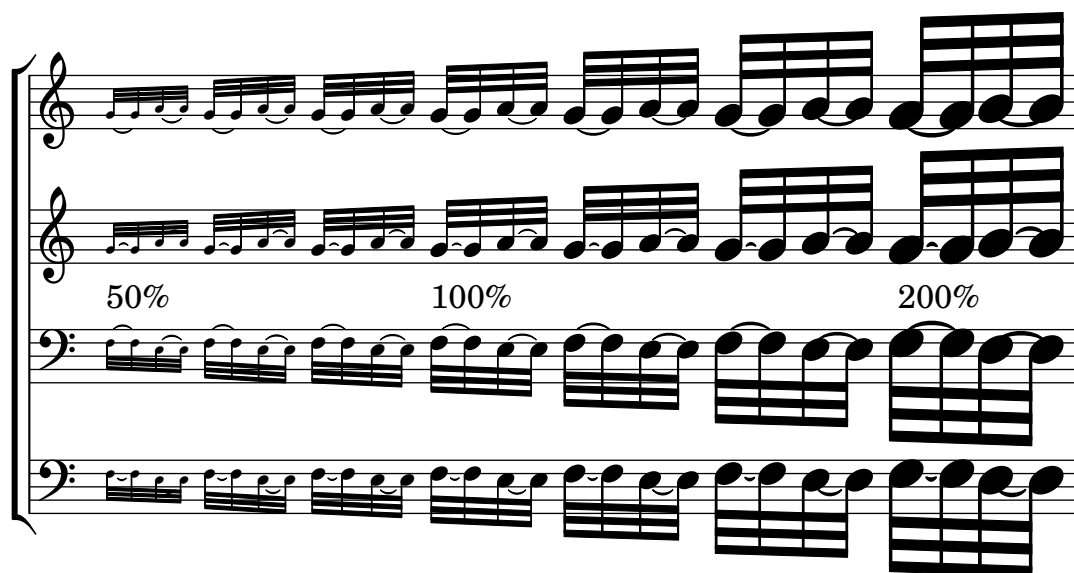
All text-interface grobs should have `baseline-skip` and `word-space` values scaled along with notation size when using the `\magnifyMusic` command.

`magnifyMusic-text-interface.ly`



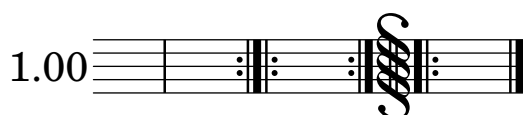
Ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

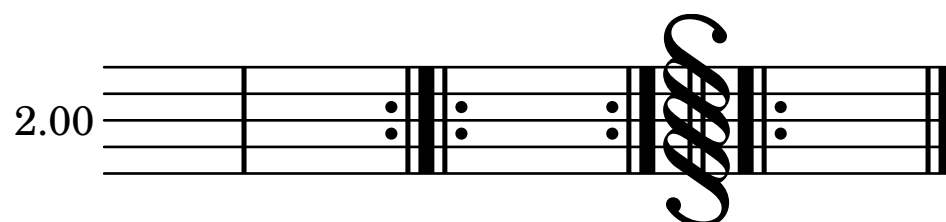
`magnifyMusic-ties.ly`



Bar line thickness and spacing should be scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-bar-lines.ly`





Dot size and beamlet length should be scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-dots-beamlets.ly`



`\magnifyStaff` also works for Dynamics contexts. This test should print a huge forte dynamic.

`magnifyStaff-dynamics.ly`



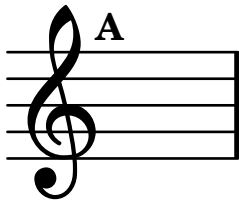
In a piece with a single, magnified staff, the presence of a bar number does not affect spacing from the left edge. The clefs in the two systems should appear the same distance from the left edge.

`magnifyStaff-left-edge-bar-number.ly`



In a piece with a single, magnified staff, the presence of a rehearsal mark does not affect spacing from the left edge. The clefs in the two systems should appear the same distance from the left edge.

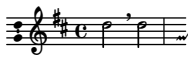
`magnifyStaff-left-edge-rehearsal-mark.ly`



`space-alist` values should be scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-space-alist.ly`

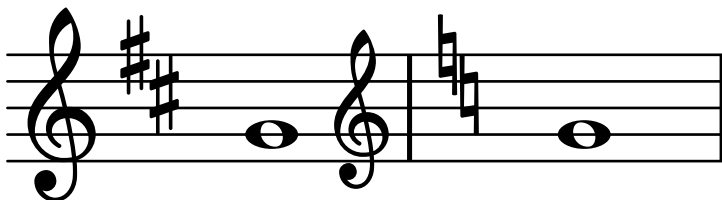
0.50:



1.00:

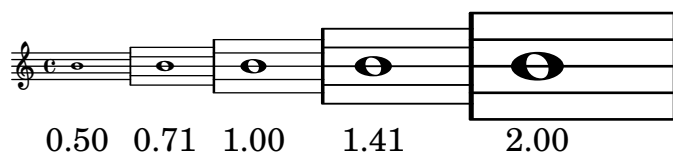


2.00:



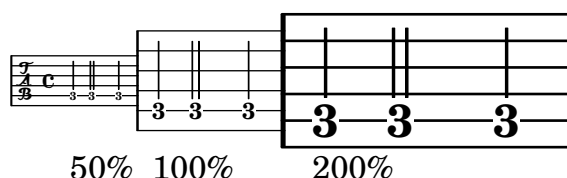
Staff line thickness should be scaled along with staff size when using the `\magnifyStaff` command. Staff lines can get thicker than the default, but not thinner.

`magnifyStaff-staff-line-thickness.ly`



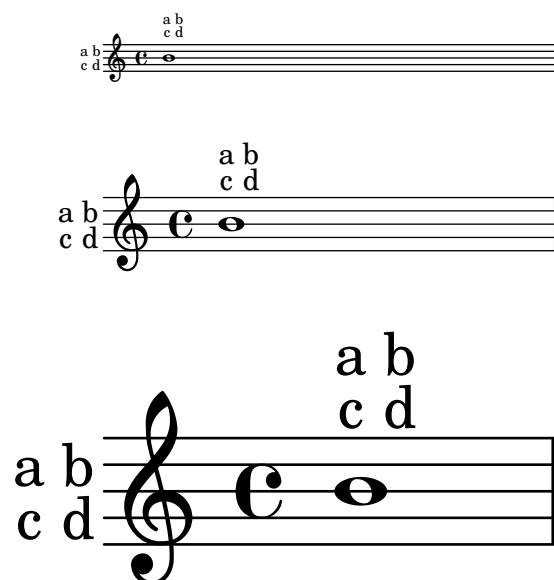
Tablature half-note double-stems should be scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-tablature-double-stems.ly`



All text-interface grobs that are within the Staff context should have `baseline-skip` and `word-space` values scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-text-interface.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`makam-accidental-glyphs.ly`

All #



#

`make-relative` has to copy its argument expressions in case the generated music expression is getting copied and modified.

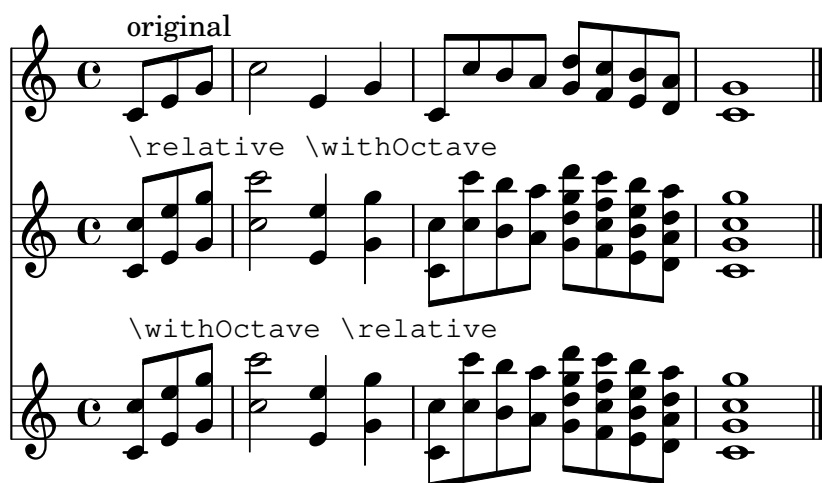
The code here defines a `\reltranspose` function working inside of `\relative` and uses it. Both staves should appear identical.

`make-relative-copies.ly`



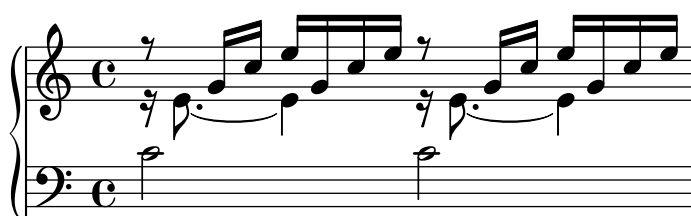
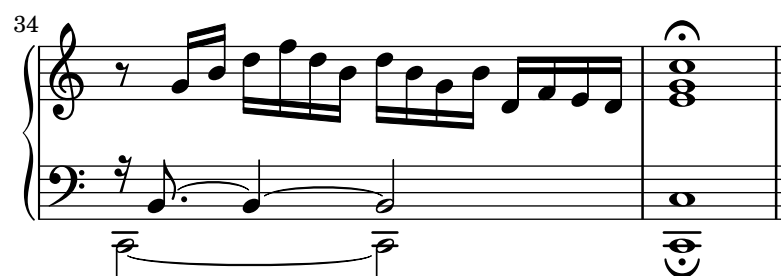
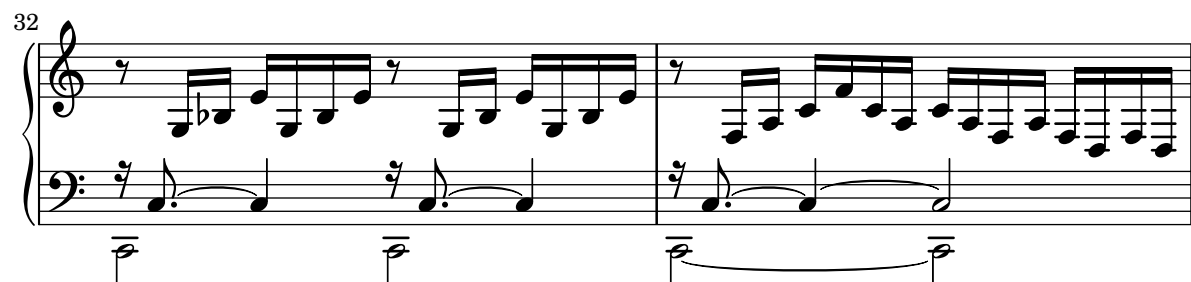
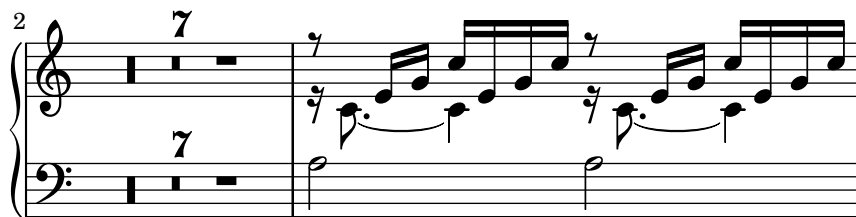
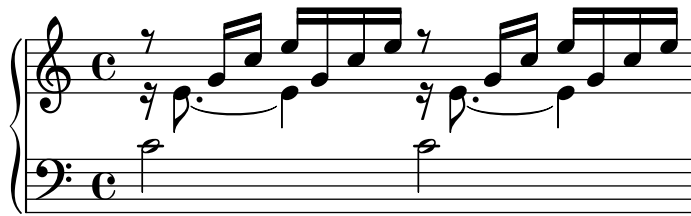
`make-relative` can make relativization on music function calls behave as one would expect from looking at the function's arguments rather than at the actually resulting expressions. This regtest defines an example function `\withOctave` which works equally well inside and outside of `\relative`.

`make-relative-music.ly`



`make-relative` is a Scheme utility macro mainly useful for creating music functions accepting pitches as arguments. Its purpose is to make music functions taking pitch arguments for producing complex music fragments integrate nicely within a `\relative` section. This regtest typesets a short music fragment twice, once without using `\relative`, once using it. The fragment should appear identical in both cases.

make-relative.ly



The image displays four systems of musical notation for piano, each consisting of a grand staff (treble and bass clefs).  
 System 1: Starts with a measure containing a fermata and a '7' dynamic marking. The second measure features a complex rhythmic pattern with eighth and sixteenth notes.  
 System 2: Begins with a measure containing a fermata and a '7' dynamic marking. The second measure has a complex rhythmic pattern. The system concludes with a double bar line and a '21' dynamic marking.  
 System 3: Starts with a measure containing a fermata and a '7' dynamic marking. The second measure has a complex rhythmic pattern. The system concludes with a double bar line and a '21' dynamic marking.  
 System 4: Starts with a measure containing a fermata and a '7' dynamic marking. The second measure has a complex rhythmic pattern. The system concludes with a double bar line and a '21' dynamic marking.

When the break-align-symbols property is given as a list, the alignment depends on which symbols are visible.

mark-align-priority.ly

The image shows a single staff of music with various symbols placed above it: 'clef', 'clef', 'key', and 'bar'. The symbols are aligned with the corresponding musical elements on the staff.

Marks still align correctly if Mark\_engraver is moved to Staff context.

mark-align-staff-context.ly

The image shows a single staff of music with various symbols placed above it: 'foo', 'on-key', and 'on clef'. The symbols are aligned with the corresponding musical elements on the staff.

Text\_mark\_engraver may be moved to staff-group contexts. Five marks should appear in black above the second staff from the top. The same marks should appear in red above the third staff from the top.

mark-align-staff-group-context.ly

LilyPond issues warnings when `\mark markup` conflicts with certain other simultaneous marks, and engraves only the first.

Marks 1! to 3! should appear alone. Marks 4! to 8! should appear with various performance marks.

mark-tracking-conflict-ad-hoc-mark.ly

LilyPond issues warnings when `\codaMark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Coda marks 1 to 3 should appear with various rehearsal marks. Coda marks 4 to 6, 8, and 9 should appear alone.

mark-tracking-conflict-default-coda-mark.ly

LilyPond issues warnings when `\mark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Rehearsal marks 1, 2, and 4 should appear alone. Rehearsal marks 5 to 9 should appear with various performance marks.

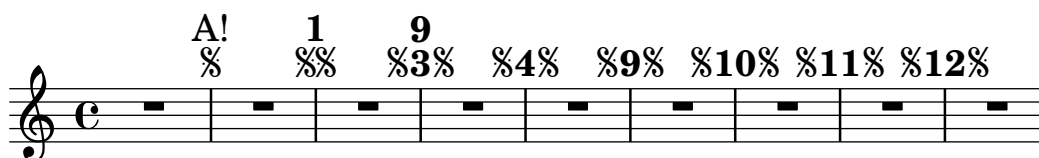
mark-tracking-conflict-default-rehearsal-mark.ly



LilyPond issues warnings when `\segnoMark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Segno marks 1 to 3 should appear with various rehearsal marks. Segno mark 4 and then 9 to 12 should appear alone.

mark-tracking-conflict-default-segno-mark.ly



LilyPond issues warnings when `\sectionLabel` conflicts with certain other simultaneous marks, and engraves only the first.

Section labels 1! to 3! should appear with various rehearsal marks. Section labels 4! to 8! should appear alone.

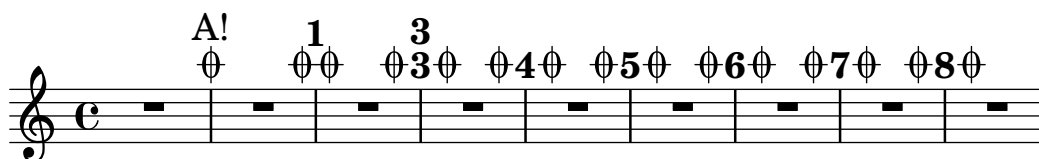
mark-tracking-conflict-section-label.ly



LilyPond issues warnings when `\codaMark n` conflicts with certain other simultaneous marks, and engraves only the first.

Coda marks 1 to 3 should appear with various rehearsal marks. Coda marks 4 to 8 should appear alone.

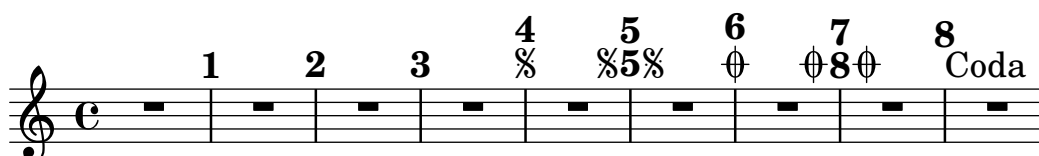
mark-tracking-conflict-specific-coda-mark.ly



LilyPond issues warnings when `\mark n` conflicts with certain other simultaneous marks, and engraves only the first.

Rehearsal marks 1 to 3 should appear alone. Rehearsal marks 4 to 9 should appear with various performance marks.

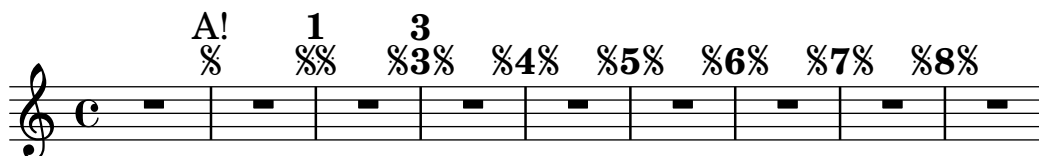
mark-tracking-conflict-specific-rehearsal-mark.ly



LilyPond issues warnings when `\segnoMark n` conflicts with certain other simultaneous marks, and engraves only the first.

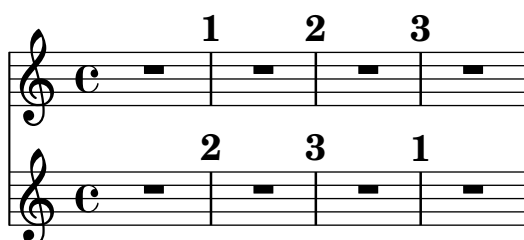
Segno marks 1 to 3 should appear with various rehearsal marks. Segno marks 4 to 8 should appear alone.

mark-tracking-conflict-specific-segno-mark.ly



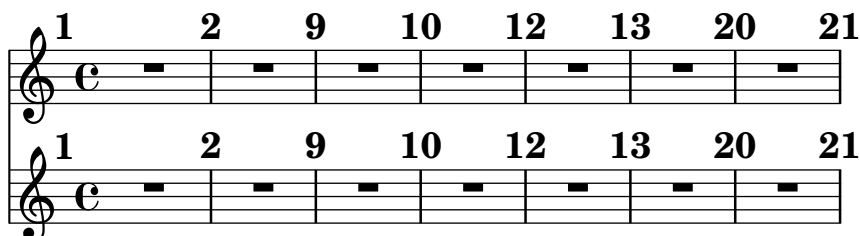
Mark\_tracking\_translators operate independently in independent contexts. The upper staff has marks 1, 2, and 3. The lower staff has marks 2, 3, and 1 at the same points.

mark-tracking-context.ly



The Mark\_tracking\_translator manages one rehearsal-mark sequence for (potentially) many Mark\_engravers. The expected marks on both staves are these: 1, 2, 9, 10, 12, 13, 20, 21.

mark-tracking-sequence.ly



The feta font has arrow heads

markup-arrows.ly

► ◄ ▲ ▼ ➤ ➥ ⤵ ⤴

The explicit directional embedding codes, U+202A and U+202B, are supported in single-line markup strings. The embeddings must be terminated with the pop directional formatting character, U+202C.

markup-bidi-explicit-embedding.ly

אבה אבה "ABC" אבה אבה  
אבה אבה "ABC!" אבה אבה

abc def "אבה!" ghi jkl!  
abc def "אבה!" ghi jkl!

The explicit directional override codes, U+202D and U+202E, are supported in single-line markup strings. The overrides must be terminated with the pop directional formatting character, U+202C.

```
markup-bidi-explicit-overrides.ly
```

```
אבג דהו זחט יךכ  
כרי טחז והד גבא
```

```
abc def ghi jkl  
lkj ihg fed cba
```

The implicit directional marks, U+200E and U+200F, are supported in single-line markup strings.

```
markup-bidi-implicit-marks.ly
```

```
אבה "!ABC" אבה  
אבה "ABC!" אבה
```

```
abc "אבה!" def  
abc "!אבה" def
```

A single Pango string is processed according to the Unicode Bidirectional Algorithm. The strong Hebrew characters in this example are set right-to-left, and the Latin numerals, space character, and punctuation are set according to the rules of the algorithm.

```
markup-bidi-pango.ly
```

```
ללל1ללל, רר2רר.
```

If `\left-brace` or `\right-brace` cannot find a match for the given point size, it should default gracefully to either `brace0` or `brace575` and display a warning.

```
markup-brace-warning.ly
```

```
{
```

The markup command `\left-brace` selects a `fetaBraces` glyph based on point size, using a binary search. `\right-brace` is simply a `\left-brace` rotated 180 degrees.

```
markup-braces.ly
```

```
{ }
```

Text markup using `center-column` shall still reserve space for its whole width and not overwrite the previous stencil.

```
markup-center-align-nocollision.ly
```

```
XXX + XXX  
Y      Y
```

Fixed horizontal alignment of columns of text can be set using `\left-column`, `\center-column` and `\right-column`.

```
markup-column-align.ly
```

one	one	one
two	two	two
three	three	three

test various markup commands.

markup-commands.ly



foo **foo** LOWER                    **normal** normal Small-Caps SMALL-CAPS

LOWER

justify:

This is a field containing text. Blah blah blah. This  
is a field containing text. Blah blah blah. This is a  
field containing text. Blah blah blah. This is a field  
containing text. Blah blah blah. This is a field  
containing text. Blah blah blah.

wordwrap:

This is a field containing text. Blah blah blah.  
This is a field containing text. Blah blah blah.  
This is a field containing text. Blah blah blah.  
This is a field containing text. Blah blah blah.  
This is a field containing text. Blah blah blah.

draw-line:



underlined

multiple underlines

The `\compound-meter` markup command can produce various kinds of numeric time signature.

markup-compound-meter.ly

These are conventional time signatures:  $3 \frac{3}{4}$   $\frac{4}{4}$  (Aren't they pretty?)

This is single-digit compound time signature:  $2 + 3$  (Isn't it pretty?)

This is an unusual time signature:  $6.22e23 + \frac{4}{3} + 3.14 + \frac{9876}{0} + 5432 + \frac{1}{1}$  (Isn't it pretty?)

Test markup commands used for conditional constructs. See also `markup-conditionals-single-page.ly`.

markup-conditionals-several-pages.ly

---

1

Very first page only

Part first page only

Everywhere

**New part**



---

2

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



---

3

Part last page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



---

4

Part first page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page

**New part**



---

5

Page 5 only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page




---

6

Very last page only

Part last page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Test markup commands used for conditional constructs. See also `markup-conditionals-several-pages.ly`.

`markup-conditionals-single-page.ly`

Printed because there is a single page.

Also printed, because `print-all-headers` is `true`.



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Cyclic markup definitions should cause a warning, but not crash LilyPond with an endless loop

`markup-cyclic-reference.ly`

Markups have a maximum depth to prevent non-termination.

`markup-depth-non-terminating.ly`

#### Test:

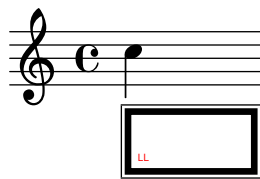
Diacritic marks are rendered and positioned correctly. The diacritic on line 1 looks like a lower-underline and is centered beneath the main character. The diacritic on line 2 is positioned to the left of the main character, with a tiny space of separation. The diacritic on line 3 is positioned directly above the main character, either centered or shifted slightly to the left.

`markup-diacritic-marks.ly`

ᵀ  
ᵀ  
ᵀ

The epsfile markup command reads an EPS file

`markup-eps.ly`



The eyeglasses markup function prints out eyeglasses.

`markup-eyeglasses.ly`



The markup command `\first-visible` uses the first argument that produces a non-empty stencil and ignores the rest.

The expected markup on this score is "Lame Songs for Testing" followed by a "C" time signature symbol.

`markup-first-visible.ly`

*Lame Songs for Testing* **C**



No elements:

One element (expect 111): 111

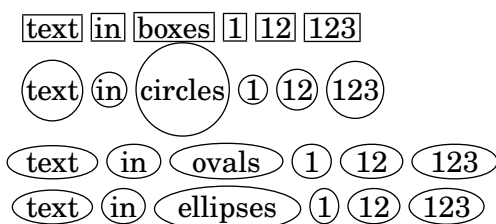
Single markup list (expect aaa): aaa

Multiple markup lists (expect ccc): ccc

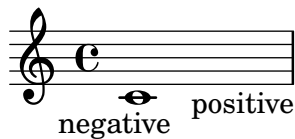
Mixed markup and markup lists (expect fff): fff

Nested markup lists (expect jjj): jjj

Text is framed properly with `\box`, `\circle`, `\oval` and `\ellipse`  
`markup-frame-text.ly`



Text markup using `\hspace` with positive and negative arguments.  
`markup-hspace.ly`



A warning is emitted when a markup command does not return a stencil as it should.  
`markup-invalid-stencil.ly`



The markup-commands `\draw-dashed-line`, `\draw-dotted-line` and `\draw-squiggle-line` should print the same visual length as `\draw-line`. Also testing possible overrides for `\draw-squiggle-line`

`markup-line-styles.ly`

```

· \draw-dotted-line #(0.0 . 0)
· \draw-dashed-line #(0.0 . 0)
· \draw-line #(0.0 . 0)

· · \draw-dotted-line #(0.75 . 0)
· · \draw-dashed-line #(0.75 . 0)
· · \draw-line #(0.75 . 0)

· · · \draw-dotted-line #(1.5 . 0)
· · · \draw-dashed-line #(1.5 . 0)
· · · \draw-line #(1.5 . 0)

```



```

\draw-dotted-line #'(2.25 . 0)
\draw-dashed-line #'(2.25 . 0)
\draw-line #'(2.25 . 0)

```

```

\draw-dotted-line #'(3.0 . 0)
\draw-dashed-line #'(3.0 . 0)
\draw-line #'(3.0 . 0)

```

```

\draw-dotted-line #'(3.75 . 0)
\draw-dashed-line #'(3.75 . 0)
\draw-line #'(3.75 . 0)

```

```

\draw-dotted-line #'(4.5 . 0)
\draw-dashed-line #'(4.5 . 0)
\draw-line #'(4.5 . 0)

```

```

\draw-dotted-line #'(5.25 . 0)
\draw-dashed-line #'(5.25 . 0)
\draw-line #'(5.25 . 0)

```

```

\draw-dotted-line #'(6.0 . 0)
\draw-dashed-line #'(6.0 . 0)
\draw-line #'(6.0 . 0)

```

```

\draw-dotted-line #'(6.75 . 0)
\draw-dashed-line #'(6.75 . 0)
\draw-line #'(6.75 . 0)

```

```

\draw-dotted-line #'(7.5 . 0)
\draw-dashed-line #'(7.5 . 0)
\draw-line #'(7.5 . 0)

```

```

\draw-dotted-line #'(8.25 . 0)
\draw-dashed-line #'(8.25 . 0)
\draw-line #'(8.25 . 0)

```

```

\draw-dotted-line #'(9.0 . 0)
\draw-dashed-line #'(9.0 . 0)
\draw-line #'(9.0 . 0)

```

```

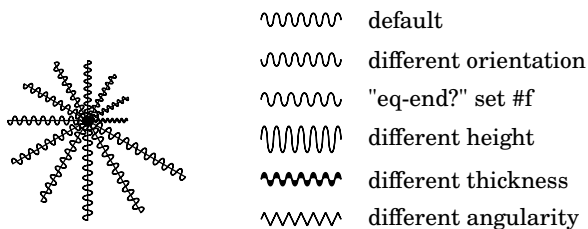
\draw-dotted-line #'(9.75 . 0)
\draw-dashed-line #'(9.75 . 0)
\draw-line #'(9.75 . 0)

```

```

\draw-dotted-line #'(10.5 . 0)
\draw-dashed-line #'(10.5 . 0)
\draw-line #'(10.5 . 0)

```



The thickness setting between markup lines and other lines is consistent.  
`markup-line-thickness.ly`



Text that can spread over pages is entered with the `\markuplist` command. It can be assigned to a variable and inserted at top-level with or without preceding it by `\markuplist`.

`markup-lines-identifier.ly`

Lorem ipsum dolor sit amet, consectetur adipisicing elit,

sed eiusmod tempor incididunt ut labore et dolore

magna aliqua. ...

Lorem ipsum dolor sit amet, consectetur adipisicing elit,

sed eiusmod tempor incididunt ut labore et dolore

magna aliqua. ...

Text that can spread over pages is entered with the `\markuplist` command. Widowed and orphaned lines are avoided at the beginning and end of a `\markuplist` containing more than one line.

`markup-lines.ly`

Il y avait en Westphalie, dans le château de M. le baron de Thunder-ten-tronckh, un jeune garçon à qui la nature avait donné les mœurs les plus douces. Sa physionomie annonçait son âme. Il avait le jugement assez droit, avec l'esprit le plus simple ; c'est, je crois, pour cette raison qu'on le nommait Candide. Les anciens domestiques de la maison soupçonnaient qu'il était fils de la sœur de monsieur le baron et d'un bon et honnête gentilhomme du voisinage, que cette demoiselle ne voulut jamais épouser parce qu'il n'avait pu prouver que soixante et onze quartiers, et que le reste de son

2  
 arbre généalogique avait été perdu  
 par l'injure du temps. (not orphaned)

Monsieur le baron était un des plus  
 puissants seigneurs de la Westphalie,  
 car son château avait une porte et des  
 fenêtres. Sa grande salle même était  
 ornée d'une tapisserie. Tous les  
 chiens de ses basses-cours  
 composaient une meute dans le  
 besoin ; ses palefreniers étaient ses  
 piqueurs; le vicaire du village était  
 son grand-aumônier. Ils l'appelaient  
 tous monseigneur, et ils riaient quand  
 il faisait des contes.

3

Madame la ... (may be orphaned)

This concatenates the same markup list several times.  
 markup-list-append.ly

Test Test Test .

`\markupMap` can be used for applying a markup function to music properties throughout a  
 music expressions, like the `text` of all contained lyric events.

markup-map.ly



Reset fontname for musicglyph. For unknown glyphs, we print a warning.  
 markup-music-glyph.ly



A dotted whole note displayed via the `\note` command must separate the note head and the  
 dot. The dot avoids the upflag.

markup-note-dot.ly



In the `\note` markup command, the position of dots may be changed.

`markup-note-dots-direction.ly`

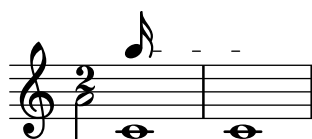
Default:

Dots shifted up:




The `'style` property from grobs such as `TimeSignature` and `TextSpanner` does not affect the default note head style for `\note` and `\note-by-number`.

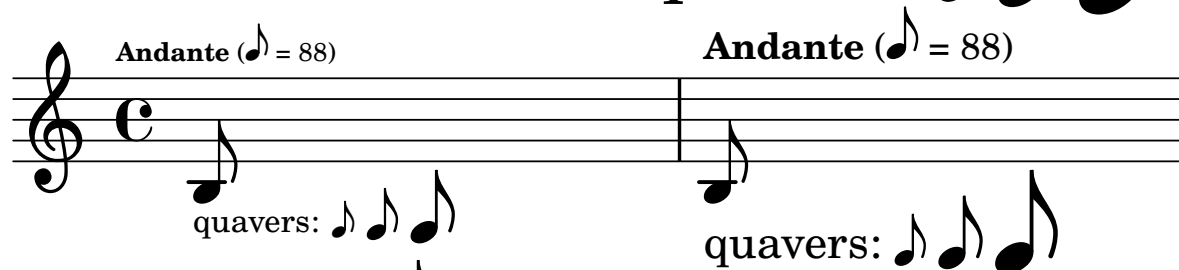
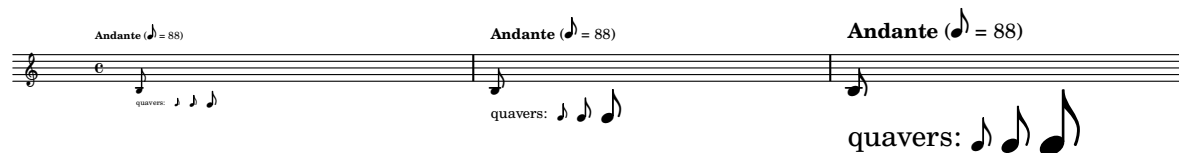
`markup-note-grob-style.ly`



The `note-by-number` markup-command is robust with all kinds of size changings. For every `Stem` the vertical length and thickness prints reasonable.

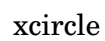
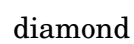
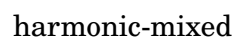
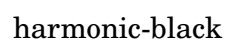
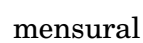
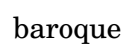
`markup-note-sizes.ly`

toplevel markup in \book: quavers: 

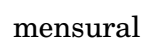


markup-note-styles.ly

default



default



Old-straight-flag:

default

Flat-flag:

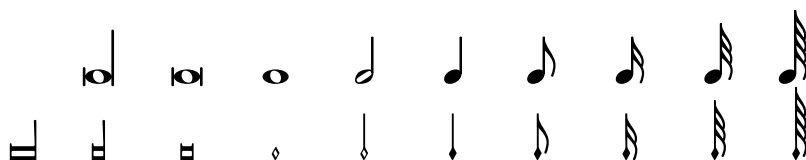
default

default-flag:

default



mensural



The note markup function may be used to make metronome markings. It works for a variety of flag, dot and duration settings.


markup-note.ly



Partial markups acts as a chain of markup commands where everything but some arguments of the final markup command has already been supplied.

markup-partial.ly

**Bold red.**

**Bold****red****in****a****list.***Italic green.**Italic**green**in**a**list.*3/8: .

The `\path` markup command supports the `filled` property to toggle its fill.

`markup-path-fill.ly`



The `\path` markup command supports the `line-cap-style` property with values of `butt`, `round`, and `square`.

`markup-path-linecap.ly`



The `\path` markup command supports the `line-join-style` property with values of `bevel`, `round`, and `miter`.

`markup-path-linejoin.ly`





The `\path` markup command allows the user to draw arbitrary paths using a simple syntax. The two paths below should be identical.

`markup-path.ly`



The markup function `\rest` supports all rest styles.

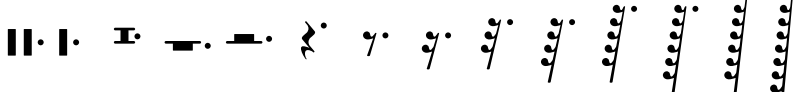

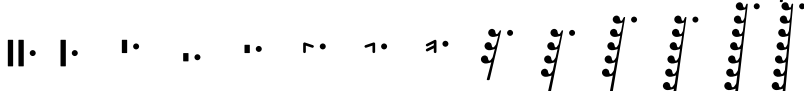
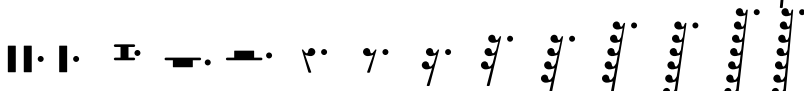
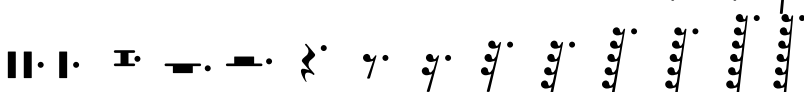
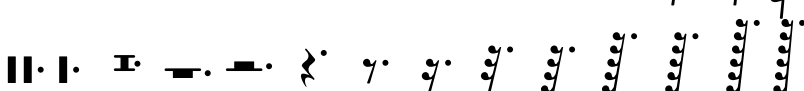

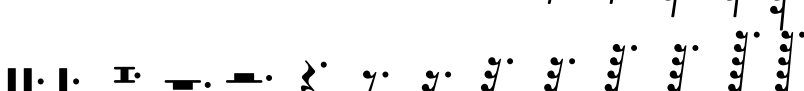
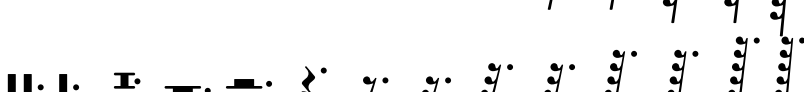
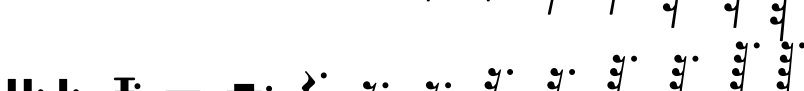
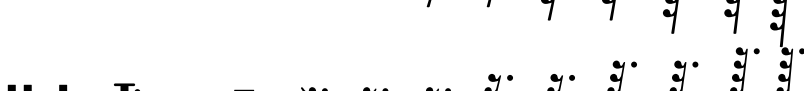
`markup-rest-styles.ly`

default	
mensural	
neomensural	
classical	
baroque	
altdefault	
petrucci	
blackpetrucci	
semipetrucci	
kievan	
z	

The rest markup function works for a variety of style, dot and duration settings. Printing symbols for `MultiMeasureRest` is supported.

`markup-rest.ly`

### Simple Rests by rest-markup

default	
mensural	
neomensural	
classical	
baroque	
altdefault	
petrucci	
blackpetrucci	
semipetrucci	
kievan	
z	

**MultiMeasureRests** by rest-markup: church-rests and line-style


church-rests

		2	3	4	5	6	7	8	9	10
default	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
mensural	·	·	·		·	·	·		·	·
neomensural	·	·	·		·	·	·			
classical	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
baroque	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
altdefault	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
petrucci	·	·	·		·	·	·		·	·
blackpetrucci	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
semipetrucci	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆
kievan	—	2	3	4	5	6	7	8	9	10
	—	┆	┆—	┆	┆—	┆┆	┆┆—	┆┆	┆┆—	┆┆┆

line-style

default	<div>11</div>	<div>18</div>	<div>45</div>
---------	---------------	---------------	---------------

The output of `\markup \rhythm` scales with font size automatically.  
`markup-rhythm-font-size.ly`

A syncopation: 

A syncopation: 

A syncopation: 

`\markup \rhythm` is not affected by switching off `ragged-right` globally.  
`markup-rhythm-ragged.ly`



Settings can be applied to `\markup \rhythm`, either using music commands in the music argument, or using a `\layout` block.

`markup-rhythm-tweaking.ly`



`\markup \rhythm` draws a standalone rhythmic pattern. All beaming is explicit.

`markup-rhythm.ly`



There is a Scheme macro `markup` to produce markup texts using a similar syntax as `\markup`.

`markup-scheme.ly`

`\markup \score` displays all systems. Spacing between systems is set using `baseline-skip`.

`markup-score-multi-system.ly`



Use `\score` block as markup command.

`markup-score.ly`

## Solo Cello Suites

### Suite IV





A list of special character ASCII aliases can be easily included. This works for markups and lyrics.

`markup-special-characters.ly`

### Markup example:

Input:

`&numero;2 &ndash; &OE;dipe&hellip;`

Output:

*Nº2 – Ædipe...*

### Lyric example:

Ceffez Infidèles, un cœur innocent ne craint rien ;

It works to splice an empty list inside markup.

`markup-splice-empty-list.ly`

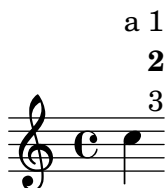
**a b**

a

b

Markup scripts may be stacked.

`markup-stack.ly`



The markup list command `\string-lines` splits a given string at line break characters and drops surrounding whitespace from the resulting strings. Other splitting points may be achieved by overriding the `split-char` property.

`markup-string-lines.ly`



The markup commands `\wordwrap` and `\justify` produce simple paragraph text.  
`markup-word-wrap.ly`

this is normal text This is a test of the wordwrapping function. 1 This is a test continuing  
of the wordwrapping function. 2 This is a test of the  
wordwrapping function. 3 This is a test of the  
wordwrapping function. 4 1a111 11111 **22222** 2222

this is normal text This is a test of the wordwrapping continuing  
function, but with justification. 1 This is  
a test of the wordwrapping function, but  
with justification. 2 This is a test of <sup>a</sup>/<sub>b</sub> the  
wordwrapping function, but with  
justification. 3 This is a test of the  
wordwrapping function, but with  
justification. bla bla

Om mani padme hum Om mani padme Om mani padme hum Om mani padme  
hum Om mani padme hum Om mani hum Om mani padme hum Om mani  
padme hum Om mani padme hum Om padme hum Om mani padme hum Om  
mani padme hum Om mani padme mani padme hum Om mani padme hum  
hum Om mani padme hum. Om mani padme hum.  
Gate Gate paragate Gate Gate Gate Gate paragate Gate Gate paragate  
paragate Gate Gate paragate Gate Gate Gate paragate Gate Gate paragate  
Gate paragate Gate Gate paragate Gate Gate paragate.  
Gate Gate paragate.

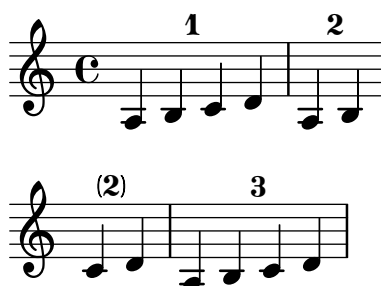
Measure counters follow alternative numbering when active. This also works with compressed  
multi-measure rests.

`measure-counter-alternative-numbering.ly`

The image displays two musical staves with multi-measure rests and alternative numbering. The top staff is labeled with measure counters: 1-3, 4, 4-5, 6a, 7a, 6b, 6c-7c, 8, and 8-10. The bottom staff is labeled with measure counters: 1-3, 4, 4-5, 6a, 6a, 7a, 7a, 6b, 6b, 6c, 8, and 8-10. Both staves use multi-measure rests and are numbered with alternative counters.

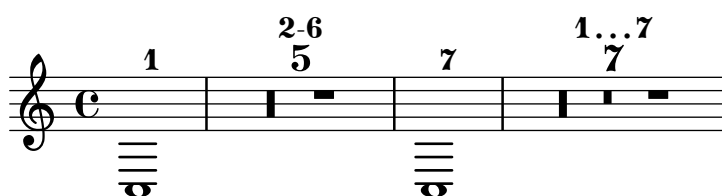
Measures split across line breaks may be numbered in a measure count. Each segment  
receives a number. The first number has its ordinary appearance, but numbers after the break  
are enclosed in parentheses.

measure-counter-broken.ly



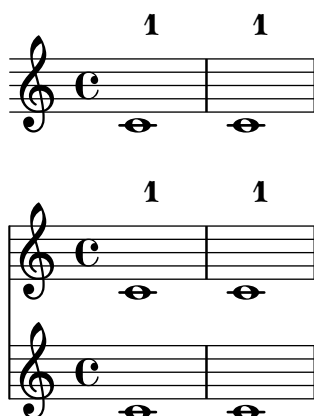
When a measure counter extends over a compressed multi-measure rest, it displays the full measure range. By default, the two measure numbers in the range are dash-separated; this is configurable.

measure-counter-compressed-mmrest.ly



`\startMeasureCount` and `\stopMeasureCount` coming in the same time step in this order do not cause a warning.

measure-counter-event-order.ly



Measure counts are not confused by grace notes.

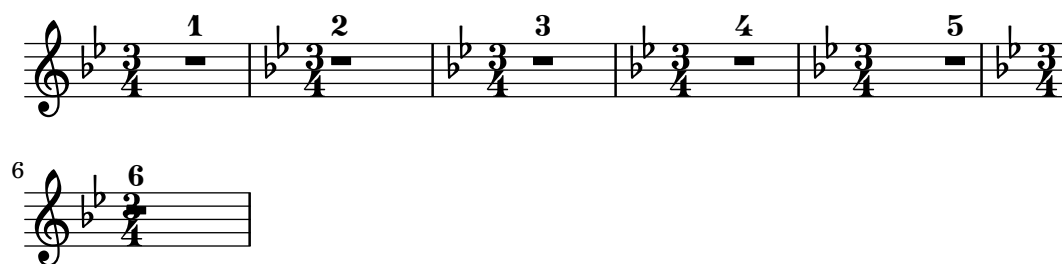
measure-counter-grace.ly



The `spacing-pair` property may be used to adjust the horizontal positioning of `MeasureCounter` objects relative to prefatory material. In the following example, the count should be aligned with the full-measure rests.

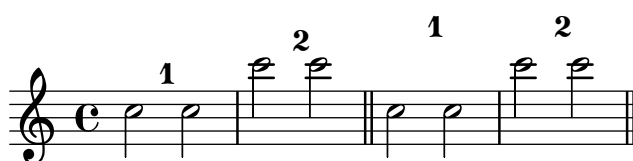
measure-counter-spacing-pair.ly





The `staff-padding` property may be used to adjust the distance of `MeasureCounter` objects from the staff. The following example uses `staff-padding` to align the count vertically.

`measure-counter-staff-padding.ly`



Measures can be numbered sequentially by enclosing them with `\startMeasureCount` and `\stopMeasureCount`.

`measure-counter.ly`



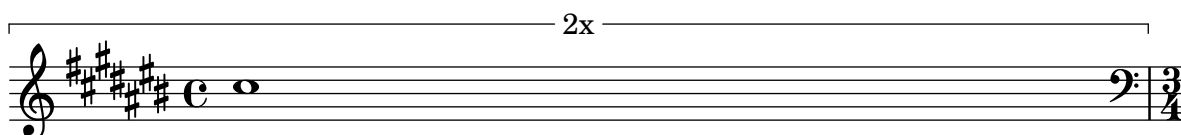
The `Measure_grouping_engraver` adds triangles and brackets above beats when the beats of a time signature are grouped.

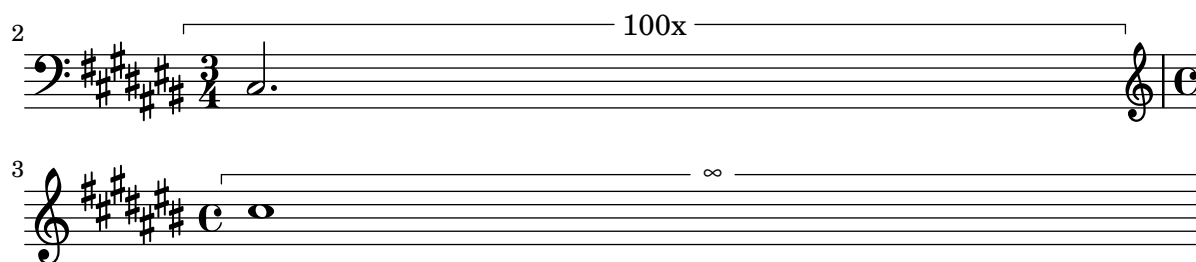
`measure-grouping.ly`



The ends of measure spanners may be aligned in various ways.

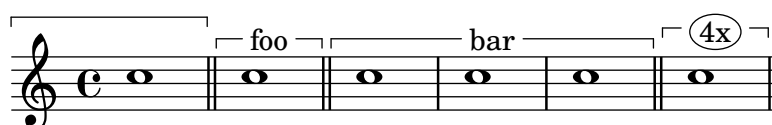
`measure-spanner-spacing-pair.ly`





Measure spanners can span single and multiple measures. They may be texted or untexted and hold markups.

`measure-spanner.ly`

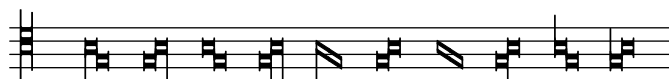


Mensural ligatures show different shapes, depending on the rhythmic pattern and direction of the melody line.

`mensural-ligatures.ly`

### **ligaturae binaria**

BL BL LL LL BB BB LB LB SS SS



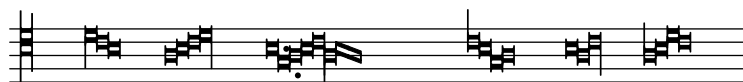
### **ligaturae ternariae, quaternariae, etc.**

BBL BBBB SSBBBLB LBMxBL BBBBLL SSBLLBB



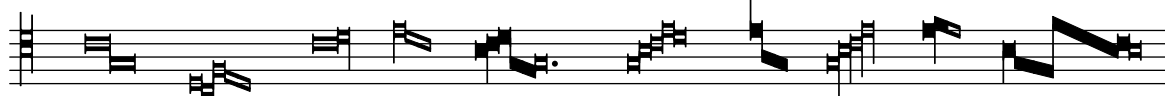
### **dtv-Atlas**

BBL BBBL L.B.BBLBBB SSBB LBL SSBL



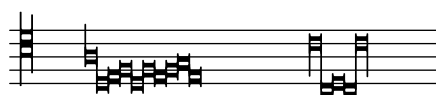
### **Ockeghem: Missa De plus en plus**

MxMx LBBBB MxL BBB LBBBBB. BBBBL SSB LLLL LBB BBBBBL



### **Ockeghem: Requiem**

SSBBBBBBBL BBBBL



**crazy ligatures****invalid ligatures**

There is limited support for mensural notation: note head shapes are available. Mensural stems are centered on the note heads, both for up and down stems.

`mensural.ly`



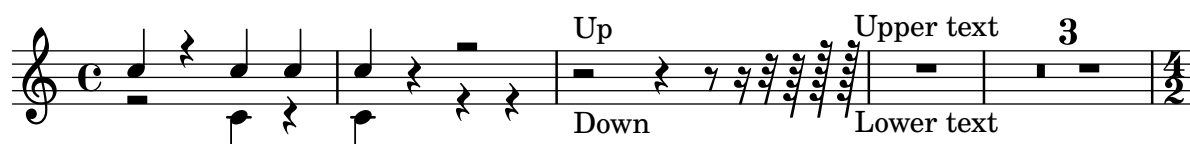
Test for merging rest numbers using the `Merge_mmrest_numbers_engraver`. The upper staff is the new default with the engraver enabled while the second one is the old default resulting in collisions. The final staff demonstrates the additional use of `Merge_rests_engraver`.

`merge-mmrest-numbers-engraver.ly`

default	
collision	
merge	

Test for merging rests in different voices.

`merge-rests-engraver.ly`



This image shows two staves of musical notation. Staff 8 (top) begins with a treble clef and a 4/4 time signature. It contains a series of eighth and sixteenth notes, some grouped with slurs and triplets. A forte (*f*) dynamic marking is present towards the end of the staff. Staff 12 (bottom) also starts with a treble clef and 4/4 time signature, featuring a sequence of eighth notes and rests.

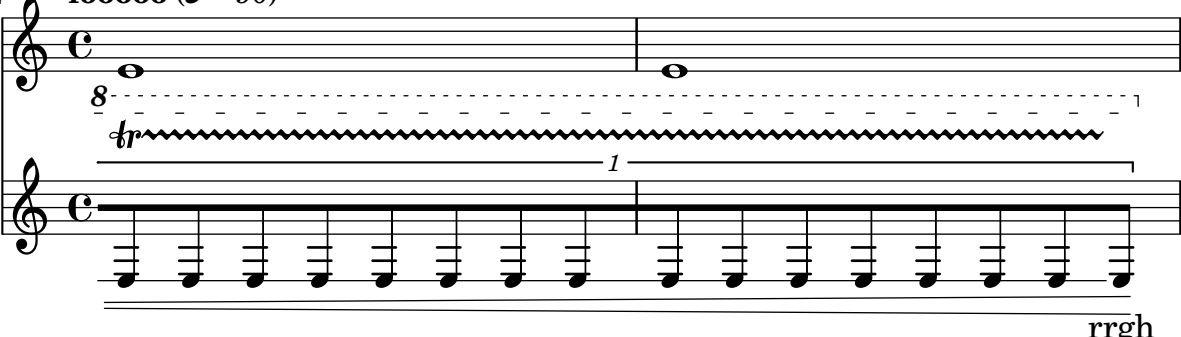
Test for vertical positions of merged rests in magnified staves.  
merge-rests-magnify-staff.ly

This image displays two staves of musical notation. Both staves feature a series of whole rests. Above the first staff, the numbers '7' and '11' are placed above specific measures. Above the second staff, the numbers '7' and '11' are placed above corresponding measures. The staves are aligned to show the vertical positioning of these rests and markers.

A MetronomeMark, RehearsalMark and BarNumber should not effect the starting point of spanners.  
metronome-mark-broken-bound.ly

This image shows two staves of musical notation. The top staff contains a wavy line, likely representing a tremolo or a specific performance instruction, with a 'tr' marking. The bottom staff features a series of eighth notes, some grouped with a slur. Below the staves, the lyrics 'ah' are written, followed by a series of dashes. A tempo marking 'foooooo (♩ = 90)' is located at the top right of the image.

2   **foooooo** (♩ = 90)




rrgh  
rrgh

metronomeMarkFormatter supports all note head styles and flags styles. Setting font-name for MetronomeMark does not disturb the glyphs for note-head and flag.

metronome-mark-formatter.ly


default

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)




default-note-head  
old-straight-flag

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)




default-note-head  
modern-straight-flag

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)




default-note-head  
flat-flag

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)




diamond-note-head  
modern-straight-flag

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)



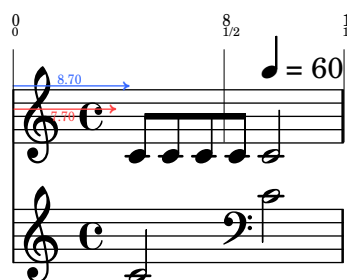
mensural-note-head  
mensural-flag

Allegro (♩ = 120 – 140)   Allegro (♩ = 140)



Metronome marks aligned on notes do not interfere with the positioning of loose columns in other staves. Here the loose column supporting the clef is correctly placed immediately before the second note in the lower staff.

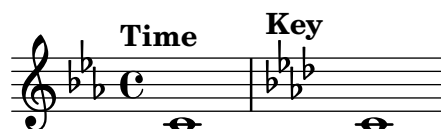
metronome-mark-loose-column.ly



Metronome marks respect symbol order in `break-align-symbols`.

In this example, the default is changed to `'(time-signature key-signature)`: since `key-signature` is second in the list, the mark should only be aligned with the key signature if there is no time signature present, as in the second measure.

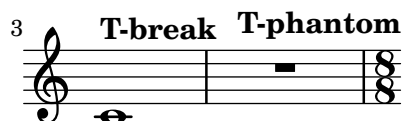
`metronome-marking-align-order.ly`



`\tempo` marks are aligned with the time signature or the position of the first note.

By overriding `break-align-symbols` the default alignment can be changed. If no symbol in `break-align-symbols` is present, the property `non-break-align-symbols` determines the alignment. If the alignment object is a multi-measure rest, the tempo mark is aligned with the preceding bar line.

`metronome-marking-break-align.ly`



Metronome marks are placed correctly if `Metronome_mark_engraver` is moved to `StaffGroup` context. Metronome marks should appear above the middle staff (the upper staff of the group) only.

`metronome-marking-staff-group-context.ly`



Here `\tempo` directives are printed as metronome markings.

The marking is left aligned with the time signature, if there is one.

`metronome-marking.ly`



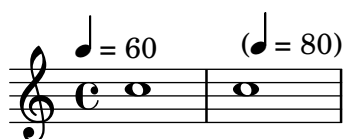
A metronome marking can be added to a multimeasure rest whose engraver was moved to the Staff, without segfaulting.

`metronome-multimeasure-rest-no-segfault.ly`



Using an empty text in the metronome marks, one can generate parenthesized tempo marks.

`metronome-parenthesized.ly`



Tempo ranges are supported. By default, numbers are printed with an en-dash character, separated by thin-spaces.

`metronome-range.ly`



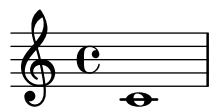
The `tempo` command supports text markup and/or `'duration=count'`. Using `Score.tempoHideNote`, one can hide the `'duration=count'` in the tempo mark.

`metronome-text.ly`

If `after-writing` is set in the `\midi` block, it is called after every MIDI file that is written. The visual and MIDI output are not important in this test.

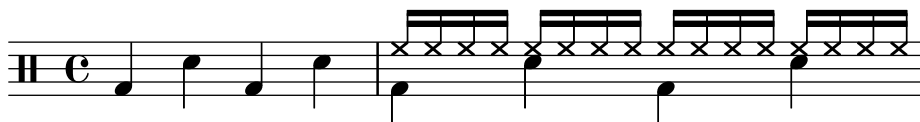
midi-after-writing.ly





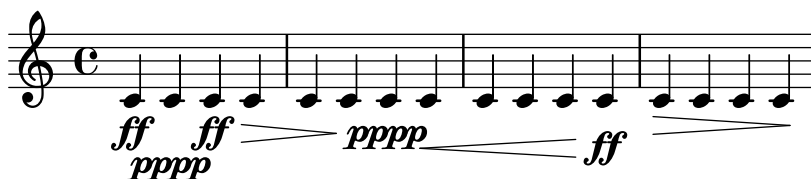
Midi can create drums.

`midi-drums.ly`



Midi also handles crescendo and decrescendo, either starting and ending from specified or unspecified sound level.

`midi-dynamics.ly`



Grace notes shorten previous notes only if they'd overlap them. The A should be a full quarter note, but the C should be shortened to  $1/4 - 9/40 * 1/8 = 71/320$  (rounded down to 340/384 in MIDI).

`midi-grace-after-rest.ly`

Tied notes sound as one note in MIDI. Grace notes following a tied note shorten the resulting single note in MIDI.

`midi-grace-after-tie.ly`

Grace notes don't introduce syncing problems: the last note off will appear at tick 768 ( $2 * 384$ ).

`midi-grace.ly`

MIDI key signatures are output, using an approximate key signature if MIDI format cannot represent the true key signature

`midi-key-signature.ly`



Lyrics in MIDI are aligned to ties and beams: this examples causes no bar checks in MIDI.

`midi-lyric-barcheck.ly`



Microtonal shifts should be corrected before the start of the next (possibly grace) note.

`midi-microtone-off.ly`

The pitch wheel is used for microtones.

`midi-microtone.ly`

A MIDI note-off event precedes a simultaneous note-on event for the same pitch in the same MIDI channel, so that all notes are heard. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

midi-notes.ly



MIDI and partial measures work together.

midi-partial.ly

Pedals. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

midi-pedal.ly



Converting LilyPond input to MIDI and then again back with `midi2ly.py` is a reversible procedure in some simple cases, which mean that the original `.ly` -file and the one converted back from the generated `.midi` -file do not differ. Here are produced some scales.

midi-scales.ly

A series of six staves of musical notation, each representing a different scale. The scales are in common time (C) and use various key signatures (one sharp, two sharps, three sharps, and four sharps). The staves are numbered 6, 11, 16, 21, and 26 at the beginning. The notation includes various note values, rests, and accidentals.

30

34

39

44

49

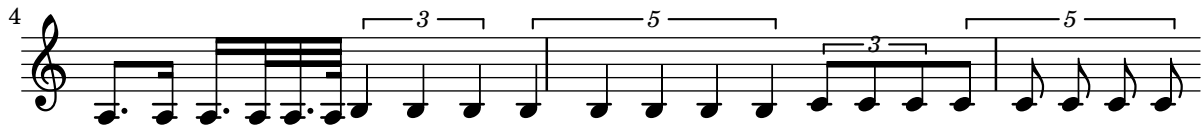
55

should deliver f' in MIDI  
midi-transposition.ly

Midi2ly tuplet test.

```
python scripts/midi2ly.py --duration-quant=32 \
  --allow-tuplet=4*2/3 \
  --allow-tuplet=8*2/3 \
  --allow-tuplet=4*3/5 \
  --allow-tuplet=8*3/5 \
  tu.midi
```

midi-tuplets.ly



In overlapping unisons, within a single MIDI channel, either the first note is truncated, or the notes are merged if `midiMergeUnisons` is `#t`. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

midi-unisons.ly

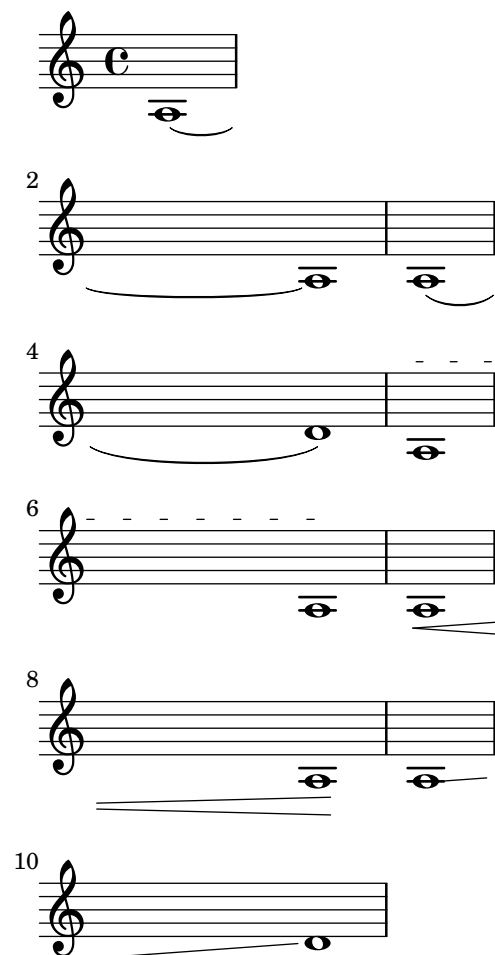


The full orchestra plays a note, where groups stop one after another. Use this to tune equalizer settings.

midi-volume-equaliser.ly

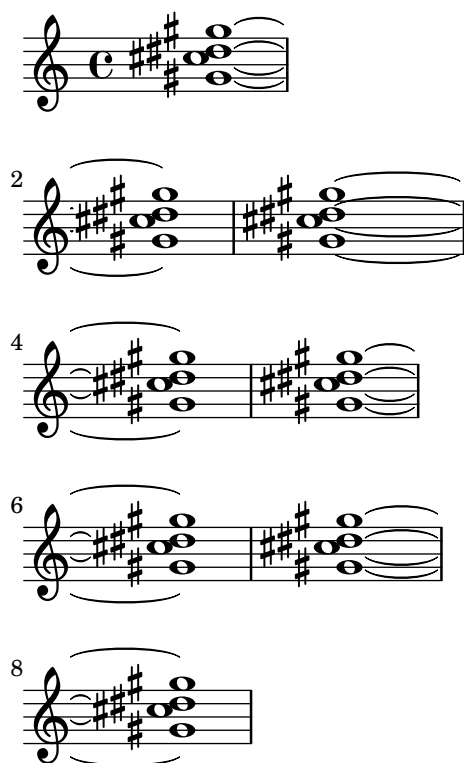
The property `minimum-length-after-break` can be used to stretch broken spanners starting after a line break. The following example shows usage for a variety of spanners.

minimum-length-after-break.ly



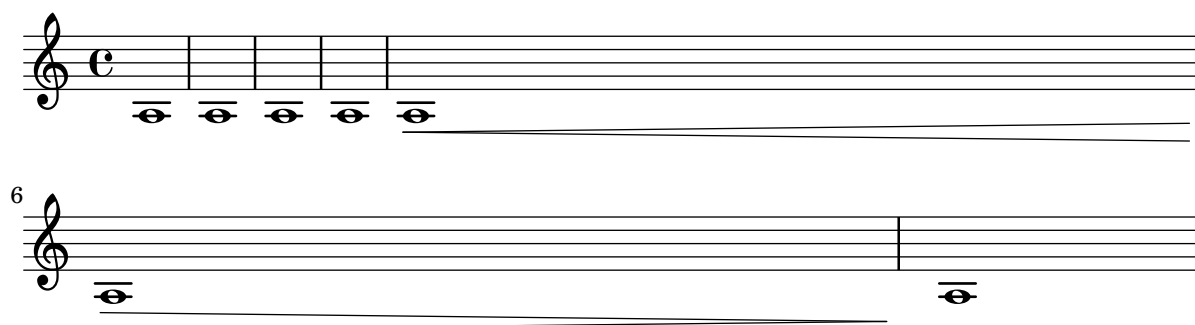
The following shows the interaction between the properties `minimum-length` and `minimum-length-after-break`. When `minimum-length` is used alone, both segments of the tie are affected. The properties `minimum-length-after-break` only affects the sibling starting a line. Both properties may be used together to create independent changes of both siblings. This example shows that both properties have an identical effect on the sibling after the break.

`minimum-length-broken-ties.ly`



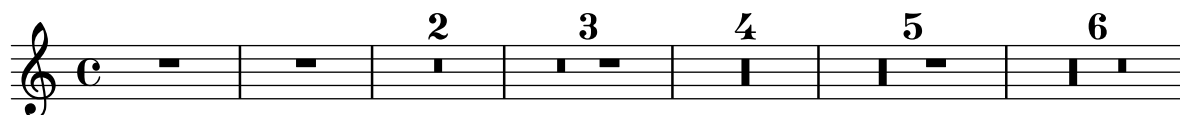
Long spanners at the end of the lines stretch measures correctly.

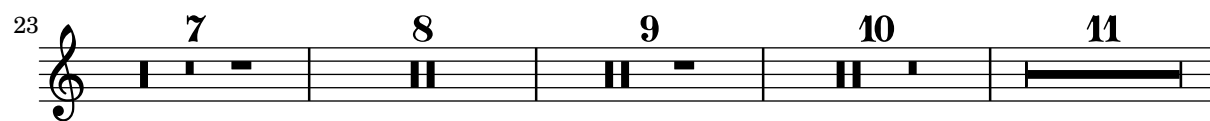
`minimum-length-end-line.ly`



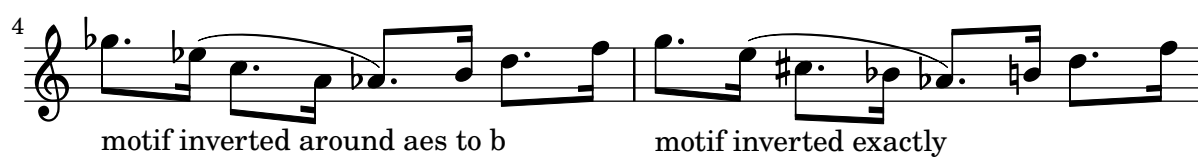
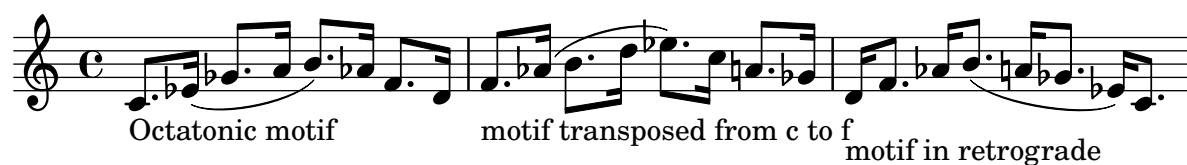
If `Score.skipBars` is set, the signs for four, two, and one measure rest are combined to produce the graphical representation of rests for up to 10 bars. The number of bars will be written above the sign.

`mm-rests2.ly`

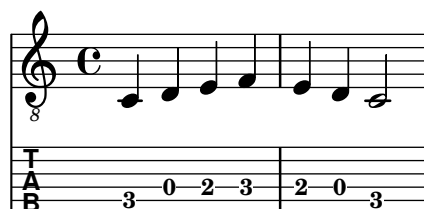
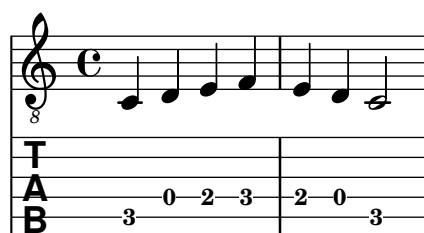




`\modalTranspose`, `\retrograde`, `\inversion` and `\modalInversion` work for an octatonic motif.  
`modal-transforms.ly`

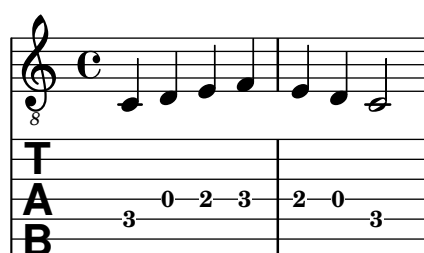
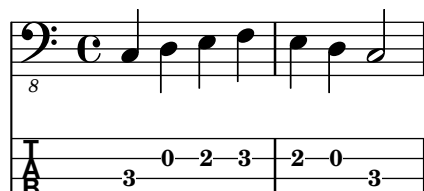


The sans serif style tab clef is automatically adjusted to different string spacings.  
`modern-tab-clef-scaled.ly`



Sans serif style tab clefs are supported by `\clef moderntab`. This alternative clef supports four- to seven-stringed instruments and is scaled automatically.

`modern-tab-clef.ly`



Whole notes in a monochord must be properly offset so that the heads just touch each other. On the other hand, a stem should touch both notes.

monochords.ly



The source is a rather tightly set Peters in Edition is a heavy font. The Peters edition (4622c) was ‘herausgegeben’ by Paul Losse, whose name also appears on a 1956 edition of some other music. Strictly speaking, his editorial enhancements will not be in the PD - but I am assuming there are no notable ones in this small piece.

The original compresses the entire music onto a single page, in 4 systems. Lily does so too if you tune down spacing-increment, but chooses line breaks differently.

Further manual tweaks: the slur in measure 12 has been flattened manually. The beam in measure 3, left-hand, technically is wrong, but has been added following the original. The crescendo in measure 4 has been lowered

morgenlied.ly



# Sängers Morgenlied

Franz Schubert (1797-1828)

## Lieblich, etwas geschwind

1. Sü - ßes Licht! Aus gol - denen Pfor - ten brichst du  
 2. Ach, der Lie - be sanf - tes We - hen schwellt mi

2. *p*

5  
 sie - gend durch die Nacht. Schö - ner Tag, du bist er - wacht. Mit g  
 das be - weg - te Herz, sanft, wie ein ge - lieb - ter Schmerz. Dürft ic

*cresc.* *f*

9  
 heim - nis - vol - len Wor - ten, in me - lo - di - schen Ak - kor - den, grüß ich  
 nur auf gold - nen Hö - hen mich im Mor - gen - duft er - ge - hen! Sehn - sucht

*sf*

13  
 dei - ne Ro - senpracht, grüß ich dei - ne Ro - senpracht.  
 zieht mich him - mel - wärts, Sehn - sucht zieht mich him - mel wärts.

*f*

This is the Mozart 3 for horn. It's from an Edition Breitkopf EB 2563, edited by Henri Kling. Henri Kling (1842-1918) was a horn virtuoso that taught in Geneva.

**Konzert № 3 Es dur**

für Horn und Orchester

**Horn in F**

Wolfgang Amadeus Mozart (1

**Allegro**

*p*

**Tutti**

28 *Solo* **A**

34 **3**

42

47 *tr* **B**

55 *con espressione* *cre*

60 *f* *p*

67 *f* *tr* **C** **15** **D** *mf*

87

93 **2**

104

2 Horn in F

122

128 **F** 3

137 3 **G**

145

152 *f* *ff* *sempre f*

157 *tr* **H** 3 3 3 3 3

163 3 3 *f* *tr*

171 *tr* 8 *tutti* *f*

Cadenza ad lib.

## Romanze

*p con molto espressione*

6 **A** 8 *mf*

18 2

Horn in F

38

47

57

65

73

*sfz sfz sfz sfz p*

**C**

**D**

Rondo

7

26

40

51

60

67

*p*

**A**

**B**

**C**

4 Horn in F

81 12 D

99 3

109 3

121 E 9

136

142

150 F *f* *p*

157

163 7 G 4 *mf* H

180 *cresc.* *f*

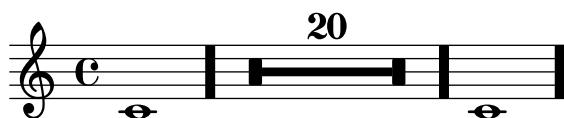
187 *tr* 5 *p*

198 5

Detailed description of the musical score: The score is for a Horn in F. It begins at measure 81. The key signature has two flats (B-flat major). The time signature is 4/4. The notation includes eighth and sixteenth notes, often beamed together. There are several rests, some of which are marked with measure numbers (12, 3, 3, 9, 5). Chord symbols (D, E, F, G, H) are placed above the staff at specific measures. Dynamic markings include *f* (forte), *mf* (mezzo-forte), *p* (piano), and *cresc.* (crescendo). A trill (tr) is marked above a note in measure 187. The score ends at measure 198.

The multimeasure rest is centered exactly between bar lines.

`multi-measure-rest-center.ly`



The existence of a text mark does not affect the placement of a multimeasure rest.

`multi-measure-rest-center2.ly`



A multi-measure rest implicitly creates a bottom context. The expected output is a repeated section with one whole-measure rest in the body and one whole-measure rest in one alternative.

`multi-measure-rest-create-context.ly`



Multi-measure rests are centered also in the case of grace notes.

`multi-measure-rest-grace.ly`



There are both long and short instrument names. Engraving instrument names should not be confused by the multimeasure rests.

`multi-measure-rest-instr-name.ly`



Though the default spacing for multi-measure rests is affected by prefatory matter in other staves, centering can be restored by overriding `spacing-pair`.

`multi-measure-rest-multi-staff-center.ly`



Multi measure rests don't segfault when there is no staff symbol.

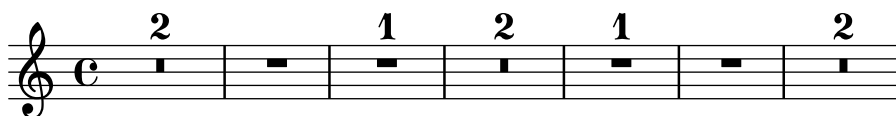
`multi-measure-rest-no-staff.ly`



Setting `restNumberThreshold` affects only future multi measure rests. Unsetting it works without crashes.

The rests should be numbered 2, (none), 1, 2, 1, (none), and 2.

`multi-measure-rest-number-threshold.ly`



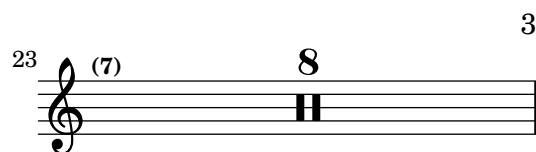
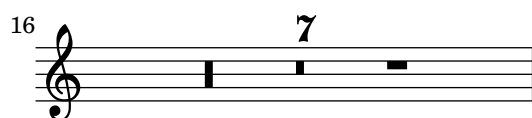
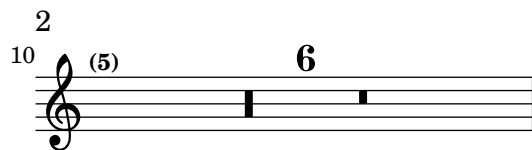
A multi measure rest reminder is a reminder printed at the top of the page, to remember how many measures you were counting.

This is a demo of user-defined engravers, and defining grobs using `ly:make-grob-properties`.

`multi-measure-rest-reminder.ly`



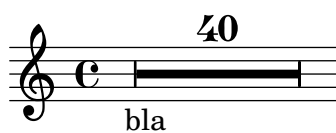




### Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

By setting texts starting with a multi-measure rest, an extra spacing column is created. This should not cause problems.

`multi-measure-rest-spacing.ly`



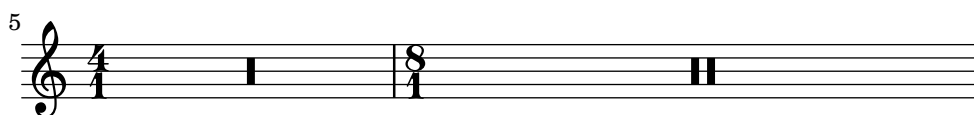
Multi measure rest staff position can be overridden to 0.

multi-measure-rest-staff-position.ly



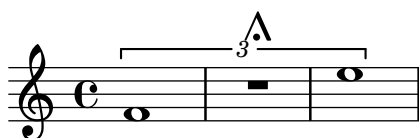
Only whole, breve, longa and maxima rests are used by default for multi-measure rests.

multi-measure-rest-standard.ly



Scripts and texts may be added to the multi-measure rests. This test covers such rests under various spanners. This used to crash (issue #6085).

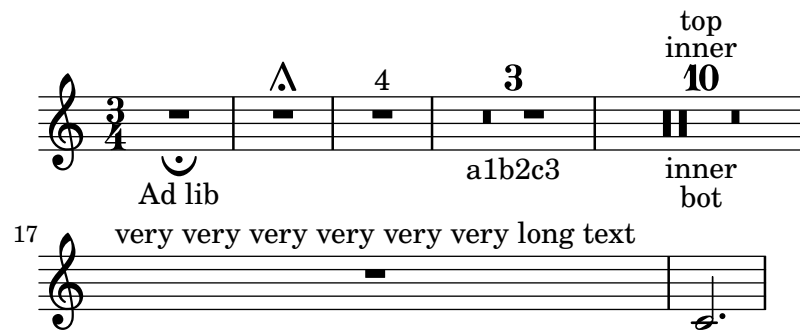
multi-measure-rest-text-spanned.ly



Scripts and texts may be added to the multi-measure rests.

By setting the appropriate `spacing-procedure`, we can make measures stretch to accommodate wide texts.

multi-measure-rest-text.ly



The image displays a musical score with two staves. The first staff is in 3/4 time and contains five measures. The first measure has a whole rest with the text "Ad lib" below it. The second measure has a half note with an accent (^) above it. The third measure has a half note with the number "4" above it. The fourth measure has a half note with the number "3" above it. The fifth measure has a half note with the text "top", "inner", and "10" stacked above it. Below the first staff, the text "a1b2c3" is centered under the third and fourth measures, and "inner bot" is centered under the fifth measure. The second staff begins with a measure number "17" and contains the text "very very very very very very long text" above it. The staff shows a half rest followed by a half note with a dot (half note with a fermata) at the end.

Multi-measure rests standard values can be tweaked.

`multi-measure-rest-tweaks.ly`

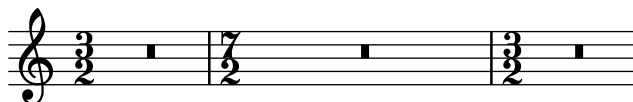
Use non-standard multi-measure rests:



Round up to the longer rest:



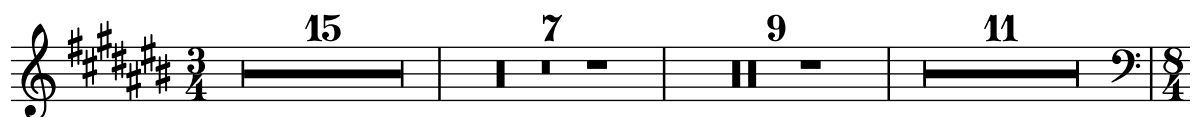
Round up to the longer rest only in specified time signatures:



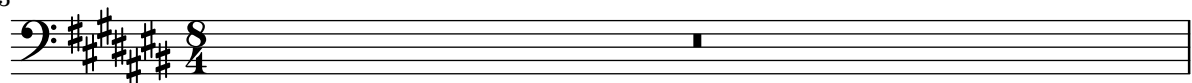
Multi-measure rests do not collide with bar lines and clefs. They are not expanded when you set `Score.skipBars`. Although the multi-measure-rest is a `Spanner`, minimum distances are set to stop it colliding with bar lines.

Rests over measures lasting longer than 2 wholes use breve rests. When more than 10 measures (tunable through `expand-limit`) are used then a different symbol is used.

`multi-measure-rest.ly`

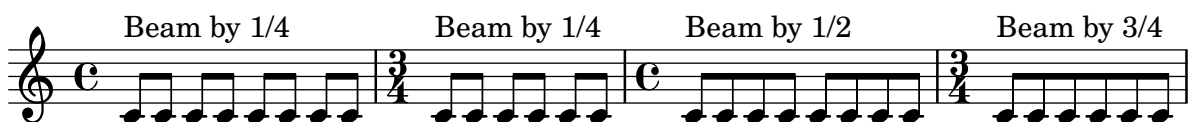


43



Multiple overrides to the default time signature settings can be added. In this example, notes should be beamed as indicated by the markups.

`multiple-time-sig-settings.ly`



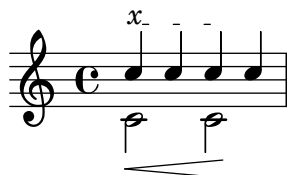
Music functions can be called directly from Scheme.

`music-function-direct-call.ly`



the `endSpanners` music function inserts end span events at the end of a note.

`music-function-end-spanners.ly`



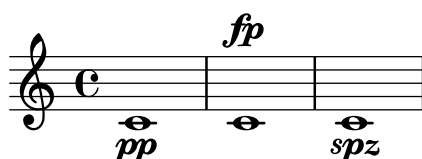
For defining a music function, one can supply one or several music function calls chained together, cutting the last call short using `\etc`. The remaining arguments are supplied when calling the music function defined in this manner.

`music-function-incomplete.ly`



Music functions may be attached to notes; in this case they must be introduced by a direction indicator. If a non-neutral direction is given (i.e. anything else than a dash), then the `'direction` property of the resulting object is set accordingly.

`music-function-post-event.ly`



Music functions accept strings as markup arguments when using the type predicate `markup?`

`music-function-string-markup.ly`



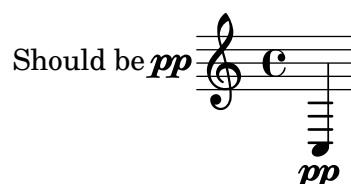
Music functions are generic music transformation functions, which can be used to extend music syntax seamlessly. Here we define and use a `\myBar` function which works like `\bar`.

`music-function.ly`



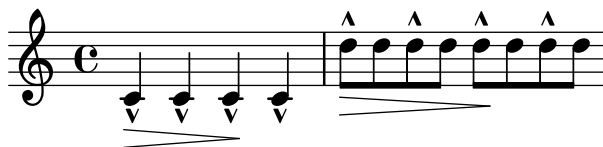
`music-map` also recurses into articulations.

`music-map-articulations.ly`



With `music-map`, you can apply functions operating on a single piece of music to an entire music expression. In this example, the function `notes-to-skip` changes a note to a skip. When applied to an entire music expression in the 1st measure, the scripts and dynamics are left over. These are put onto the 2nd measure.

`music-map.ly`



Nested fill-lines should work properly. In this example, both occurrences of `FOO` should be centered.

`nested-fill-lines.ly`

**|FOO|**  
**|FOO|**



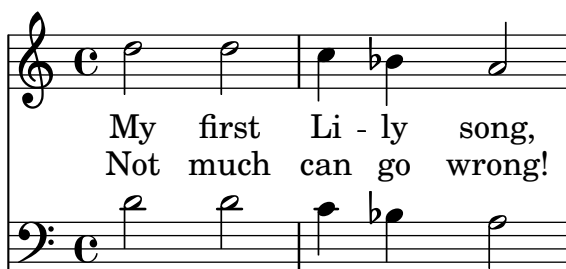
`addlyrics` do not need braces around their arguments, in particular if the arguments are variables.

`newaddlyrics-music-identifiers.ly`



`newlyrics`, multiple stanzas, multiple lyric voices.

`newaddlyrics.ly`



MY FIRST LI - LY SONG,  
NOT MUCH CAN GO WRONG!

`no-header.ly`

This regtest does not contain any header and paper blocks. Its purpose is to test whether anything breaks if these blocks are absent.

LilyPond does not render zero-duration scores. This test should produce neither MIDI nor visual output.

`no-music.ly`

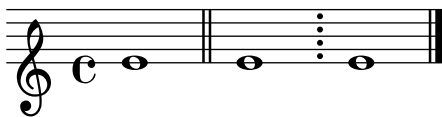
The printing of the staff lines may be suppressed by removing the corresponding engraver.

`no-staff.ly`



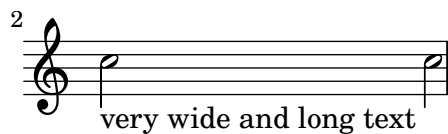
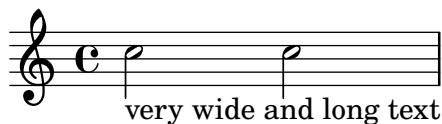
Bar lines are positioned correctly when using custom staves which are not centered around position 0.

`non-centered-bar-lines.ly`



By default, text is set with empty horizontal dimensions. The property `extra-spacing-width` in `TextScript` is used to control the horizontal size of text.

`non-empty-text.ly`



Whether simultaneous notes are identified as vertically colliding or not depends on the value of the `note-collision-threshold` property of the `Stem` grob (for notes in the same voice) and the `NoteCollision` grob (for notes in different voices).

`note-collision-threshold.ly`

collisions

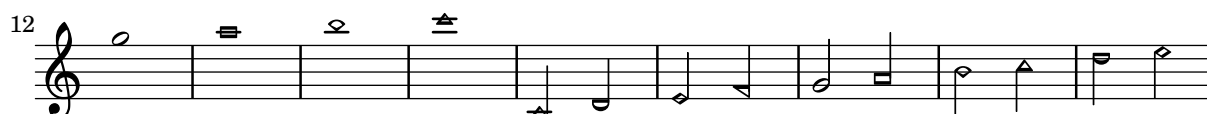


collisions prevented



Notes can be set in the Aiken (Christian Harmony) style.

`note-head-aiken.ly`



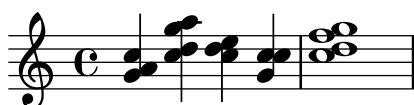
Note heads are placed on the correct side of the stem; this placement changed is not changed by magic values of `layout-set-staff-size`. (Fix of issue 5303.)

`note-head-chord-layout-set-staff-size.ly`



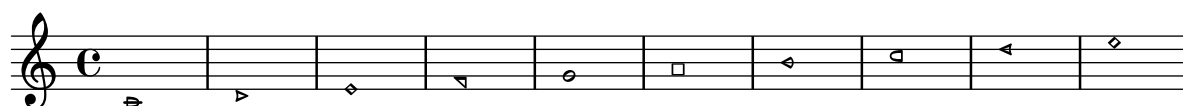
Note heads are flipped on the stem to prevent collisions. It also works for whole heads that have invisible stems.

`note-head-chord.ly`



Notes can be set in the Funk (Harmonia Sacra) style.

`note-head-funk.ly`



Dots on harmonic note heads can be shown by setting the property `harmonicDots`.

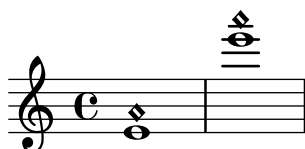


note-head-harmonic-dotted.ly



A harmonic note head must be centered if the base note is a whole note.

note-head-harmonic-whole.ly



The handling of stems for harmonic notes must be completely identical to normal note heads.

Harmonic heads do not get dots. If `harmonicAccidentals` is unset, they also don't get accidentals.

note-head-harmonic.ly



Notes can be set in the Sacred Harp style.

note-head-sacred-harp.ly



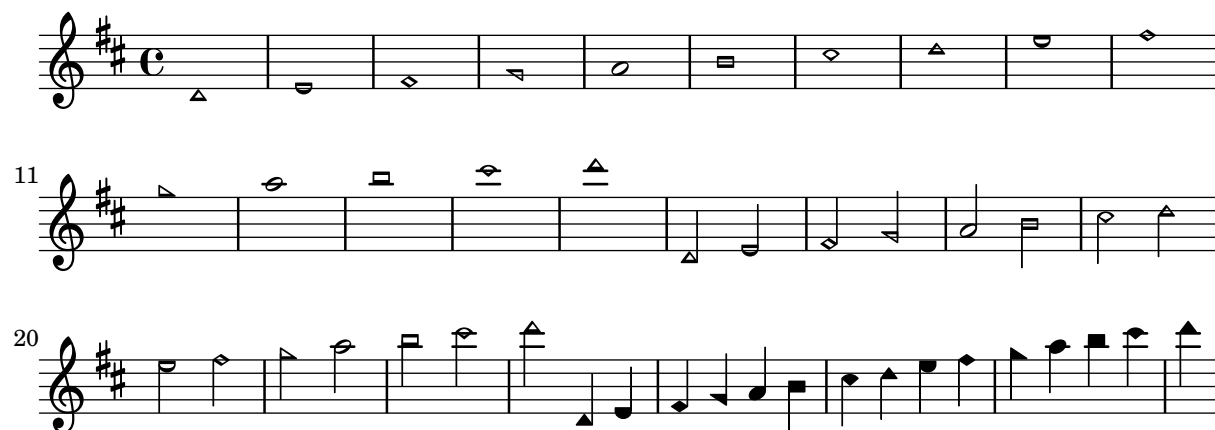
Shape notes can be set to work properly in minor keys.

note-head-shape-minor.ly



With `shapeNoteStyles`, the style of the note head is adjusted according to the step of the scale, as measured relative to the `tonic` property.

note-head-solfa.ly



Notes can be set in the Southern Harmony style.

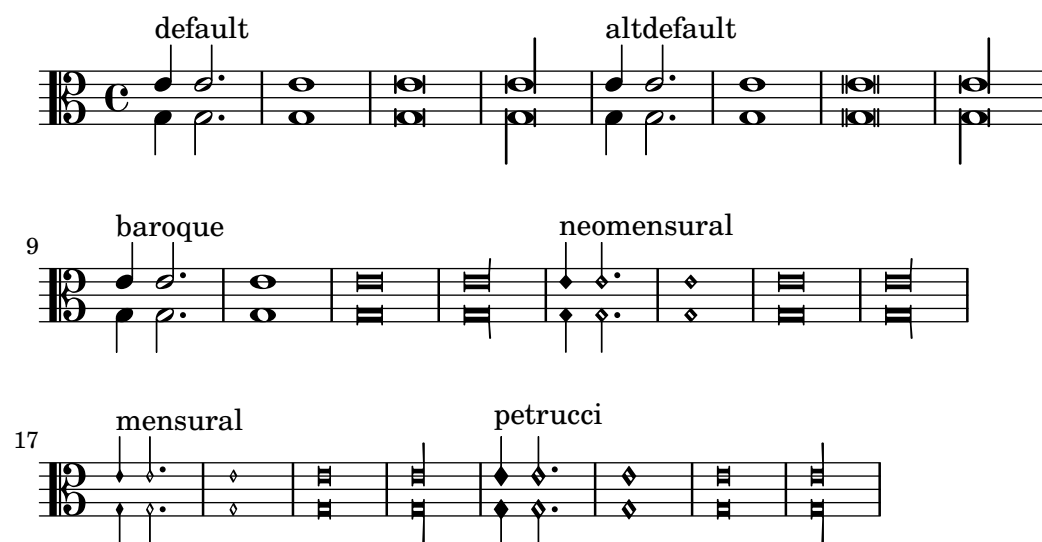
`note-head-southern-harmony.ly`



Note head shapes may be set from several choices. The stem endings should be adjusted according to the note head. If you want different note head styles on one stem, you must create a special context.

Harmonic notes have a different shape and different dimensions.

`note-head-style.ly`



25 harmonic harmonic-black

33 harmonic-mixed diamond

41 cross xcircle

49 triangle slash

57 kievian

Notes can be set in the Walker (Christian Harmony) style.

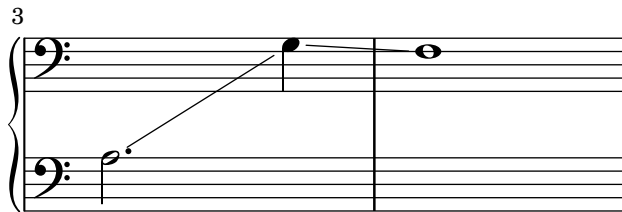
`note-head-walker.ly`

12

22

Note head lines (e.g. glissando) run between centers of the note heads.

`note-line.ly`



Note names may be printed in various languages, with or without accidentals and octave marks.

note-name-context-custom.ly

la sib do# reb+fa+lab mid

(ref.) la si $\flat\flat$  do $\sharp$  re $\flat$ +fa+la $\flat$  mid

do' ré $\sharp$ ' mi' la<sub>5</sub>

(ref.) do' ré#' mi' la5

NoteNames context should be close to the related notes, and should not collide with the tempo markings.

note-names-context.ly

Allegro Allegro Allegro Allegro Allegro Allegro

ly-ric ly-ric ly-ric ly-ric ly-ric ly-ric

7 Allegro Allegro Allegro Allegro Allegro Allegro Allegro

lyric lyric lyric lyric lyric lyric lyric lyric

NoteNames and ChordNames contexts have (limited) support for makam notation. The alteration glyphs displayed in these two contexts should be the same as the ones on the staff.

note-names-makam.ly

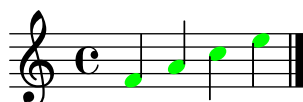
Various languages are supported for note names input. Selecting another language within a music expression is possible, and doesn't break point-and-click abilities.

note-names.ly



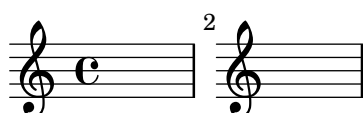
Noteheads do not extend above the upper staff line.

`notehead-height.ly`



‘NullVoice’ responds to `\change Staff` as a ‘Voice’ would. In consequence, in the first shown system it keeps a single treble-clef staff alive. In the second system, it is in a single bass-clef staff.

`nullvoice-change.ly`



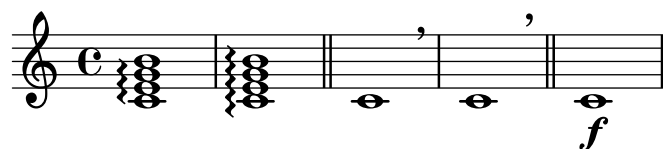
The number of stafflines of a staff can be set. Ledger lines both on note heads and rests, as well as bar lines, are adjusted accordingly.

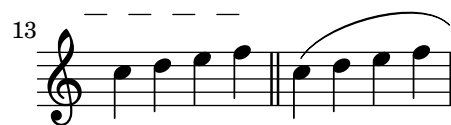
`number-staff-lines.ly`



The `\offset` command may be used to displace various properties from the default settings contained in grob descriptions. Settings which may be offset are limited to those of type **number**, **number-pair**, or **number-pair-list**. Most of the following examples begin with the grob in its default appearance. The command is demonstrated as a tweak and as an override.

`offsets.ly`





heavily mutilated Edition Peters Morgenlied by Schubert

one-line-auto-height-breaking.ly

Lieblich, etwas geschwind

2.

1. Sü - ßes Licht! Aus gol - den

2. いろはに かな ta ta ほへど

The musical score is written in 6/8 time. The tempo is 'Lieblich, etwas geschwind'. The key signature has one sharp (F#). The vocal line has two versions: a German version (1.) and a Japanese version (2.). The piano accompaniment consists of a treble and bass staff. The Japanese lyrics are 'いろはに かな ta ta ほへど'.

heavily mutilated Edition Peters Morgenlied by Schubert

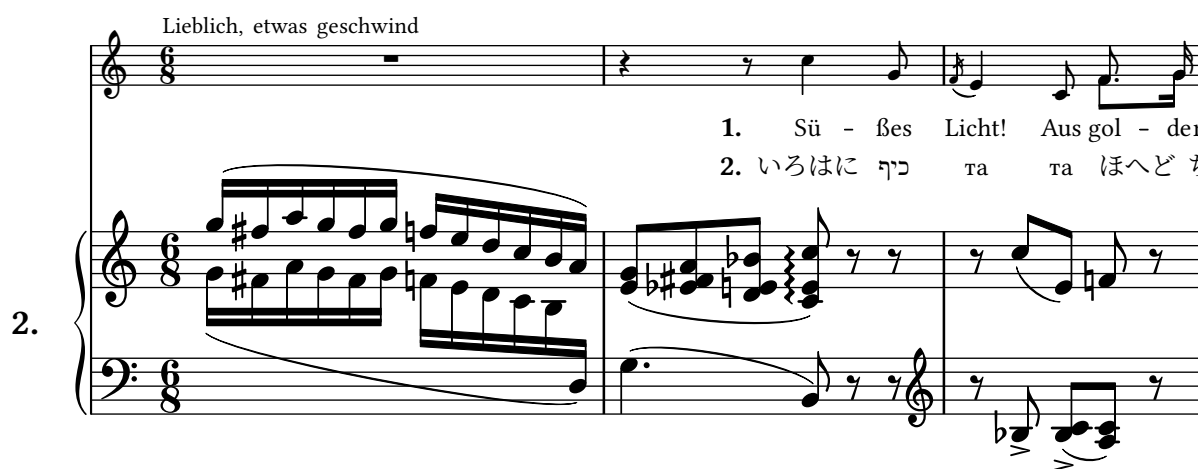


Lieblich, etwas geschwind

2.

1. Sü - ßes Licht! Aus gol - den

2. いろはに 𐤀𐤁 ta ta ほへど



heavily mutilated Edition Peters Morgenlied by Schubert

## LilyPond demo

Lieblich, etwas geschwind

2

1. Sü - ßes Licht! Aus gol - denen  
2. いろはに ㄐ ta ta ほへどちり

4

Pfor - ten brichst du sie - gend durch die  
ぬるを Жъл дю ля ㄐ いろはに ㄐ

6

Nacht. Schö - ner  
ta ta ほへ

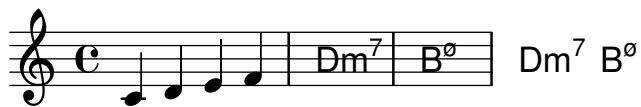
*cresc.*

7

Tag, du bist er - wacht.  
ちり ぬる Жъл дю ля

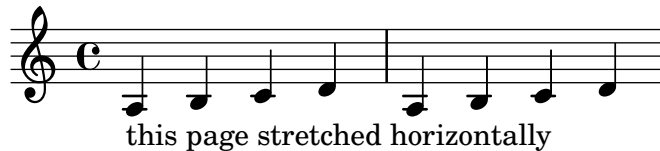
`OneStaff` contexts can be used for letting several contexts use the same vertical position. This example shows chords being placed in a staff and immediately following it.

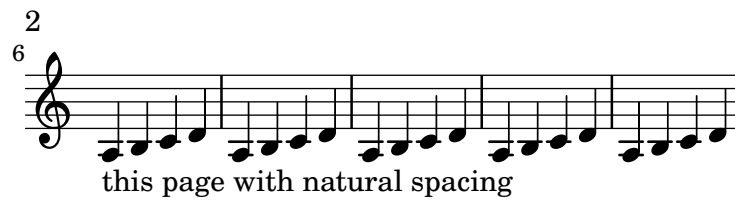
`one-staff.ly`



The optimal page breaker will make trade-offs between horizontal and vertical stretching so that the overall spacing will be more acceptable. The `page-spacing-weight` parameter controls the relative importance of vertical/horizontal spacing. Because `ragged-last-bottom` is on, there is no penalty for odd vertical spacing on the final page. As a result, only the first page should be horizontally stretched.

`optimal-page-breaking-hstretch.ly`





Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Test functionality of the `-danti-alias-factor` command line option. Affects PNG output only.

`option-anti-alias-factor.ly`



Test functionality of the `-dpng-width` and `-dpng-height` command line options. Affects PNG output only.

`option-png-width-height.ly`



Test backup of predicate-based optional music function arguments.

Unit expressions like `3\cm` can't be parsed as optional arguments in one go since they would require lookahead after `3`. The predicate is checked after `3`, and if it is suitable, Lilypond commits

to parsing as a unit number, and checks the result again. For the predicate `integer?` and `3\cm`, you would actually get a syntax error (since the combination is no longer an integer) rather than Lilypond trying to see `3\cm` as two separate arguments.

`optional-args-backup.ly`

Test predicate-based optional music function argument skipping.

`optional-args-predicate.ly`

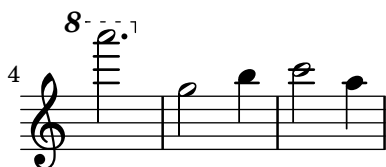
Test optional music function arguments. The output is nonsensical, but if you wrack your brain, you'll figure it out. Remember that optional arguments are matched left to right, and after the first non-match, the rest is skipped.

`optional-args.ly`



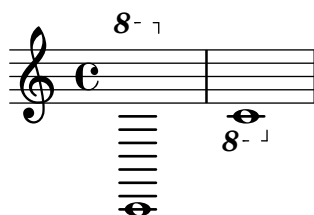
At line breaks, ottava brackets have no vertical line and their horizontal line does not stick out. The dashed line runs until the end of the line (regardless of prefatory matter).

`ottava-broken.ly`



Consecutive ottavas with the same label are not incorrectly merged.

`ottava-consecutive.ly`



Both edge heights of an ottava bracket can be specified.

`ottava-edge.ly`



User tweaks to `OttavaBracket.direction` are honored in all cases.

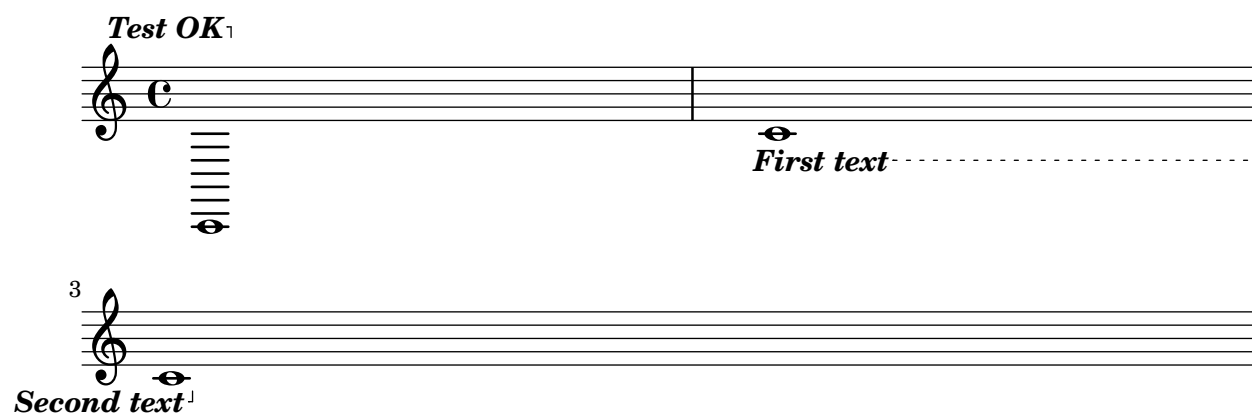
In this test, marcato marks show the expected placement.

`ottava-explicit-direction.ly`



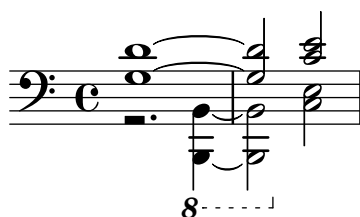
The `text` property of an `OttavaBracket` grob may be overridden.

`ottava-explicit-text.ly`



Ottava brackets can be made to apply to a single voice by moving the `Ottava_spanner_engraver` to `Voice` context.

`ottava-per-voice.ly`



Ottava brackets are supported, through the use of the music function `\ottava`.

The spanner should go below a staff for 8va bassa, and the ottavation markup can be tuned with `Staff.ottavation`.

`ottava.ly`

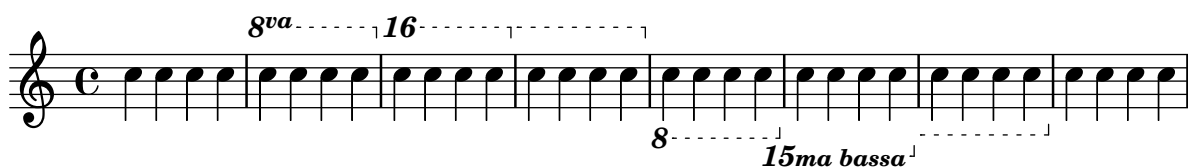


LilyPond should warn about missing ottavation markups only if there is a list of ottavation markups defined. This is not the case for MIDI performers, so do not output a warning.

ottavation-markups-midi.ly

Ottavation markups can be changed by the user. LilyPond warns about missing markups (in this example for +3 and -3 octaves).

ottavation-markups.ly



Shows the output-attributes property of a grob being set. This should have no effect in the Postscript backend. In the SVG backend these settings should produce this group tag: `<g id="123" class="foo" data-whatever="bar"> ... </g>`

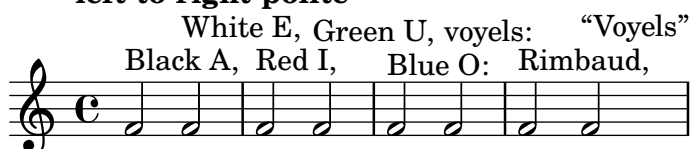
output-attributes.ly



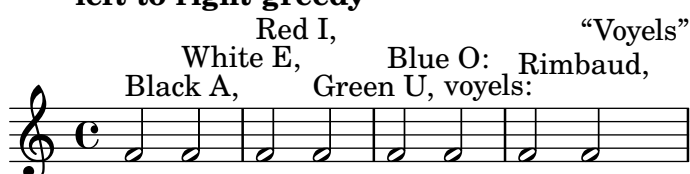
The outside-staff-placement-directive adjusts the order in which objects are placed outside the staff.

outside-staff-placement-directive.ly

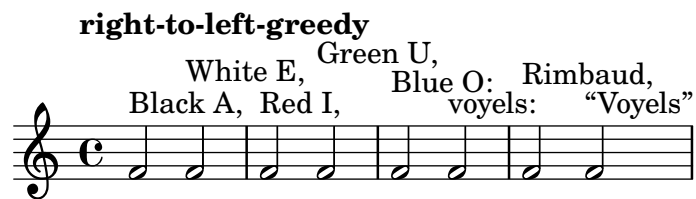
### left-to-right-polite



### left-to-right-greedy

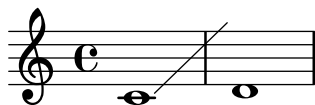






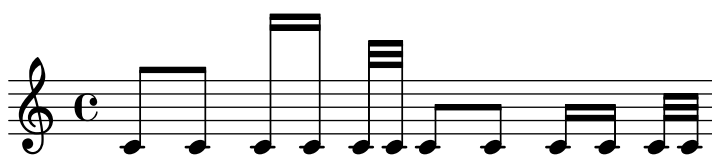
A sublist of grob property lists may be overridden within a callback. This test uses a custom stencil callback which changes the Y coordinate of the right bound of the glissando spanner.

`override-nest-scheme.ly`



Sublist of grob property lists may be also tuned. In the next example, the `beamed-lengths` property of the `Stem` grob is tweaked.

`override-nest.ly`



Page breaks work when they are placed at the end of a score, or between scores.

`page-break-between-scores.ly`



2



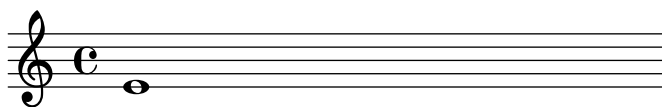
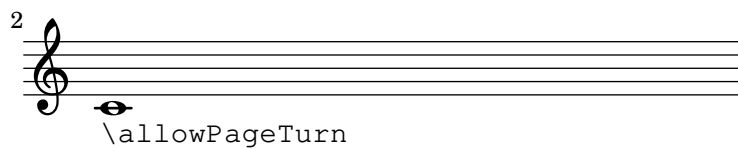
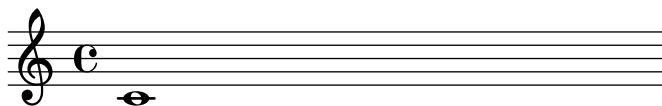
3

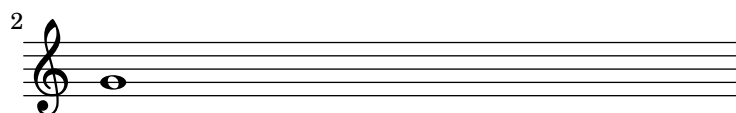
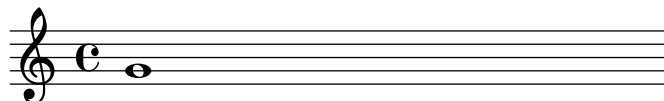


Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Page breaking and page turning commands (`\pageBreak`, `\noPageBreak`, etc), can be used at top level.

`page-break-turn-toptlevel.ly`





Page breaks are allowed by default at the end of the score, but the user can override them. There should be one line on the first page and two (colliding) lines on the second page.

`page-breaking-end-of-score.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The page breaking algorithm can handle clefs combined with lyrics. That is, the Y-extent approximations are a little more accurate than just using bounding boxes. In particular, everything should fit on one page here.

`page-breaking-good-estimation.ly`

Four staves of music, each with a treble clef and a common time signature (C). The notes are half notes, and the lyrics 'ma ma' are repeated under each note. The first staff has a common time signature 'C' at the beginning. The second staff has a common time signature 'C' at the beginning. The third staff has a common time signature 'C' at the beginning. The fourth staff has a common time signature 'C' at the beginning.

ma ma ma ma ma ma

ma ma ma ma ma ma

ma ma ma ma ma ma

ma ma ma ma ma ma

Four staves of music, each with a treble clef and a common time signature (C). The notes are half notes, and the lyrics 'ma ma' are repeated under each note. The first staff has a common time signature 'C' at the beginning. The second staff has a common time signature 'C' at the beginning. The third staff has a common time signature 'C' at the beginning. The fourth staff has a common time signature 'C' at the beginning.

ma ma ma ma ma ma

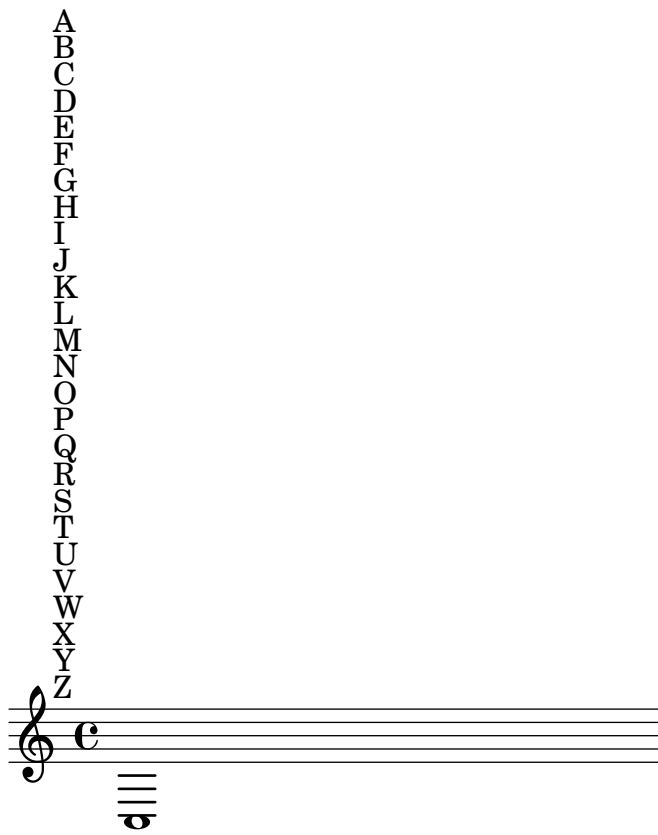
ma ma ma ma ma ma

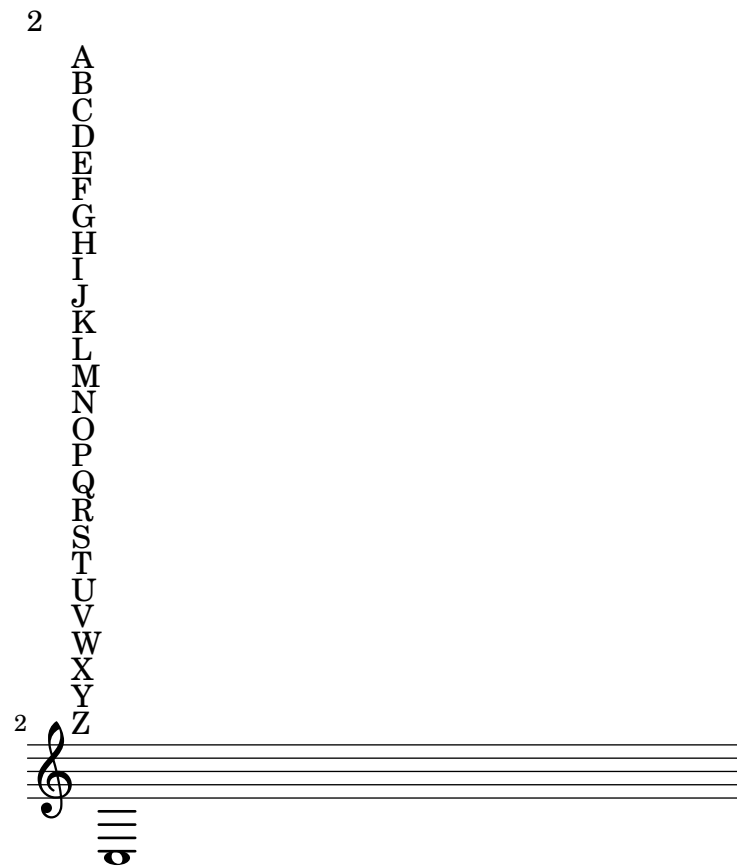
ma ma ma ma ma ma

ma ma ma ma ma ma

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The height of marks is taken into account during page breaking.





Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Padding between markups is honored by the page breaker. This should take up two pages.

page-breaking-markup-padding.ly

2  
01



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Padding between a markup and a system is honored by the page breaker. This should take up two pages.

page-breaking-markup-padding2.ly

00  
01

2



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Padding between a score and a markup is honored by the page breaker. This should take up two pages.



00  
01

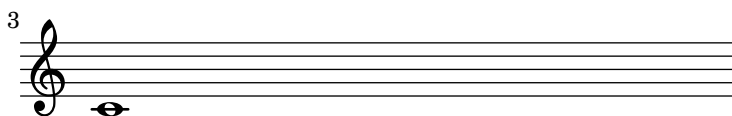
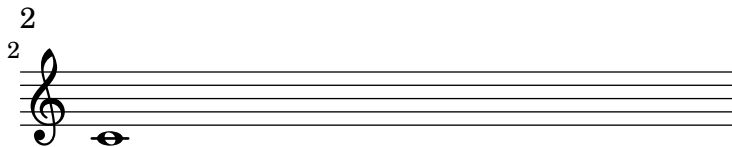
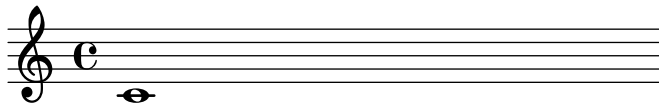


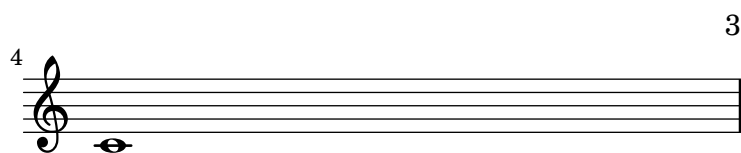
2  
02

The max-systems-per-page variable prevents more than a given number of systems from being on a page. Titles are not counted as systems. \noPageBreak can override max-systems-per-page in unusual situations.

page-breaking-max-systems-per-page.ly

## Title

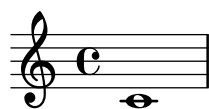
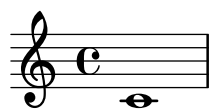


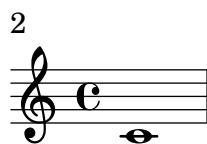


Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

minimum-distance is correctly accounted for in page breaking.

page-breaking-min-distance.ly

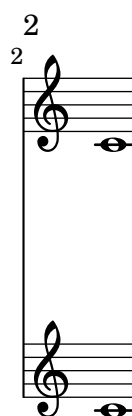
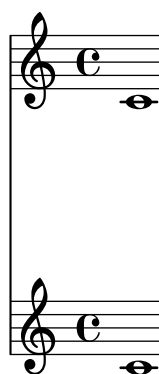




Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

minimum-distance within a system is correctly accounted for in page breaking.

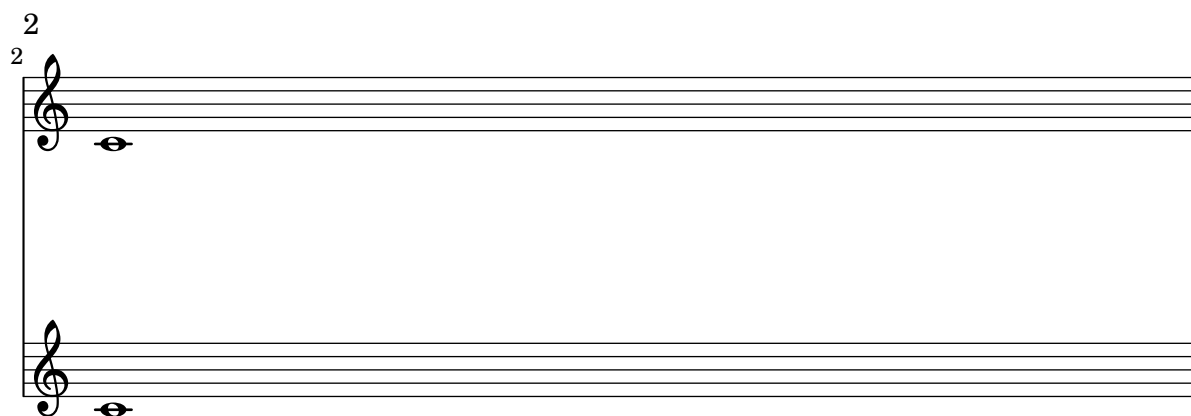
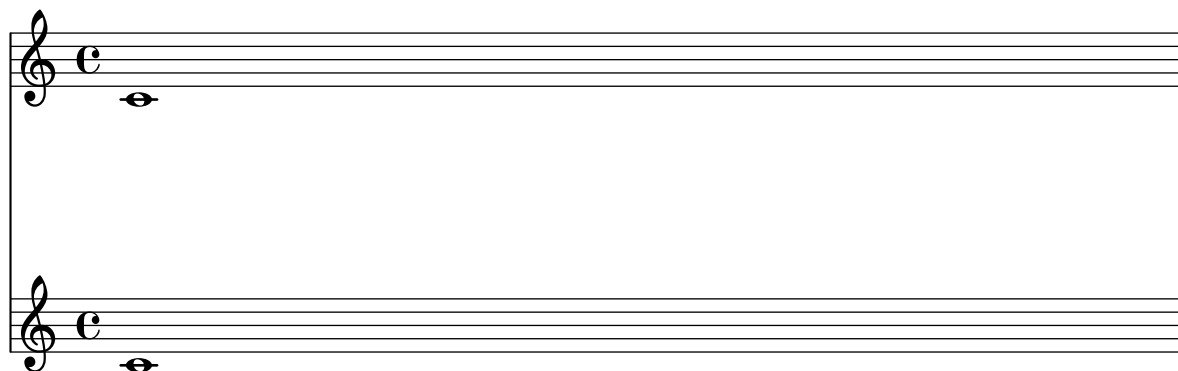
page-breaking-min-distance2.ly



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

minimum-distance within a system is correctly accounted for in page breaking.

page-breaking-min-distance3.ly

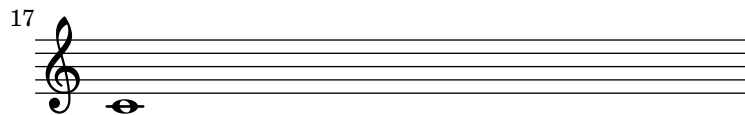
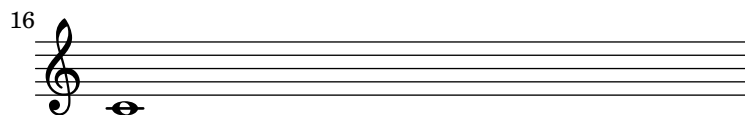
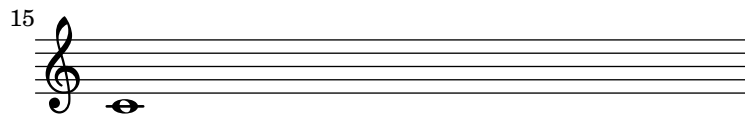
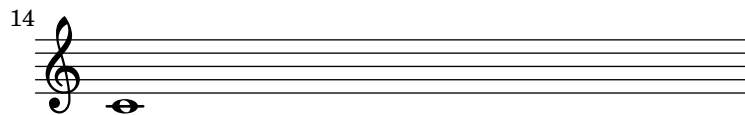
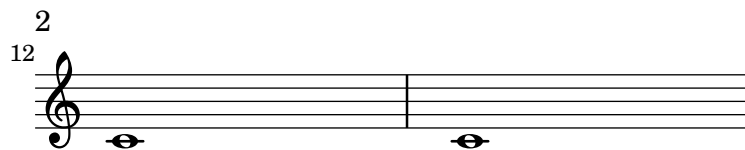


Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The min-systems-per-page variable forces each page to have a minimum number of systems. Titles do not count as systems here.

## Title





Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The min-systems-per-page variable takes precedence over the desire not to overfill a page. In this case, systems will overlap because they are forced to be on the page.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The height-estimation routine takes into account the fact that the TextScript needs to be moved up to avoid the note. This should be spaced on two pages.

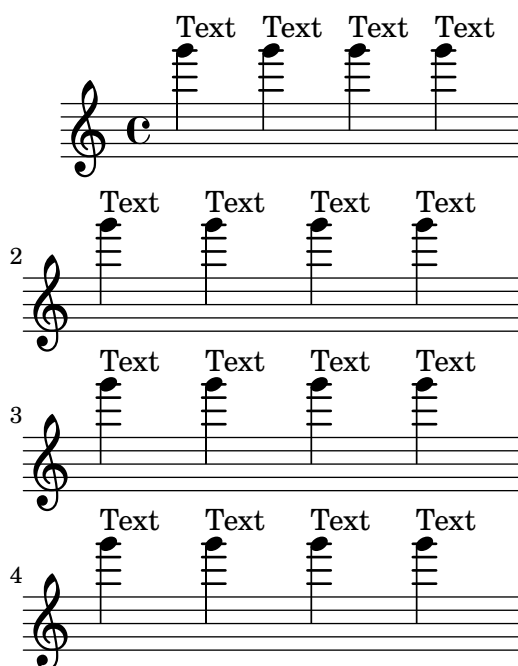


The image displays five musical staves, each with a treble clef and a common time signature 'C'. Each staff contains a single note on the first line (F4). Above each note is the word 'Text' positioned on a line of three horizontal lines that extend above the staff. The staves are numbered 1 through 5 on the left side. Staff 1 has the text on the first line above the staff. Staff 2 has the text on the second line above the staff. Staff 3 has the text on the third line above the staff. Staff 4 has the text on the fourth line above the staff. Staff 5 has the text on the fifth line above the staff.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The height-estimation routine doesn't get confused by multiple outside-staff grobs in the same measure.

page-breaking-outside-staff-estimation2.ly



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

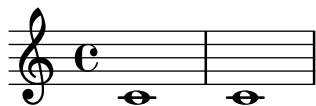
A warning is emitted when `page-count` is negative or zero.

`page-breaking-page-count-positive.ly`



The number of pages in a score can be forced by setting `page-count` in the (book-level) paper block.

`page-breaking-page-count1.ly`

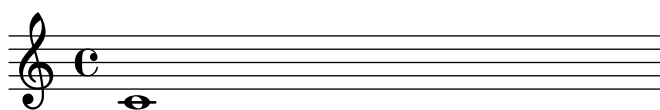


2

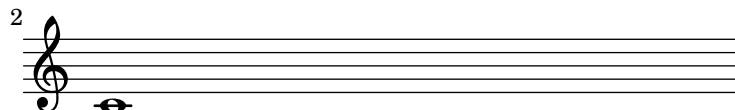
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The number of pages in a score can be forced by setting `page-count` in the (book-level) paper block. If there are too few systems for the number of pages, we append blank pages.

`page-breaking-page-count2.ly`



2



**3**

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The number of pages in a score can be forced by setting **page-count** in the (book-level) paper block. Even if there are too many systems for that number of pages, we will squeeze them in.

page-breaking-page-count3.ly

2  
3  
4  
5  
6  
7  
8  
9  
10

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

system-count and `\pageBreak` are compatible.

page-breaking-system-count-forced-break.ly



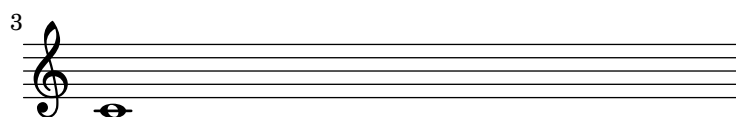
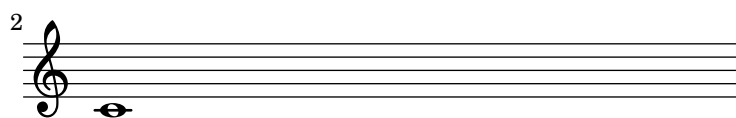
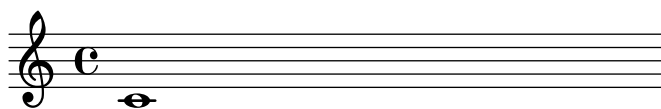


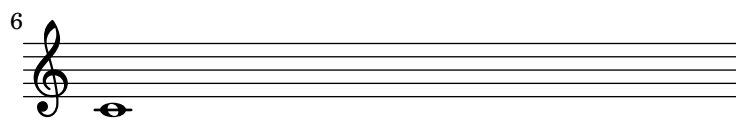
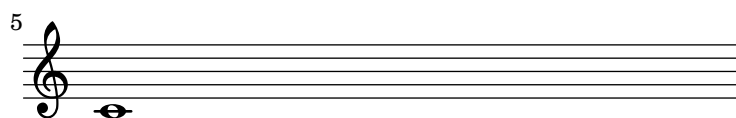
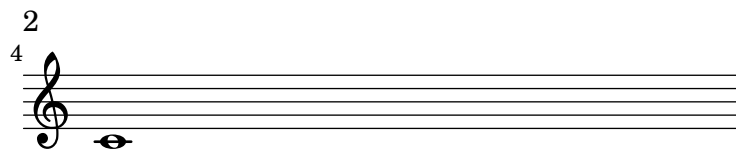
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The systems-per-page variable forces a certain number of systems per page. Titles are not counted as systems.



## Title





Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Stress optimal page breaking. This should look nice and even on 4 a6 pages.

# Title

**(and (the) subtitle)**

### Sub sub title

Poet

## Instrument

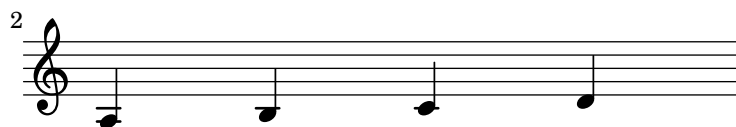
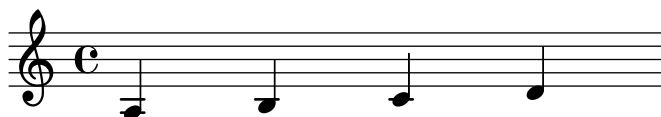
Composer

Meter (huh?)

Arranger

Piece

opus 0



---

Copyright by /me

2 Instrument

5

6

7

8

9

10

The image displays a musical score for an instrument, consisting of six staves. The first staff is labeled '2' and 'Instrument'. The subsequent staves are labeled '5', '6', '7', '8', '9', and '10'. Each staff contains a sequence of four notes, all of which are quarter notes. The notes are positioned on the first line of each staff, indicating a consistent pitch across the sequence. The staves are connected by a horizontal line at the top and bottom.

---

Instrument 3

11



12



13



14



15



Music engraving by LilyPond 2.24.2 4  
[www.lilypond.org](http://www.lilypond.org)

---

Page-headers and -footers. All headers and footers should be printed on their specified page.

---

first-page-header-text



2



3



4



5



6



---

first-page-footer-text

---

---

2  
page-2-header-text

7



8



9



10



11



12



---

page-2-footer-text

---

3  
last-page-header-text

13



14



15



16



17



18



last-page-footer-text

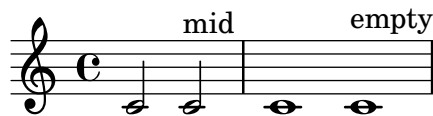
---

Page labels on loose columns are not ignored: this includes both mid-line unbreakable columns which only contain labels and columns with empty bar lines (and no other break-aligned grobs).



Table of Contents

Mid-line	1
Empty bar line	1



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Page labels may be placed inside music or at top-level, and referred to in markups. Labels created with `\tocItem` (and thus bearing an internally-generated unique identifying symbol) remain referrable by their user-specified name.

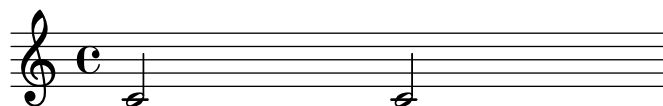
`page-label.ly`

Title Page

2	
	Table of contents
Table of contents	2
First Score	3
Mark A	3
Mark B	4
Mark C	4
Unknown label	?

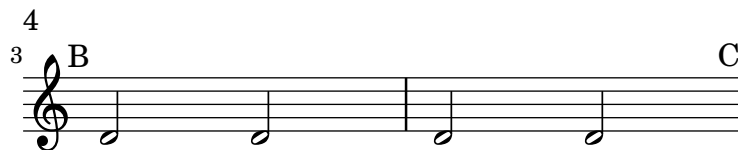
3

First score



2 A (page 3)

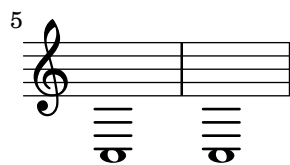
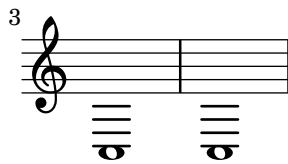
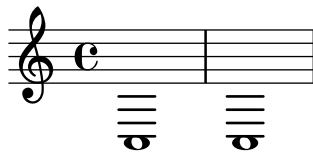




Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

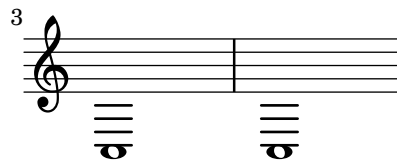
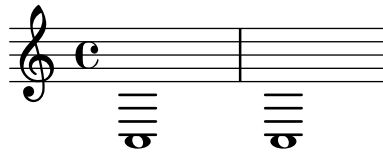
By setting `extra-offset` within the `line-break-system-details` of `NonMusicalPaperColumn`, systems may be moved in relation either to their default position on the printable area of the page or the absolute position specified by `X-offset` or `Y-offset` within `line-break-system-details`.

header



footer

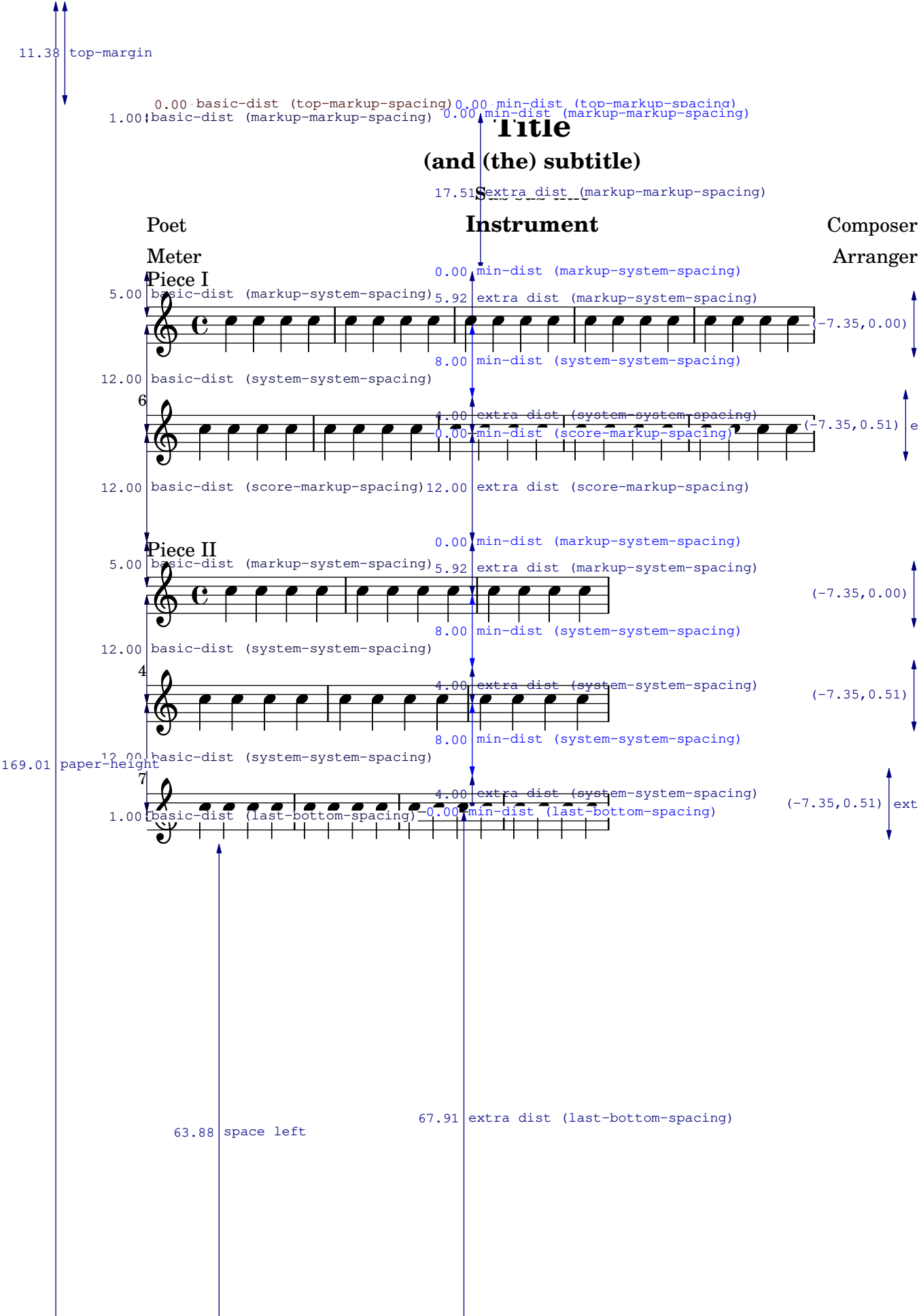
By setting `Y-offset` and `X-offset` for the `line-break-system-details` of `NonMusicalPaperColumn`, systems may be placed absolutely on the printable area of the page.



this is the tagline

This shows how different settings on `\paper` modify the general page layout. Basically `\paper` will set the values for the whole paper while `\layout` for each `\score` block.

This file is best viewed outside the collated files document.



Links to labels should not break if the label doesn't exist.

Link to non-existing label



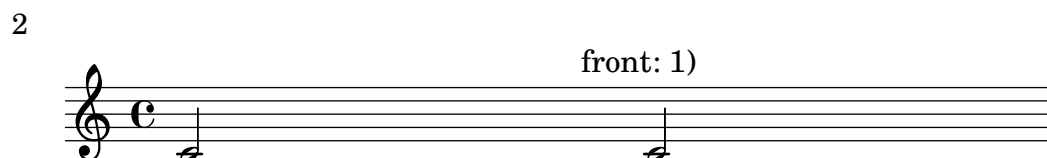
Links to labels and explicit page number (PDF backend only).

`page-links.ly`

Link to page 2 with label #second.

Explicit link to page 3

Link to mark B



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Minimal page breaker: special case when the last system is moved to an other page when there is not enough space because of the tagline.

`page-minimal-page-breaking-last-page.ly`

<b>Text</b>
<b>Text</b>

2

Text

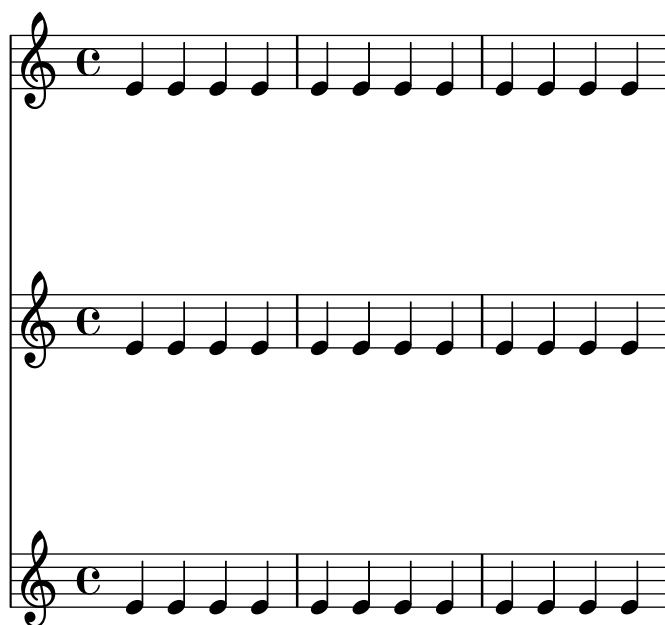
Text

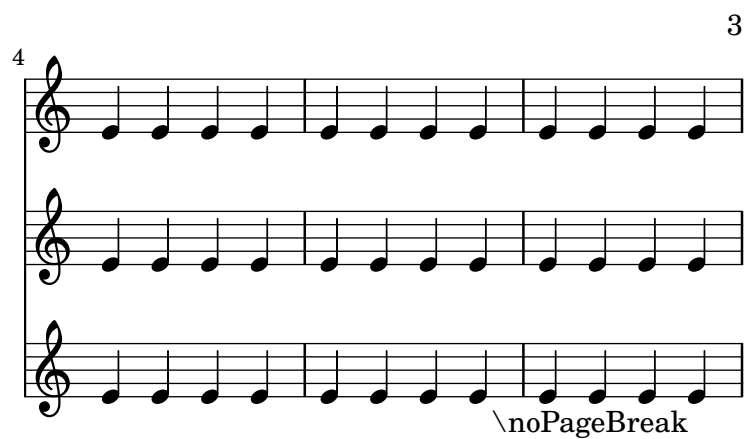
Tagline

The minimal page breaker stacks as many lines on pages, only accounting for manual page break commands.



2

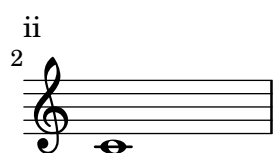


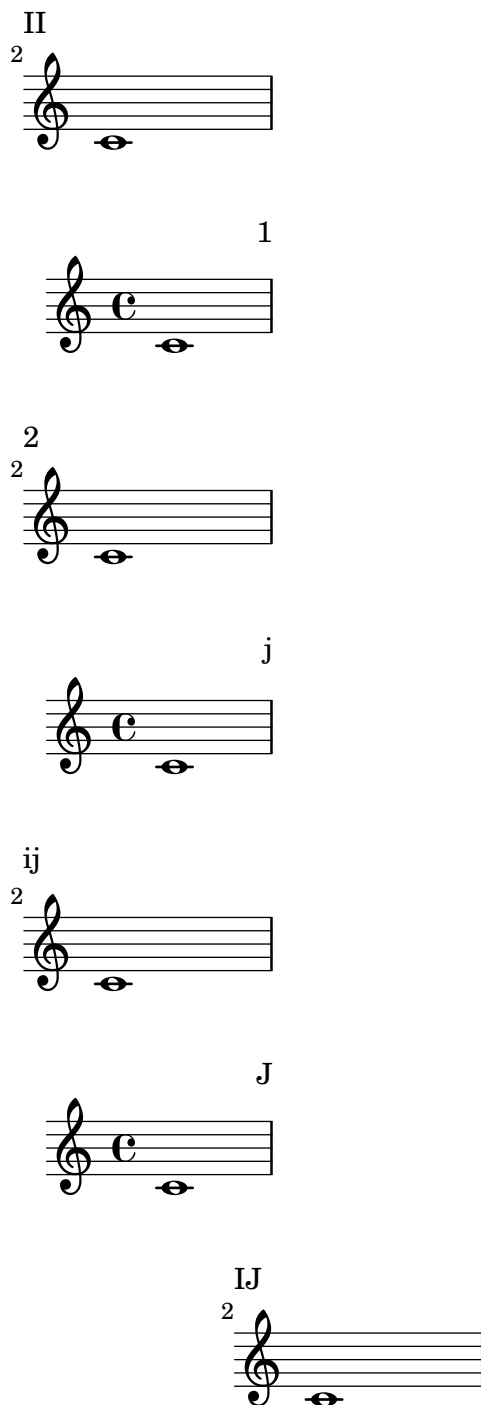


Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Test the different options for page number formatting.

page-number-type.ly

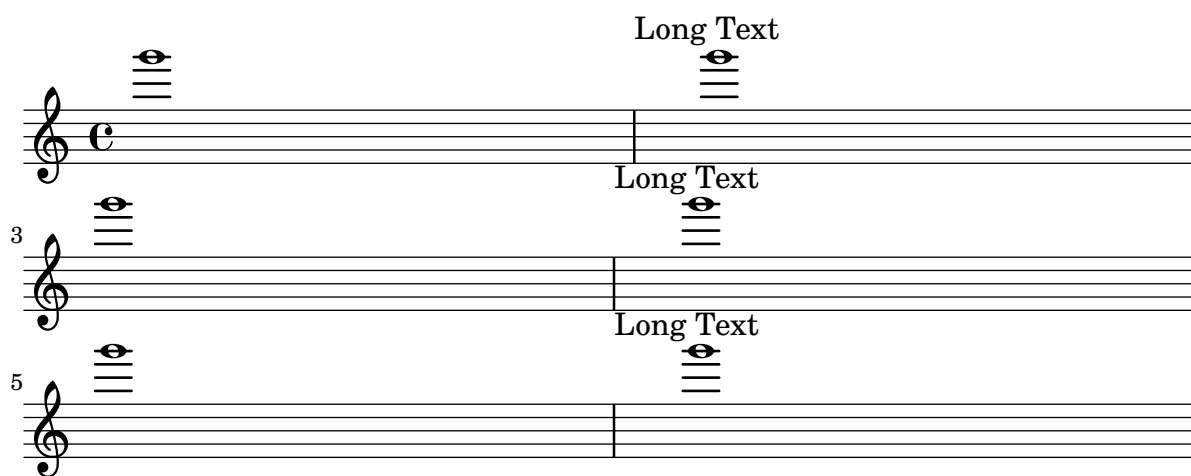




Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Layouts that overflow a page will be compressed in order to fit on the page, even if it causes collisions. In this example, the tagline should not collide with the bottom staff.

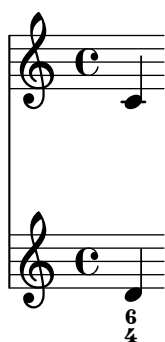
page-overflow-compression.ly



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

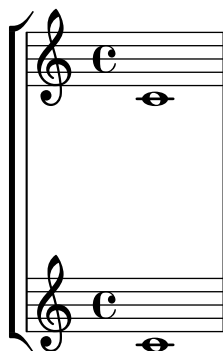
*alignment-distances* applies to the toplevel `VerticalAlignment` but not to `BassFigureAlignment`. The 4 in the bass figure line should be directly below the 6.

page-spacing-bass-figures.ly



The spring at the bottom of a page is fairly flexible (much more so than the one at the top), so it does not drag the staff to the bottom of the page. However, it is sufficiently stiff to cause stretching.

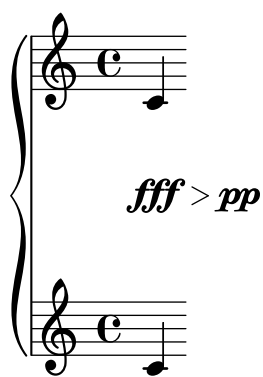
page-spacing-bottom-spring.ly



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Dynamic centering still works with alignment-distances.

`page-spacing-dynamics.ly`



Adjacent lines of markup are placed as closely together as possible.

`page-spacing-markups.ly`

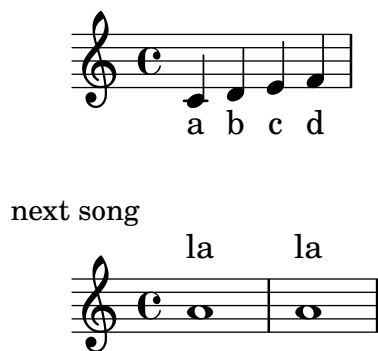


A  
B  
C  
D  
E

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

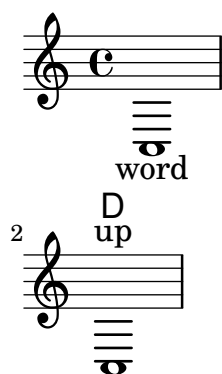
Having markup after a non-staff line doesn't confuse the page layout engine.

`page-spacing-nonstaff-lines-and-markup.ly`



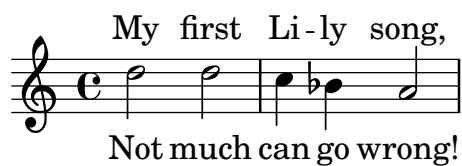
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The vertical spacing engine is not confused by a non-staff line below a system followed by a loose line above the next system. Systems are spaced far enough that loose lines are not interleaved, even if gaps would allow interleaving.



Non-staff lines between two systems don't confuse the layout engine. In particular, they don't interfere with `system-system-spacing`, which controls the flexible spacing between the two closest staves of consecutive systems.

`page-spacing-nonstaff-lines-between.ly`



A non-staff line (such as Lyrics) at the bottom of a system gets spaced appropriately.

`page-spacing-nonstaff-lines-bottom.ly`



Not much can go wrong!

Padding from the header and footer is measured to the first non-staff line, whether or not it is spaceable.

`page-spacing-nonstaff-lines-header-padding.ly`

1.14↑top-margin  
1.00↑basic-dist (top-system-spacing) 0.00 min-dist (top-system-spacing)

foo  
foo  
foo  
foo

84.22 paper-height

1.00↑basic-dist (last-bottom-spacing) 0.00 min-dist (last-bottom-spacing)

foo  
foo  
foo  
foo

27.84 extra dist (last-bottom-spacing)

13.00 space left

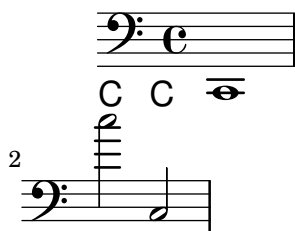
Music engraving by LilyPond 2.24.2—www.lilypond.org  
1.71↑bottom-margin

Spacing rules between Staves coexist with rules affecting non-staff lines. Here, the **padding** separating items on different staves is larger than the **padding** for associated lyrics.

page-spacing-nonstaff-lines-independent.ly

Relative indentation between systems is taken into account in allowing space for loose lines between systems.

page-spacing-nonstaff-lines-skylines.ly



A non-staff line (such as Lyrics) at the top of a system is spaced appropriately.

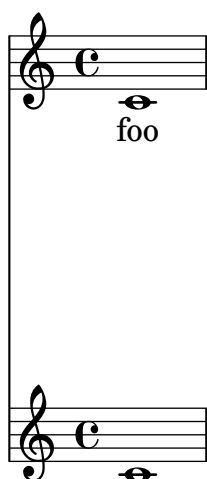
page-spacing-nonstaff-lines-top.ly

My first Li-ly song,



Non-staff lines (such as Lyrics) can specify their **padding** or **minimum-distance** to the staff for which they don't have affinity.

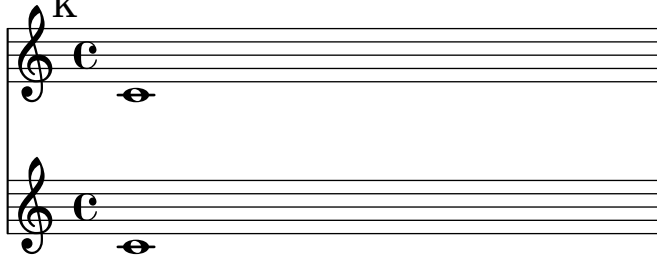
page-spacing-nonstaff-lines-unrelated.ly



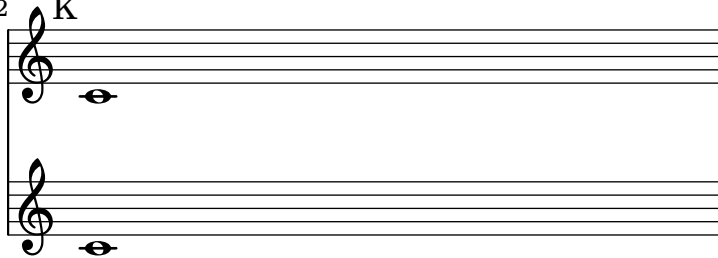
The space taken up by rehearsal marks is correctly accounted for, even though they live in the Score context.

page-spacing-rehearsal-mark.ly

header

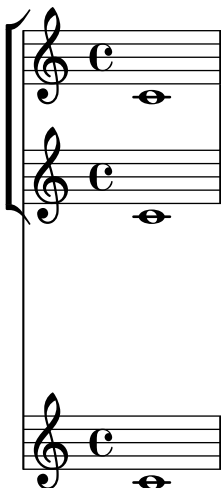
T  
A  
L  
L  
M  
A  
R  
KT  
A  
L  
L  
M  
A  
R  
K

2

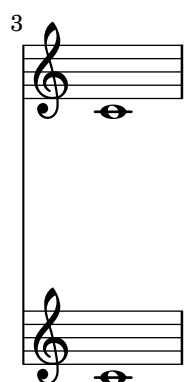
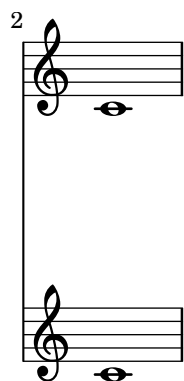
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

StaffGrouper interacts correctly with `\RemoveEmptyStaves`. In both systems, there should be a large space between the staff groups.

page-spacing-staff-group-hara-kiri.ly

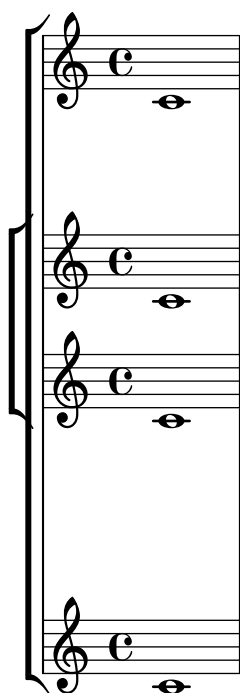






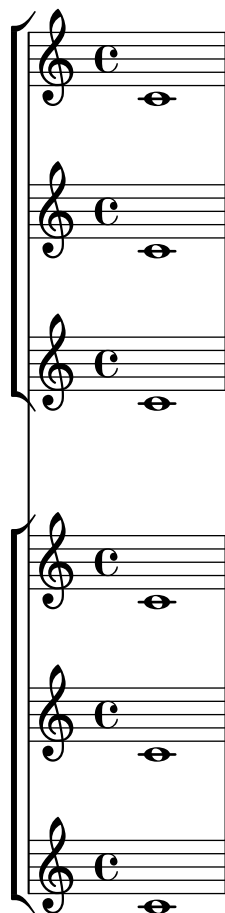
StaffGroups can be nested, in which case the inner StaffGroup wins.

`page-spacing-staff-group-nested.ly`



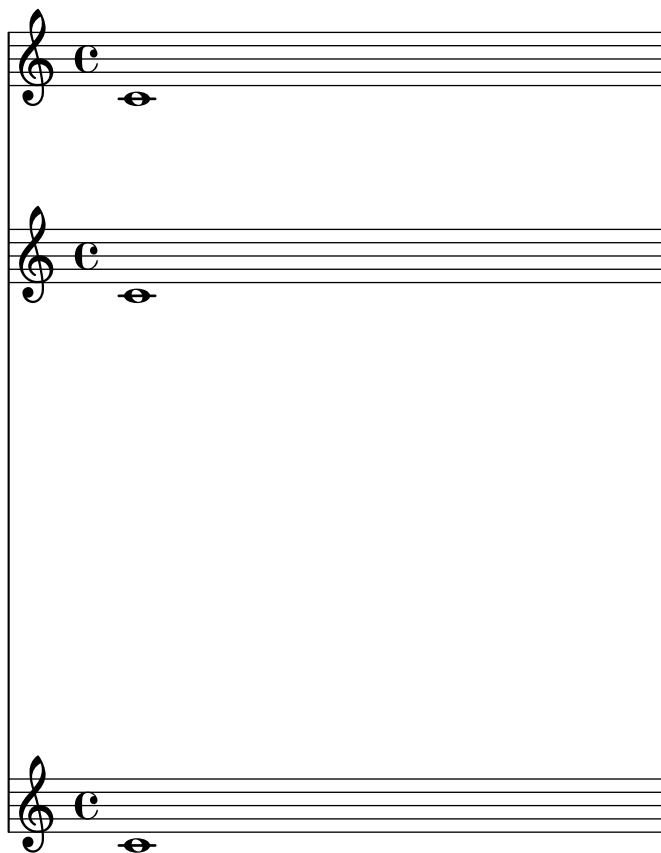
By default, the staves within a StaffGroup are spaced more closely than staves not in a StaffGroup.

`page-spacing-staff-group.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The stretchability property affects the amount that staves will move under extreme stretching, but it does not affect the default distance between staves.

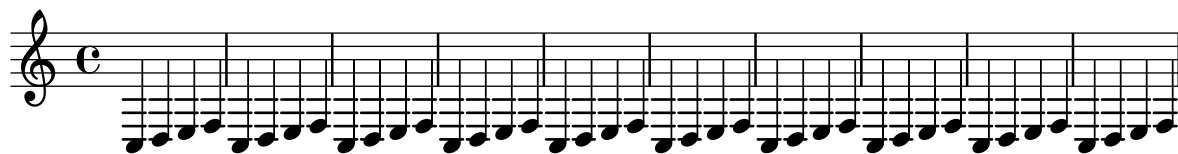




Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

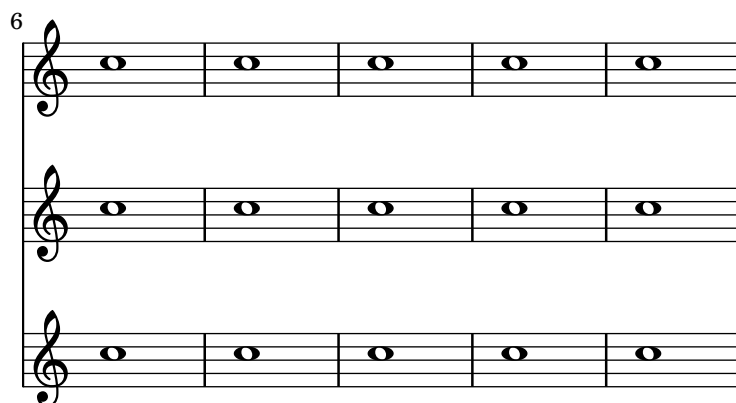
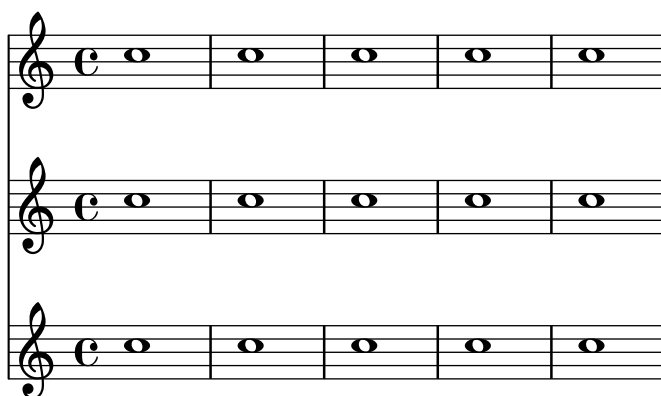
Page breaking doesn't crash when the line-breaking is invalid.

page-spacing-system-count-overfull.ly



Page layout and stretching work with system-count enabled.

page-spacing-system-count.ly

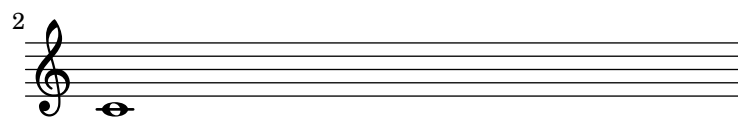
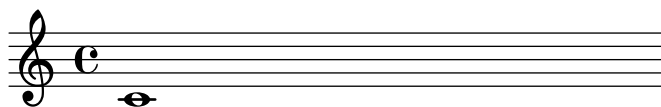


Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

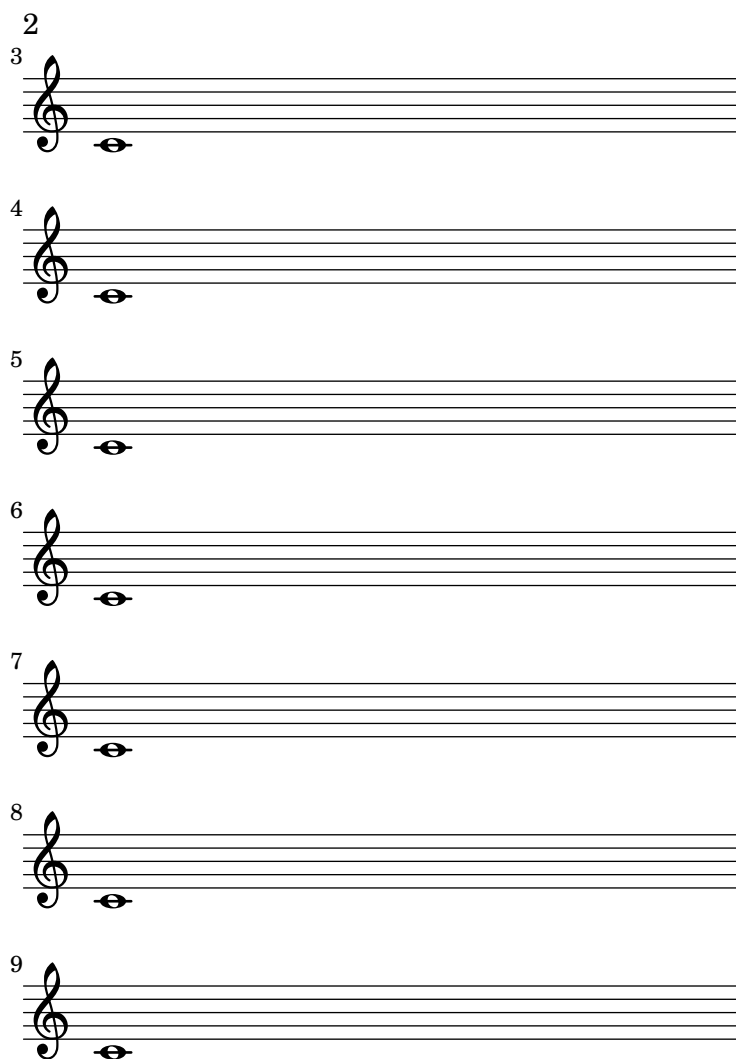
Both the page breaking and the page layout take account of the heights of the header and footer.

page-spacing-tall-headfoot.ly

t  
a  
l  
l  
h  
e  
a  
d  
e  
r

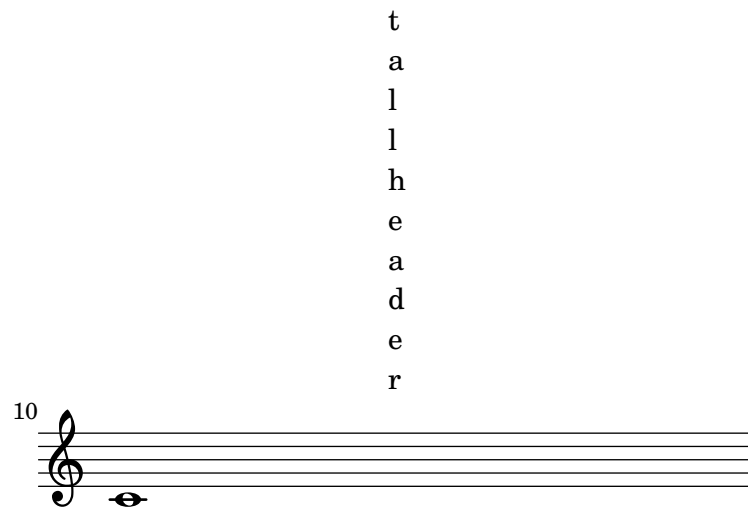


t  
a  
l  
l  
f  
o  
o  
t  
e  
r



small footer



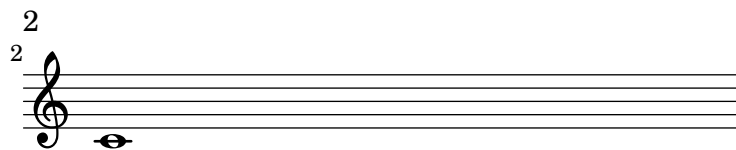


t  
a  
l  
l  
f  
o  
o  
t  
e  
r

`top-markup-spacing` controls the spacing from the top of the printable area (i.e. the bottom of the top margin) to a title or markup, when it is the first item on a page.

`page-spacing-top-markup-spacing.ly`





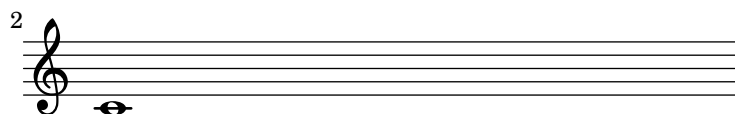
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

`top-system-spacing` controls the spacing to the first non-title staff on every page.

`page-spacing-top-system-spacing.ly`



2



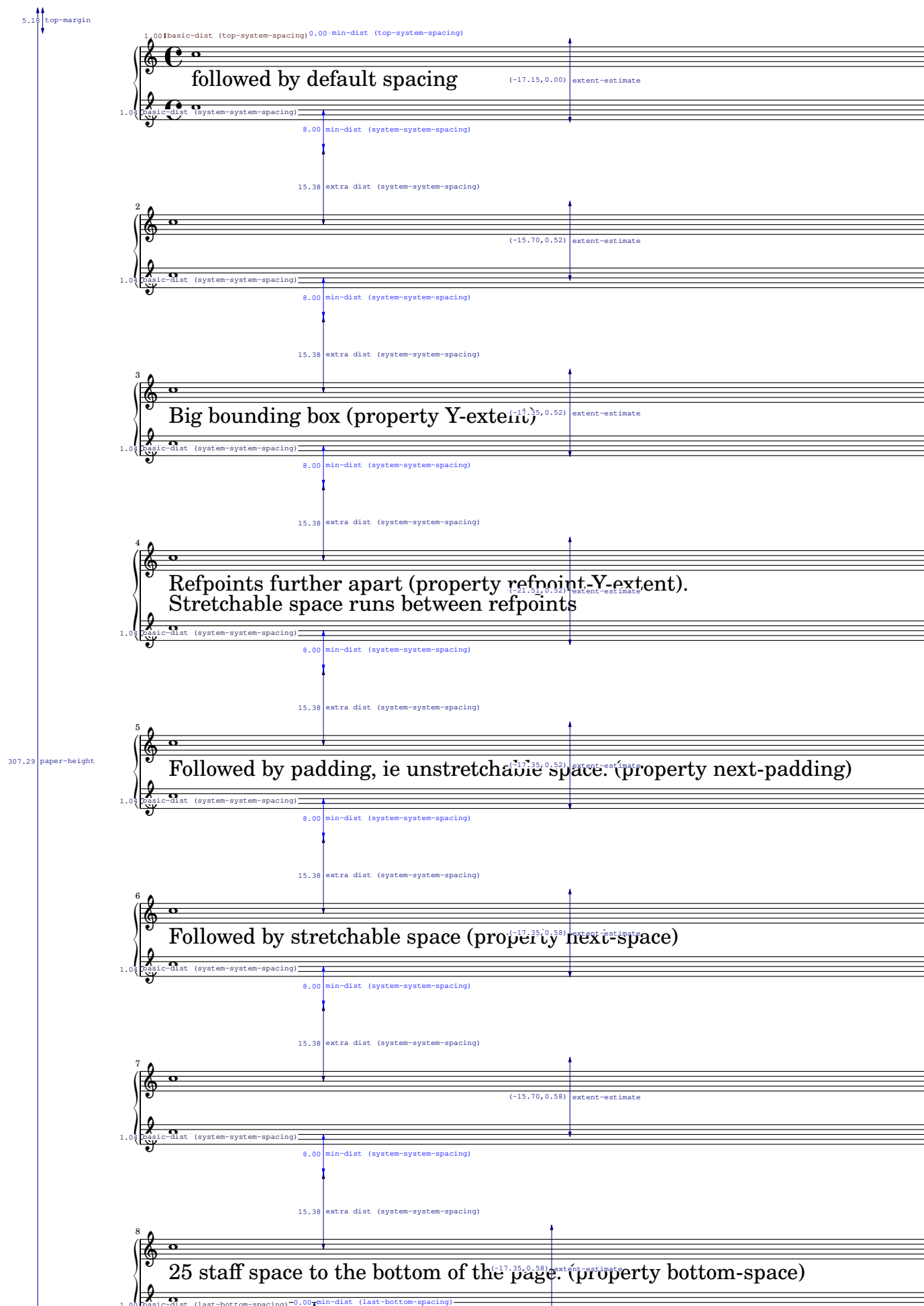
Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

By setting properties in `NonMusicalPaperColumn`, vertical spacing of page layout can be adjusted.

For technical reasons, `overrideProperty` has to be used for setting properties on individual object. `\override` may still be used for global overrides.

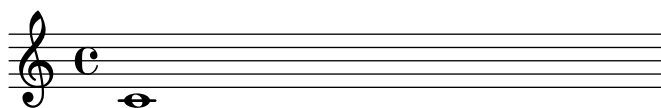
By setting `annotate-spacing`, we can see the effect of each property.

`page-spacing.ly`

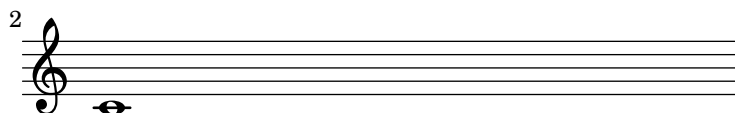


By setting `page-top-space`, the Y position of the first system can be forced to be uniform.

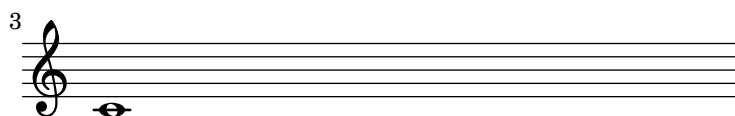
`page-top-space.ly`



2

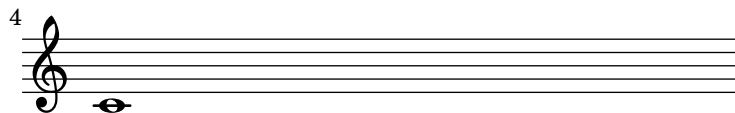


3



4

bla



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

By default, we start with page 1, which is on the right hand side of a double page. In this example, `auto-first-page-number` is set to `##t` and the music won't fit on a single page, so we should automatically set the first page number to 2 in order to avoid a bad page turn.

`page-turn-page-breaking-auto-first-page.ly`

2



5



9



13



17



21



25



29



The image displays eight musical staves, each representing a regression test case. The staves are numbered 2, 5, 9, 13, 17, 21, 25, and 29. Each staff begins with a treble clef and a common time signature (C). The notation consists of a series of eighth notes, with some staves featuring a mix of eighth and sixteenth notes. The notes are primarily located in the lower half of the staff, with some staves showing notes in the upper half. The staves are arranged vertically, with the first staff (2) at the top and the last staff (29) at the bottom.

3

33  
37  
41  
45  
49  
53  
57

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

By default, we start with page 1, which is on the right hand side of a double page. In this example, `auto-first-page-number` is set to `##t`. Although the first measure could go on a page by itself, this would require stretching the first page badly, so we should automatically set the first page number to 2 in order to avoid a bad page turn.

page-turn-page-breaking-auto-first-page2.ly



2

5

9

13

17

21

25

The image displays a musical score for regression test cases, spanning measures 2 through 25. The score is written on seven staves, each beginning with a treble clef and a common time signature (C). The notation is a sequence of eighth notes, organized into four-measure phrases. The first staff (measure 2) includes a whole rest in the second measure. The subsequent staves (measures 5, 9, 13, 17, 21, and 25) contain continuous eighth-note patterns. The notes are primarily positioned on the lower half of the staff, with some higher notes appearing in the later measures.



If there are no good places to have a page turn, the optimal-breaker will just have to recover gracefully. This should appear on 3 pages.

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Allowing the first command column to be breakable caused a crash in Page\_turn\_page\_breaking.



The page-turn engraver will not count potential page turns if they occur in the middle of a repeat unless there is a long gap at the beginning or at the end of the repeat.

page-turn-page-breaking-repeats.ly

The image displays a musical score for a regression test case. It consists of seven staves of music, each starting with a treble clef and a common time signature (C). The notation includes various musical symbols such as eighth notes, sixteenth notes, and rests. The score is divided into sections by repeat signs (double bar lines with dots) and includes page numbers (6, 10, 20, 25, 27, 30, 32) and a long gap (10) indicating a page turn. The notation is in black ink on a white background.

Staff 1: Treble clef, common time. Measures 1-5. Ends with a repeat sign.

Staff 2: Treble clef, common time. Measure 6. Measure 7 contains a repeat sign and the number 10. Measures 8-10. Ends with a repeat sign.

Staff 3: Treble clef, common time. Measures 11-15. Ends with a repeat sign.

Staff 4: Treble clef, common time. Measures 16-20. Ends with a repeat sign.

Staff 5: Treble clef, common time. Measures 21-25. Ends with a repeat sign.

Staff 6: Treble clef, common time. Measures 26-30. Ends with a repeat sign.

Staff 7: Treble clef, common time. Measures 31-32. Measure 32 contains a repeat sign and the number 10. Ends with a repeat sign.



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

`Page_turn_engraver` places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in Score context.

`page-turn-page-breaking-score.ly`

2

3

4

9

14

6

18

22



`Page_turn_engraver` places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in Voice context.

`page-turn-page-breaking-voice.ly`

2

3

4  
9

14

6  
18

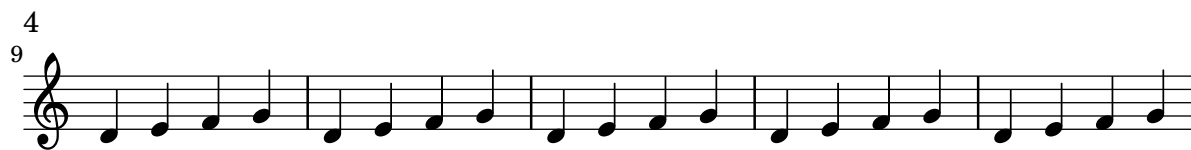
22

8  
26



`Page_turn_engraver` places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in `Staff` context.

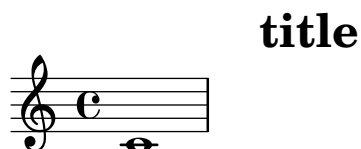
`page-turn-page-breaking.ly`





it is allowed to start a score with a page break

`page-turn-start-with-page-break.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

The palm mute technique for stringed instruments is supported by triangle-shaped note heads.

`palm-mute.ly`

▲ = palm mute

Default values for margins, indents, and offsets are accessible in `paper-defaults-init.ly` and apply to the default paper size returned by `(ly:get-option 'paper-size)`. For other paper sizes, they are scaled linearly.

`paper-default-margins-a6.ly`

For other paper sizes, margins are scaled accordingly.



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Default values for margins, indents, and offsets are accessible in `paper-defaults-init.ly` and apply to the default paper size returned by `(ly:get-option 'paper-size)`. For other paper sizes, they are scaled linearly.

`paper-default-margins-def.ly`

If the paper size remains default, the margin values from paper-defaults-init.ly remain unchanged

8

16

24

32

40

47

54

Margin values must fit the line-width, that means:  $\text{paper-width} = \text{line-width} + \text{left-margin} + \text{right-margin}$ . In case they do not, default margins are set and a warning is printed.



Here only left-margin is given, right-margin will remain default.



If only line-width is given, systems are horizontally centered.



The image displays a musical score for regression test cases, consisting of ten staves of music. Each staff begins with a treble clef and a common time signature (C). The music is written in a single melodic line, featuring a sequence of eighth notes. The notes are organized into four measures per staff, with a bar line separating the first and second measures, and another bar line separating the third and fourth measures. The sequence of notes across the staves is as follows:

- Staff 1: C4, D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6.
- Staff 2: C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7.
- Staff 3: C7, D7, E7, F7, G7, A7, B7, C8, D8, E8, F8, G8, A8, B8, C9.
- Staff 4: C9, D9, E9, F9, G9, A9, B9, C10, D10, E10, F10, G10, A10, B10, C11.
- Staff 5: C11, D11, E11, F11, G11, A11, B11, C12, D12, E12, F12, G12, A12, B12, C13.
- Staff 6: C13, D13, E13, F13, G13, A13, B13, C14, D14, E14, F14, G14, A14, B14, C15.
- Staff 7: C15, D15, E15, F15, G15, A15, B15, C16, D16, E16, F16, G16, A16, B16, C17.
- Staff 8: C17, D17, E17, F17, G17, A17, B17, C18, D18, E18, F18, G18, A18, B18, C19.
- Staff 9: C19, D19, E19, F19, G19, A19, B19, C20, D20, E20, F20, G20, A20, B20, C21.
- Staff 10: C21, D21, E21, F21, G21, A21, B21, C22, D22, E22, F22, G22, A22, B22, C23.

The staves are numbered 5, 9, 13, 17, 21, 25, 29, 33, and 37, indicating the starting measure for each staff. The first staff (unnumbered) starts at measure 1. The sequence of notes continues across the staves, with each staff containing 16 notes (4 measures of 4 notes each).

All checks can be avoided by setting check-consistency to `##f` in `\paper`.



Normally, margin settings must not cause systems to run off the page.



Here only right-margin is given, left-margin will remain default.



A musical score consisting of six staves, each containing a sequence of 12 eighth notes. The notes are arranged in a repeating pattern of four groups of three notes each, with a common time signature 'C' at the beginning of the first staff. The staves are numbered 7, 14, 21, 28, and 35 on the left side, indicating the starting measure for each staff.

7

14

21

28

35

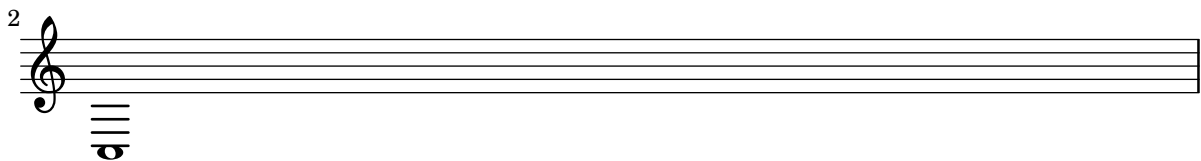
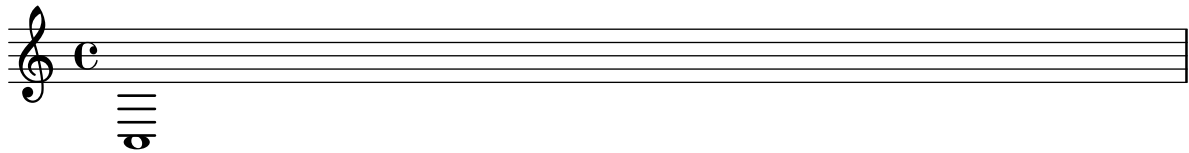
Paper margin settings do not have to be complete. Missing values are added automatically. If no paper settings are specified, default values are used.





Nested properties can be set in the paper block.

`paper-nested-override.ly`



Setting individual nested paper properties does not remove existing settings or break spacing annotation.

`paper-nested-override2.ly`



Setting a custom default paper size.

`paper-size-custom-default.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Setting a custom paper size (landscape).

`paper-size-custom-landscape.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Setting a custom paper size.

`paper-size-custom.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

In two-sided mode, a binding offset can be specified, which is added to the inner margin automatically.

`paper-twosided-bcorr.ly`

The image displays a musical score for regression test cases, consisting of 13 staves of music. Each staff begins with a treble clef, a common time signature (C), and a key signature of one sharp (F#), indicating the key of D major. The music is written in 4/4 time and features a consistent eighth-note pattern across all staves. The notes are D4, E4, F#4, G4, A4, B4, C5, and D5, which are repeated in a sequence of eighth notes. The staves are numbered 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, 78, and 85, indicating the starting measure for each staff. The pattern of notes is as follows: Staff 8: D4, E4, F#4, G4, A4, B4, C5, D5; Staff 15: E4, F#4, G4, A4, B4, C5, D5, E5; Staff 22: F#4, G4, A4, B4, C5, D5, E5, F#5; Staff 29: G4, A4, B4, C5, D5, E5, F#5, G5; Staff 36: A4, B4, C5, D5, E5, F#5, G5, A5; Staff 43: B4, C5, D5, E5, F#5, G5, A5, B5; Staff 50: C5, D5, E5, F#5, G5, A5, B5, C6; Staff 57: D5, E5, F#5, G5, A5, B5, C6, D6; Staff 64: E5, F#5, G5, A5, B5, C6, D6, E6; Staff 71: F#5, G5, A5, B5, C6, D6, E6, F#6; Staff 78: G5, A5, B5, C6, D6, E6, F#6, G6; Staff 85: A5, B5, C6, D6, E6, F#6, G6, A6.

2  
99

106

113

120

127

134

141

148

155

162

169

177

193



Two-sided mode allows you to use different margins for odd and even pages.





A musical score consisting of 14 staves, each containing a sequence of 12 eighth notes. The notes are organized into groups of four, with a vertical bar line separating the first group from the rest of the staff. The notes are: C4, D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5. The staves are numbered 0, 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, 78, and 85. Each staff begins with a treble clef and a common time signature (C). The notes are written on a five-line staff, with the first group of four notes (C4-D4-E4-F4) positioned below the staff and the remaining notes (G4-A4-B4-C5-D5-E5-F5-G5) positioned above the staff.

2  
99



106



113



120



127



134



141



148



155



162



169



177



193



`\parallelMusic` does not complain about incomplete bars at its end.  
`parallelmusic-partial.ly`



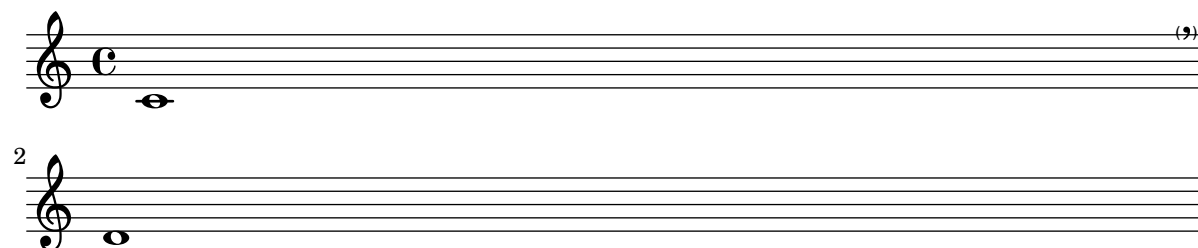
When `parent-alignment-X` property is unset, the value of `self-alignment-X` will be used as the factor for parent alignment. This happens e.g. for `LyricTexts`.

`parent-alignment-synchronized-with-self-alignment.ly`



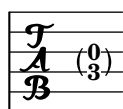
Parenthesizing breakable items such as breathing signs also work at line ends.

`parenthesize-breakable.ly`



When `\parenthesize` applies to a chord, the parentheses enclose all notes in the chord.

`parenthesize-chords.ly`



Parentheses are correctly placed when placed on a note head that is on the right of its stem and has an accidental.

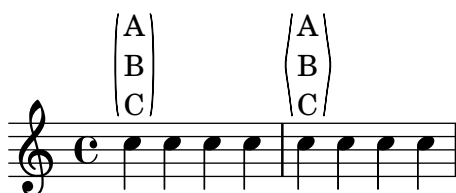
`parenthesize-horizontal-placement.ly`



`\laissezVibrer` can be parenthesized without programming errors.  
`parenthesize-laissezvibrer.ly`



The `parenthesize` markup will place parentheses around any stencil.  
 The angularity of the parentheses can be adjusted.  
`parenthesize-markup.ly`



Parentheses around notes also include accidentals and dots; they are centered on the vertical center of the combined enclosed items.

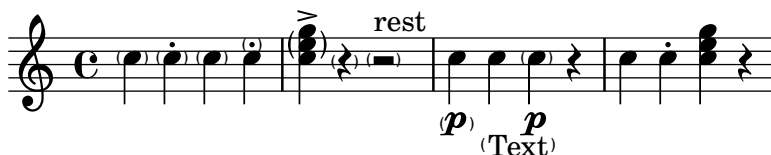
`parenthesize-notes-accidentals.ly`



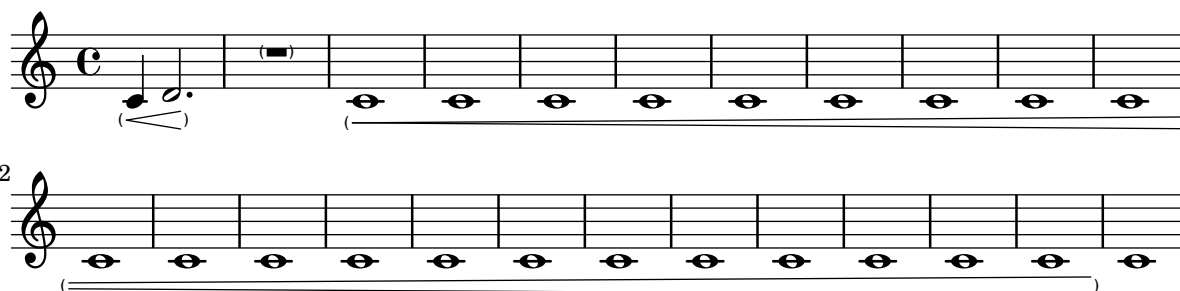
The `\parenthesize` function should also work on single notes (not inside chords), rests, and on whole chords. Also, parenthesizing articulations, dynamics and text markup is possible. On all other music expressions, `\parenthesize` does not have an effect.

Measure 1: Three parenthesized notes (staccato not parenthesized), one note with staccato in parentheses; Measure 2: Chord and two rests in parentheses (accent and markup not); Measure 3: note (no parentheses) with `\p` in parentheses, with text in parentheses, and note in parentheses with `\p` not in parentheses, rest (no parentheses); Measure 4: shows that `\parenthesize` does not apply to other expressions like `SequentialMusic`.

`parenthesize-singlenotes-chords-rests.ly`



Parenthesizing spanners is supported.  
`parenthesize-spanners.ly`



`\parenthesize` can take the name of the grob to be parenthesized. It then acts like a `\once \override`.

`parenthesize-time-based.ly`



The `parenthesize` function is a special tweak that encloses objects in parentheses. The associated grob is `Score.Parentheses`.

`parenthesize.ly`



It is possible to use the part combiner for three voices with `\partCombineUp` and `\partCombineDown`.

`part-combine-3voices.ly`



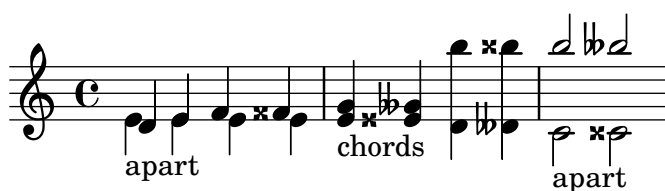
The `a2` string is printed only on notes (i.e. not on rests), and only after chords, solo or polyphony.

`part-combine-a2.ly`



The part combiner has an option to set the range of differences in steps between parts that may be combined into chords.

`part-combine-chord-range.ly`



The part combiner stays apart for crossing voices.

`part-combine-cross.ly`



If the part-combiner shows two separate voices, multi-measure rests are supposed to use the same settings as `\voiceOnce` and `\voiceTwo`.

`part-combine-force-mmrest-position.ly`



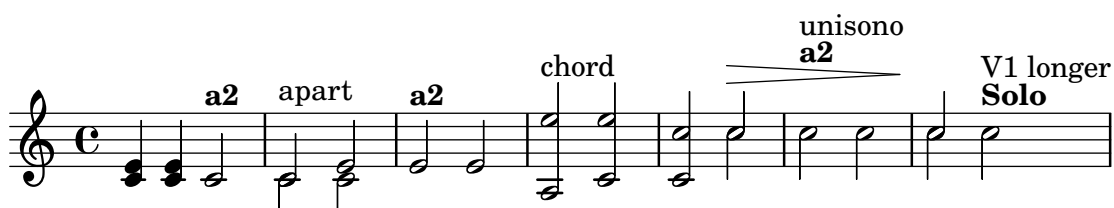
Overrides for the part-combiner, affecting only one moment. The `partCombine...Once` override applies only to one moment, after which the old override – if any – is in effect again.

`part-combine-force-once.ly`



Overrides for the part-combiner. All functions like `\partCombineApart` and `\once \partCombineApart` are internally implemented using a dedicated `partCombineForced` context property.

`part-combine-force.ly`



The analysis of the part combiner is non-local: in the following example, the decision for using separate voices in the 1st measure is made on the 2nd note, but influences the 1st note.

In the 2nd measure, the pattern without the tie, leads to combined voices.

`part-combine-global.ly`



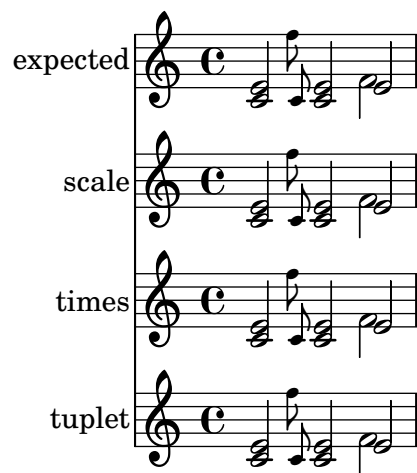
The notes of the first chord share a stem but the notes of the second chord do not.

`part-combine-inside-grace.ly`



Music functions that scale durations also scale `\partCombine` decisions.

`part-combine-inside-scale-durations.ly`



`\keepWithTag` works with `\partCombine`.

`part-combine-keep-with-tag.ly`



Part combine texts accept markup.

`part-combine-markup.ly`



Normal rests are preferred over multi-measure rests. A multi-measure rest beginning in one part in the middle of a multi-measure rest in the other part appears as expected.

`part-combine-mmrest-after-apart-silence.ly`



Multimeasure rests are printed after solos, both for solo1 and for solo2.

`part-combine-mmrest-after-solo.ly`





The positioning of multimeasure rests in `\partCombineApart` passages corresponds with `\voiceOne` and `\voiceTwo` even when using non-standard staves.

`part-combine-mmrest-apart.ly`

`\partCombine`

<< ... \ \ ... >>

The image shows two staves of music. The top staff has a treble clef and a common time signature 'C'. It contains four measures of rests: the first is labeled 'R1', the second 'r1', the third 'R2', and the fourth 'r2'. The bottom staff also has a treble clef and a common time signature 'C'. It contains four measures of rests, each aligned with the corresponding measure on the top staff. The rests are represented by horizontal lines with vertical stems.

Multi-measure rests do not have to begin and end simultaneously to be combined.

`part-combine-mmrest-shared.ly`

The image shows three staves of music. Each staff has a treble clef and a common time signature 'C'. The first staff has four measures of rests with durations 8, 8, 8, and 4. The second staff has five measures of rests with durations 8, r, 7, 8, and 4. The third staff has five measures of rests with durations 8, 7, 8, and 4. The rests are represented by horizontal lines with vertical stems.

`\partCombine` needs to be given pitches in their final octaves, so if `\relative` is used it must be applied inside `\partCombine`. The pitches in `\partCombine` are unaffected by an outer `\relative`, so that the printed output shows the pitches that `\partCombine` used.

The expected output of this test is three identical measures.

`part-combine-relative.ly`

The image shows a single staff of music with a treble clef and a common time signature 'C'. It contains three identical measures of eighth notes. The notes are represented by horizontal lines with vertical stems.

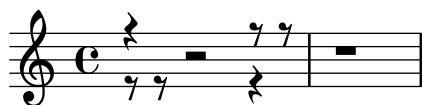
Different kinds of silence are not merged into the shared voice even if they begin and end simultaneously; however, when rests and skips are present in the same part, the skips are ignored.

`part-combine-silence-mixed.ly`

The image shows two staves of music. Each staff has a treble clef and a common time signature 'C'. The top staff has five measures of rests with durations s, r, s, s, and s. The bottom staff has five measures of rests with durations r, R, s, s, and s. The rests are represented by horizontal lines with vertical stems.

Rests must begin and end simultaneously to be merged into the shared voice.

`part-combine-silence.ly`



SOLO is printed even if the solo voice ends before the other one. Unfortunately, the multi-rest of the 1st voice (which is 2 bars longer than the 2nd voice) does not get printed.

part-combine-solo-end.ly



In this example, solo1 should not be printed over the 1st note, because of the slur which is present from the one-voice to the two-voice situation.

part-combine-solo-global.ly



A solo string can only be printed when a note starts. Hence, in this example, there is no Solo-2 although the 2nd voice has a dotted quarter, while the first voice has a rest.

A Solo indication is only printed once; (shared) rests do not require reprinting a solo indication.

Solo 1/2 can not be used when a spanner is active, so there is no solo over any of the tied notes.

part-combine-solo.ly



Test some transitions that might be found in string parts produced with \partCombine.

part-combine-strings.ly



Wait for the next real note for part-combine texts (i.e. don't print part-combine texts on rests). This is needed because the part-combiner needs an override if one voice has a full-bar rest while the other has some rests and then a solo.

`part-combine-text-wait.ly`



The part combiner detects a2, solo1 and solo2, and prints texts accordingly.

`part-combine-text.ly`



End tuplets events are sent to the starting context, so even after a switch, a tuplet ends correctly.

`part-combine-tuplet-end.ly`



Tuplets in combined parts only print one bracket.

`part-combine-tuplet-single.ly`



The part combiner can combine parts of unequal lengths.

`part-combine-unequal-lengths.ly`



Grace notes in parts are combined.

`part-combine-with-grace.ly`



The new part combiner stays apart from:

- different durations,
- different articulations (taking into account only slur/beam/tie), and

- wide pitch ranges.

part-combine.ly



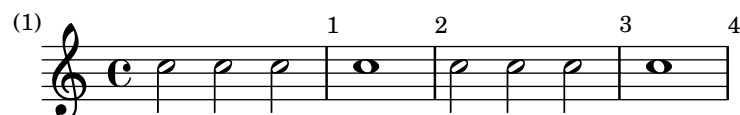
\partialial can be can be called in mid-piece in multiple contexts.

partial-in-mid-piece.ly



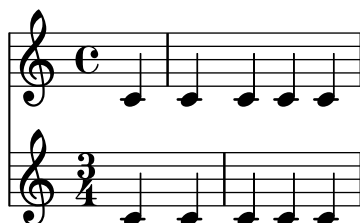
\partialial can create measures longer than the length dictated by the time signature.

partial-long.ly



\partialial works with polymetric staves.

partial-polymetric.ly



Ensure that certain paths are drawn correctly and do not cause division by zero.

path-edge-case.ly



Exercise various situations in path stencils.

path-exercise.ly



The extents of a path stencil are correctly computed when it contains consecutive `moveto` commands.

path-extents-consecutive-movetos.ly



Curve path stencils have correct extents.

path-extents-curve.ly



`\pattern` and `\fill-with-pattern` markup commands should interpret their arguments only once. This test calls them with a markup command that counts how often it is evaluated. The first line is supposed to show just ‘1’ multiple times, the second line uses numbers ‘2’ to ‘4’.

pattern-markup-evaluation.ly

1 1 1 1 1 1 1 1 1 1

[illegible]

In some fonts, the same glyph is used to render differing code points. In this file, the Japanese font uses the same glyph for representing U+898B and U+2F92. However, when running the output of this file through `pdftotext`, the original codepoints are returned.

pdf-copy-paste.ly

見見

Header fields can contain `\fromproperty #'header:xxx` markups. They are correctly converted to strings in PDF metadata.

Warning: the current regression testing infrastructure will not notice if this test breaks.

pdf-metadata-fromproperty.ly

## This should end in "OK": OK



PDF metadata need either Latin1 encoding (not UTF8) or full UTF-16BE with BOM. The title field uses full UTF-16 (russian characters, euro, etc), while the composer uses normal european diacrits (which need to be encoded as Latin1, not as UTF8). Closing parenthesis need to be escaped by a backslash AFTER encoding!

pdfmark-metadata-unicode.ly

UTF-16BE title:² € ĂĲœŔŮŭfЖЮль)\ ;

UTF-16BE with parentheses: ) € Å Æ R U å Ç Ħ Ł ł Composer (with special chars): Jöhåññ Strauß



The PDF backend uses several header fields to store metadata in the resulting PDF file. Header fields with the prefix pdf override those without the prefix for PDF creation (not for visual display on the page).

pdfmark-metadata.ly

# *Title of the piece*

## Subtitle of the piece

The Genius Composer

The Arranger (f)



The brackets of a piano pedal should start and end at the left side of the main note-column. If a note is shared between two brackets, these ends are flared.

At a line-break, there are no vertical endings. Pedal changes can be placed at spacer rests.

pedal-bracket.ly

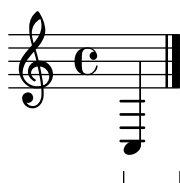


long mark



Unterminated piano pedal brackets run to the end of the piece.

pedal-end.ly



The standard piano pedals style comes with Ped symbols. The pedal string can be also tuned, for example, to a shorter tilde/P variant at the end of the melody.

pedal-ped.ly



One notation style for Persian music uses the *sori* and *koron* accidental glyphs.

persian-accidental-glyphs.ly



Test Persian key signatures.

`persian-key-signatures.ly`



The appearance of phrasing slurs may be changed from solid to dotted or dashed.

`phrasing-slur-dash.ly`



LilyPond does not support multiple concurrent phrasing slurs with the parentheses syntax. In this case, warnings will be given and the nested slur will not be generated. However, one can create a second slur with a different spanner-id.

`phrasing-slur-multiple.ly`



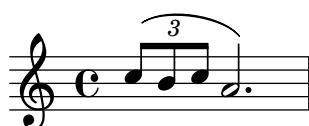
PhrasingSlurs go over normal slurs.

`phrasing-slur-slur-avoid.ly`



Phrasing slurs do not collide with triplet numbers.

`phrasing-slur-triplet.ly`



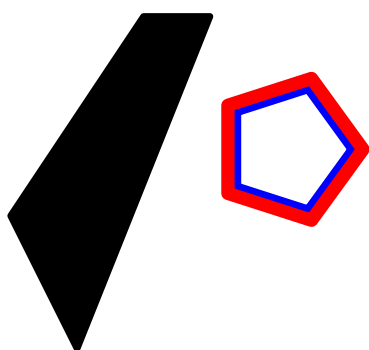
Point-and-click information can be generated only for certain event types.

point-and-click-types.ly



The `\polygon` markup command draws polygons according to the properties filled, thickness and extroversion.

polygon.ly



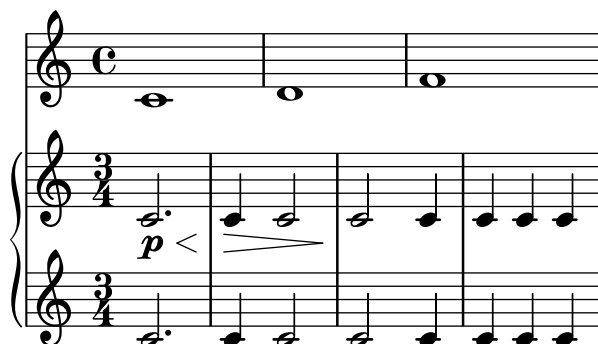
This tests polymetric staves beginning at different times. One staff in 4/4 time and another in 3/4 time should end simultaneously. A third staff in 2/4 time should begin simultaneously with the staff in 3/4 time (apart from its grace note) and end after 2 measures in 3/4 time.

polymeter-ossia.ly



The `\enablePolymeter` command turns on polymetric notation, making time signatures independent between staves.

polymeter.ly





Multiple post events can be attached from Scheme expressions.

`post-events-from-scheme.ly`



Multiple post events can be grouped into a single post-event-like expression that dissolves into its constituents as soon as it becomes attached to a music expression. When property modifiers (such as tweaks or direction) or other are applied to those, they are transferred to the contained elements rather than being ignored.

`post-events-wrapper-direction.ly`



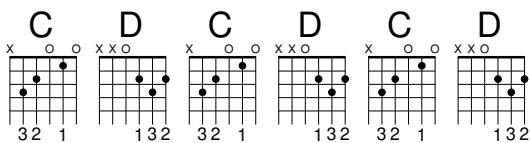
When multiple post events are wrapped, they are ordered the same as if they had not been wrapped. Tweaks applied to the wrapper are applied to every element.

`post-events-wrapper-ordering.ly`



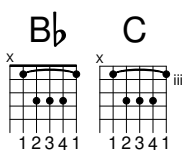
Transposition by less than one octave up or down should not affect predefined fretboards.

`predefined-fretboards-transpose.ly`



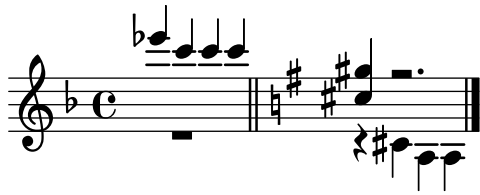
Predefined fretboards and chord shapes can be added.

`predefined-fretboards.ly`



Prefatory items maintain sufficient separation from musical notation for readability, even in tight spacing. The notes should remain generally on the correct side of the time signature, key signature and bar lines. A key change to G major should be legible.

`prefatory-separation.ly`



Distances between prefatory items (e.g. clef, bar, etc.) are determined by engraving standards. These distances depend on which items are combined. Mid-line, the order for clefs and bar lines is different from the start of line.

prefatory-spacing-matter.ly



heavily mutilated Edition Peters Morgenlied by Schubert

profile-property-access.ly

## LilyPond demo

Lieblieh, etwas geschwind

1. Sü - ßes  
2. いろはに כף

3

Licht! Aus gol - denen Pfor - ten brichst du sie - gend durch die  
ta ta ほへど ちり ぬるを Жъл дю ля ה הいろはに כף

6

Nacht. Schö - ner Tag, du bist er - wacht.  
ta ta ほへ ちり ぬる Жъл дю ля

*cresc.* *f*

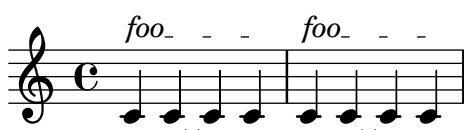
Property overrides and reverts from `\grace` do not interfere with the overrides and reverts from polyphony.

`property-grace-polyphony.ly`



Nested properties may be overridden using Scheme list syntax. This test performs two property overrides: the first measure uses standard `\override` syntax; the second uses a list.

`property-nested-override.ly`



nested properties may also be reverted. This uses Scheme list syntax.

`property-nested-revert.ly`



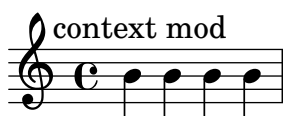
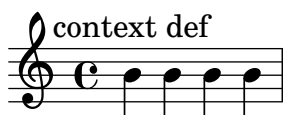
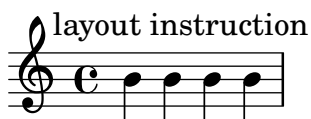
Once properties take effect during a single time step only.

`property-once.ly`



`\unset` should be able to unset the 'DrumStaff'-specific 'clefGlyph' equally well as layout instruction, in a context definition, or as context modification. All systems here should revert to the 'Score'-level violin clef.

`property-unset.ly`



Adding material to a tag in sequential and simultaneous expressions using `\pushToTag` and `\appendToTag`. One should get the equivalent of

`{ c' e' g' <<c' e' g' c''>> <<c'' g' e' c''>> g' e' c' }`

push-to-tag.ly



The `cueDuring` form of quotation will set stem directions on both quoted and main voice, and deliver the quoted voice in the `cue Voice`. The music function `\killCues` can remove all cue notes.

Spanners run to the end of a cue section, and are not started on the last note.

quote-cue-during.ly

Three staves of music. The top staff is labeled 'quoteMe' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The middle staff is labeled 'orig (killCues)' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The bottom staff is labeled 'orig+quote' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The 'quoteMe' staff has a *ff* dynamic marking under the first measure.

The `cueDuring` and `quoteDuring` forms of quotation use the variables `quotedCueEventTypes` and `quotedEventTypes` to determine which events are quoted. This allows different events to be quoted for cue notes in comparison to normal quotes.

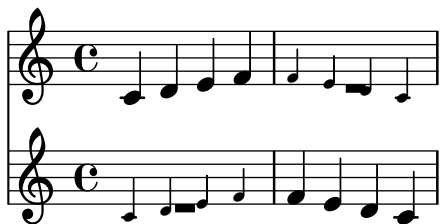
`quotedEventTypes` is also the fallback for cue notes if `quotedCueEventTypes` is not set.

quote-cue-event-types.ly

Four staves of music. The top staff is labeled 'Quoted Voice' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The second staff is labeled 'quoteDuring' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The third staff is labeled 'cueDuring' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The bottom staff is labeled 'Fallback' and contains a sequence of notes: a quarter note C4, a quarter note D4, a quarter note E4, a quarter note F4, a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, and a quarter note C4. The 'Quoted Voice' staff has a *ff* dynamic marking under the first measure.

Two quoted voices may refer to each other. In this example, there are notes with each full-bar rest.

quote-cyclic.ly



`\quoteDuring` and `\cueDuring` shall properly quote voices that create a sub-voice. The sub-voice will not be quoted, though. Exceptions are sections of parallel music `<< {...} \ {...} >>`, which will be quoted.

`quote-during-subvoice.ly`



With `\cueDuring` and `\quoteDuring`, fragments of previously entered music may be quoted. `quotedEventTypes` will determines what things are quoted. In this example, a 16th rest is not quoted, since `rest-event` is not in `quotedEventTypes`.

`quote-during.ly`

quoteMe

orig

orig+quote

A warning should be produced for empty quoted music.

`quote-empty.ly`

This space intentionally left blank.

Quotes may contain grace notes. The grace note leading up to an unquoted note is not quoted.

quote-grace.ly



`\killCues` shall only remove real cue notes generated by `\cueDuring`, but not other music quoted using `\quoteDuring`.

quote-kill-cues.ly



The `\quoteDuring` command shall also quote correctly all `\override`, `\once \override`, `\revert`, `\set`, `\unset` and `\tweak` events. The first line contains the original music, the second line quotes the whole music and should look identical.

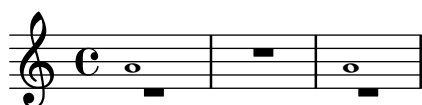
By default, not all events are quoted. By setting the quoted event types to `'(StreamEvent)`, everything should be quoted.

quote-overrides.ly



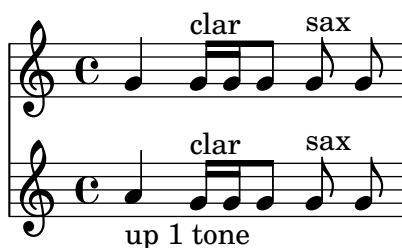
Voices from different cues must not be tied together. In this example, the first note has a tie. This note should not be tied to the second visible note (following the rest). Note that this behavior will not hold for cues in direct succession, since only one `CueVoice` context is created (with `context-id 'cue'`).

quote-tie.ly



Quotations take into account the transposition of both source and target. In this example, all instruments play sounding central C, the target is an instrument in F. The target part may be `\transposed`. The quoted pitches will stay unchanged.

quote-transposition.ly



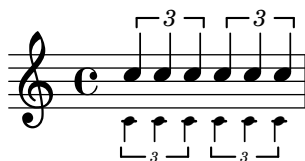
Tuplet bracket ends properly when quoting.

quote-tuplet-end.ly



In cue notes, Tuplet stops are handled before new tuplets start.

quote-tuplet.ly



With `\quote`, fragments of previously entered music may be quoted. `quotedEventTypes` will determines what things are quoted. In this example, a 16th rest is not quoted, since `rest-event` is not in `quotedEventTypes`.

quote.ly

quoteMe

orig

orig+quote

For a one-page score, ragged-bottom should have the same effect as ragged-last-bottom.

ragged-bottom-one-page.ly



When a score takes up only a single line and it is compressed, it is not printed as ragged.

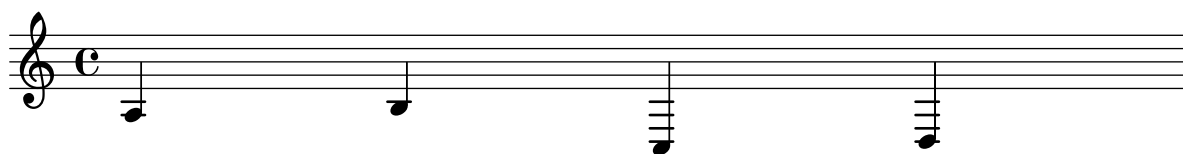
ragged-right-compressed.ly





When ragged-right is specifically disabled, a score with only one line will not be printed as ragged.

`ragged-right-disabled.ly`



When a score takes up only a single line and it is stretched, it is printed as ragged by default.

`ragged-right-one-line.ly`



Parts of a string that are the result of an automatic replacement are not processed themselves for replacements.

`recursive-text-replacement.ly`

This is good.

This is shorter.

Marks are put on top a breakable symbol, according to the value of `break-align-symbols` grob property. The same holds for `BarNumber` grobs.

`rehearsal-mark-align.ly`



Rehearsal marks with direction DOWN get placed at the bottom of the score.

`rehearsal-mark-direction.ly`



A rehearsal mark at the end of the score does not cause programming errors or strange output.

`rehearsal-mark-end-of-score.ly`



Rehearsal marks at the end of the last measure of a score are automatically made visible.

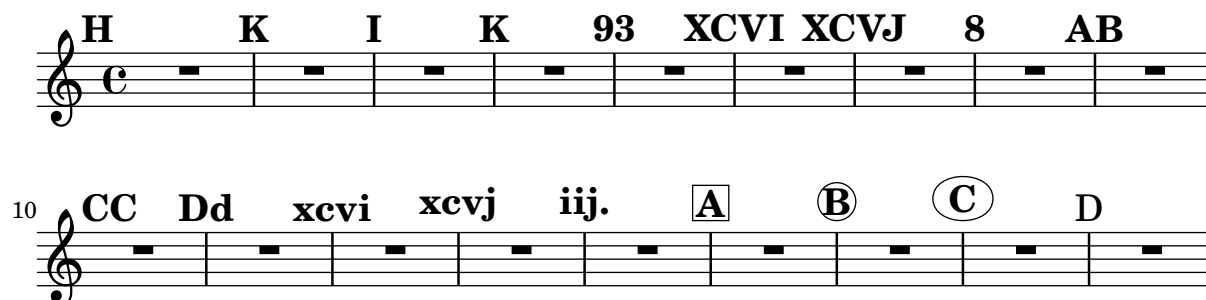
`rehearsal-mark-final-score.ly`



Comparison of `rehearsalMarkFormatter` functions.

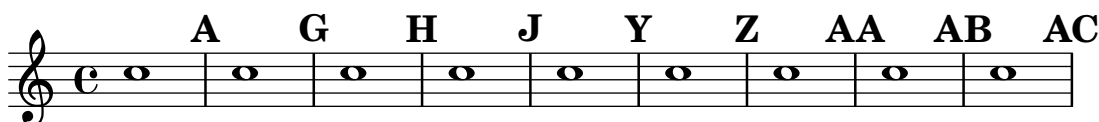
The marks should read H, K, I, K, 93, XCVI, XCVJ, 8, AB, CC, Dd, xcvi, xcvj, iij., boxed A, circled B, ovalled C, medium font D.

`rehearsal-mark-formatters.ly`



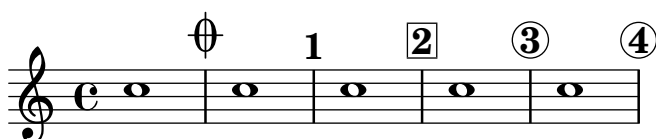
Rehearsal marks in letter style: the I is skipped, and after Z, double letters are used. The mark may be set with `\mark NUMBER`, or with `Score.rehearsalMark`.

`rehearsal-mark-letter.ly`



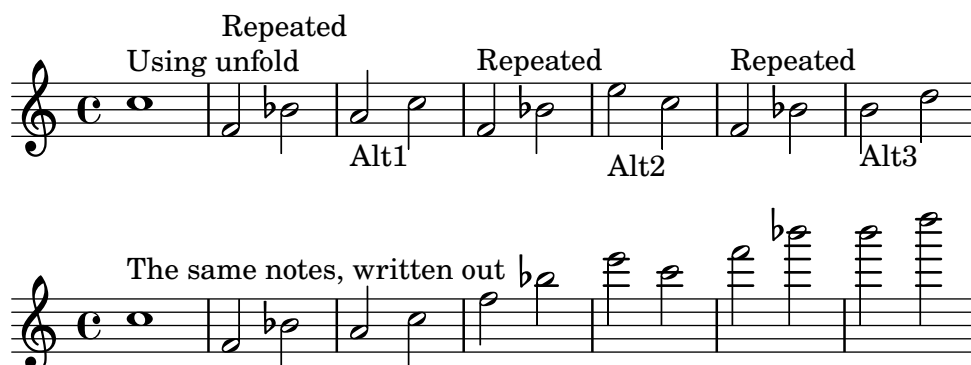
Marks can be printed as numbers. By setting `rehearsalMarkFormatter` we may choose a different style of mark printing. Also, marks can be specified manually, with a markup argument.

`rehearsal-mark-number.ly`



Using `repeat unfold` within a relative block gives a different result from writing the notes out in full. The first system has all the notes within the staff. In the second, the notes get progressively higher.

relative-repeat.ly



Notes are entered using absolute octaves, octaves relative to the previous note, or relative to a fixed octave.

relative.ly



`\RemoveEmptyStaves` is defined separately from context definitions so it can be used outside of `\layout` blocks.

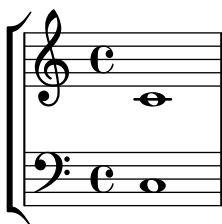
remove-empty-context-mod.ly



2

`RemoveEmptyStaves` should keep the pre-existing value of `auto-knee-gap`. In this case, the cross-staff beam should be between the two staves.

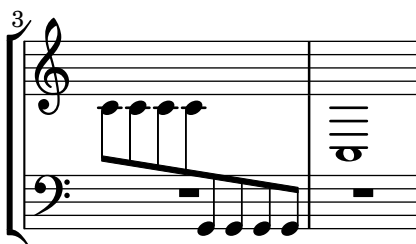
remove-empty-staves-auto-knee.ly



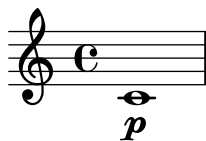
2



3



remove-empty-staves-dynamics.ly



Rests should not keep staves alive when `\RemoveEmptyStaves` is active. The following example should have only one staff.

remove-empty-staves-with-rests.ly



The `VerticalAxisGroup.remove-layer` property can be used to keep staves alive with reference to other staves in the `Keep_alive_together_engraver` group.

remove-layer-symbol.ly

Continuous

Alive with A or B

A

Alive with A

5

cont

with A or B

A

with A

B

The image displays a musical score for regression test cases, showing bar numbers 10, 15, and 21. The score is organized into systems of staves. The first system (bars 10-14) includes staves for 'cont', 'with A or B', 'A', 'with A', and 'B'. The second system (bars 15-19) includes staves for 'cont' and 'with A or B'. The third system (bars 20-24) includes staves for 'cont', 'with A or B', and 'B'. The 'cont' staff shows a continuous sequence of eighth notes. The 'with A or B' staff shows a sequence of eighth notes. The 'A' and 'B' staves show a sequence of eighth notes, with some bars containing rests. The 'with A' staff shows a sequence of eighth notes. The 'B' staff shows a sequence of eighth notes, with some bars containing rests. The score ends with a double bar line and a repeat sign.

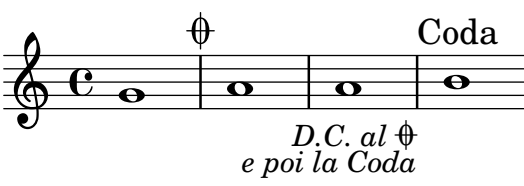
Bar numbers on repeat bar lines do not depend on the order in which `Bar_number_engraver` and `Repeat_acknowledge_engraver` run. The two systems in this test should be identical.

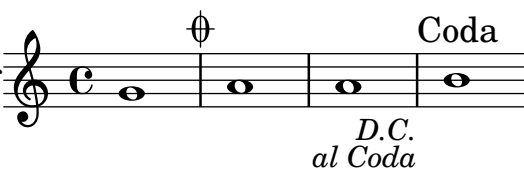
`repeat-bar-number-engraver-order.ly`


The image displays a musical score for regression test cases, showing the D.C. al Coda form and how it unfolds. The score is organized into two systems. The first system (bars 1-3) includes staves for '1', '(1)', '2', '2', '(2)', and '3'. The second system (bars 4-6) includes staves for '1', '(1)', '2', '2', '(2)', and '3'. The '1' staff shows a sequence of eighth notes. The '(1)' staff shows a sequence of eighth notes. The '2' staff shows a sequence of eighth notes. The '2' staff shows a sequence of eighth notes. The '(2)' staff shows a sequence of eighth notes. The '3' staff shows a sequence of eighth notes. The score ends with a double bar line and a repeat sign.

This tests *D.C. al Coda* form and how it unfolds.

`repeat-dc-al-coda.ly`


default 


brief 


unfolded 

This tests *D.C. al Fine* form and how it unfolds.

repeat-dc-al-fine.ly


default 


brief 


unfolded 

This tests *D.C. al Coda* form, but with a segno where the Coda label would normally be. The *D.C.* instructions refer to the segno.

repeat-dc-al-segno.ly

default 

brief 

unfolded 

A `\repeat segno` with a single alternative ending that is used for all volte receives a volta bracket rather than a coda sign because there is no material to skip. The bracket hooks down at the *D.C.*.

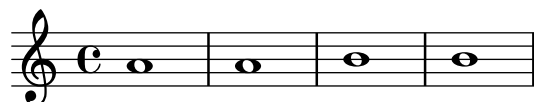
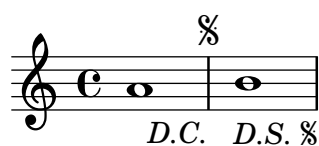
The bracket communicates the return count, so the return count is omitted from the *D.C.* instruction to avoid redundancy.

```
repeat-dc-one-alternative.ly
```



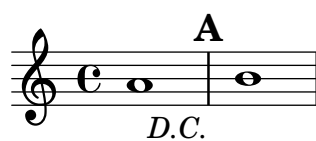
This tests simple *D.C.* form with a segno following, and how it unfolds.

```
repeat-dc-then-ds.ly
```



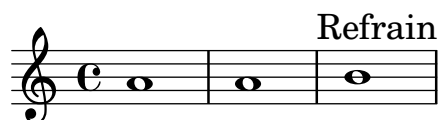
This tests simple *D.C.* form with a rehearsal mark following.

```
repeat-dc-then-rehearsal-mark.ly
```



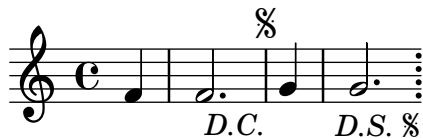
This tests simple *D.C.* form with a section label following.

```
repeat-dc-then-section-label.ly
```



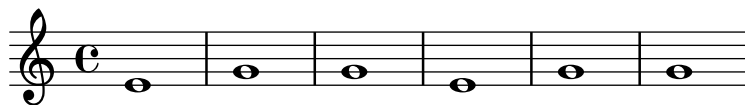
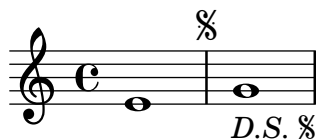
Where a *D.C.* or *D.S.* instruction is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the *D.C.* should have a normal bar line and the *D.S.* should have a dotted bar line.

`repeat-dc-unaligned.ly`



When jumps to different targets occur simultaneously, LilyPond ignores one and issues a warning. Either a *D.C.* or a *D.S.* instruction, but not both, is expected. Unfolding is not affected: this case unfolds to EGGEGB.

`repeat-dc-v-ds.ly`



By default, `\fine` does not create a *Fine* instruction at the written end of the music, but this can be changed with the `finalFineTextVisibility` context property. There is no warning when a simultaneous *D.C.* instruction must appear there.

`repeat-dc-v-fine-end-visible.ly`



By default, `\fine` does not create a *Fine* instruction at the written end of the music, so there is no conflict when a simultaneous *D.C.* instruction must appear there.

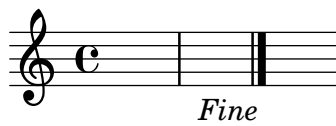
`repeat-dc-v-fine-end.ly`





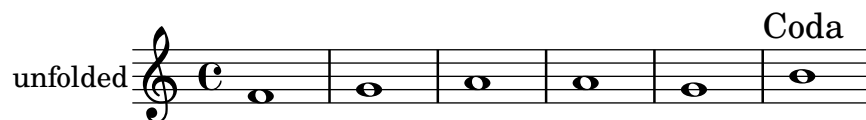
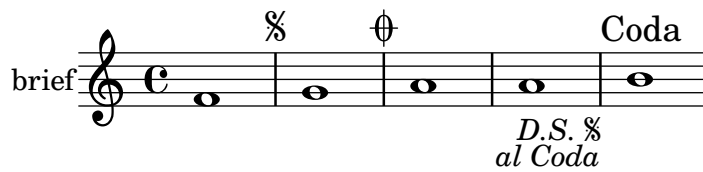
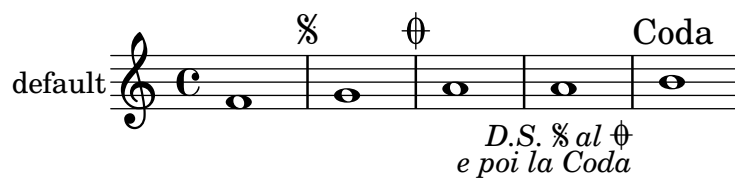
When events creating *Fine* and *D.C.* occur simultaneously, both indications are printed. This use case is not valued, but it is included in the regression test suite for robustness and difference detection.

repeat-dc-v-fine.ly



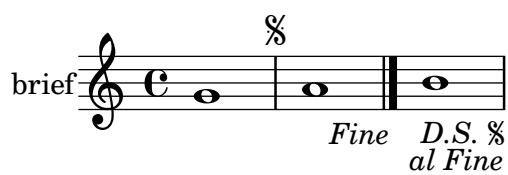
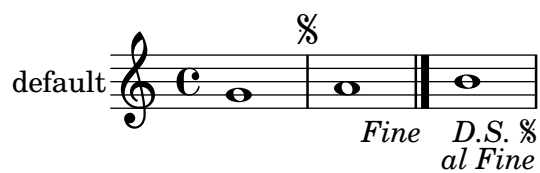
This tests *D.S. al Coda* form and how it unfolds.

repeat-ds-al-coda.ly



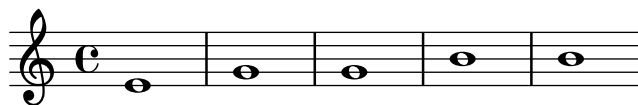
This tests *D.S. al Fine* form and how it unfolds.

repeat-ds-al-fine.ly



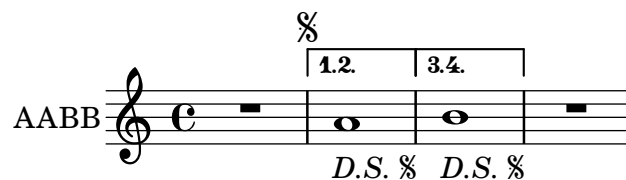
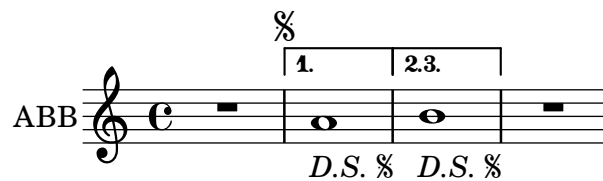
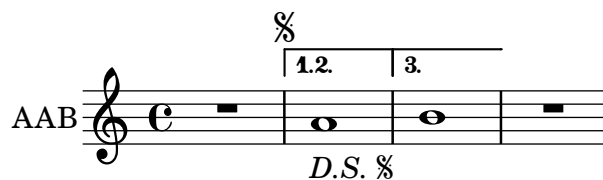
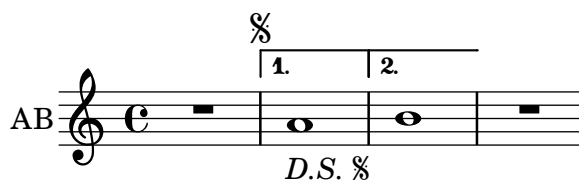
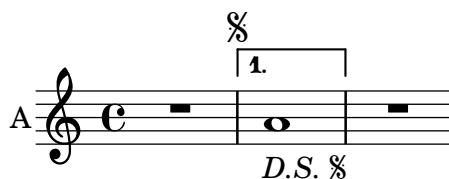
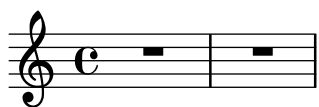
Setting `segnoStyle` to `bar-line` suppresses the first segno mark and causes a *D.S.* instruction to say simply *D.S.* without the mark. The second segno mark does appear and the corresponding *D.S.* instruction includes it.

`repeat-ds-bar-line.ly`



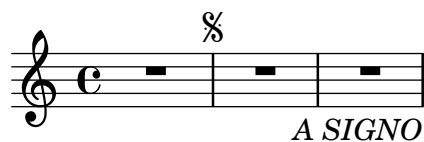
If the body of a segno repeat is empty, the result might be ugly, but it does not manifestly contradict the input. The margin labels show the expected note performance sequence.

`repeat-ds-body-empty.ly`



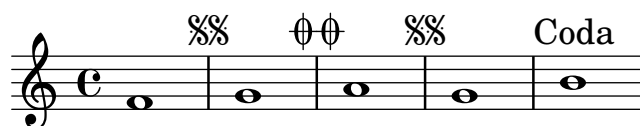
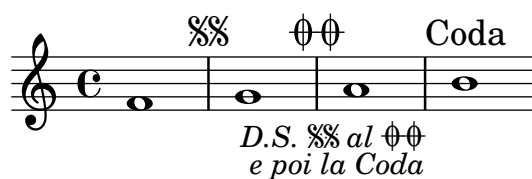
The format of *D.S.* and related instructions can be customized by overriding the `\dalSegnoTextFormatter` context property. The line should end with the instruction *A SIGNO*.

`repeat-ds-formatter.ly`



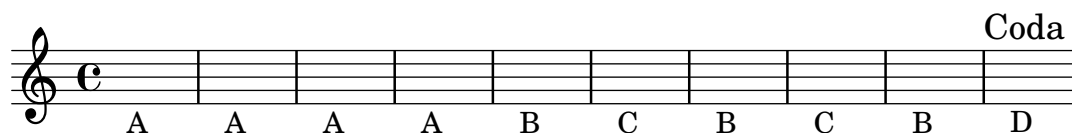
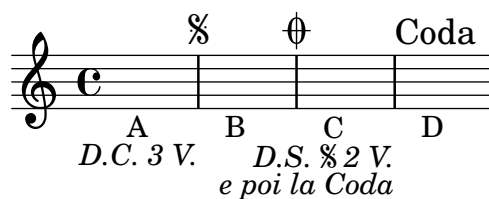
Segno and coda marks created automatically by `\repeat segno` can be manually overridden with `\segnoMark` and `\codaMark`. A double segno and double coda sign should appear.

`repeat-ds-mark-override.ly`



When a *D.C.* or *D.S.* instruction is to be performed more than once, the default `\dalSegnoTextFormatter` includes the count in the instruction. In this case, the *D.C.* instruction should indicate returning thrice and the *D.S.* instruction should indicate returning twice.

`repeat-ds-return-count.ly`



This tests mark formatting and placement for three sequential `\repeat segno` sections, each with three alternative endings, with some used for multiple volte.

`repeat-ds-torture.ly`

Commencement      Bridge

*D.S. % al ⊙ e poi la ⊙3⊙*      *D.S. %% al ⊙4⊙ e poi la ⊙5⊙*      *%3% ⊙6⊙ ⊙7⊙*

*D.S. % 2 V. e poi la ⊙⊙*      *D.S. % 3 V. e poi la %%*      *D.S. %% al ⊙4⊙ e poi la Bridge*      *D.S. %3% al ⊙6⊙ e poi la ⊙7⊙*

default

A musical staff in treble clef with a common time signature 'C'. It contains eleven measures, each with a single eighth rest. Above the first measure is a percent sign '%'. Above the second measure is a circle with a dot '⊙'. Above the third measure is a double circle with a dot '⊙⊙'. Above the fourth measure is a double circle with a dot and the number 3 '⊙3⊙'. Above the fifth measure is a double circle with a dot and the number 3 '⊙3⊙'. Above the sixth measure is a double percent sign '%%'. Above the seventh measure is a double circle with a dot and the number 4 '⊙4⊙'. Above the eighth measure is a double circle with a dot and the number 5 '⊙5⊙'. Above the ninth measure is a double percent sign '%%'. Above the tenth measure is a double circle with a dot and the number 6 '⊙6⊙'. Above the eleventh measure is a double circle with a dot and the number 7 '⊙7⊙'. Below the staff, the measures are labeled A, B, C, D, E, F, G, H, I, J, and K.

*D.S. %3% al  $\phi 6 \phi$  Fade-out*  
*e poi la Fade-out*

12

L M

Commencement

Bridge

brief

A B C D E F G H I J K

*D.S. %2 V. al  $\phi \phi$*  *D.S. %3 V. al %* *D.S. % al  $\phi 5 \phi$*  *D.S. % al Bridge* *D.S. %3% al  $\phi 7 \phi$*

12

Fade-out

L M

*D.S. %3% al Fade-out*

Repeat constructs without alternatives can be abbreviated using \etc .  
 repeat-etc.ly

Across linebreaks, the left edge of a first and second alternative bracket should be equal.  
 repeat-line-break.ly

2

1. 2.

1.

7

2.

Percent repeat counters can be shown at regular intervals by setting  
 repeatCountVisibility.  
 repeat-percent-count-visibility.ly

5 10



Percent repeats get incremental numbers when `countPercentRepeats` is set, to indicate the repeat counts, but only if there are more than two repeats.

`repeat-percent-count.ly`



Percent repeats are also centered when there is a grace note in a parallel staff.

`repeat-percent-grace.ly`



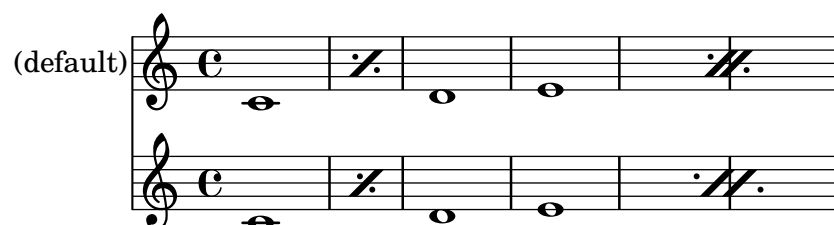
Isolated percent-repeat signs can be printed.

`repeat-percent-isolated.ly`



The positioning of dots and slashes in percent repeat glyphs can be altered using `dot-negative-kern` and `slash-negative-kern`.

`repeat-percent-kerning.ly`



Percent repeats are not skipped, even when `skipBars` is set.

`repeat-percent-skipbars.ly`



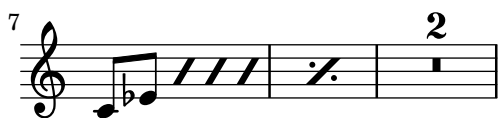
Slash and percent signs are correctly scaled at different staff sizes.

`repeat-percent-staff-size.ly`



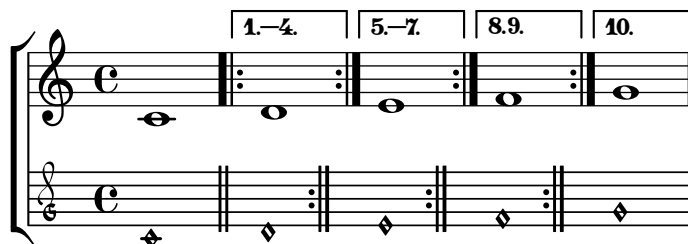
Measure repeats may be nested with beat repeats.

`repeat-percent.ly`



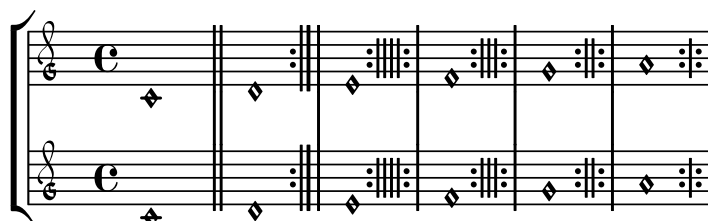
Alternative endings are not expected in ancient music. Here, the signum repetitionis resembles a modern repeat sign rather than telling the number of times the alternative is performed.

`repeat-petrucchi-alternatives.ly`



This test demonstrates an ancient repeat sign in the Petrucci style, but with measure bar lines enabled. A single bar line should follow each repeat sign.

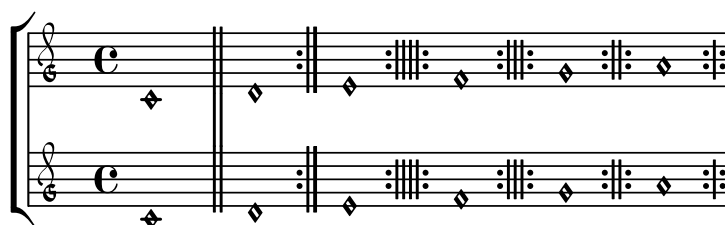
`repeat-petrucchi-with-measure-bar-lines.ly`



This test demonstrates an ancient repeat sign in the Petrucci style. The sign consists of 1 to 4 short strokes between repeat dots, with the number of strokes indicating the number of times the preceding section is to be performed. The number of strokes is determined by the argument to `\repeat volta`, and a count higher than 4 falls back on a modern-looking sign with two long strokes. Despite appearances, these repeat signs are not bar lines.

A double bar line should follow the first note. A repeat sign should follow each following note: modern, 4 strokes, 3 strokes, 2 strokes, 1 stroke.

`repeat-petrucchi.ly`



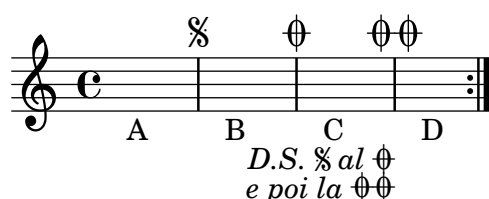
This piece consists of three consecutive sections using `\repeat segno 1`. Because of the count, no repeat notation should appear.

`repeat-segno-count-one.ly`



This tests a `\repeat segno` inside and at the end of a `\repeat volta`. The music unfolds to ABCBD ABCBD

`repeat-segno-in-volta-end.ly`



This tests a `\repeat segno` inside and in the middle of a `\repeat volta`. The music unfolds to ABCBDE ABCBDE.

repeat-segno-in-volta-middle.ly

This tests a `\repeat segno` inside and at the start of a `\repeat volta`. The music unfolds to A BCBDE BCBDE.

repeat-segno-in-volta-start.ly

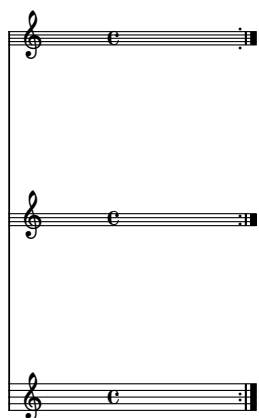
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff-size 10 (with layout-set-staff-size).

repeat-sign-global-size10.ly



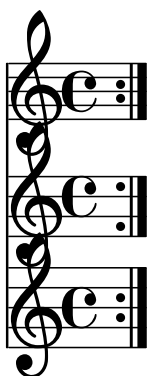
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff size 30 (with layout-set-staff-size).

repeat-sign-global-size30.ly



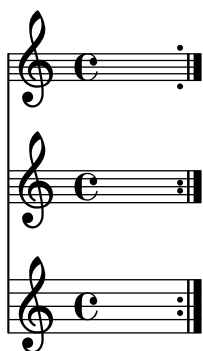
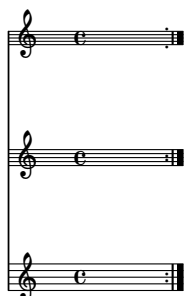
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff size 10 (with layout-set-staff-size).

repeat-sign-global-size5.ly



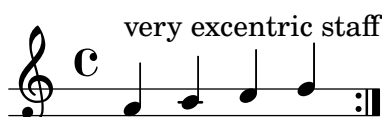
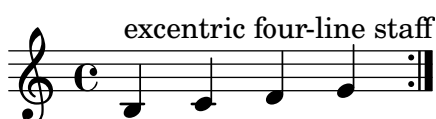
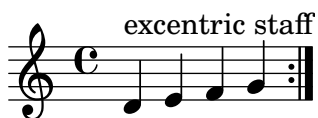
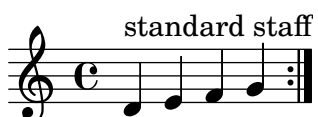
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test layout-set-staff-size.

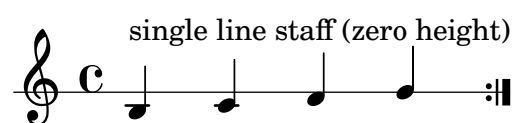
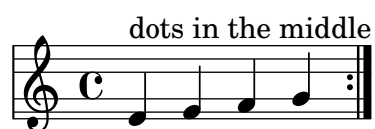
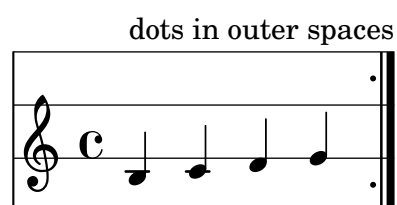
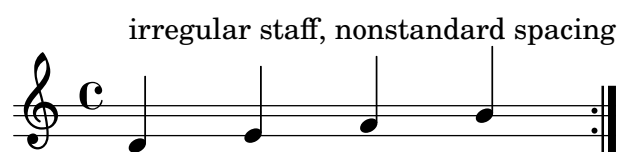
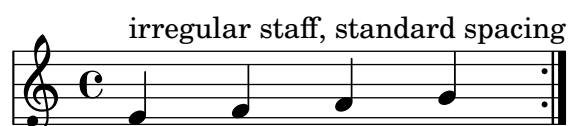
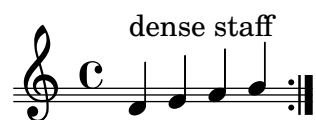
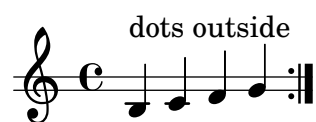
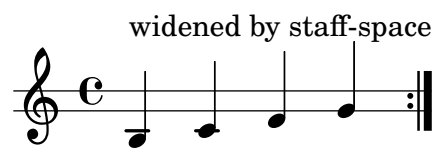
repeat-sign-layout-size.ly



The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves.

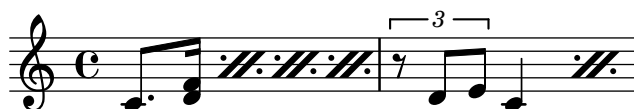
repeat-sign.ly





Beat repeats for patterns containing mixed durations use a double percent symbol.

`repeat-slash-mixed.ly`



Beat repeats for patterns containing identical durations shorter than an eighth note use multiple slashes.

`repeat-slash-multi.ly`



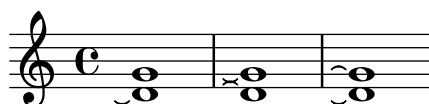
Within a bar, beat repeats denote that a music snippet should be played again.

`repeat-slash.ly`



`\repeatTie` ties should also work on individual notes of a chord.

`repeat-tie-chords.ly`



A `\repeatTie` may be parenthesized.

`repeat-tie-parenthesize.ly`



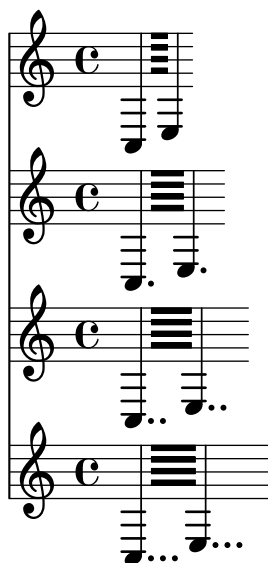
Repeat ties are only connected on the right side to a note head.

`repeat-tie.ly`



Each of the staves here should have four tremolo beams.

`repeat-tremolo-beams.ly`



Tremolos work with chord repetitions.

`repeat-tremolo-chord-rep.ly`



Dots are added to tremolo notes if the durations involved require them.

`repeat-tremolo-dots.ly`



A tremolo repeat containing only one note (no sequential music) shall not be scaled. An articulation or dynamic sign on the note should not confuse lilypond.

`repeat-tremolo-one-note-articulation.ly`



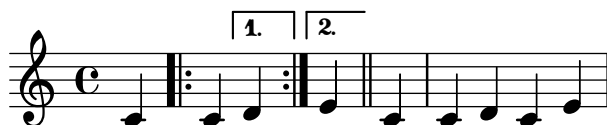
A tremolo can have more than two notes. Also check that linebreaks between tremolos still work and that empty tremolos don't crash.

`repeat-tremolo-three-notes.ly`



Volta repeats may be unfolded through the music function `\unfoldRepeats`.

`repeat-unfold-all.ly`



`\repeat unfold 1` unfolds according to the count. This piece has one measure and `\unfoldRepeats` does not change that.

`repeat-unfold-count-one.ly`



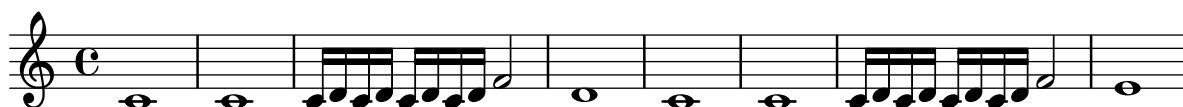
The music function `\unfoldRepeats` can take an optional argument-list specifying which type(s) of repeated music has to be unfolded.

`repeat-unfold-partial.ly`

not expanding



expanding all



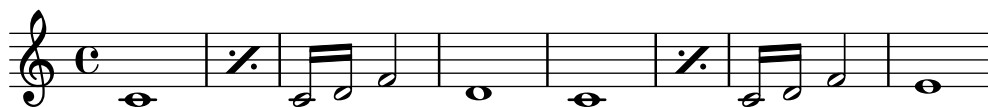
expanding percent-repeated-music



expanding tremolo-repeated-music



expanding volta-repeated-music



combinations are possible:

expanding percent-repeated-music and tremolo-repeated-music



Unfolding tremolo repeats. All fragments fill one measure with 16th notes exactly.

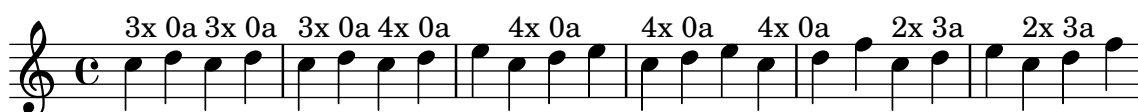
repeat-unfold-tremolo.ly



LilyPond has two modes for repeats: unfolded and semi-unfolded. Unfolded repeats are fully written out. Semi unfolded repeats have the body written and all alternatives sequentially. If the number of alternatives is larger than the repeat count, the excess alternatives are ignored. If the number of alternatives is smaller, the first alternative is multiplied to get to the number of repeats.

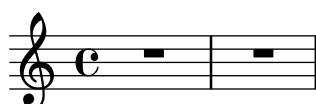
Unfolded behavior:

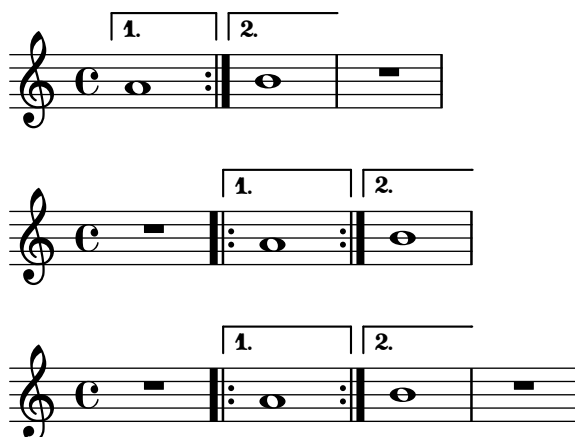
repeat-unfold.ly



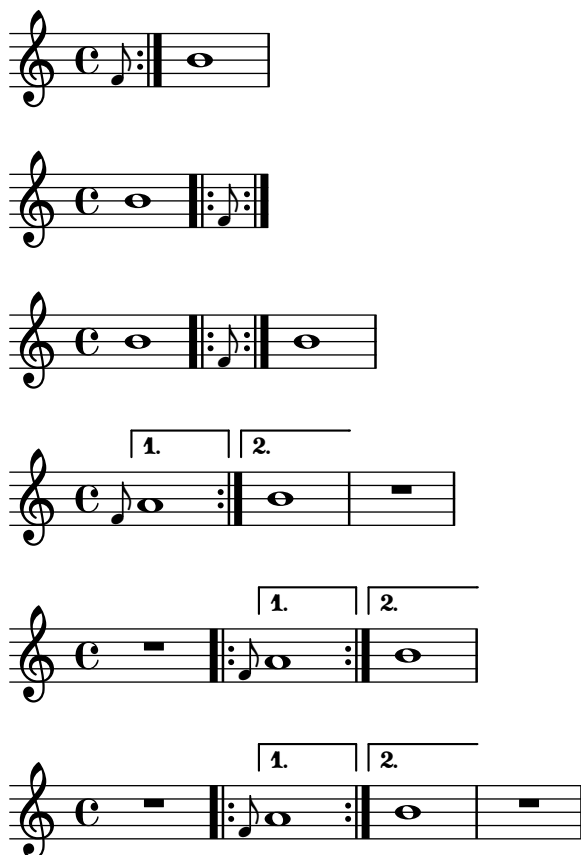
If the body of a volta repeat is empty, the alternatives are still rendered with the expected volta notation.

repeat-volta-body-empty.ly



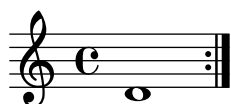


If the body of a volta repeat is only a grace note, it is still engraved as expected.  
 repeat-volta-body-grace.ly



This test covers a volta repeat as top-level music with the repeat body being simultaneous music.

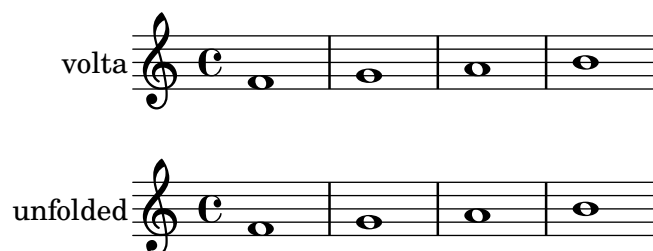
repeat-volta-body-simultaneous.ly



This piece consists of three consecutive sections using `\repeat volta 1`. Because of the count, no repeat notation should appear.

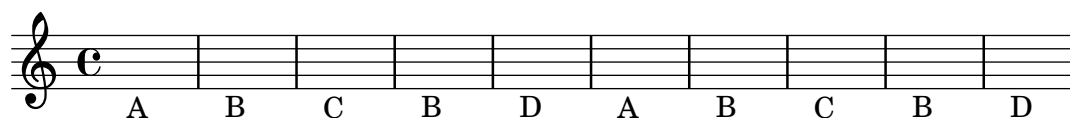
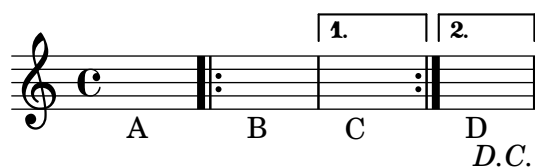


repeat-volta-count-one.ly



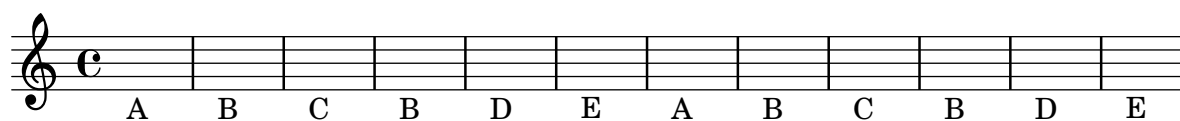
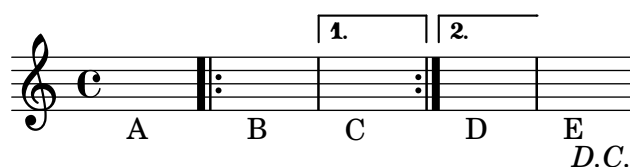
This tests a `\repeat volta` inside and at the end of a `\repeat segno`. The music unfolds to ABCBD ABCBD

repeat-volta-in-segno-end.ly



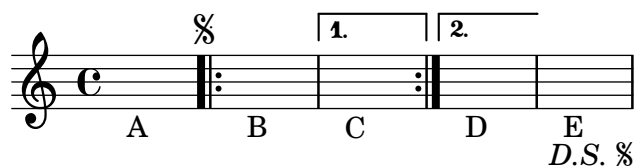
This tests a `\repeat volta` inside and in the middle of a `\repeat segno`. The music unfolds to ABCBDE ABCBDE.

repeat-volta-in-segno-middle.ly



This tests a `\repeat volta` inside and at the start of a `\repeat segno`. The music unfolds to A BCBDE BCBDE.

repeat-volta-in-segno-start.ly



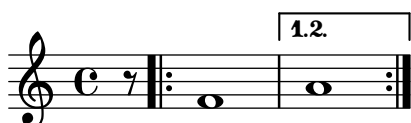
A piece beginning with grace notes followed by a volta repeat has an opening repeat bar in the expected position.

repeat-volta-initial-grace.ly



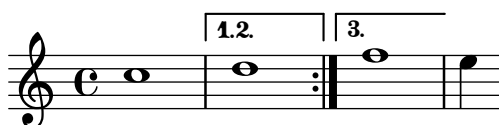
A single `\alternative` is a way to indicate a repeat count when there is no variation.

repeat-volta-one-alternative.ly



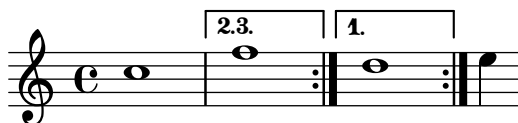
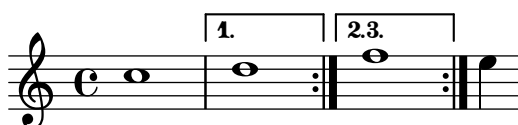
When too few alternatives are present, the first alternative is repeated, by printing a range for the 1st repeat.

repeat-volta-skip-alternatives.ly



`\volta` assigns bracket labels without reordering alternatives. A final alternative that is not exclusive to the final volta ends with a repeat bar.

repeat-volta-specified-alternatives.ly



`\fine` ends the piece when it is found outside folded repeats.

repeat-volta-with-fine.ly



Volta (Semi folded) behavior. Voltas can start on non-bar line moments. If they don't bar lines should still be shown.

repeat-volta.ly



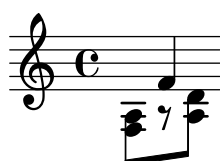
Rests avoid notes. Each rest is moved in the direction of the stems in its voice. Rests may overlap other rests in voices with the same stem direction, in which case a warning is given, but is suppressed if the rest has a pitch.

`rest-avoid-note.ly`



Beam/rest collision resolution and normal rest/note collisions can be combined.

`rest-collision-beam-note.ly`



Rests under beams are moved by whole staff spaces.

`rest-collision-beam-quantized.ly`



Beam/rest collision takes offset due to `Rest #'direction` into account properly.

`rest-collision-beam-restdir.ly`



Rests under beams are shifted upon collision.

`rest-collision-beam.ly`



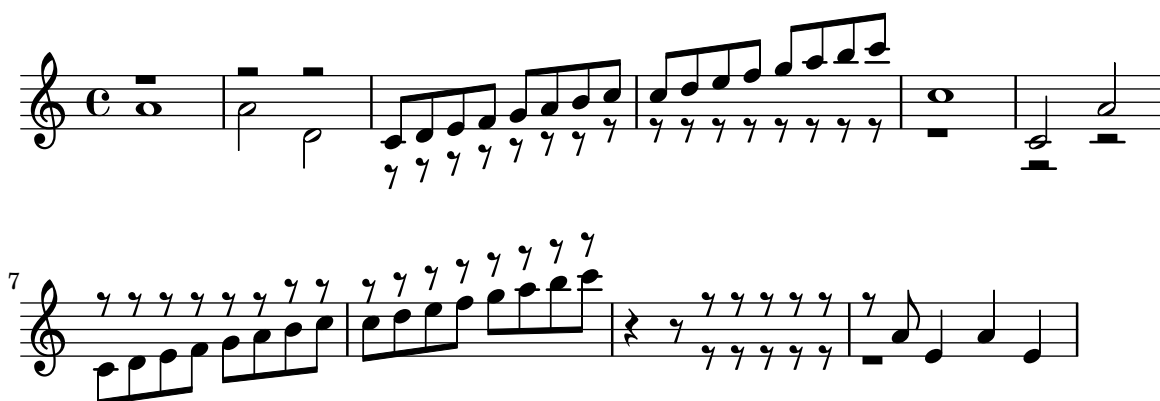
Vertical rest positions in a multi-voice staff should obey the duration of notes; this is, they shouldn't return to a default position too early.

`rest-collision-note-duration.ly`



Rests should not collide with beams, stems and noteheads. Rests may be under beams. Rests should be move by integral number of spaces inside the staff, and by half spaces outside. Notice that the half and whole rests just outside the staff get ledger lines in different cases.

rest-collision.ly



Dots of rests should follow the rest positions.

rest-dot-position.ly



Breve, longa, and maxima rests should hang down from staff lines in one line staves, different staff space and font size.

rest-hanging-breve.ly

The image shows four staves of musical notation. Each staff contains a sequence of rests of varying durations (breve, whole, half) positioned both above and below the staff lines. The number '127' is printed above each staff, likely indicating a measure or a specific test case identifier.

Breve, whole and half rests moving outside the staff should get ledger lines.

rest-ledger.ly

The image shows a single staff of musical notation. It contains a sequence of rests of varying durations (breve, whole, half) that extend significantly above and below the staff lines, necessitating the use of ledger lines to represent the notes.

In rest-note collisions, the rest moves in discrete steps, and inside the staff, it moves in whole staff spaces.

rest-note-collision.ly

The image shows three staves of musical notation. Each staff contains a complex sequence of notes and rests, illustrating various collision scenarios between notes and rests. The notation includes ledger lines and specific symbols (like 'x' and 'z') to denote collision points or specific rest types.

half rests should lie on a staff line, whole rests should hang from a staff line by default even for non-standard staves, except when the position is set by pitch.

rest-on-nonstandard-staff.ly

A musical score for a regression test case, measures 1-8. The score is written for a grand staff (five staves) and a single staff below. The time signature is common time (C). The notation consists of black rectangular notes on a five-line staff. The notes are arranged in a pattern that suggests a specific melodic and harmonic progression. The first staff of the grand staff has a common time signature 'C'. The notes are distributed across the staves, with some staves having multiple notes in a single measure. The single staff below the grand staff also contains notes, continuing the musical sequence.

A musical score for a regression test case, measures 9-10. The score is written for a grand staff (five staves) and a single staff below. The time signature is common time (C). The notation consists of black rectangular notes on a five-line staff. The notes are arranged in a pattern that suggests a specific melodic and harmonic progression. The first staff of the grand staff has a common time signature 'C'. The notes are distributed across the staves, with some staves having multiple notes in a single measure. The single staff below the grand staff also contains notes, continuing the musical sequence.

19

Measures 19-30. The score consists of five staves. Measures 19-20 show a descending sequence of notes on the first staff, with corresponding notes on the other staves. Measures 21-30 show a series of rests and notes, with a final measure containing a whole note on the first staff.

31

Measures 31-36. The score consists of five staves. Measures 31-36 show a series of rests and notes, with a final measure containing a whole note on the first staff.

43

43

43

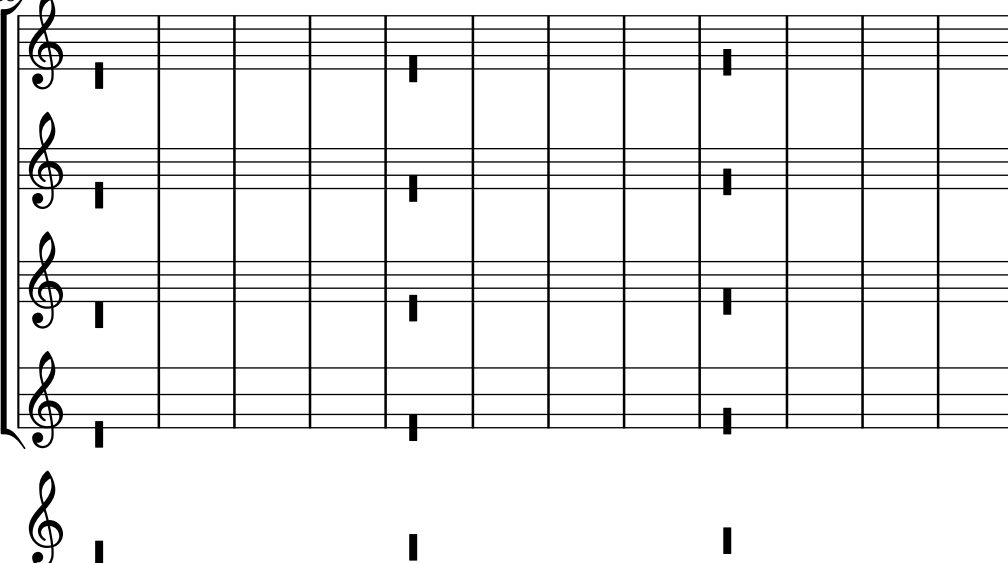
55

55

55

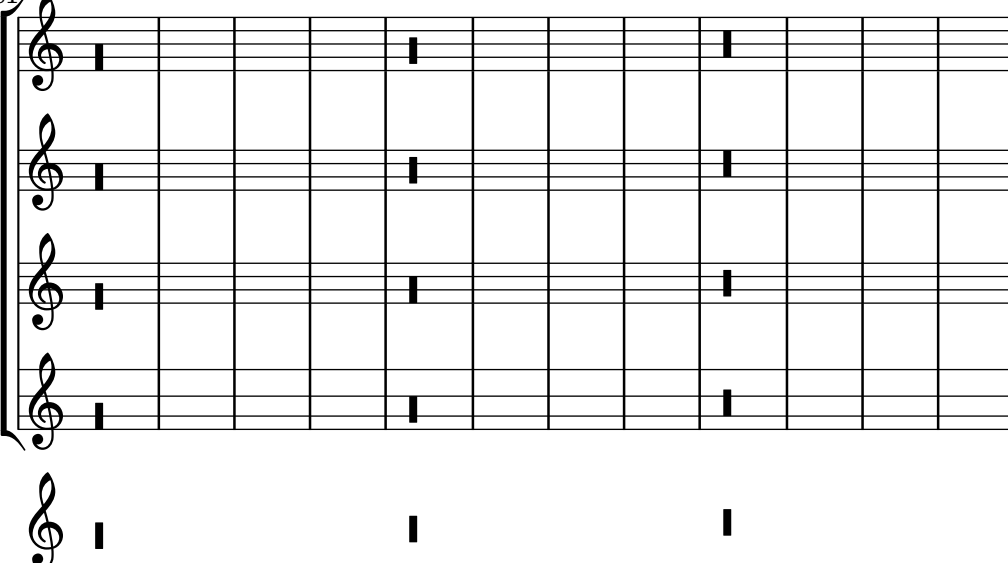


69



This musical score block contains measures 69 and 70. It features five staves: four for a grand staff (treble and bass clefs) and one for a single treble clef. The grand staff is enclosed in a brace on the left. Each staff has a treble clef. The notation consists of vertical stems (pedals) on specific measures. In measure 69, there is a stem on the first line of each staff. In measure 70, there is a stem on the first line of each staff. The staves are otherwise empty.

81



This musical score block contains measures 81 and 82. It features five staves: four for a grand staff (treble and bass clefs) and one for a single treble clef. The grand staff is enclosed in a brace on the left. Each staff has a treble clef. The notation consists of vertical stems (pedals) on specific measures. In measure 81, there is a stem on the first line of each staff. In measure 82, there is a stem on the first line of each staff. The staves are otherwise empty.

93

A musical score for measures 93 through 104. It consists of five staves. The first four staves are grouped by a brace on the left. Each staff contains a single vertical bar line at the beginning of the measure, followed by a series of empty measures. The fifth staff, positioned below the others, contains three vertical bar lines, one at the beginning of each measure.

105

A musical score for measures 105 through 116. It consists of five staves. The first four staves are grouped by a brace on the left. Each staff contains a single vertical bar line at the beginning of the measure, followed by a series of empty measures. The fifth staff, positioned below the others, contains three vertical bar lines, one at the beginning of each measure.

117

Rests can have pitches – these will be affected by transposition and relativization. If a rest has a pitch, rest/rest and beam/rest collision resolving will leave it alone.

rest-pitch.ly

Pitched rests under beams.

rest-pitched-beam.ly

In polyphonic situations, rests are moved according to their **direction** even if there is no opposite note or rest. The amount in **staff-positions** is set by **voiced-position**.

rest-polyphonic.ly

This shows the one-voice rest positions for various standard and tab staves.

rest-positioning-one-voice.ly

This shows the two-voice rest positions for various standard and tab staves.

rest-positioning-two-voices.ly

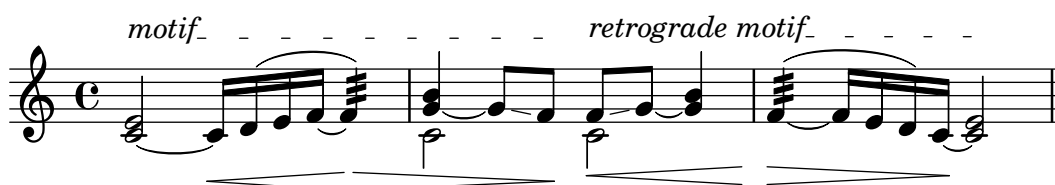
	R1*7		R1	r1	r2	r4
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{R} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{T} \\ \text{A} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{T} \\ \text{A} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{T} \\ \text{A} \\ \text{B} \end{matrix}$ c		$\overset{7}{\cdot}$ —	—	—	—	~
$\begin{matrix} \text{T} \\ \text{A} \\ \text{B} \end{matrix}$ e		$\overset{7}{\cdot}$ —	—	—	—	~

There is a big variety of rests. Note that the dot of 8th, 16th and 32nd rests rest should be next to the top of the rest. All rests except the whole rest are centered on the middle staff line.

```
rest.ly
```

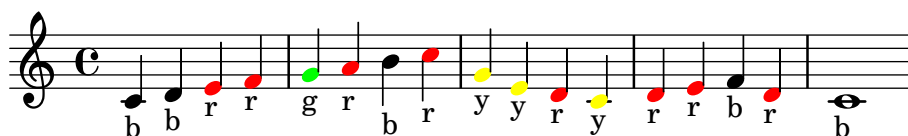
`\retrograde` can deal with crescendo and decrescendo as long as they are properly paired with `\endcr/\!` and `\enddecr`. Direction modifiers on slurs like `^` ( need to be repeated as `^`) at the end. Ties and glissandi work mostly (in-chord ties are turned into ordinary per-chord/note ties, however).

`retrograde.ly`



`\once \revert` can be used for reverting a property once rather than permanently.

`revert-once.ly`



When an unpitched duration is parsed as a rhythmic event, it sets the default duration of the following note events. This happens even when it is the argument of a music function. In these examples, notes with an explicit duration are indicated with an accent and the following notes have to have the same duration.

`rhythm-sets-default-duration.ly`



Durations without pitches are placed into note events without pitch information. Those are directly useful in `RhythmicStaff`.

`rhythmic-sequence.ly`



In rhythmic staves stems should go up, and bar lines have the size for a 5 line staff. The whole rest hangs from the rhythmic staff.

`rhythmic-staff.ly`



This should produce an SATB score on two staves with 5 verses and piano accompaniment.

`satb-template-on-two-staves-with-verses.ly`

SOPRANO  
ALTO  
TENOR  
BASS

1. First stanza  
2. Se-cond stanza  
3. Third stanza  
4. Fourth stanza  
5. Fifth stanza

PIANO

Soprano and tenor voices may be omitted without error, even when TwoVoicesPerStaff is specified and Alto and Bass lyrics are provided.

satb-template-soprano-and-tenor-may-be-omitted.ly

ALTO  
BASS

Al-to lyrics  
Bass lyrics

Instrument names and short instrument names can be changed when using the satb built-in template.

satb-template-with-changed-instrument-names.ly

SOPRANI  
CONTRALTI  
MEN DIV

ORGAN

A musical score for SATB voices and piano accompaniment. The first system shows Soprano (SOP) and Contralto (CON) voices on a treble clef staff, and Men's Unison (M UNI) on a bass clef staff. A second system shows the piano accompaniment on a grand staff (treble and bass clefs). The Soprano and Contralto parts have a '2' above the first measure, indicating a second ending. The Men's Unison part has a descant in the second system. The piano accompaniment consists of a simple harmonic progression.

This should produce an SATB score with piano accompaniment, with four voices in the first system, unison women voices with descant in the second system and unison women and unison men voices in the third system.

satb-template-with-men-women-and-descant.ly

A musical score for SATB voices and piano accompaniment. The first system shows Soprano (SOPRANO), Alto (ALTO), Tenor (TENOR), and Bass (BASS) voices on a grand staff (treble and bass clefs). The Soprano part has a '2' above the first measure, indicating a second ending. The lyrics for each voice part are: Soprano lyrics, Al - to lyrics, Te - nor lyrics, and Bass lyrics. The piano accompaniment is on a grand staff (treble and bass clefs). The Soprano and Alto parts have a descant in the second system. The Tenor and Bass parts have a descant in the third system. The piano accompaniment consists of a simple harmonic progression.



2

D

Descant lyrics

Wo-men lyrics

3

W

Women lyrics

Men lyrics

Scores can be generated with scheme, too, and inserted into the current book(part). Generated and explicit scores can be mixed, the header informations from top- and booklevel stack correctly.

```
scheme-book-scores.ly
```

Main Title

Main subtitle

Score with a c

Piecetitle

c

Title 1

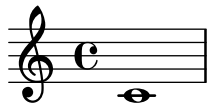
Sub1

Score with a d

Piecetitle



Piecetitle



Score with a e

Piecetitle



## Main Title

### Main subtitle

Piecetitle



Score with a f

Piecetitle



## Main Title

### Main subtitle

Score with a g

Piecetitle



Scheme engravers may be instantiated, with instance-scoped slots, by defining a 1 argument procedure which shall return the engraver definition as an alist, with the private slots defined in a closure. The argument procedure argument is the context where the engraver is instantiated.

`scheme-engraver-instance.ly`



`\consists` can take a scheme alist as arguments, which should be functions, which will be invoked as engraver functions.

`scheme-engraver.ly`



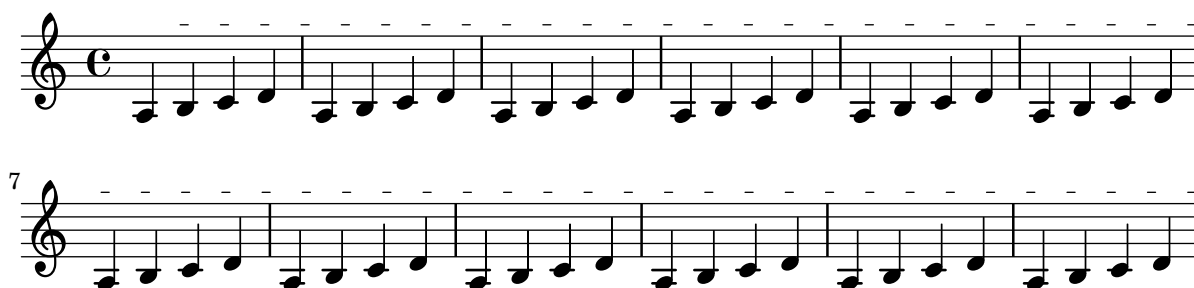
The `#@` and `$@` operators splice a list, returning multiple values to the parser. This is equivalent to returning the multiple values directly using `values`.

`scheme-list-splicing.ly`



Use `define-event-class`, scheme engraver methods, and grob creation methods to create a fully functional text spanner in scheme.

`scheme-text-spanner.ly`





Console output should indicate that translators created with `make-translator` are available in `\layout` and `\midi`, engravers created with `make-engraver` just in `\layout`, and performers created with `make-performer` just in `\midi`.

`scheme-translators.ly`

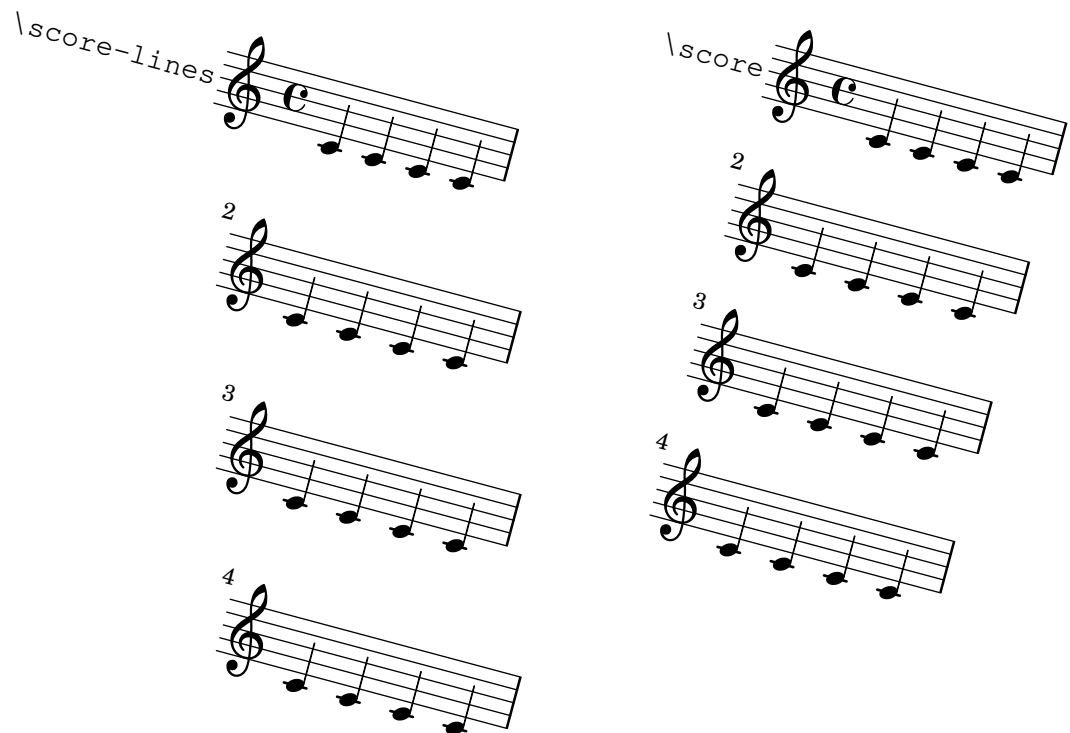


Ensures the zombie check actually works. This should print a log message 'object should be dead'

`scheme-zombies.ly`

The `\score-lines` markup returns individual score lines as stencils rather than a single stencil. Calling a function like `\rotate` on `\score-lines` rotates the lines individually, as contrasted with rotating an entire `\score` markup.

`score-lines.ly`



It works to set titling fields to `##f` on score level while they have been defined to markup values in the global header.

`score-suppress-title.ly`



Markup texts are rendered above or below a score.

`score-text.ly`

High up above

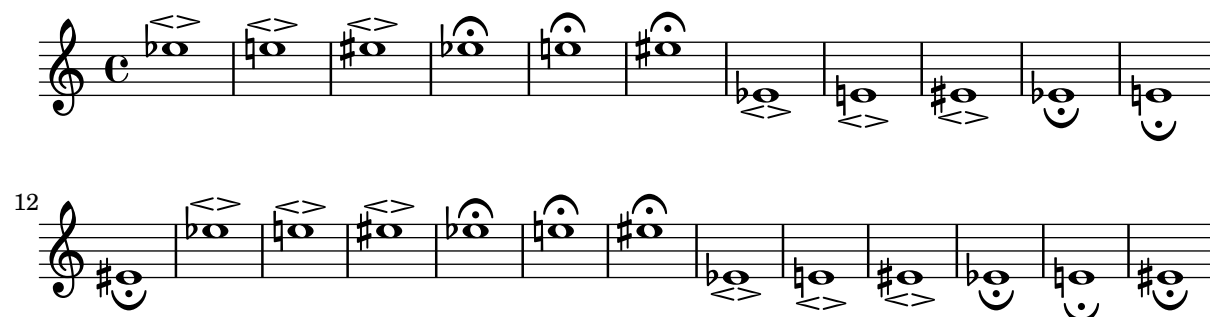
My first Li - ly song,

<sup>3</sup> Not much can go wrong!

2. My next Li-ly verse  
Now it's getting worse!
3. My last Li-ly text  
See what will be next!

Scripts use skylines with accurate boxes to avoid accidentals.

`script-accidental-collision.ly`



Scripts on chords with seconds remain centered on the extremal note head

`script-center-seconds.ly`



Scripts are put on the utmost head, so they are positioned correctly when there are collisions.

`script-collision.ly`



Horizontal scripts don't have `avoid-slur` set.

`script-horizontal-slur.ly`



Omitted scripts on skips do not cause crashes.

`script-no-stencil.ly`



The horizontal placement of staccato dots above an upstem or below a downstem note differs from the placement of other scripts in that different positioning is used when the dot is alone and when it is part of a compound articulation. The property `toward-stem-shift-in-column` ensures good default positioning of the staccato (see first measure below), and allows precise horizontal control of a column containing a staccato and of the staccato within it (second measure). (0.0 means centered on the note head, 1.0 means centered on the stem.)

`script-shift-staccato.ly`



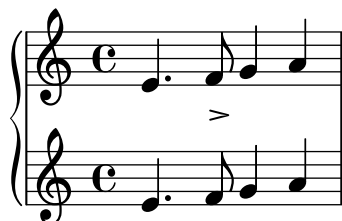
The `toward-stem-shift` property controls the precise horizontal location of scripts that are placed above an upstem or below a downstem note (0.0 means centered on the note head, 1.0 means centered on the stem).

`script-shift.ly`



Scripts on skips are supported.

`script-skip.ly`



horizontal scripts are ordered, so they do not overlap. The order may be set with `script-priority`.

The scripts should not be folded under the time signature.

`script-stack-horizontal.ly`



Scripts can be stacked. The order is determined by a priority field, but when objects have the same priority, the input order determines the order. Objects specified first are closest to the note.

`script-stack-order.ly`



Scripts may be stacked.

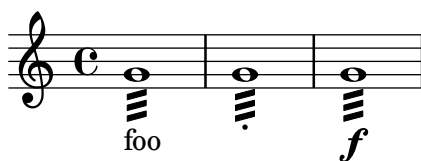


script-stacked.ly



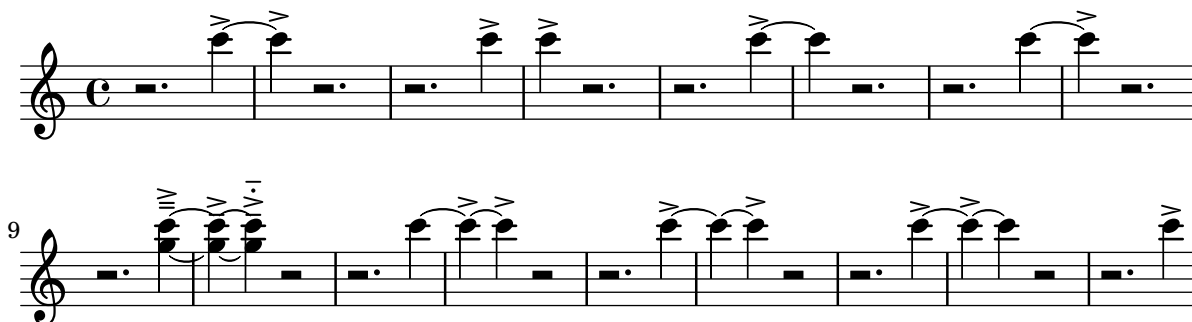
Scripts avoid stem tremolos even if there is no visible stem.

script-stem-tremolo.ly



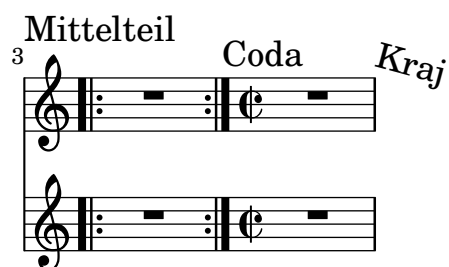
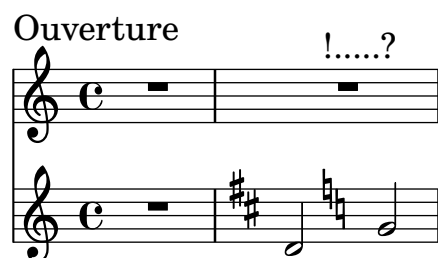
Scripts avoid ties.

script-tie-collision.ly



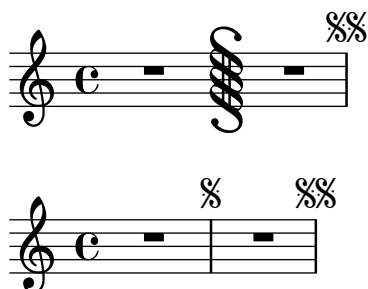
Section labels appear at the top of the system, appear at the beginning of a line at a break, remain visible at the end of the score, and can be styled via the `SectionLabel` grob.

section-label-style.ly



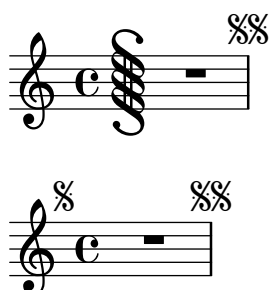
`\segnoMark \default` at the beginning of the score does not create a mark. A single segno should appear at the beginning of the second measure and a double segno should appear at the end.

segno-mark-begin-score-default.ly



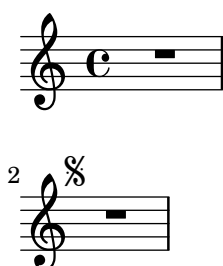
`\segnoMark 1` at the beginning of the score creates a visible mark. A single segno should appear at the beginning of the measure and a double segno should appear at the end.

segno-mark-begin-score-specific.ly



A segno at a line break appears at the beginning of the line.

segno-mark-break.ly



Where a segno mark is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the single segno should have a normal bar line and the double segno should have a dotted bar line.

segno-mark-unaligned.ly



Segni are printed as marks or bar lines according to the `segnoStyle` context property. The `mark` style, which is the default, yields marks only. When the style is set to `bar-line`, the default `segnoMarkFormatter` skips the mark for segno 1, but allows marks on later segni to eliminate ambiguity. The user can override the segno formatter with a rehearsal-mark formatter. Rehearsal marks and segni are sequenced independently.

segno-style.ly

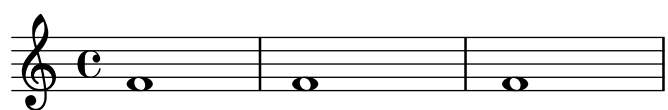
default 

bar-line 


bar-line & formatter 

Grobs using `ly:self-alignment-interface::aligned-on-x-parent` and `ly:self-alignment-interface::aligned-on-y-parent` callbacks support separate alignments for self and parent.

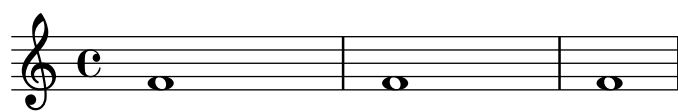
`self-alignment-and-parent-alignment.ly`



left-left    left-center    left-right



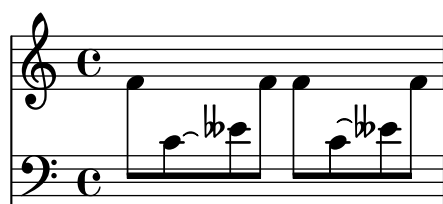
center-left    center-center    center-right



right-left    right-center    right-right

Cross-staff `RepeatTie` and `LaissezVibrerTie` do not trigger programming errors for circular dependencies in direction.

`semi-tie-cross-staff.ly`



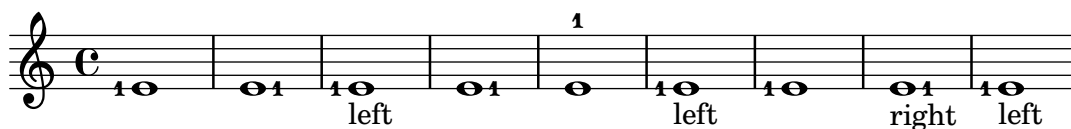
Semi tie directions may be forced from the input.

`semi-tie-manual-direction.ly`



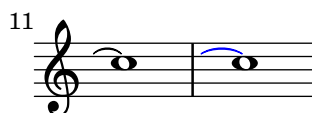
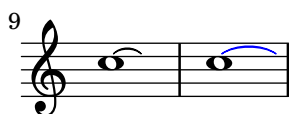
`\once \set` should change a context property value for just one timestep and then return to the previous value.

`set-once.ly`



In addition to `Slur`, the music function `\shape` works with `PhrasingSlur`, `Tie`, `LaissezVibrerTie`, and `RepeatTie`. Each is shown below, first unmodified and then (in blue) after application of the function.

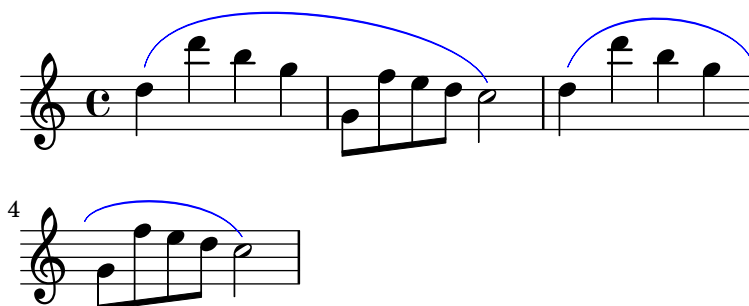
`shape-other-curves.ly`



The control points of a broken or unbroken slur may be offset by `\shape`. The blue slurs are modified from the default slurs shown first.

`shape-slurs.ly`





`\shiftDurations` can use negative dot values without causing a crash.  
`shift-durations-negative-dots.ly`



A number of shorthands like `(, )`, `l`, `[`, `]`, `~`, `\(`, `\)` and others can be redefined like normal commands. `ly/declarations-init.ly` serves as a regtest for a number of them. This test just demonstrates replacing `(` and `)` with melismata commands which are *not* articulations.

`shorthands.ly`



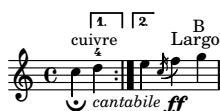
The `show-horizontal-skylines` and `show-horizontal-skylines` properties display sky-lines to assist debugging.

`show-skylines.ly`



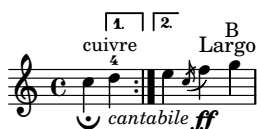
Different text styles are used for various purposes.

`size11.ly`



Different text styles are used for various purposes.

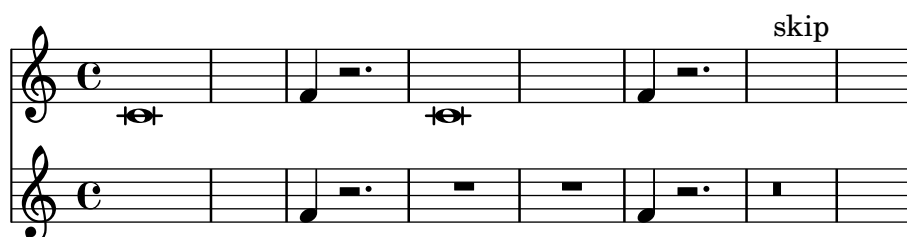
`size13.ly`



Different text styles are used for various purposes.

[illegible]

skip-of-length.ly



A score with `skipTypesetting` set for the whole score will not segfault.

`skiptypesetting-all-true.ly`

`skipTypesetting` doesn't affect bar checks.

`skiptypesetting-bar-check.ly`



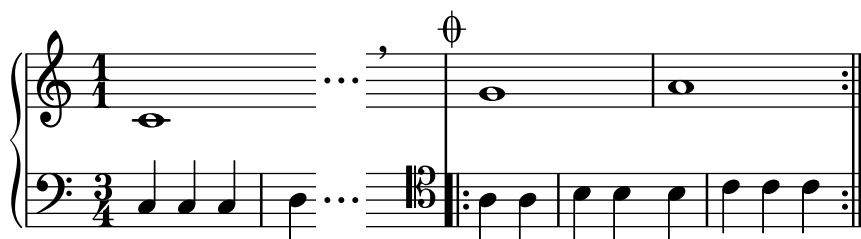
When `skipTypesetting` is set during a `skipBars`-induced `MultiMeasureRest` spanner, no segfault occurs.

`skiptypesetting-multimeasurerest.ly`



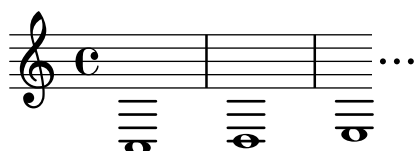
`showFirstLength` and `showLastLength` may be set at the same time; both the beginning and the end of the score will be printed.

`skiptypesetting-show-first-and-last.ly`



`showFirstLength` will only show the first bit of a score

`skiptypesetting-show-first.ly`



`showLastLength` will only show the last bit of a score

`skiptypesetting-show-last.ly`

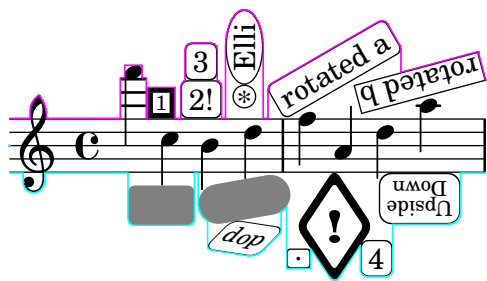


Tuplet brackets are also skipped with `skipTypesetting`.  
`skiptypesetting-tuplet.ly`



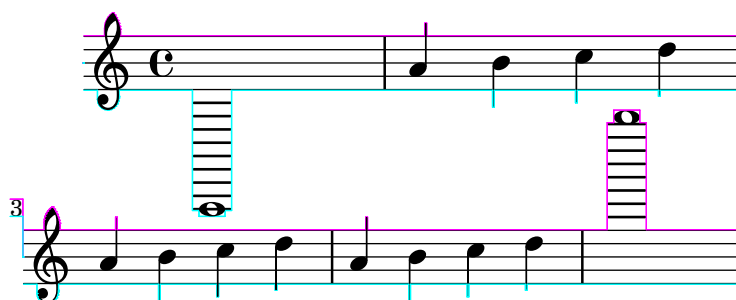
Skylines of boxes with and without rounded corners reflect the actual box outline even if rotated. Skylines of ellipses are stable when rotated.

`skyline-boxes-ellipses.ly`



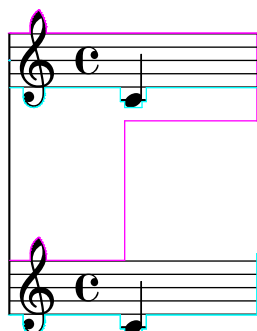
`-ddebug-skyline` draws the outline of the skyline used.

`skyline-debug.ly`



If no outline is available (eg. for embedded PS), the bounding box is used as a fallback.

`skyline-embedded-ps.ly`



Do not crash on handling round-filled-box with infinite extents.

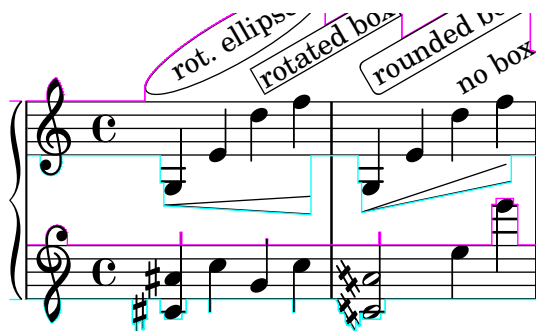


skyline-empty-box.ly



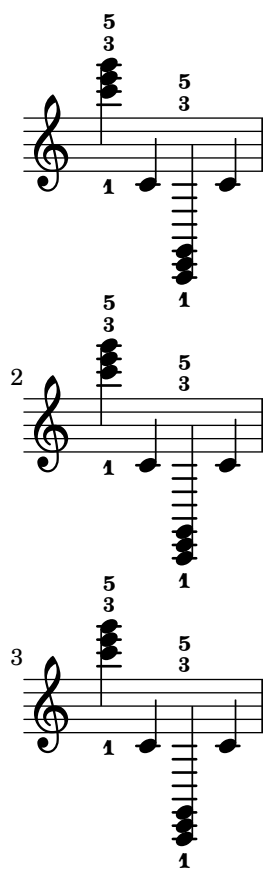
Skylines reflect grob rotation.

skyline-grob-rotation.ly



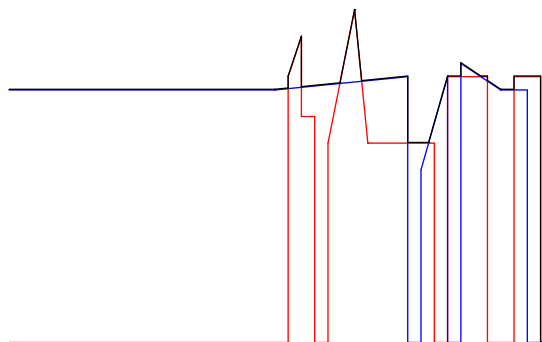
The skyline-horizontal-padding property can be set for System in order to keep systems from being spaced too closely together. In this example, the low notes from a system should not be interleaved with the high notes from the next system.

skyline-horizontal-padding.ly



Test skyline merging. The red and blue lines are two skylines with direction UP, represented with the X axis as horizon axis. The black line is the merged skyline. At every point on the X axis, the black line should be at the maximum between the height of the red line and the height of the blue line at that point.

skyline-merging.ly



The **Script** grobs should follow the descending melody line, even though the **NoteHead** stencils are point stencils. The **Stem\_engraver** is removed so that the only **side-support-element** is the **NoteHead**.

skyline-point-extent.ly



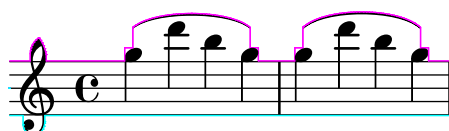
The skylines of side-positioned objects can be removed, without causing crashes.

skyline-removed.ly



Skylines cover all segments of slurs.

skyline-slur-segments.ly



Grobs that have **outside-staff-priority** set are positioned using a skyline algorithm so that they don't collide with other objects.

skyline-vertical-placement.ly

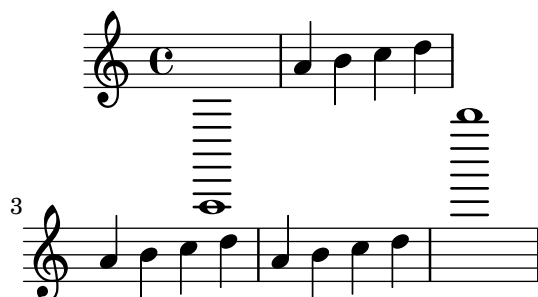
this goes above the previous markup  
this doesn't collide with the c



this goes below the dynamic

We use a skyline algorithm to determine the distance to the next system instead of relying only on bounding boxes. This keeps gaps between systems more uniform.

`skyline-vertical-spacing.ly`



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Slurs handle avoid objects better.

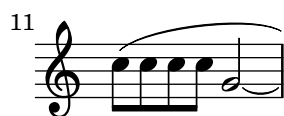
`slur-avoid.ly`



Across line breaks, slurs behave nicely. On the left, they extend to just after the preferatory matter, and on the right to the end of the staff. A slur should follow the same vertical direction it would have in unbroken state.

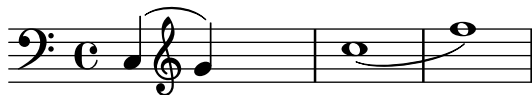
`slur-broken-trend.ly`





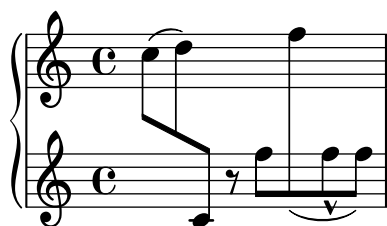
Slurs avoid clefs, but don't avoid bar lines.

`slur-clef.ly`



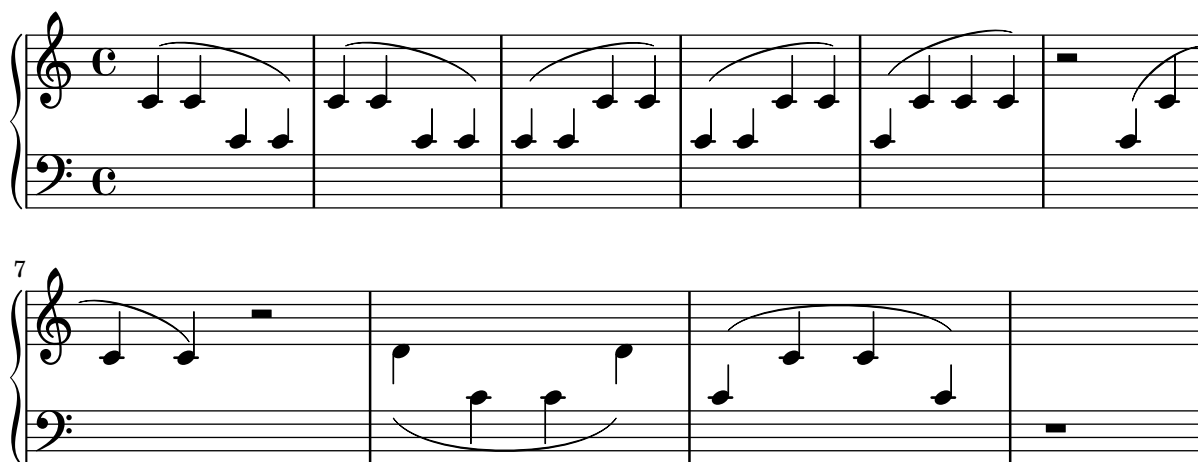
Slurs that depend on a cross-staff beam are not calculated until after line-breaking, and after inside-going articulations have been placed.

`slur-cross-staff-beam.ly`



Slurs behave decently when broken across a linebreak.

`slur-cross-staff.ly`



The appearance of slurs may be changed from solid to dotted or dashed.

`slur-dash.ly`



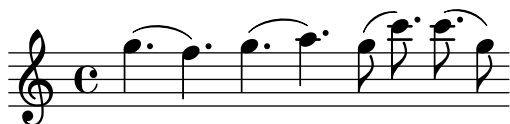
Slurs avoid dots.

`slur-dot-collision.ly`



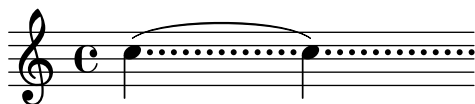
Slurs on dotted notes should have a similar distance to the note heads as slurs on non-dotted notes if this does not lead to a collision.

`slur-dot-distance.ly`



Slurs should not get confused by augmentation dots. With a lot of dots, the problems becomes more visible.

`slur-dots.ly`



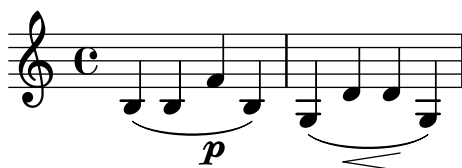
Some composers use slurs both above and below chords. This can be typeset by setting `doubleSlurs`

`slur-double.ly`



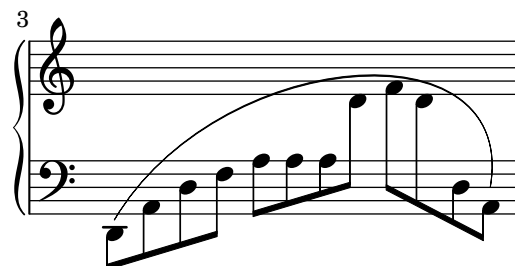
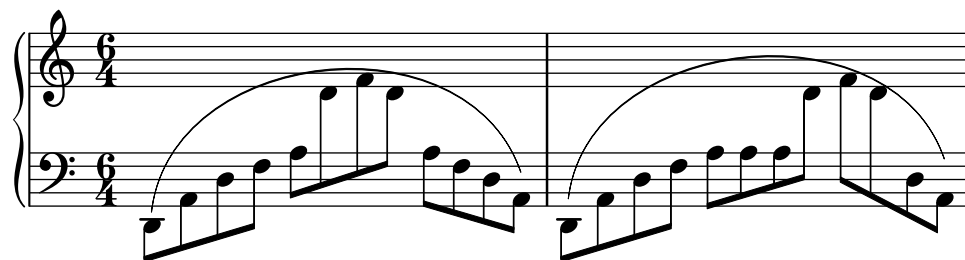
Dynamics avoid collision with slur.

`slur-dynamics.ly`



Extreme slurs are scaled to fit the pattern, but only symmetrically. Asymmetric slurs are created by setting `eccentricity`.

`slur-extreme.ly`



Slurs take flag extents into account.

`slur-flag.ly`



Appoggiatura and acciacaturas use a different slur than the default, so they produce a nested slur without warnings.

`slur-grace.ly`



Slur shaping is not adapted to accommodate objects towards the edges of slur. Said objects are thus ignored, which should make the slur in this regtest flat. Objects towards the edges are not, however, ignored in the slur scoring.

`slur-height-capping.ly`



Specifying `inspect-quant`s, will print out demerit scores for the given configuration. Here, there are demerits for slur slope going to melody slope, and the slur ending far from the right edge.

`slur-inspect-quant.ly`



slope=20.00, R edge=16.71 TOTAL=36.71 idx=7



Setting `positions` overrides the automatic positioning of the slur. It selects the slur configuration closest to the given pair.

`slur-manual.ly`



An additional opening slur during a running slur should be ignored (and a warning printed), but never influence the slur's extents.

`slur-multiple-linebreak.ly`



LilyPond does not support multiple concurrent slurs with the parentheses syntax. In this case, warnings will be given and the nested slur will not be generated. However, one can create a second slur with a different spanner-id.

`slur-multiple.ly`



Slurs should look nice and symmetric. The curvature may increase only to avoid noteheads, and as little as possible. Slurs never run through noteheads or stems.

`slur-nice.ly`





The slur between the stemless notes should begin and end in the same spaces as the slur between the stemmed notes.

`slur-no-stem.ly`



Rests don't change slur direction (default is down).

`slur-rest-direction.ly`



Slurs may be placed over rests. The slur will avoid colliding with the rests.

`slur-rest.ly`



Slur formatting is based on scoring. A large number of slurs are generated. Each esthetic aspect gets demerits, the best configuration (with least demerits) wins. This must be tested in one big file, since changing one score parameter for one situation may affect several other situations.

Tunable parameters are in `scm/slur.scm`.

`slur-scoring.ly`



Slurs avoid scripts with `avoid-slur` set to `inside`, scripts avoid slurs with `avoid-slur` set to `around`. Slurs and scripts keep a distance of `slur-padding`.

`slur-script-inside.ly`

A slur avoids collisions with scripts, which are placed either inside or outside the slur, depending on the script. The slur responds appropriately if a script is moved.

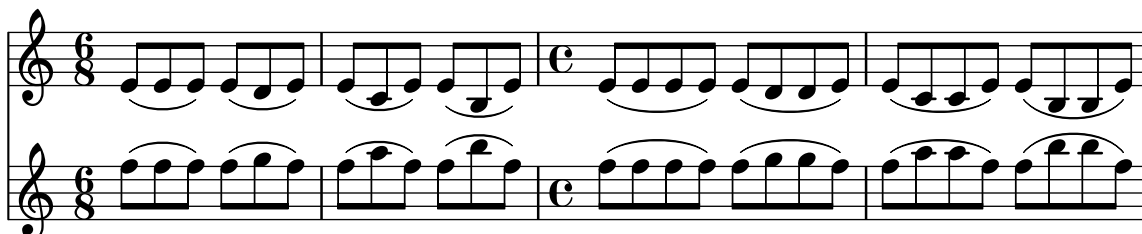
`slur-script.ly`

A slur's shift region is automatically made higher to accommodate extra encompass elements.

`slur-shift-region.ly`

Symmetric figures should lead to symmetric slurs.

`slur-symmetry.ly`



Slurs and ties should never share extremal control points.

`slur-tie-control-points.ly`



The attachment point for strongly sloped slurs is shifted horizontally slightly. Without this correction, slurs will point into one note head, and point over another note head.

`slur-tilt.ly`



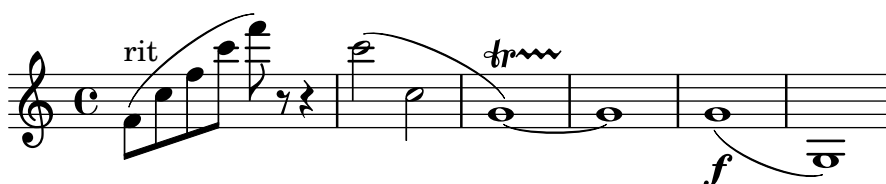
`TupletNumber` grobs are always inside slurs. This may not work if the slur starts after the tuplet.

`slur-tuplet.ly`



Slurs do not force grobs with outside-staff-priority too high.

`slur-vertical-skylines.ly`



Outside staff callbacks that no longer apply to grobs because they are outside the X boundary of a slur should terminate early. The example below should generate no warnings about Bezier curves and there should be no change in `StrokeFinger` position between the first and second examples.

`slur-vestigial-outside-staff-callback.ly`



`\smallCaps` works on an arbitrary markup argument.

`smallcaps-markup.ly`

## GAVOTTE



Festival song synthesis output supports associated voices.

`song-associated-voice.ly`



play the game

Festival song synthesis output supports non-english syllables.

`song-basic-nonenglish.ly`



ov-čá-ci

Festival song synthesis output supports basic songs.

`song-basic.ly`



play the game

Festival song synthesis output supports breath marks.

`song-breathe.ly`



play the game

Festival song synthesis output supports melismas.

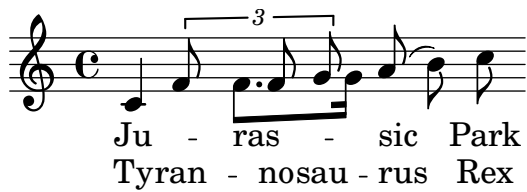
`song-melisma.ly`



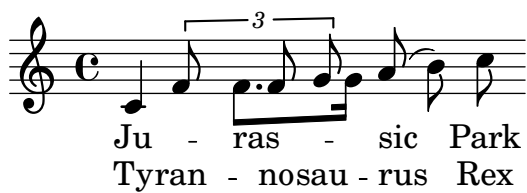
la di daah

Festival song synthesis output supports reordered lyrics.

`song-reordering.ly`



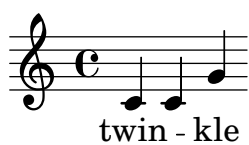
Festival song synthesis output supports reordered lyrics.  
song-reordering2.ly



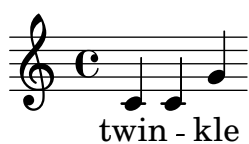
Festival song synthesis output supports repeat signs.  
song-repetition.ly



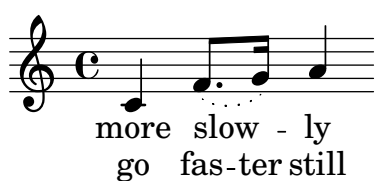
Festival song synthesis output supports lyrics which are not complete words.  
song-skip-noword.ly



Festival song synthesis output supports skips.  
song-skip.ly



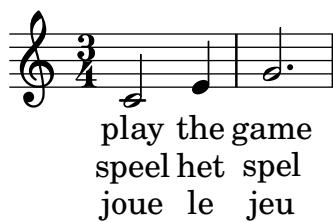
Festival song synthesis output supports slurs.  
song-slurs.ly



Festival song synthesis output supports divided voices.  
song-splitpart.ly



Festival song synthesis output supports multiple stanzas.  
 song-stanzas.ly



Festival song synthesis output supports changing tempo in the middle of a piece.  
 song-tempo.ly



The output should include a clef, key signature, and time signature.  
 spacer-no-notes.ly



Accidentals don't collide with shifted-down rests.  
 spacing-accidental-rest.ly



Accidentals in different staves do not affect the spacing of the eighth notes here.  
 spacing-accidental-staffs.ly



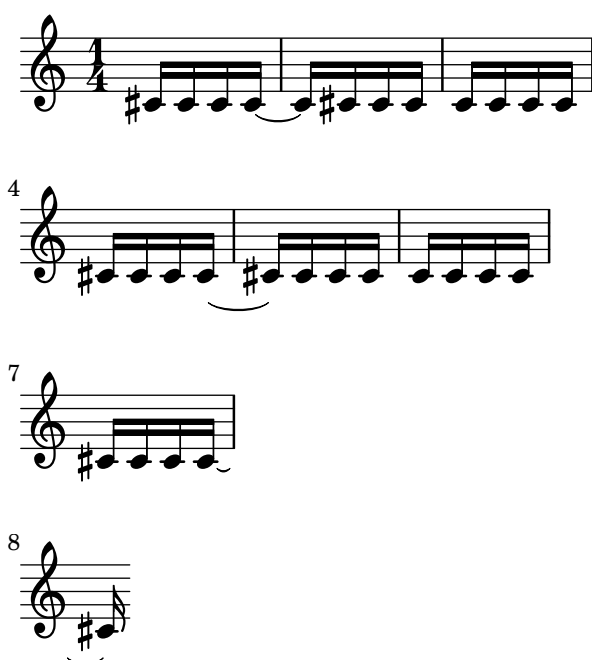
Accidentals do not influence the amount of stretchable space. The accidental does add a little non-stretchable space.

spacing-accidental-stretch.ly



Horizontal spacing works as expected on tied notes with accidentals. No space is reserved for accidentals that end up not being printed, but accidentals that are printed don't collide with anything.

spacing-accidental-tie.ly



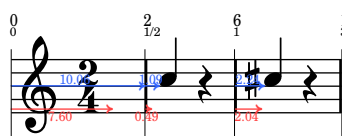
Accidentals sticking out to the left of a note will take a little more space, but only if the spacing is tight.

spacing-accidental.ly



An accidental following a bar gets space so the left edge of the acc is at 0.3 staff space from the bar line

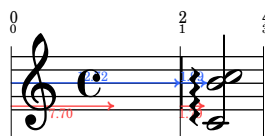
spacing-bar-accidental.ly



An arpeggio following a bar gets space

spacing-bar-arpeggio.ly

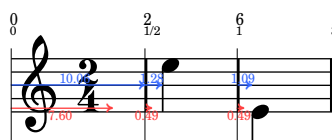




Downstem notes following a bar line are printed with some extra space. This is an optical correction similar to juxtaposed stems.

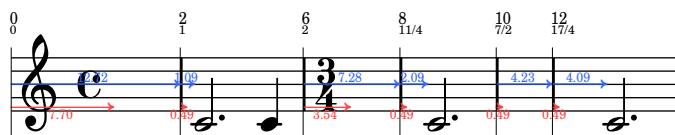
The bar upstem should be approx 1.1 staff space, the bar downstem 1.3 to 1.5 staff space.

spacing-bar-stem.ly



Notes that fill a whole measure are preceded by extra space.

spacing-bar-whole-measure.ly



Clef changes at the start of a line get much more space than clef changes halfway the line.

spacing-clef-first-note.ly



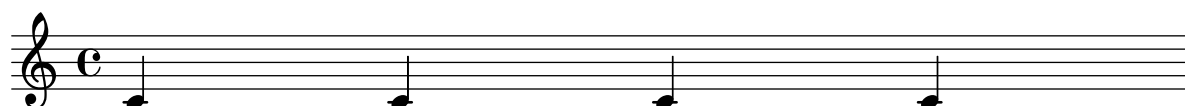
If right hand stems have accidentals, optical spacing correction is still applied, but only if the stem directions are different.

spacing-correction-accidentals.ly



Empty bar lines do not affect spacing.

spacing-empty-bar.ly





Broken engraving of a bar at the end of a line does not upset the space following rests and notes.

spacing-end-of-line.ly



A voicelet (a very short voice to get polyphonic chords correct) should not confuse the spacing engine.

spacing-ended-voice.ly



Clefs are also folded under cross staff constructs.

spacing-folded-clef-cross-staff.ly



A clef can be folded below notes in a different staff, if this does not disrupt the flow of the notes.

spacing-folded-clef.ly



A clef can be folded below notes in a different staff, if there is space enough. With `Paper_column` stencil callbacks we can show where columns are in the score.

spacing-folded-clef2.ly

Voices that go back and forth between staves do not confuse the spacing engine.

spacing-folded-clef3.ly

Spacing uses the duration of the notes, but disregards grace notes for this. In this example, the 8ths around the grace are spaced exactly as the other 8th notes.

`spacing-grace-duration.ly`

Grace note runs have their own spacing variables in `Score.GraceSpacing`. So differing grace note lengths inside a run are spaced accordingly.

`spacing-grace.ly`

Skyline horizontal spacing may fold non-adjacent columns together, but they still do not collide. In this case, the arpeggio and the bar line do not collide.

spacing-horizontal-skyline-grace.ly

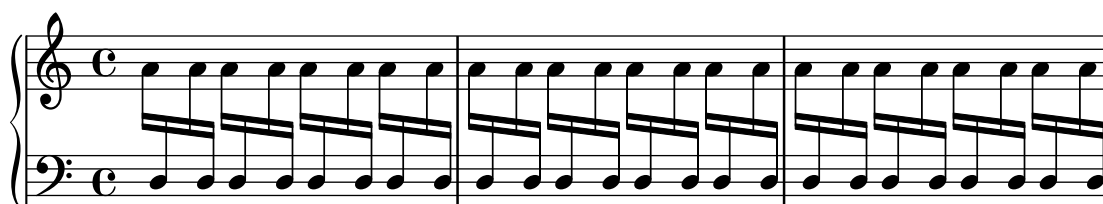
accidentals may be folded under preceding notes.

spacing-horizontal-skyline.ly



Spacing corrections for kneed beams still work when compression is involved.

spacing-knee-compressed.ly



For knees, the spacing correction is such that the stems are put at regular distances. This effect takes into account the width of the note heads and the thickness of the stem.

spacing-knee.ly



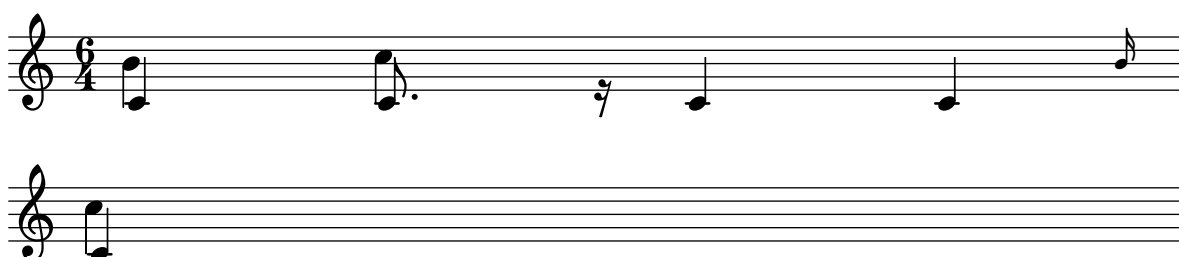
Even in case of incorrect contexts (eg. shortlived contexts) that break linking of columns through spacing wishes, **strict-note-spacing** defaults to a robust solution. This test passes if it does not seg fault; instead it should produce three programming error messages. Note that, in tight music with strict note spacing, grace notes will collide with normal notes. This is expected.

spacing-loose-grace-error.ly



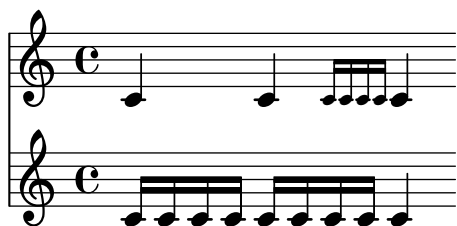
If a floating grace spacing section attaches to a note across a line break, it gets attached to the end of line.

spacing-loose-grace-linebreak.ly



With **strict-grace-spacing**, grace notes don't influence spacing.

spacing-loose-grace.ly



Loose columns (here, the treble clef) are spaced correctly in polyphonic music.  
spacing-loose-polyphony.ly



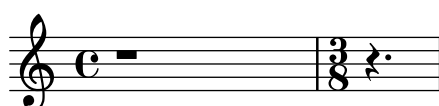
Width of marks does not affect spacing.  
spacing-mark-width.ly

XX

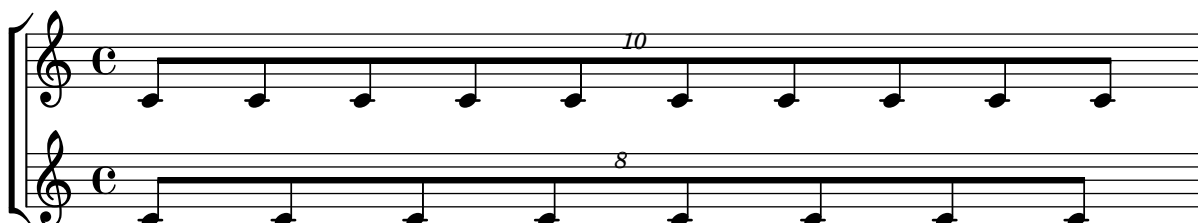


Horizontal spacing is bounded by the current measure length. This means that the 3/8 setting does not affect the whole rest spacing.

spacing-measure-length.ly



Concurrent tuplets should be equidistant on all staves.  
spacing-multi-tuplet.ly



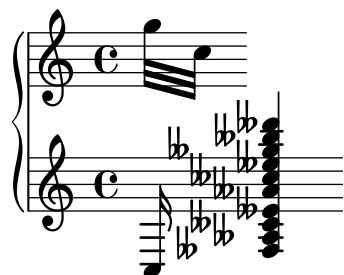
In the absence of NoteSpacings, wide objects still get extra space. In this case, the slash before the bar line gets a little more space.

spacing-no-note.ly



The spacing engine avoids collisions between non-adjacent columns.

`spacing-non-adjacent-columns1.ly`



The spacing engine avoids collisions between non-adjacent columns.

`spacing-non-adjacent-columns2.ly`



The spacing engine avoids collisions between non-adjacent columns.

`spacing-non-adjacent-columns3.ly`



The flags of 8th notes take some space, but not too much: the space following a flag is less than the space following a beamed 8th head.

`spacing-note-flags.ly`



In packed mode, pack notes as tight as possible. This makes sense mostly in combination with ragged-right mode: the notes are then printed at minimum distance. This is mostly useful for ancient notation, but may also be useful for some flavours of contemporary music. If not in ragged-right mode, lily will pack as many bars of music as possible into a line, but the line will then be stretched to fill the whole linewidth.

`spacing-packed.ly`



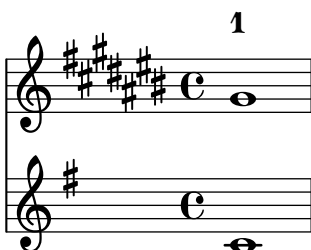
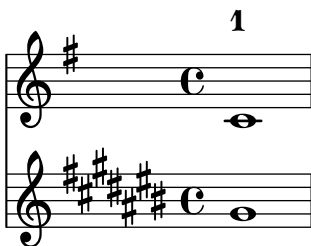
For `spacing-pair`, when an item matching a break align symbol is omitted, the alignment falls back on later break align symbols in the list. In this test, the measure counter should be centered using the right edge of the key signature.

`spacing-pair-omitted-item.ly`



The `spacing-pair` property takes the combined extents of all items having the given break align symbol into account. In this test, the centering of the measure counter should visibly happen with the left point being on the right of the wide key signature. The alignment of the measure counter should be the same for both scores.

`spacing-pair-several-matching-items.ly`



The space after a paper column can be increased by overriding the padding property.

`spacing-paper-column-padding.ly`



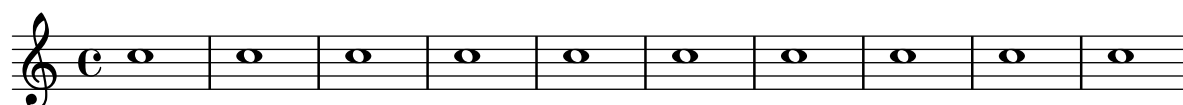
Proportional notation can be created by setting `proportionalNotationDuration`. Notes will be spaced proportional to the distance for the given duration.

`spacing-proportional.ly`



If `ragged-last` is set, the systems are broken similar to paragraph formatting in text: the last line is unjustified.

`spacing-ragged-last.ly`



Rests get a little less space, since they are narrower. However, the quarter rest in feta font is relatively wide, causing this effect to be very small.

`spacing-rest.ly`



New sections for spacing can be started with `\newSpacingSection`. In this example, a section is started at the 4/16, and a 16th in the second section takes as much space as a 8th in first section.

`spacing-section.ly`



Notes that are shorter than the common shortest note get a space (i.e. without the space needed for the note) proportional to their duration. So, the 16th notes get 1/2 of the space of an eighth note. The total distance for a 16th (which includes note head) is 3/4 of the eighth note.

`spacing-short-notes.ly`



If `space-to-barline` is false, we measure the space between the note and the start of the clef. If `space-to-barline` is true, we measure the space between the note and the start of the bar line.

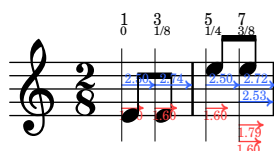
`spacing-space-to-barline.ly`





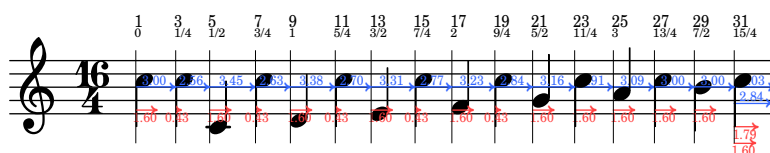
Upstem notes before a bar line are printed with some extra space. This is an optical correction similar to juxtaposed stems.

spacing-stem-bar.ly



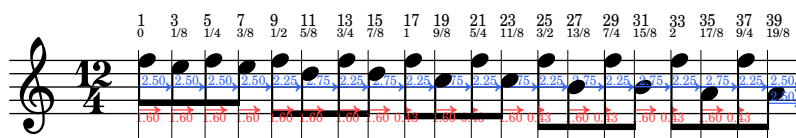
There are optical corrections to the spacing of stems. The overlap between two adjacent stems of different direction is used as a measure for how much to correct.

spacing-stem-direction.ly



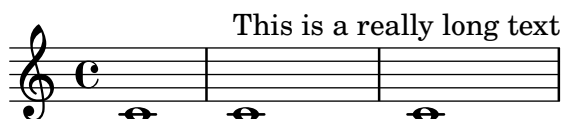
For juxtaposed chords with the same direction, a slight optical correction is used. It is constant, and works only if two chords have no common head-positions range.

spacing-stem-same-direction.ly



LilyPond will space a line to prevent text sticking out of the right margin unless `keep-inside-line` is false for the relevant `PaperColumn`.

spacing-stick-out.ly



If `strict-note-spacing` is set, then spacing of notes is not influenced by bars and clefs half-way on the system. Rather, they are put just before the note that occurs at the same time. This may cause collisions.

spacing-strict-notespacing.ly



With `strict-note-spacing` spacing for grace notes (even multiple ones), is floating as well.  
`spacing-strict-spacing-grace.ly`



An empty bar line does not confuse the spacing engine too much. The two scores should look approximately the same.

`spacing-to-empty-barline.ly`



Space from a normal note (or bar line) to a grace note is smaller than to a normal note.

`spacing-to-grace.ly`



Notes are spaced exactly according to durations, if `uniform-stretching` is set. Accidentals are ignored, and no optical-stem spacing is performed.

`spacing-uniform-stretching.ly`



The `SpanBarStub` grob takes care of horizontal spacing for `SpanBar` grobs. When the `SpanBar` is disallowed, objects in contexts that the span bar would have otherwise crossed align as if the span bar were not there.

`span-bar-allow-span-bar.ly`

5

Articulations on cross-staff stems do not collide with span bars.

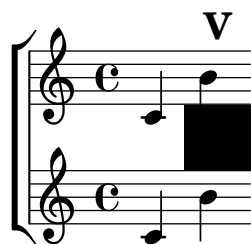
`span-bar-articulation.ly`

This tests the calculation of the anchor point on a *mensurstrich* bar line.

The top staff has no span bar. A rehearsal mark should appear over an invisible bar line between the two notes.

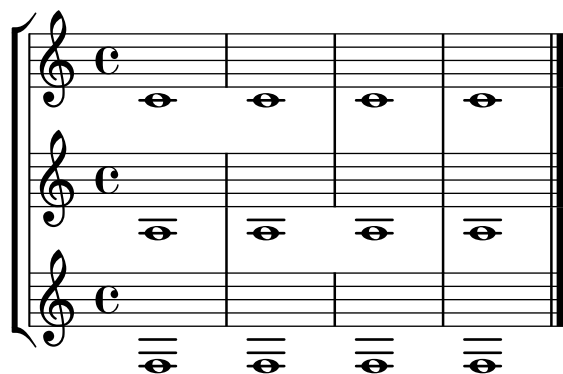
The lower pair of staves has a span bar of exaggerated width. A rehearsal mark should appear centered over it.

`span-bar-break-align-anchor.ly`



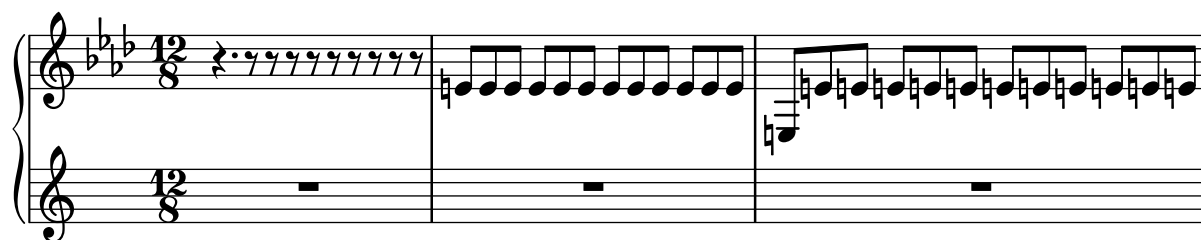
Span bars can be turned on/off on a staff-by-staff basis.

`span-bar-partial.ly`



Because `BarLine` grobs take their extra-positioning-height from their neighbors via the `pure-from-neighbor-interface`, the left edge of an accidental should never fall to the left of the right edge of a bar line. This spacing should also take place when `SpanBar` grobs are present.

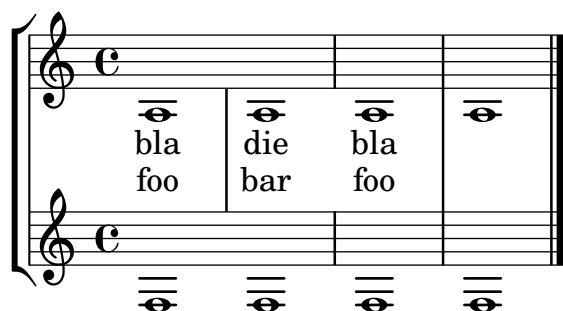
`span-bar-spacing.ly`



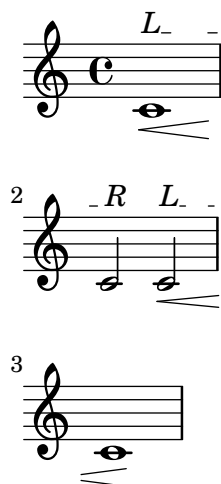
Span bars are drawn only between staff bar lines. By setting bar lines to transparent, they are shown only between systems.

Setting `SpanBar` transparent removes the bar lines between systems.

`span-bar.ly`



The visibility of left-broken line spanners and hairpins which end on the first note (i.e., span no time between bounds) is controlled by the callback `ly:spanner::kill-zero-spanned-time`.  
`spanner-after-line-breaking.ly`



Spanners align to musical grobs in paper columns, ignoring things like pedal marks.  
`spanner-alignment.ly`

Spanners parts that extend beyond their parents are killed in case of line breaks.  
`spanner-break-beyond-parent.ly`

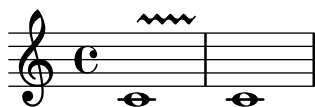
The `break-overshoot` property sets the amount that a spanner (in this case: the beam and tuplet bracket) in case of a line break extends beyond the rightmost column and extends to the left beyond the prefatory matter.

`spanner-break-overshoot.ly`



Empty bounds on a line spanner do not cause LilyPond to get stuck in an infinite loop.

`spanner-empty-bound.ly`



This should produce a choral score with solo, descant, women, sop 1 and 2, sop, alto, alto 1 and 2, tenor 1 and 2, tenor, bass, bass 1 and 2, men and piano staves. Normally the various combinations would appear at different times in the score, not all at once.

`ssaattbb-template-with-all-staves.ly`

SOLO

DESCANT

WOMEN

SOPRANO 1

SOPRANO 2

SOPRANO

ALTO

ALTO 1

ALTO 2

TENOR 1

TENOR 2

TENOR

BASS

BASS 1

BASS 2

MEN

PIANO

So - - - ly - rics

Des - cant ly - rics

Wo men ly - rics

So - pra - no One ly - rics

So - pra - no Two ly - rics

So - pra - no ly - rics

Al to ly - rics

Alto One ly - rics

Alto Two lyrics

Te - nor One ly - rics

Te - nor Two ly - rics

Te - nor ly - rics

Bass One ly - rics

Bass Two ly - rics

Bass ly - rics

Men ly - rics

Men ly - rics

This should produce a choral score with solo, descant, women, sop divisi, sop and alto, alto divisi, tenor divisi, tenor and bass, bass divisi, men and piano staves. Normally the various combinations would appear at different times in the score, not all at once.

SOLO  
DESCANT  
WOMEN  
SOPRANO 1  
SOPRANO 2  
SOPRANO  
ALTO  
ALTO 1  
ALTO 2  
TENOR 1  
TENOR 2  
TENOR  
BASS  
BASS 1  
BASS 2  
MEN  
PIANO

So - lo ly - rics  
Des - cant ly - rics  
Wo - men ly - rics  
So - pra - no One ly - rics  
So - pra - no Two ly - rics  
So - pra - no ly - rics  
Al - to ly - rics  
Alto One ly - rics  
Alto Two lyrics  
Te - nor One ly - rics  
Te - nor Two ly - rics  
Te - nor ly - rics  
Bass ly - rics  
Bass One ly - rics  
Bass Two ly - rics  
Men ly - rics  
Men ly - rics

Instrument names and short instrument names can be changed when using the ssaattbb built-in template.

ssaattbb-template-with-changed-instrument-names.ly



First system of a musical score for SSAATTBB with piano accompaniment. The system includes three vocal staves and a piano accompaniment. The vocal staves are labeled 'SOP ONE', 'SOP TWO', and 'MEN DIV'. The piano accompaniment is labeled 'ORGAN'. The music is in common time (C) and features a descending scale in the soprano parts and a corresponding accompaniment in the organ.

Second system of the musical score. The vocal staves are labeled 'SOP 1', 'SOP 2', and 'M UNI'. The piano accompaniment is labeled 'ORGAN'. The music continues with a descending scale in the soprano parts and a corresponding accompaniment in the organ.

This should produce an SSAATTBB score with piano accompaniment, with divisi soprano and tenor on single staves, alto one and alto two on separate staves and unison bass in the first system, then unison soprano and alto voices with descant in the second system and unison women and unison men voices in the third system.

So - pra - no One ly - rics

SOPRANO 1

SOPRANO 2

So - pra - no Two ly - rics

ALTO 1

Alto One ly - - rics

ALTO 2

Alto Two lyrics

Te - nor One ly - rics

TENOR 1

TENOR 2

Te - nor Two ly - rics

BASS

Bass ly - rics

PIANO

Detailed description: This musical score is for a vocal ensemble and piano. It features seven staves. The vocal parts are Soprano 1, Soprano 2, Alto 1, Alto 2, Tenor 1, Tenor 2, and Bass. The piano part is at the bottom. The time signature is common time (C). The key signature has one flat (B-flat). The lyrics are: Soprano 1: 'So - pra - no One ly - rics'; Soprano 2: 'So - pra - no Two ly - rics'; Alto 1: 'Alto One ly - - rics'; Alto 2: 'Alto Two lyrics'; Tenor 1: 'Te - nor One ly - rics'; Tenor 2: 'Te - nor Two ly - rics'; Bass: 'Bass ly - rics'. The piano part consists of a simple harmonic accompaniment.

2

D

Descant ly - rics

S

So - pra - no ly - rics

A

Al - to ly - rics

Detailed description: This musical score is for a vocal ensemble and piano. It features five staves. The vocal parts are Descant (D), Soprano (S), Alto (A), and Piano. The time signature is common time (C). The key signature has one flat (B-flat). The lyrics are: Descant: 'Descant ly - rics'; Soprano: 'So - pra - no ly - rics'; Alto: 'Al - to ly - rics'. The piano part consists of a simple harmonic accompaniment.

3

W

Wo-men ly - rics

M

Men ly - rics

Some scripts must have quantized positions. VERTICAL position descends monotonously for a descending scale. The staccato dot is close to the notehead. If the head is in a space, then the dot is in the space next to it.

staccato-pos.ly

The first staff of music is written in treble clef with a common time signature (C). It begins with a series of eighth and sixteenth notes, many of which are beamed together. The notes include various accidentals, such as flats and naturals, indicating a complex melodic line. The staff concludes with a whole note chord consisting of four notes.

[illegible]

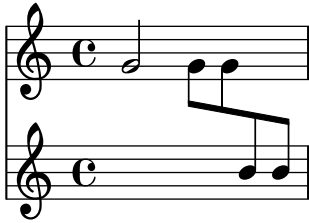
Adding a new staff at a line break doesn't crash.

staff-add-at-linebreak.ly

A musical staff with a treble clef, a common time signature (C), and a single whole note on middle C. The staff is empty except for these elements.

Staves stay alive long enough to complete an automatic beam.

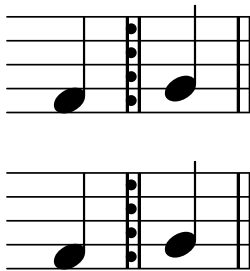
staff-change-autobeam.ly



When a **BreathingSign** is aligned as a 'staff-bar, staff lines extend through it, even if it is accompanied by a zero-width **BarLine** at the end of the line.

The output should show two identical staves. Between the notes should appear a finalis sign (like a double bar line) overlapping with a dotted bar line; this shows that **BreathingSign** and **BarLine** are aligned alike. At the end of the line should appear a finalis sign with the staff lines extending to its right side.

`staff-extend-to-staff-bar.ly`



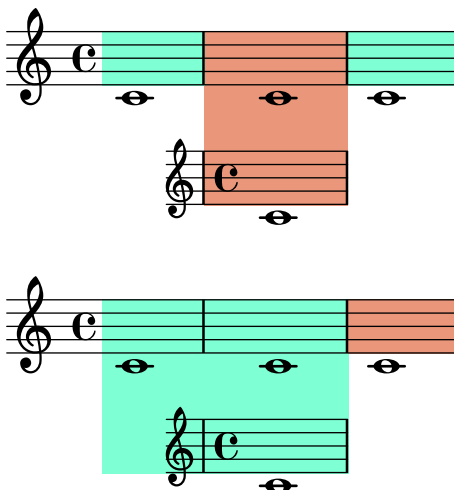
Staves can be started and stopped at command.

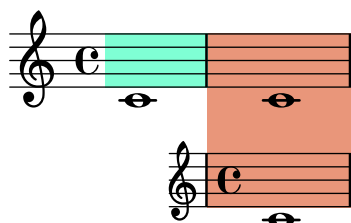
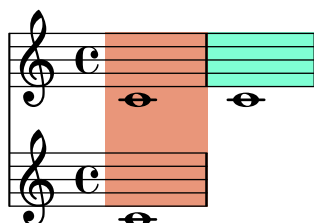
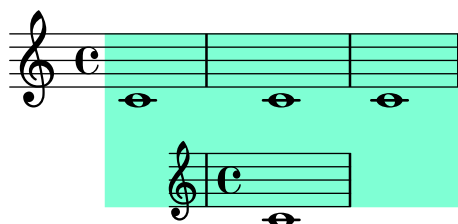
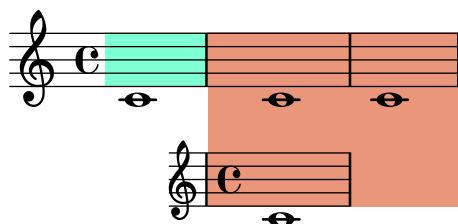
`staff-halfway.ly`



When highlights are used in combination with ossia staves, a highlight only extends to include the ossia staff if it actually spans a portion of it, but not if it ends at the start of the ossia or if it starts at the end of the ossia.

`staff-highlight-ossia.ly`



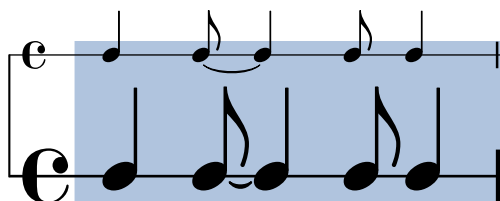


Highlights can be used in `RhythmicStaff`. They extend vertically as far as bar lines do.  
`staff-highlight-rhythmicstaff.ly`

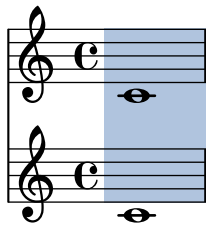


This test exercises highlights spanning a set of rhythmic staves with different font sizes. At the bottom and at the top, the highlight should extend as far as the bar lines do.

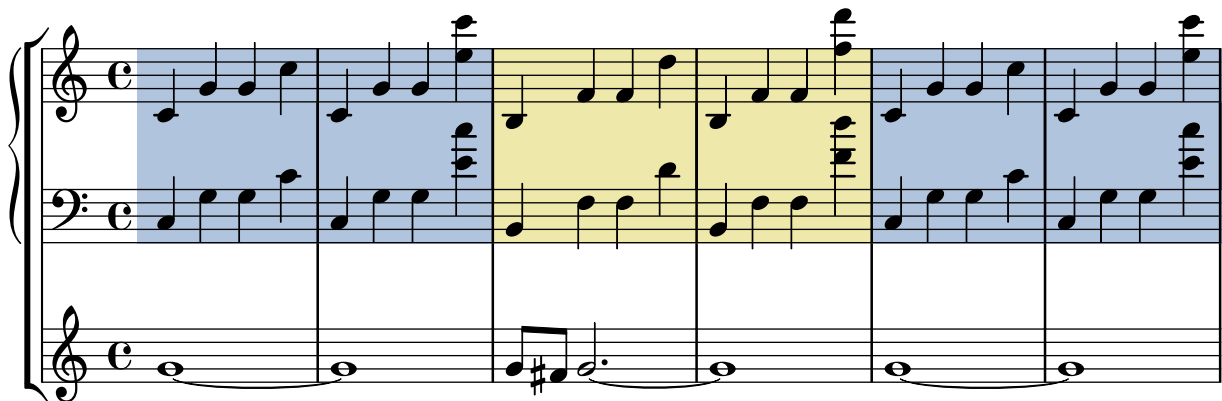
`staff-highlight-score-rhythmic-staves.ly`



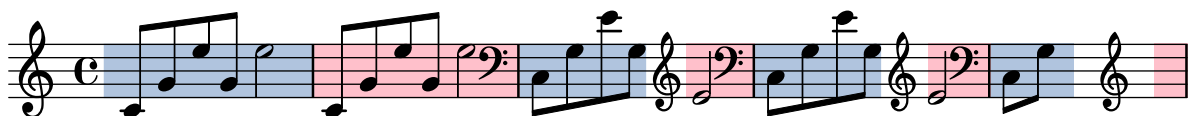
Highlights can be used in `Score`.  
`staff-highlight-score.ly`



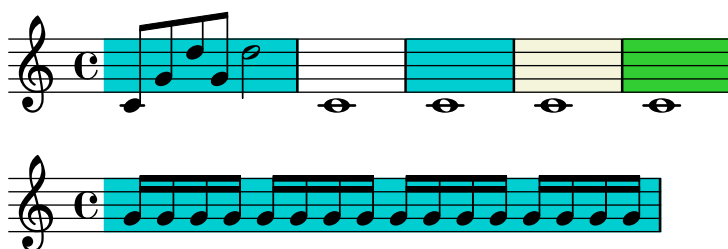
Highlights can be used in contexts at higher level than `Staff`.  
`staff-highlight-staffgroup.ly`



This test shows highlights starting and ending on prefatory material in various situations.  
`staff-highlight-start-end.ly`



The `\staffHighlight` command highlights a musical passage. A highlight is terminated by `\stopStaffHighlight`, by the start of another highlight, or by the end of the music.  
`staff-highlight.ly`



When the vertical positions of ledger lines have been customized by setting the `ledger-positions` property of the `StaffSymbol`, and a dotted note falls on a ledger line, the dot is shifted up to avoid the ledger line (just as with uncusomized ledger lines).

`staff-ledger-positions-dotted-notes.ly`



The vertical positions of ledger lines may be customised by setting the `ledger-positions` property of the `StaffSymbol`. The given pattern is repeated. Bracketed groups are always shown together: either all or none are shown. Ledger lines can be set to appear sooner or later by setting the `ledger-extra` property.

`staff-ledger-positions.ly`



The vertical positions of staff lines may be specified individually, by setting the `line-positions` property of the `StaffSymbol`.

`staff-line-positions.ly`



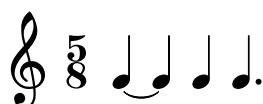
Staves may be present in several sizes within a score. This is achieved with an internal scaling factor. If the scaling factor is forgotten in some places, objects generally become too thick or too large on smaller staves.

`staff-mixed-size.ly`



Symbols that need on-staffline info (like dots and ties) continue to work in absence of a `staff-symbol`.

`staff-online-symbol-absence.ly`



An ossia staff without a `Time_signature_engraver` stops right at the bar line.

`staff-ossia-end-at-time-change.ly`



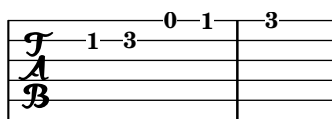
The space between scores containing Staves and TabStaffs should be consistent. In this example, all of the spacings should be equivalent.

`staff-tabstaff-spacing.ly`

Title 1



Title 2



Title 3



The staff is a grob (graphical object) which may be adjusted as well, for example, to have 6 thick lines and a slightly large `staff-space`. However, beams remain correctly quantized.

`staff-tweak.ly`



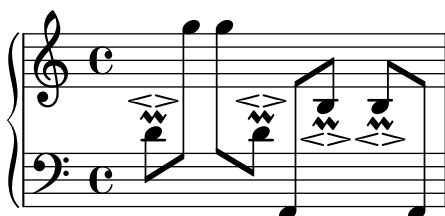
Stanza numbers are put left of their lyric. They are aligned in a column.

`stanza-number.ly`

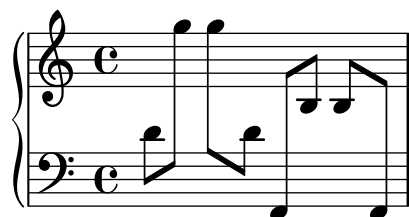


Cross-staff stems avoid articulations. Articulations that don't get in the way of stems do not cause unwanted horizontal space.

`stem-cross-staff-articulation.ly`







The `Melody_engraver` decides stem direction for notes on the middle staff line based on neighboring notes. Mid-measure repeat bar lines break up the melody as do normal measure bar lines. In this test, marcato marks show the expected stem direction.

`stem-direction-context-bar-lines.ly`



Context-dependent orientation of the stem for a note on the middle line of the staff can be turned off locally using the `suspendMelodyDecisions` context property.

In this test, marcato marks show the expected stem direction.

`stem-direction-context-pause.ly`



Stem directions for notes on the middle staff line are determined by the directions of their neighbors.

`stem-direction-context.ly`



Stems, beams, ties and slurs should behave similarly, when placed on the middle staff line. Of course stem-direction is down for high notes, and up for low notes.

`stem-direction.ly`



Stems with overridden 'Y-extent should not confuse height estimation. This example should fit snugly on one page.

`stem-length-estimation.ly`



Stem length and stem-begin-position can be set manually.

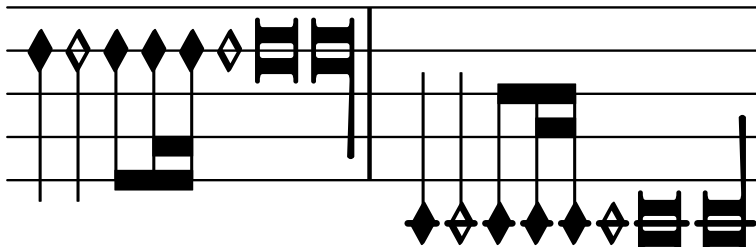
`stem-length.ly`



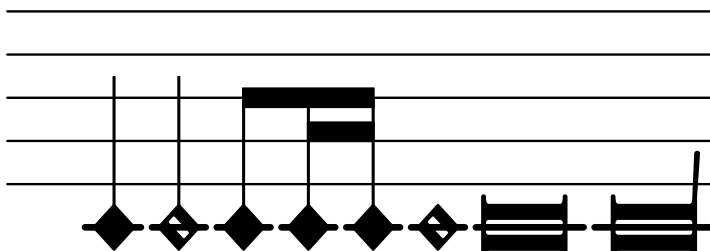
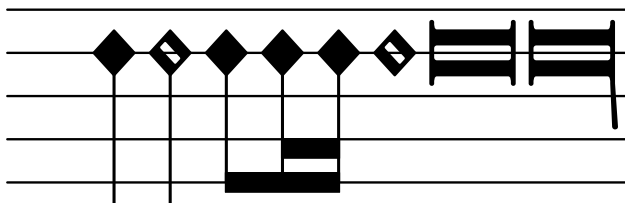
Mensural stems must have exact center alignment. This test was made to inspect pixel-granular misalignment bugs.

`stem-mensural.ly`

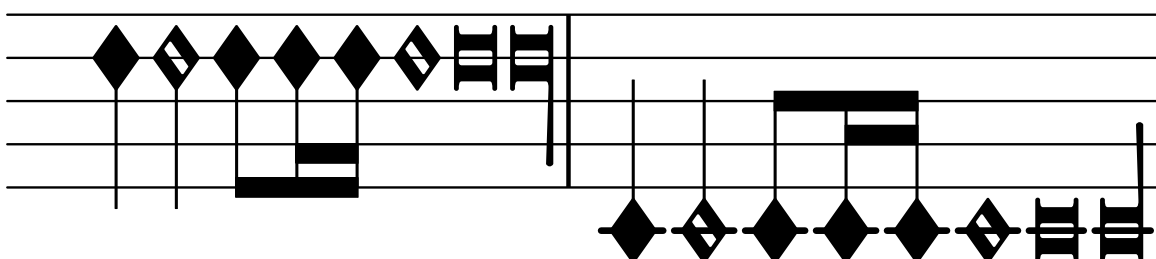
# mensural



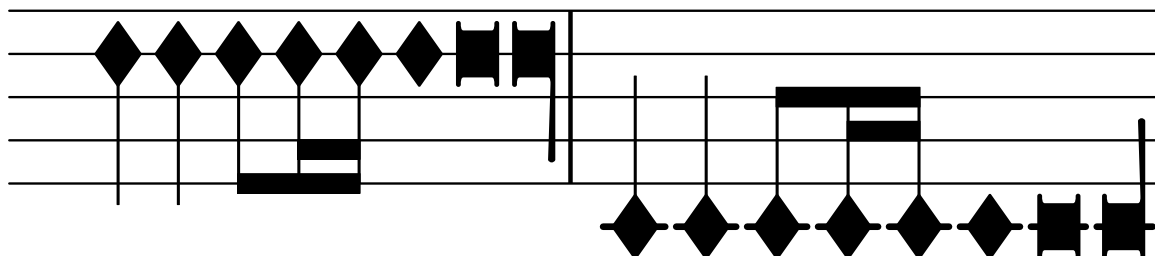
# neomensural



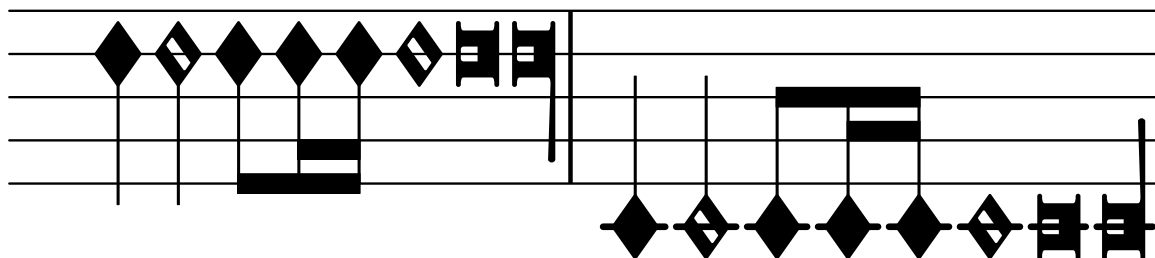
# petrucci



# blackpetrucci



# semipetrucci



Setting `Stem.neutral-direction` to an invalid direction value does not result in a crash.  
`stem-neutral-direction-crash.ly`



Lilypond gets beamed stem pure heights correct to avoid outside staff collisions.  
`stem-pure-height-beamed.ly`



If note head is 'over' the center line, the stem is shortened. This happens with forced stem directions, and with some chord configurations.  
`stem-shorten.ly`



Stemlets don't cause stems on whole notes.

stem-stemlet-whole.ly



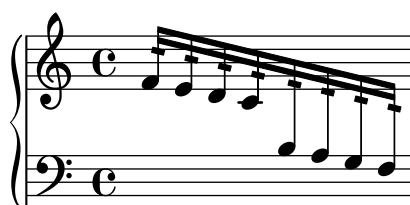
Stemlets are small stems under beams over rests. Their length can be set with `stemlet-length`.

stem-stemlet.ly



Stem tremolos on cross-staff beams do not cause circular dependencies.

stem-tremolo-cross-staff-beam.ly



Tremolo works even when a stem is forced in a particular direction.

stem-tremolo-forced-dir.ly



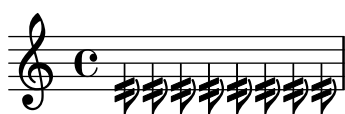
Tremolos should avoid other notes in the staff as best as possible and issue a warning otherwise.

stem-tremolo-note-collision.ly



Stem tremolos count in a note column's horizontal skyline.

stem-tremolo-note-column.ly



Tremolos are positioned a fixed distance from the end of the beam. Tremolo flags are shortened and made rectangular on beamed notes or on stem-up notes with a flag. Tremolo flags are tilted extra on stem-down notes with a flag.

stem-tremolo-position.ly



stem tremolo vertical distance also obeys staff-space settings.

stem-tremolo-staff-space.ly



Controlling the appearance of tremolo slashes. Property `slope` is self-explanatory. Property `shape` determines whether slashes look like rectangles or like very small beams. Setting these properties directly cause all slashes behave in the specified way. However, one usually wants the slashes to behave differently depending on whether the note has flags, beams or only a plain stem. That's what the `style` property is used for: it sets `shape` and `slope` depending on the situation. There are two styles defined: `default` and `constant`.

stem-tremolo-style.ly

`default`. First three notes should have beam-like slashes. Slash of the third note should be more sloped than first two notes. Slashes on beamed notes should be rectangular and parallel to the beams.



`style=constant`. All slashes should be rectangular. All slashes should have the same slope except for downstem flagged notes.



`shape=rectangle`. All slashes should be rectangular. Slope like in default.



`shape=beam-like`. All slashes should be beam-like. Slope like in default.



slope=-0.2 All slashes should have the same downward slope. Shape like in default.



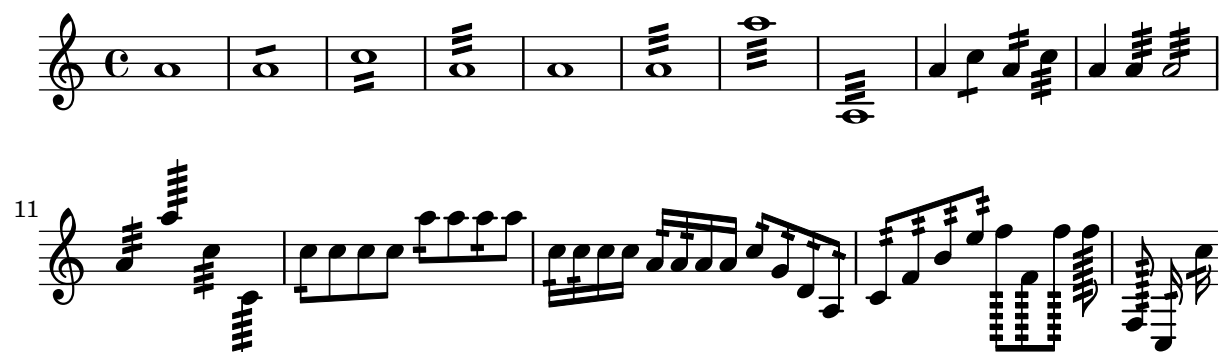
Stem tremolos or rolls are tremolo signs that look like beam segments crossing stems. If the stem is in a beam, the tremolo must be parallel to the beam. If the stem is invisible (e.g. on a whole note), the tremolo must be centered on the note. If the note has a flag (eg. an unbeamed 8th note), the tremolo should be shortened if the stem is up and tilted extra if the stem is down.

The tremolos should be positioned a fixed distance from the end of the stems unless there is no stem, in which case they should be positioned a fixed distance from the note head.

If an impossible tremolo duration (e.g. :4) is given, a warning is printed.

stem-tremolo.ly

:4 :8 :16 :32 x :



In this test, the vertical distance between two adjacent staves should be large enough to avoid a clash if the stems are very close.

stems-clash-between-staves.ly



Combinations of rotation and color do work.

stencil-color-rotation.ly



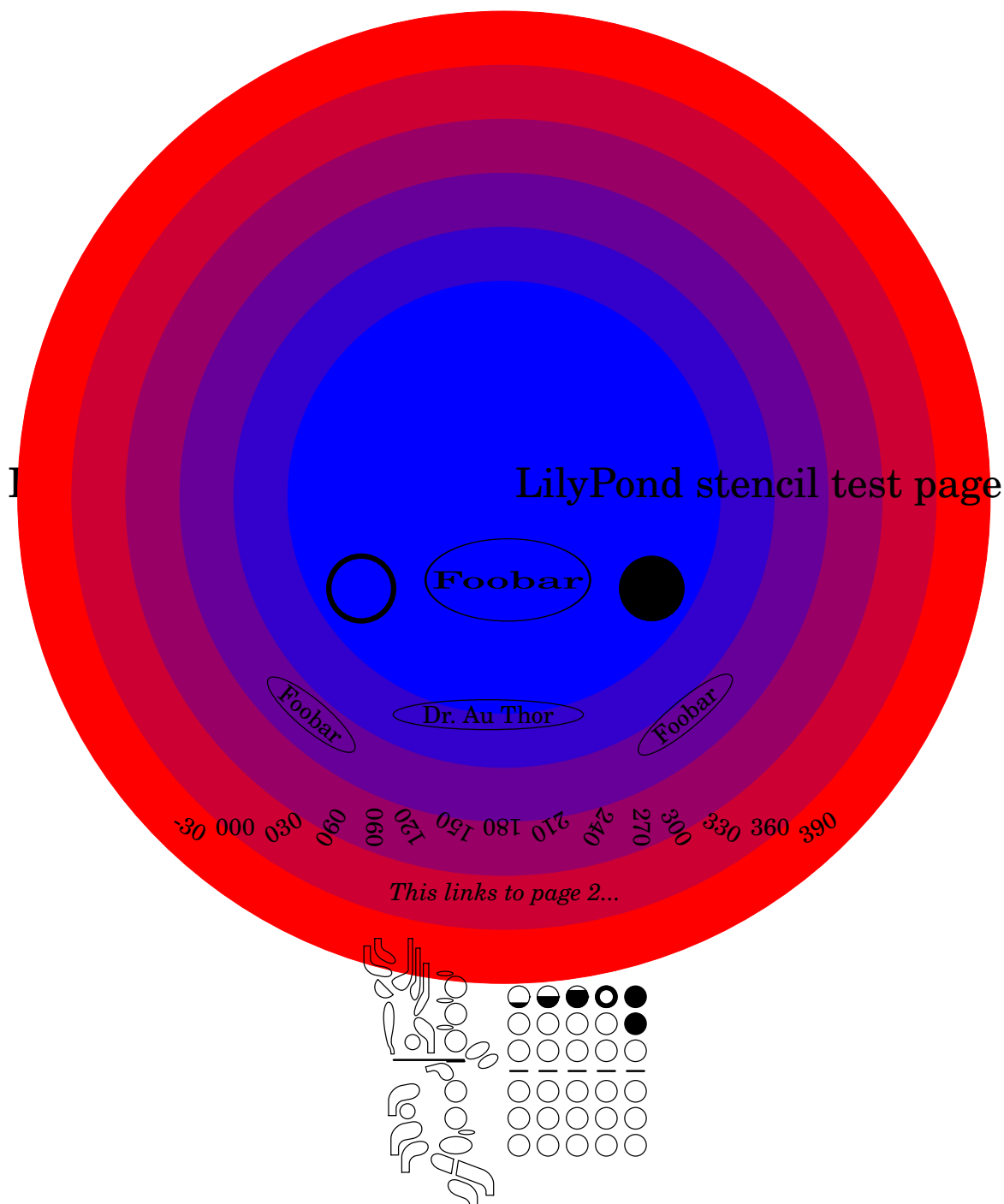
Tests all lilypond stencil commands that are relevant to PDF output

stencil-expressions.ly



# stencil tests

ГҮЛБОНГ аргачлал төсөт багце



Test the textedit links in the score below ...

Violin

Measures 1-4 of the Violin part. The music is in G major (one sharp) and 6/8 time. Measures 1-3 contain a continuous eighth-note melody starting on G4, with a forte (f) dynamic marking at the beginning. Measure 4 contains a whole rest. The bottom staff is empty.

## Lilypond Stencil Tests

*This links to page 1...*

*This links to page 3...*

## Lilypond Stencil Tests

*This links to page 2...*

You can write stencil callbacks in Scheme, thus providing custom glyphs for notation elements. A simple example is adding parentheses to existing stencil callbacks.

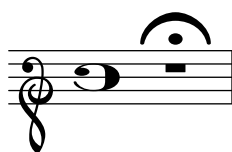
The parenthesized beam is less successful due to implementation of the Beam. The note head is also rather naive, since the extent of the parens are also not seen by accidentals.

```
stencil-hacking.ly
```



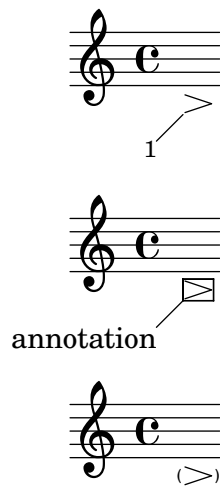
Stencils can be scaled using `ly:stencil-scale`. Negative values will flip or mirror the stencil without changing its origin; this may result in collisions unless the scaled stencil is realigned (e.g., the time signature in this test).

```
stencil-scale.ly
```



Sticky spanners also work when the host's bounds are not set immediately, such as with a hairpin ending on a skip.

```
sticky-late-bounds.ly
```




---

<sup>1</sup>footnote

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Sticky grobs can be attached to other sticky grobs.

`sticky-second-order.ly`



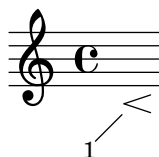

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<sup>1</sup>note

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

Sticky spanners have their end announced as soon as their host's is announced.

sticky-spanner-end-announcement.ly

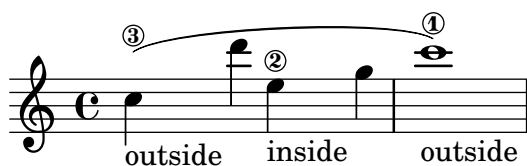


<sup>1</sup>note

Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

String numbers should only be moved outside slurs when there is a collision.

string-number-around-slur.ly



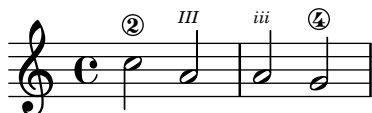
String numbers don't segfault when their stencil is set to ##f.

string-number-no-stencil.ly



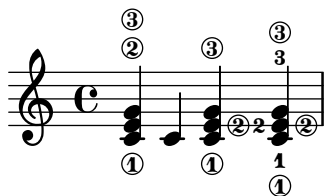
Different styles may be used for string number indications. Predefined options are arabic (used by default) and roman numerals.

string-number-styles.ly



String numbers can be added to chords. They use the same positioning mechanism as finger instructions.

string-number.ly



Stroke fingerings don't segfault when their stencil is set to **##f**.

`stroke-fingering-no-stencil.ly`



Tests for `swing.ly`

`swing-test.ly`

## 1. Swing type demos

notes with applied swing

corresponding to

swung eighths  
`\tripletFeel 8`

smoother swung eighths  
`\applySwing 8 #'(3 2)`

swung sixteenths  
`\tripletFeel 16`

straight fourths read as dotted  
`\applySwing 4 #'(3 1)`

samba swing  
`\applySwing 16 #'(3 2 2 3)`

smoother samba swing, start off-beat  
`\applySwingWithOffset 16 #'(4 3 3 4)`  
`#(ly:make-moment 1/8)`

The image shows three pairs of musical staves. Each pair consists of a top staff and a bottom staff. The top staffs are in treble clef with a common time signature 'C'. The bottom staffs are in treble clef with a common time signature 'C'. The first pair shows 'swung eighths' and 'smoother swung eighths'. The second pair shows 'swung sixteenths' and 'straight fourths read as dotted'. The third pair shows 'samba swing' and 'smoother samba swing, start off-beat'. The notation includes various rhythmic values, triplet markings, and swing feel annotations.

## 2. Triplet feel in various situations

straight

quarter notes  
should remain unaffected

syncopation without tie  
grace note should not create confusion

\tripletFeel 8

triplet pulse  
for comparison

3

syncopation with ties

music with chords

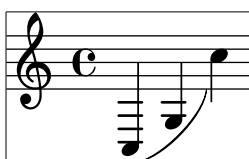
parallel music

6

with notes shorter than swingDiv

The size of every system is correctly determined; this includes postscript constructs such as slurs.

`system-extents.ly`



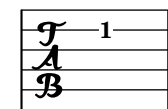
By setting the padding between systems to a negative value, it is possible to eliminate the anti-collision constraints.

`system-overstrike.ly`



System separator positioning works with all spaceable staff contexts.





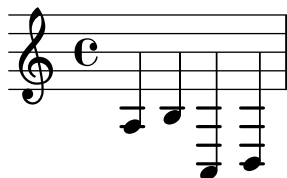
System separators may be defined as markups in the **system-separator-markup** field of the paper block. They are centered between the boundary staves of each system.

The image displays three systems of musical notation, each consisting of a treble and bass staff joined by a brace. Each system begins with a repeat sign (two parallel diagonal lines) and a measure number (1, 3, or 5) indicating the starting point of the test case. The notation is as follows:

- System 1:** Treble staff has a whole note C4 (middle C). Bass staff has a whole note C3 (two ledger lines below). Both staves have a repeat sign.
- System 2:** Treble staff has a whole note C4 (middle C). Bass staff has a whole note C3 (two ledger lines below). Both staves have a repeat sign.
- System 3:** Treble staff has a whole note C4 (middle C). Bass staff has a whole note C3 (two ledger lines below). Both staves have a repeat sign.

When the staff-space is increased, the system-start delimiter should still be collapsed (i.e. the collapse-height should not give an absolute length, but a multiple of staff-spaces).

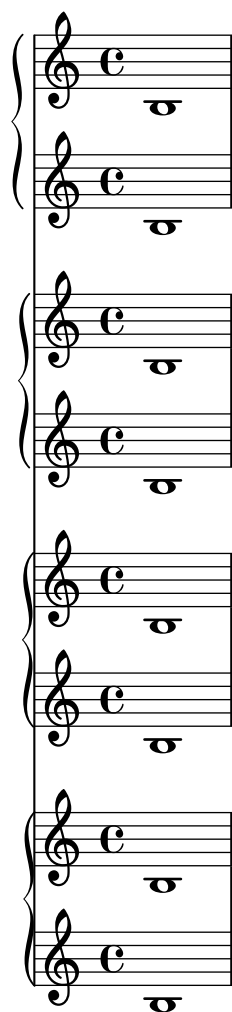
`system-start-bar-collapse-staffspace.ly`



Disregarding the value of `systemStartDelimiter`, setting `SystemStartGrob` style of `StaffGroup` to 'brace' always prints a `SystemStartBrace`.

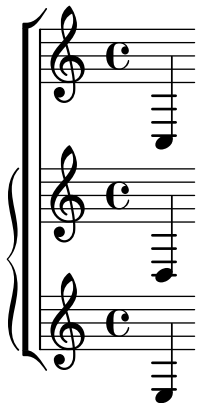
Every `StaffGroup` should start with a `SystemStartBrace`.

`system-start-brace-style.ly`



A piano context included within a staff group should cause the piano brace to be drawn to the left of the staff angle bracket.

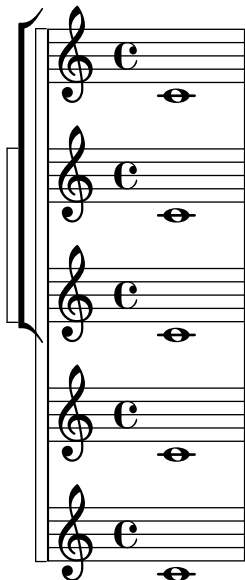
`system-start-bracket.ly`



A heavy-bar system start delimiter may be created by tuning the `SystemStartBar` grob.  
`system-start-heavy-bar.ly`



Deeply nested system braces, brackets, etc., may be created with the `systemStartDelimiterHierarchy` property.  
`system-start-nesting.ly`



Additional bass strings (for baroque lute, etc.) are supported in TabStaff. They are printed below lowest line as: a, /a, //a, ///a, 4, 5 etc. `additionalBassStrings` needs to be set accordingly.

`tablature-additional-bass-strings.ly`

Tablature may also be tuned for banjo.

`tablature-banjo.ly`

In a TabStaff, the chord repetition function needs to retain string and fingering information. Using `\tabChordRepeats` achieves that, in contrast to the music on the main staff.

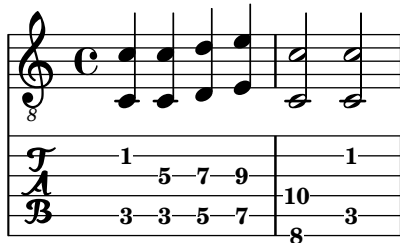
`tablature-chord-repetition-finger.ly`

In a TabStaff, the chord repetition function needs to save the string information. The obsolete function `\tabChordRepetition` establishes this setting score-wide. Nowadays, you would rather use just `\tabChordRepeat` on the music in the tabstaff, not affecting other contexts.

`tablature-chord-repetition.ly`

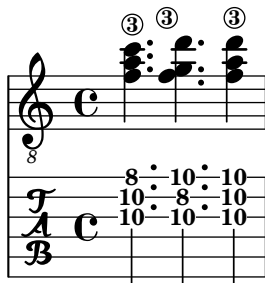
Context property `defaultStrings` defines desired strings for fret calculations if no strings are defined explicitly.

tablature-default-strings.ly



With full notation, the dots on the tablature heads should respect two-digit fret numbers.

tablature-dot-placement.ly



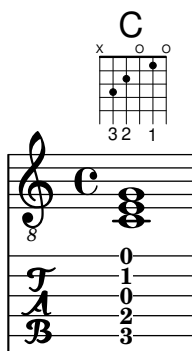
Tremoli applied to double stems in a TabVoice should be centered on the double stem.

tablature-double-stem-tremolo.ly



Tablatures derived from stored fretboard diagrams display open strings as fret 0 in the tablature. The tablature and fretboard should match.

tablature-fretboard-open-string.ly



As default, tablature staves show only the fret numbers, because in most situations, they are combined with normal staves. When used without standard notation, `tabFullNotation` can be used.

tablature-full-notation.ly

tablature-glissando.ly

The first system of the musical score for 'The Rose Tree' consists of three measures. The treble clef staff is in C major and 8/8 time. The melody is: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (half), F4 (half), E4 (quarter), D4 (quarter), C4 (half). The bass clef staff provides a simple harmonic accompaniment: C3 (quarter), G2 (quarter), F2 (quarter), E2 (quarter), D2 (half), C2 (half), B1 (quarter), A1 (quarter), G1 (half). The lyrics 'The Rose Tree' are written below the bass staff, aligned with the notes: 'The' under C3, 'Rose' under G2, 'Tree' under F2, 'The' under E2, 'Rose' under D2, 'Tree' under C2, 'The' under B1, 'Rose' under A1, and 'Tree' under G1.

tablature-grace-notes.ly

The musical score for 'The Rose Tree' is presented in two systems. The first system consists of a treble clef staff with a common time signature (C) and a bass staff with a 3/4 time signature. The melody in the treble staff is written in G major, starting on G4 and ascending to A4, B4, and C5. The bass staff provides a simple accompaniment with a 3/4 time signature, featuring a bass line that starts on G3 and moves up to A3, B3, and C4. The second system continues the melody and accompaniment for five measures, ending with a final G4 note in the treble staff and a G3 note in the bass staff.

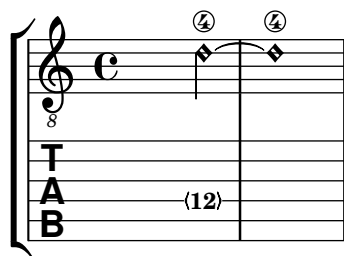
tablature-harmonic-functions.ly

The musical score for "The Rose Tree" is presented in two systems. The first system shows the beginning of the piece, starting with a treble clef, common time (C), and a key signature of one sharp (F#). The melody begins with a quarter note G4, followed by a quarter note A4, and then a half note B4. A trill is indicated on the B4 note, with a grace note G4. The guitar accompaniment is shown on a six-string guitar with a capo on the 5th fret. The first two measures of the guitar part are: 0 (12) (7) (19) and (5) (5) (5) (5) (5) (5). The second system shows the continuation of the melody, starting with a quarter note C5, followed by a quarter note D5, and then a half note E5. A trill is indicated on the E5 note, with a grace note D5. The guitar accompaniment continues with: 0 (12) (7) (19) and (5) (5) (5) (5) (5) (5). The score is in common time and the key signature is one sharp (F#).



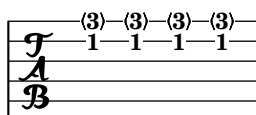
When a harmonic note is tied in tablature, neither the fret number nor the harmonic brackets for the second note appear in the tablature.

tablature-harmonic-tie.ly



Harmonics get angled brackets in tablature. Harmonics in chords should retain their proper position, regardless of whether or not strings are specified. In this example, the harmonics should always be on string 1.

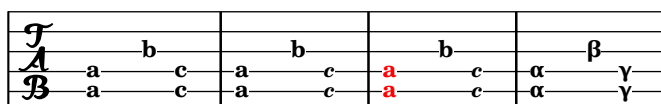
tablature-harmonic.ly



A sample tablature with lettered tab, using fretLabels to modify the fret letters.

By default, letters are drawn sequentially from the alphabet, but if the context property fretLabels is defined, these are substituted. If specified, the length of fretLabels must be sufficient to label all the frets used. A warning is issued if the length is too short.

tablature-letter.ly



The TabStaff will print micro-tones as mixed numbers of fret-number and a fraction. The context-property `supportNonIntegerFret` needs to be set `#t` in `Score`-context. `FretBoards` will print those micro-tones only if they can be found in the chosen settings for `stringTunings`, otherwise a warning (surpressed here) will be printed and an empty `FretBoard` returned. Which should be the case for the last four of the examples pitches. Micro-tones assigned to strings work nicely.

tablature-micro-tone.ly

Negative fret numbers calculated due to assigning a string number can be displayed, ignored, or recalculated. Here we should have all three cases demonstrated.

`tablature-negative-fret.ly`

Open strings can always be part of a chord in tablature, even when frets above 4 have been used in the chord. In this case, both chords should show an open fourth string.

`tablature-open-string-chord.ly`

Open strings are part of a chord in tablature, even when `minimumFret` is set. This can be changed via `restrainOpenStrings`.

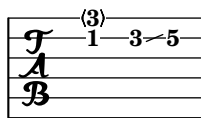
`tablature-open-string-handling.ly`

How a repeat sign looks in tablature.

`tablature-repeat.ly`

Tab supports slides.

`tablature-slide.ly`



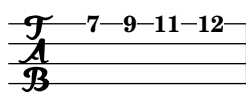
Slur placement in complementary tablatures should not be affected by either automatic or manual beaming.

tablature-slurs-with-beams.ly

**Manual beams**      **Automatic beams**

For other tunings, it is sufficient to set `stringTunings`. The number of staff lines is adjusted accordingly.

tablature-string-tunings.ly



In tablature, notes that are tied to are invisible except after a line break or within a second volta; here, the fret number is displayed in parentheses.

As an option, the notes that are tied to may become invisible completely, even after line breaks.

tablature-tie-behaviour.ly

System 5: Treble staff (8) and Bass staff (TAB). The treble staff has a slur over measures 5-8. The bass staff has fret numbers (1), 3, 5, 5, 1, 3, 0. A repeat sign is at the end of measure 8.

System 6: Treble staff (8) and Bass staff (TAB). The treble staff has a slur over measures 9-12. The bass staff has fret numbers 3, 2, 0, 0, 0, 0, 0, 1. A repeat sign is at the end of measure 12.

System 7: Treble staff (8) and Bass staff (TAB). The treble staff has a slur over measures 13-16. The bass staff has fret numbers 1, 3, 5, 5, 1, 3, 0, 0, 1. A repeat sign is at the end of measure 16.

System 11: Treble staff (8) and Bass staff (TAB). The treble staff has a slur over measures 17-20. The bass staff has fret numbers (1), 3, 5, 5, 1, 3, 0, 0, 0. A repeat sign is at the end of measure 20.

If a slur or a glissando follows a tie, the corresponding fret number is displayed in parentheses.  
 tablature-tie-spanner.ly

System 12: Treble staff (8) and Bass staff (TAB). The treble staff has a slur over measures 21-24. The bass staff has fret numbers 1, (1), 3, 1, (1), 3, 1, 3, 1, 3. A repeat sign is at the end of measure 24.

Tremolos will appear on tablature staves only if `\tabFullNotation` is active. Otherwise, no tremolo indications are displayed on the TabStaff. Also, tablature beams are the same thickness on TabStaff and Staff.

tablature-tremolo.ly

0 1 1 0 2 3 0 0 3

A fingering indication of zero counts as an open string for fret calculations. An inappropriate request for an open string will generate a warning message and set the requested pitch in the tablature.

tablature-zero-finger.ly

1 3 0 2 0 5 6 7 0 3

A sample tablature, with both normal staff and tab.

Tablature is done by overriding the note-head formatting function, and putting it on a 6-line staff. A special engraver takes care of going from string-number + pitch to number.

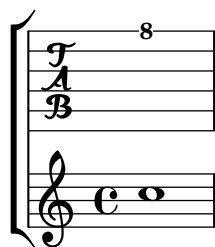
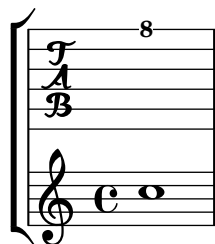
String numbers can be entered as note articulations (inside a chord) and chord articulations (outside a chord)

tablature.ly

4 4 4 5 13 2 13 13 13 7 12 7

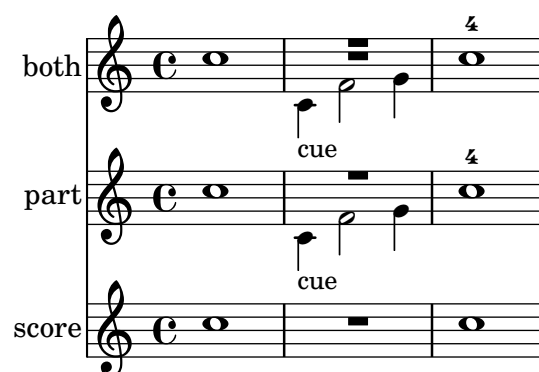
A TabStaff placed inside a ChoirStaff does not have an extraneous bracket. In this test, the two snippets should look the same.

tabstaff-choirstaff-brace.ly



The `\tag` command marks music expressions with a name. These tagged expressions can be filtered out later. This mechanism can be used to make different versions of the same music. In this example, the top staff displays the music expression with all tags included. The bottom two staves are filtered: the part has cue notes and fingerings, but the score has not.

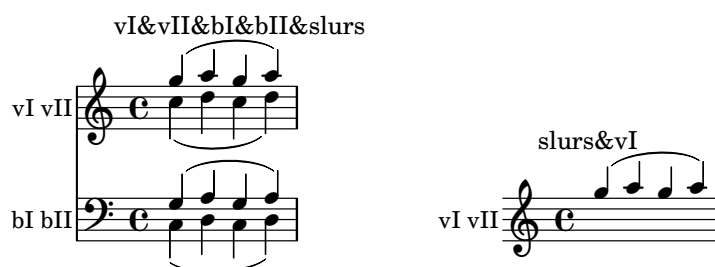
`tag-filter.ly`



The operation of `\keepWithTag` can be made more flexible by using `\tagGroup`.

`tag-group.ly`

## `\keepWithTag`



Two musical staves showing chord voicings. The left staff is labeled `vI&bI&bII` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3. The right staff is labeled `vI&bI&bII&none` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3.

**`\tagGroup vI.vII`**  
**`\tagGroup bI.bII`**

Four musical staves showing chord voicings with slurs. The top-left staff is labeled `vI&vII&bI&bII&slurs` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3, all under a slur. The top-right staff is labeled `slurs&vI` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3, all under a slur. The bottom-left staff is labeled `vI&bI&bII` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3, all under a slur. The bottom-right staff is labeled `vI&bI&bII&none` and shows a treble clef with notes G4, A4, B4 and a bass clef with notes G3, B2, D3, all under a slur.

The `\removeWithTag` and `\keepWithTag` commands can name multiple tags to remove or to keep.

`tag-multiple.ly`

**`\keepWithTag`**

Two musical staves. The top staff is labeled `none` and shows a treble clef with a whole rest. The bottom staff is labeled `flood&highball&buffoon` and shows a treble clef with a complex melodic line consisting of eighth and sixteenth notes, with a slur underneath.

## \removeWithTag

none

4

flood&highball&buffoon

flood&buffoon

buffoon

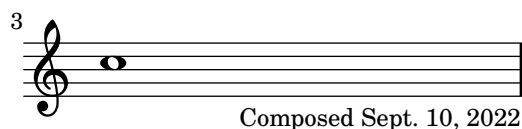
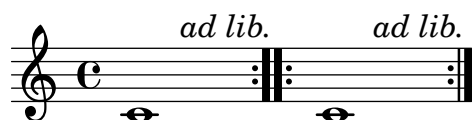




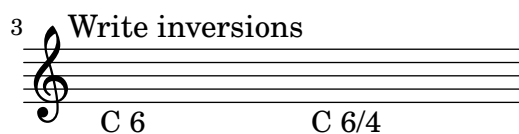
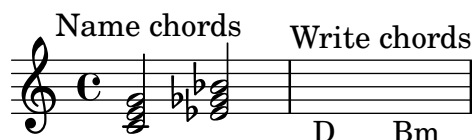
Compound articulations with `\tenuto` are stacked correctly, independent of input order.  
`tenuto-priority.ly`



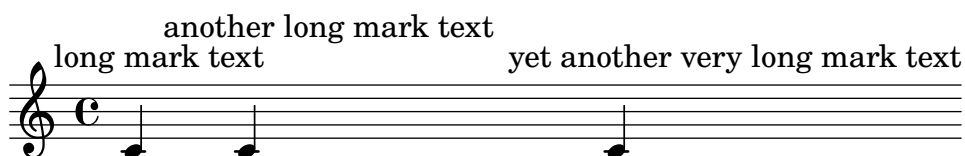
A text mark created by `\textEndMark` is visible everywhere except at the beginning of a line.  
`text-end-mark-break-visibility.ly`



A text mark created by `\textMark` is visible everywhere except at the end of a line.  
`text-mark-break-visibility.ly`



`\markLengthOn` also works on text marks.  
`text-mark-marklengthon.ly`



The `\textMark` and `\textEndMark` commands draw arbitrary textual indications between notes.

`text-mark.ly`



text replacement settings are scoped to the `\paper` block

`text-replacement-scoping.ly`

good

Text replacements can replace strings with arbitrary markups.

`text-replacements-replace-with-markup.ly`

2<sup>nd</sup> time

When `\smallCaps` and text replacements are used together, the result of text replacements is also written in small caps.

`text-replacements-smallcaps.ly`

SECOND TIME

SECOND TIME

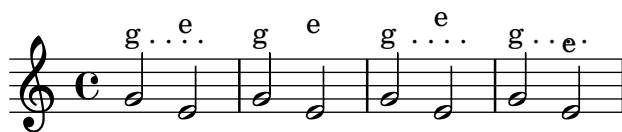
Text replacements can replace patterns containing non-ASCII characters. In particular, this test should also work if compiled under a non-Unicode-aware locale (e.g., `LC_ALL=C lilypond ...`).

`text-replacements-unicode.ly`

La troisième fois

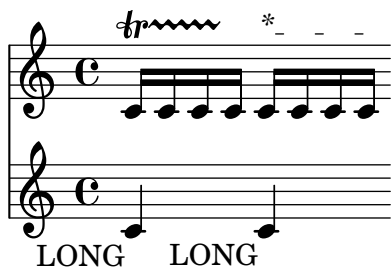
`TextScripts` are spaced closely, following outlines of the stencil. When markup commands like `pad-around` and `with-dimensions` change the extent of a stencil, these changed extents have effect in the stencil outline used to place the resulting `TextScript`.

`text-script-vertical-skylines.ly`



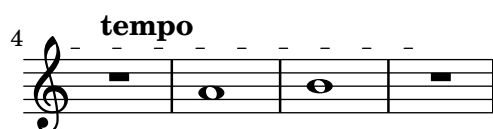
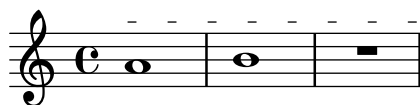
Text and trill spanners are attached to note columns, so attachments in other staves have no effect on them.

`text-spanner-attachment-alignment.ly`



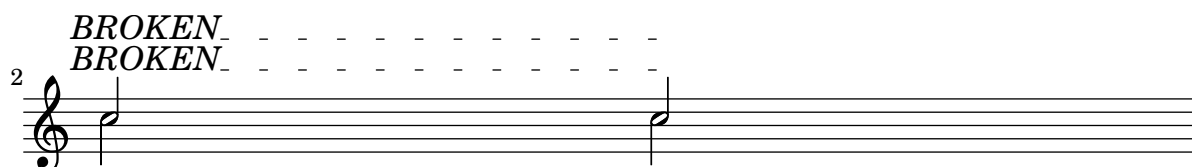
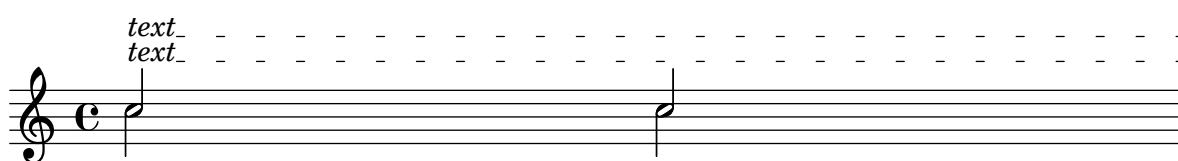
Text spanners ending on, or broken across, full-measure rests extend to the rests, or over the rests, as appropriate.

`text-spanner-full-rest.ly`



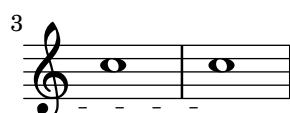
The order of setting nested properties does not influence text spanner layout.

text-spanner-override-order.ly



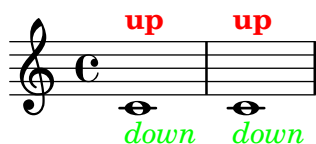
Text spanners should not repeat start text when broken.

text-spanner.ly



\etc can be used for constructing event functions for ‘TextScript’ events with sequences starting with ‘-’, ‘^’, or ‘\_’. This example should have notes all adorned in the same manner.

textetc.ly



lilypond should flip the tie’s direction to avoid a collision with the sharp.

tie-accidental.ly



Advanced tie chord formatting also works with arpeggiated ties. Due to arpeggios, tie directions may be changed relative to the unarpeggiated case.

tie-arpeggio-collision.ly



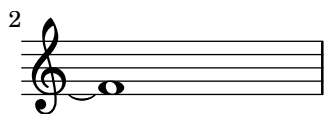
when `tieWaitForNote` is set, the right-tied note does not have to follow the left-tied note directly. When `tieWaitForNote` is set to false, any tie will erase all pending ties.

tie-arpeggio.ly



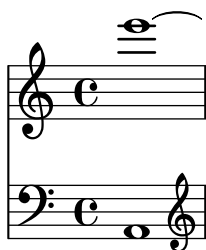
Broken ties honor `minimum-length` also. This tie has a `minimum-length` of 5.

tie-broken-minimum-length.ly



Broken tie lengths are not affected by clefs in other staves.

tie-broken-other-staff.ly



Ties behave properly at line breaks.

tie-broken.ly



Tie detail property multi-tie-region-size controls how many variations are tried for the extremal ties in a chord.

`tie-chord-broken-extremal.ly`

Switching on debug-tie-scoring annotates the tie scoring decisions made.

`tie-chord-debug.ly`

Individual chord notes can also be tied

`tie-chord-partial.ly`



In chords, ties keep closer to the note head vertically, but never collide with heads or stems. Seconds are formatted up/down; the rest of the ties are positioned according to their vertical position.

The code does not handle all cases. Sometimes ties will be printed on top of or very close to each other. This happens in the last chords of each system.

`tie-chord.ly`



7

12

18

23

29

34

42

The appearance of ties may be changed from solid to dotted or dashed.

`tie-dash.ly`

In the single tie case, broken ties peek across line boundaries to determine which direction to take.

`tie-direction-broken.ly`

2



Tie directions can be set with `_` and `^`. This makes correction in complex chords easier.

`tie-direction-manual.ly`



Ties avoid collisions with dots.

`tie-dot.ly`



LilyPond should accept a tie between notes which are enharmonically identical.

`tie-enharmonic.ly`



Tying a grace to a following grace or main note works.

`tie-grace.ly`



If using exact values (this is, either integers or rational values like `'(/ 4 5)'`), `staff-position` is used to vertically tune the tie for staff line avoidance. If using an inexact value like a floating point number, it is taken as the vertical location.

`tie-manual-vertical-tune.ly`



Tie formatting may be adjusted manually, by setting the `tie-configuration` property. The override should be placed at the second note of the chord.

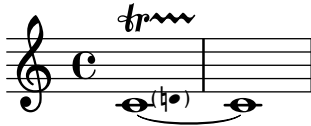
You can leave a Tie alone by introducing a non-pair value (eg. `#t`) in the `tie-configuration` list.

`tie-manual.ly`



The pitch of a pitched trill should not trigger a warning for unterminated ties.

`tie-pitched-trill.ly`



Like normal ties, single semities (`LaissezVibrerTie` or `RepeatTie`) get their direction from the stem direction, and may be tweaked with `'direction`.

`tie-semi-single.ly`



Tie directions are also scored. In hairy configurations, the default rule for tie directions is overruled.

`tie-single-chord.ly`



Individual ties may be formatted manually by specifying their `direction` and/or `staff-position`.

`tie-single-manual.ly`



Formatting for isolated ties.

- short ties are in spaces
- long ties cross staff lines
- ties avoid flags of left stems.
- ties avoid dots of left notes.
- short ties are vertically centered in the space, as well those that otherwise don't fit in a space
- extremely short ties are put over the noteheads, instead of between.

`tie-single.ly`

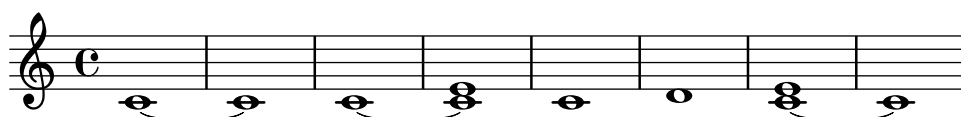






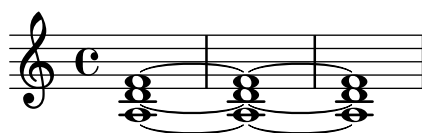
When a tie is followed only by unmatched notes and the tie cannot be created, lilypond prints out a warning unless `tieWaitForNote` is set.

`tie-unterminated.ly`



For whole notes, the inside ties do not cross the center of the note head, horizontally.

`tie-whole.ly`



This test covers the mensural and neomensural time signature styles.

`time-signature-mensural.ly`



Mid-measure time signature changes not accompanied by `\partial` generate warnings.

`time-signature-midmeasure-warning.ly`

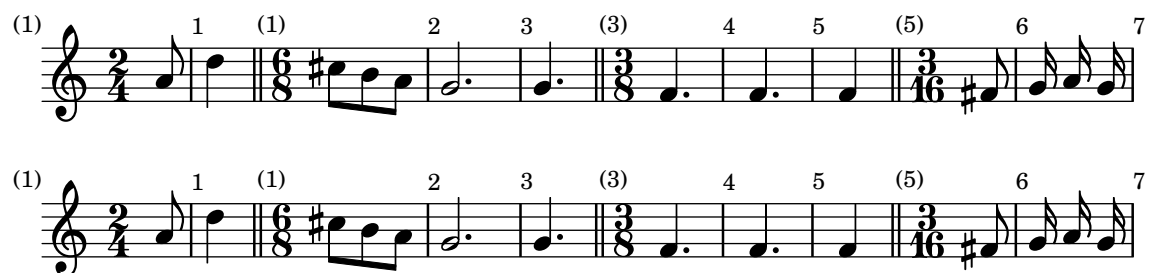


Mid-measure time signature changes must be accompanied by `\partial`.

In this example, no bar numbers should be omitted or repeated, and all double bar lines should have parenthesized bar numbers consistent with the single bar lines. Both scores should look identical.

- `\time 2/4` occurs at a negative position
- `\time 6/8` occurs at a position less than the new measure length
- `\time 3/8` occurs at a position equal to the new measure length
- `\time 3/16` occurs at a position greater than the new measure length

time-signature-midmeasure.ly



The numbered time signature style prints a fraction.

time-signature-numbered.ly



`\numericTimeSignature` and `\defaultTimeSignature`, like `\time`, affect all simultaneous staves.

time-signature-numeric-and-default.ly



Default values for time signature settings can vary by staff if the `Timing_translator` is moved from `Score` to `Staff`. In this case, the upper staff should be beamed 3/4, 1/4. The lower staff should be beamed 1/4, 3/4.

time-signature-settings-by-staff.ly



The single-digit time signature style prints the numerator only.

time-signature-single-digit.ly



Demonstrate all titling variables used by default.

titling.ly

Dedication

Title

Subtitle

Subsubtitle

Poet

Meter

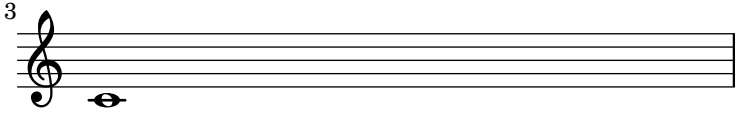
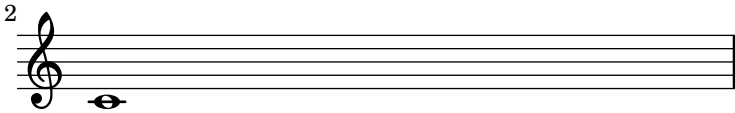
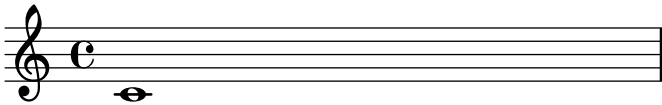
Piece

Instrument

Composer

Arranger

Opus



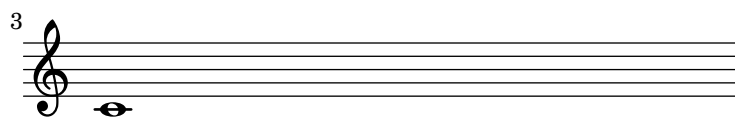
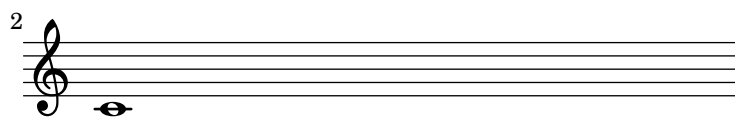
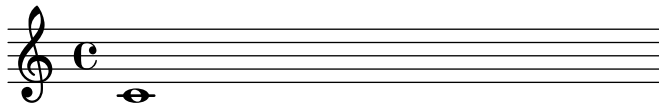
Copyright

2

Instrument

Piece 2

Opus 2



3

## Dedication

# Title

## Subtitle

## Subsubtitle

Poet

## Instrument

Composer

Meter

Arranger

## Dedication

## Overridden title

## Subtitle

## Subsubtitle

Poet

## Instrument

Composer

Meter

Arranger

## Piece again

Opus



Copyright

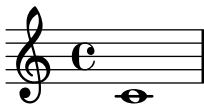
4

Instrument  
Dedication  
**Title**  
Subtitle  
Subsubtitle

Poet  
Meter  
Piece 2 again

**Instrument**

Composer  
Arranger  
Opus 2



Tagline

The input representation is generic, and may be translated to XML.  
to-xml.ly



A missing node in a structured TOC is handled gracefully.  
toc-missing-node.ly

Table of Contents

<b>oops</b>	?
<b>spam</b>	?
<b>oops</b>	?

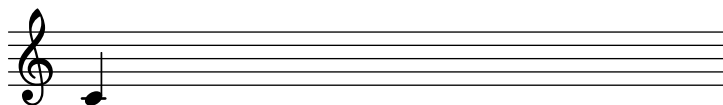
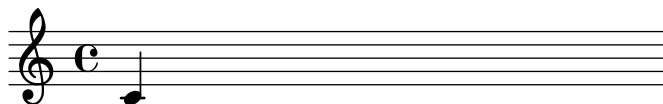


ToC items on the same page stay in the same order as PDF bookmarks. (The order of ToC items and PDF bookmarks may differ in other documents.)

`toc-multiple-entries-on-same-page.ly`

## Table of Contents

<b>1</b>	<b>1</b>
<b>2</b>	<b>1</b>
<b>3</b>	<b>1</b>
<b>4</b>	<b>1</b>
<b>5</b>	<b>1</b>



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

In structured tables of contents, the first path component of an entry can refer to a previously defined node anywhere in the tree. The rest of the path is directly interpreted from this initial node.

`toc-structured-naming-conflicts.ly`

## Table of Contents

<b>Foo</b>	<b>?</b>
Foo 2	?

Bar	?
Baz	?
Spam	?
Spam bar	?
Spam bar eggs	?
Spam bar barbar	?



TOC labels can be explicitly specified, and structured hierarchically; they appear in PDF bookmarks as well (the ‘table of contents’ panel in PDF viewers). PDF bookmarks are reordered so as to not ‘go back in time’.

toc-structured.ly

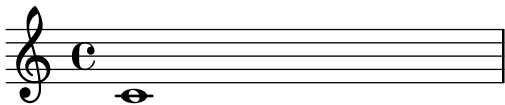
Table of Contents

<b><u>Introduction</u></b>	<b>2</b>
<b>First-level I.</b>	<b>3</b>
Second level I. a	4
Third level I. a, 1	4
<b>First-level II.</b>	<b>5</b>
The end	6
Before the end	5

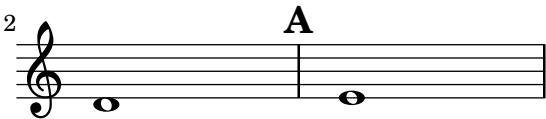
2

    Hello World.

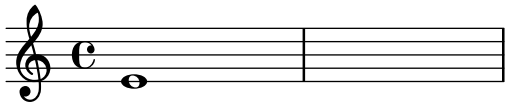
3



4



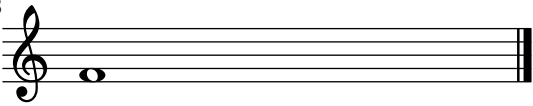
5





6

3




A table of contents is included using `\markuplist \table-of-contents`. The toc items are added with the `\tocItem` command. In the PDF backend, the toc items are linked to the corresponding pages.

toc.ly

Table of Contents

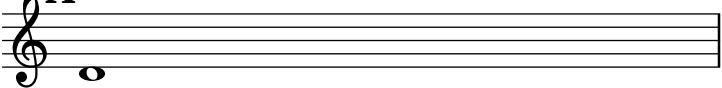
<b>The first score</b>	<b>2</b>
<b>(score begins here)</b>	<b>2</b>
<b>Mark A</b>	<b>3</b>
<b>The second score</b>	<b>4</b>

2



2

A



3

4

Second score



Music engraving by LilyPond 2.24.2—[www.lilypond.org](http://www.lilypond.org)

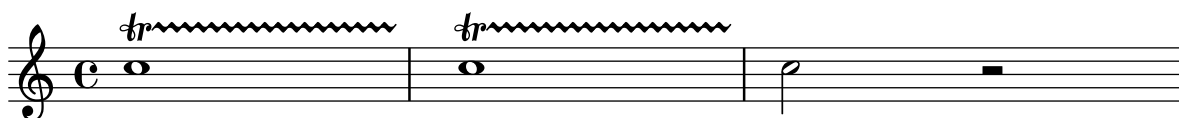
Trill spanners stop before the accidental of the following note, if any.

`trill-spanner-accidental.ly`



Consecutive trill spans work without explicit `\stopTrillSpan` commands, since successive trill spanners will automatically become the right bound of the previous trill.

`trill-spanner-auto-stop.ly`



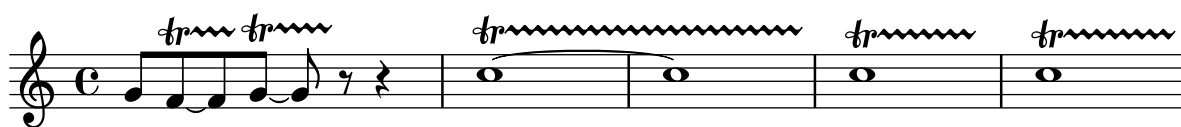
A `TrillSpanner` crossing a line break should restart exactly above the first note on the new line.

`trill-spanner-broken.ly`



Chained trills end at the next trill or bar line. Collisions can be prevented by overriding bound-details.

trill-spanner-chained.ly



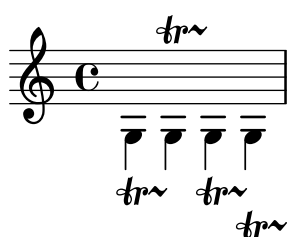
Consecutive trill spanners never overlap.

trill-spanner-consecutive.ly



The direction of a trill spanner can be set with `_` and `^` indicators.

trill-spanner-direction.ly



Trill spanner can end on a grace note

trill-spanner-grace.ly



Trill spanners with `outside-staff-priority` turned off do not collide with notes.  
`trill-spanner-no-outside-staff-priority.ly`

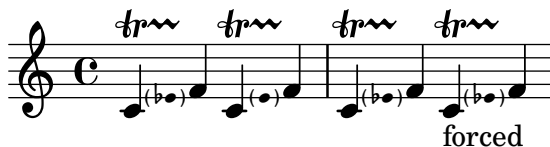


Pitched trills on consecutive notes with the same name and octave should not lose accidentals; in the following example, accidentals should be visible for all trill-pitches.

`trill-spanner-pitched-consecutive.ly`



Pitched trill accidentals can be forced.  
`trill-spanner-pitched-forced.ly`



Pitched trills are denoted by a small note head in parentheses following the main note. This note head is properly ledgered, and parentheses include the accidental.

`trill-spanner-pitched.ly`



The horizontal position of the beginning of a trill spanner is positioned correctly relative to the note head it is attached to, even if scaled to a smaller size.

`trill-spanner-scaled.ly`



A trill spanner can be made to run to the end of the score by never issuing a `\stopTrillSpan` command.

`trill-spanner-terminated-implicitly.ly`



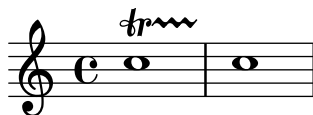
By default, a trill spanner ending on the first note on a bar extends no further than the preceding bar line.

trill-spanner-to-barline.ly



The trill symbol and the wavy line are neatly aligned: the wavy line should appear to come from the crook of the r

trill-spanner.ly



Paths can be empty, or contain just a `moveto` command. The extents of such a path are empty.

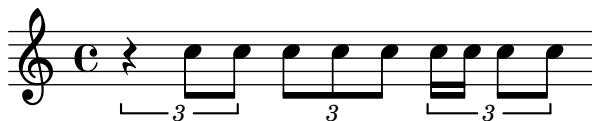
trivial-path.ly

XXXX

XXXX

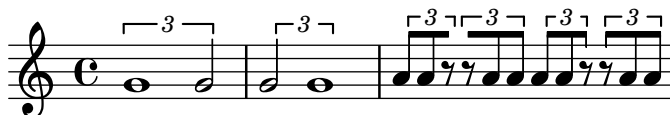
In combination with a beam, the bracket of the tuplet bracket is removed. This only happens if there is one beam, as long as the bracket.

tuplet-beam.ly



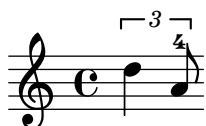
Tuplet brackets should align to visible or transparent stems only. For stemless notes or rests they should span the whole note width.

tuplet-bracket-X-positions.ly



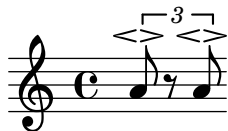
TupletBracket grobs avoid Fingering grobs.

tuplet-bracket-avoid-fingering.ly



Tuplet brackets avoid scripts by default.

`tuplet-bracket-avoid-scripts.ly`



TupletBracket grobs avoid StringNumber grobs.

`tuplet-bracket-avoid-string-number.ly`



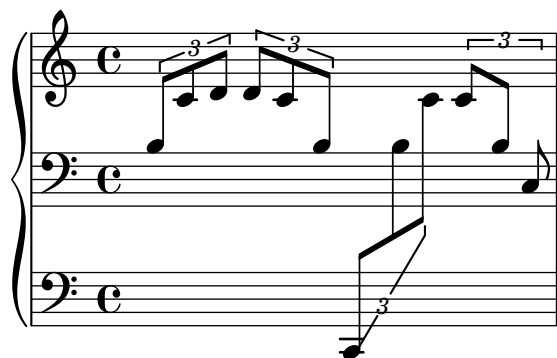
When the tuplet number is wider than the bracket, no tuplet bracket is printed.

`tuplet-bracket-backwards.ly`



Cross-staff tuplets are drawn correctly, even across multiple staves.

`tuplet-bracket-cross-staff.ly`



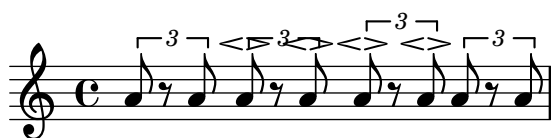
The direction of triplet brackets is the direction of the majority of the stems under the bracket, with ties going to UP.

`triplet-bracket-direction.ly`



Triplet brackets' outside staff priority can be set. Brackets, by default, carry their numbers with them.

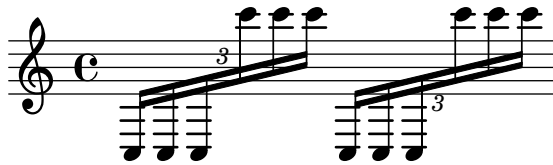
`triplet-bracket-outside-staff-priority.ly`



Triplet brackets can be set to always be printed when the direction of the bracket is forced to be on the note head side. This setting doesn't have any effect on kneed triplets.

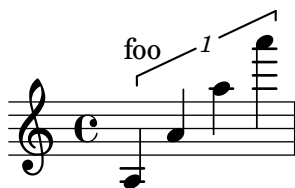
`triplet-bracket-over-note-heads.ly`





Tuplet brackets do not push objects with outside-staff-priority too high.

`tuplet-bracket-vertical-skylines.ly`



The default behavior of `tuplet-bracket` visibility is to print a bracket unless there is a beam of the same length as the tuplet. Overriding `'bracket-visibility` changes the bracket visibility as follows:

- `#t` (always print a bracket)
- `#f` (never print a bracket)
- `'if-no-beam` (only print a bracket if there is no beam)

`tuplet-bracket-visibility.ly`



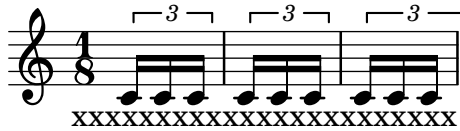
Broken tuplets are adorned with little arrows. The arrows come from the `edge-text` property, and thus be replaced with larger glyphs or other text.

`tuplet-broken.ly`

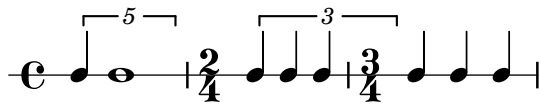




tuplet-full-length-extent.ly



tuplet-full-length-note.ly



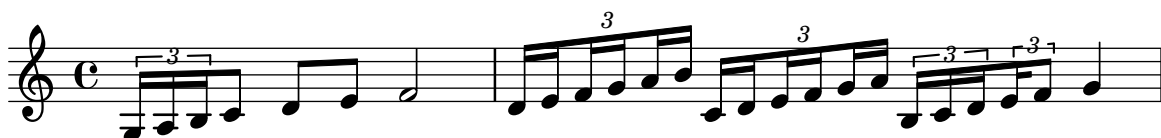
tuplet-full-length.ly



tuplet-gap.ly



tuplet-long-spanner.ly

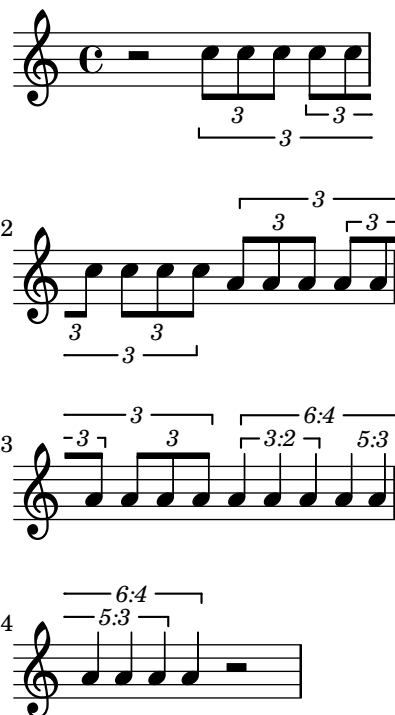


tuplet-nest-beam.ly



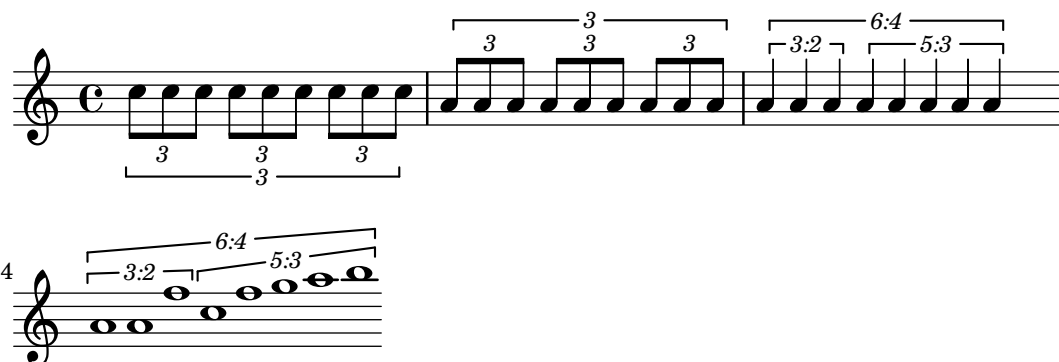
Broken nested tuplets avoid each other correctly.

tuplet-nest-broken.ly



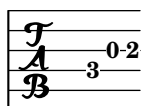
Tuplets may be nested.

tuplet-nest.ly



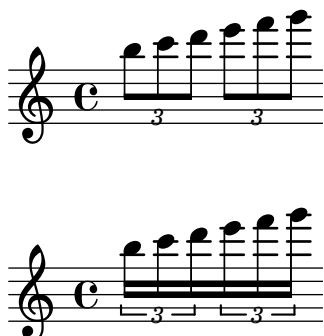
Removing Stem\_engraver doesn't cause crashes.

tuplet-no-stems.ly



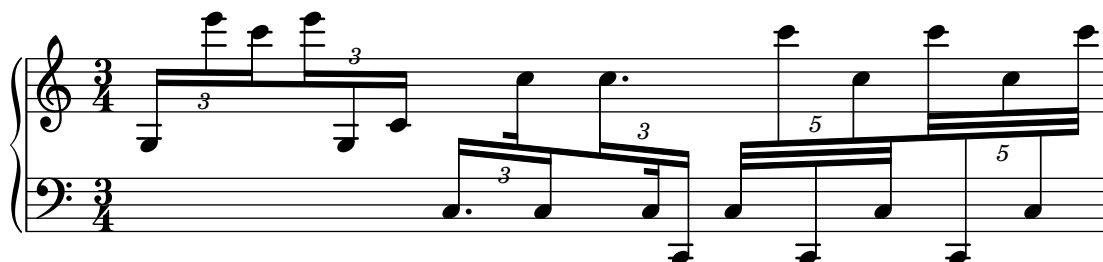
Tuplet numbers of flat beams vertically align with similar looking beams.

tuplet-number-alignment.ly



Tuplet numbers are positioned correctly on kneed French-style beams.

tuplet-number-french-knead-beams.ly



In tuplets with an even number of stems, the number may be placed on either side of the beam when the central stems point in different directions. The exception to this is when there is a fractional beam on one of the central stems, in which case the number is placed opposite the partial beam.

tuplet-number-knead-beam-even-stem-count.ly



Tuplet numbers are placed next to the beam unless there is insufficient horizontal space for them, in which case bracket-based positioning is used and a programming error is issued.

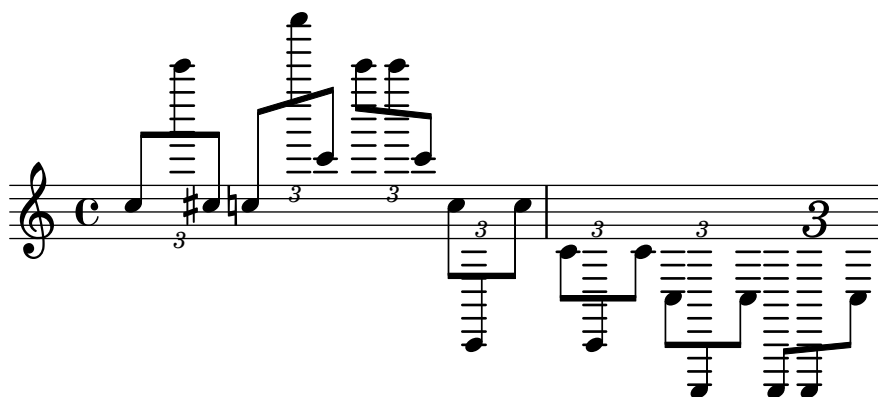
The first tuplet number should be between stems; the second should be below the noteheads.

tuplet-number-knead-beam-horizontal-fit.ly

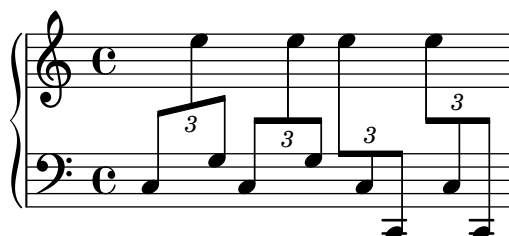


A tuplet number associated with a knead beam is not placed between beam and staff where it may collide with ledger lines.

tuplet-number-knead-beam-ledger-lines.ly

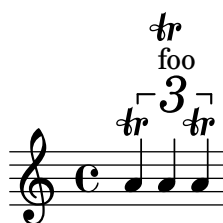


Tuplet numbers are placed next to kneed beams when `Beam.positions` is overridden.  
`tuplet-number-knead-beam-positions.ly`



Grobs whose parents have `outside-staff-priority` set should figure into the vertical skyline of the `VerticalAxisGroup` such that grobs with a higher `outside-staff-priority` are correctly positioned above them.

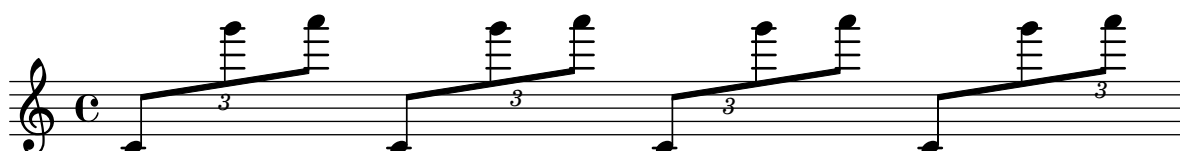
`tuplet-number-outside-staff-positioning.ly`



Tuplet numbers' outside staff priority can be set.  
`tuplet-number-outside-staff-priority.ly`

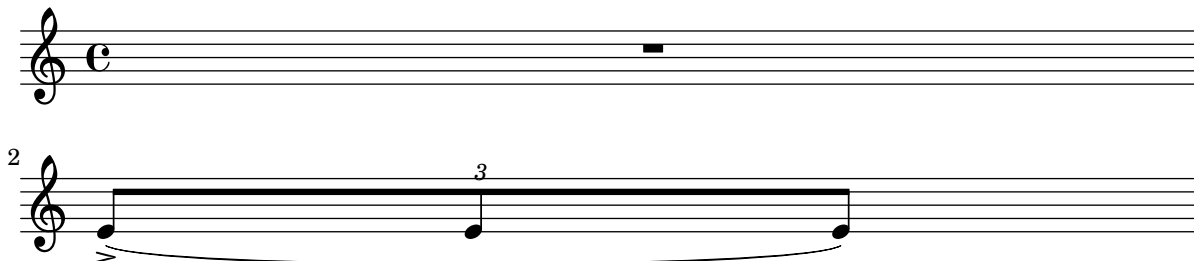


Tuplet numbers will maintain a constant distance from kneed beams when offset horizontally.  
`tuplet-number-shift-along-knead-beam.ly`



Tuplet number position is correct when slurs and scripts are present.

tuplet-number-slur-script.ly



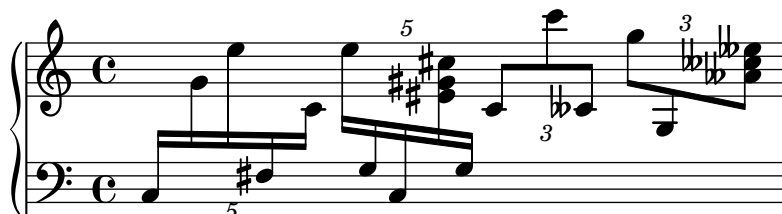
Tuplet numbers that are slightly outside the staff sit on the staff line.

tuplet-number-staffline.ly



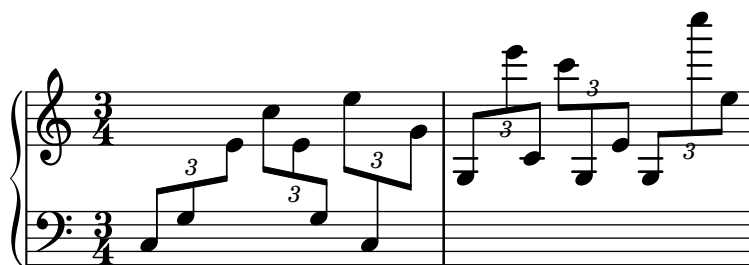
Tuplet numbers associated with kneed beams will avoid accidentals.

tuplet-numbers-kneed-beams-accidentals.ly



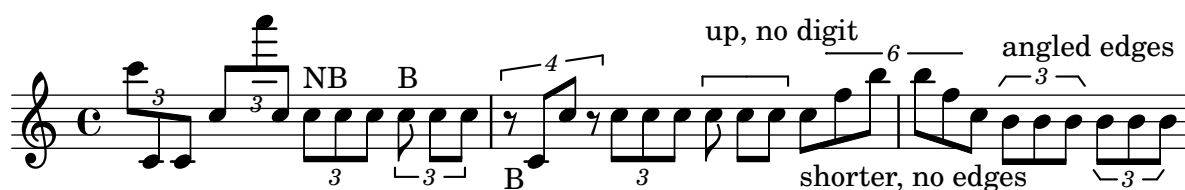
Tuplet numbers are positioned next to kneed beams.

tuplet-numbers-kneed-beams.ly



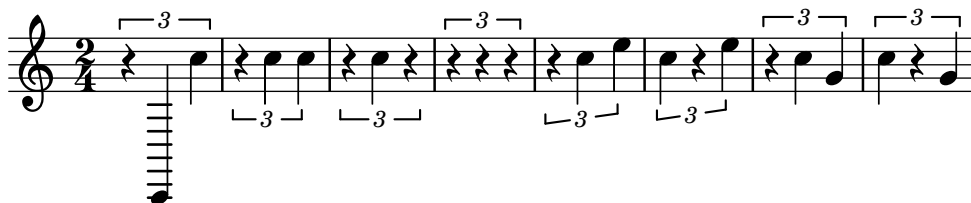
Tuplet bracket formatting supports numerous options, for instance, bracketed (B) and non-bracketed (NB).

tuplet-properties.ly



Tuplets may contain rests.

tuplet-rest.ly



Regression test for Issue #6205. Expected output is a single staff with notes C and E.

tuplet-set.ly



Show tuplet numbers also on single-note tuplets (otherwise the timing would look messed up!), but don't show a bracket. Make sure that tuplets without any notes don't show any number, either.

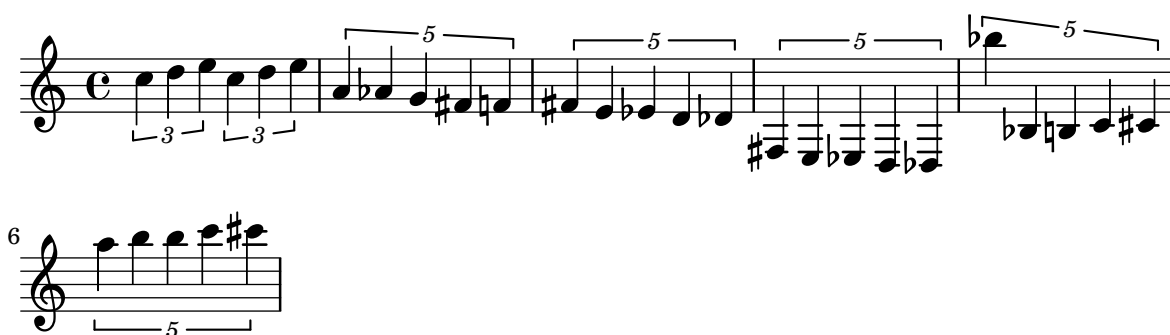
tuplet-single-note.ly



Tuplet brackets stay clear of the staff. The slope is determined by the graphical characteristic of the notes, but if the musical pattern does not follow graphical slope, then the bracket is horizontal

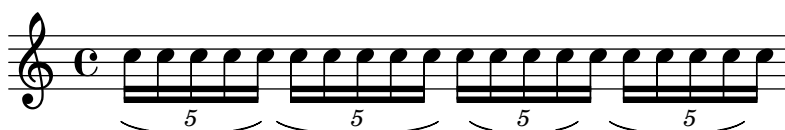
The bracket direction is determined by the dominating stem direction.

tuplet-slope.ly



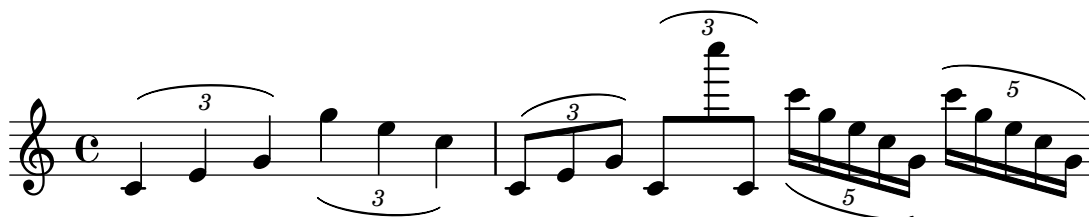
Tuplet slurs may be tweaked through the `shorten-pair` and `dash-definition` properties.

tuplet-slur-tweaks.ly



Slurs may be used instead of brackets for tuplets through the `tuplet-slur` property of `TupletBracket`. Rules for visibility are the same as for regular brackets, so `bracket-visibility` should be set to `#t` if the slur is desired for beamed groups.

tuplet-slurs.ly



Horizontal tuplet brackets are shifted vertically to avoid staff line collisions.

tuplet-staffline-collision.ly



Subdivision works properly for tuplets.

tuplet-subdivision.ly



Non-standard tuplet texts: Printing other tuplet fractions than the ones actually assigned.

tuplet-text-different-numbers.ly



Non-standard tuplet texts: Printing a tuplet fraction with note durations assigned to both the denominator and the numerator.

tuplet-text-fraction-with-notes.ly



Non-standard tuplet texts: Appending a note value to the normal text and to the fraction text.

tuplet-text-note-appended.ly



Tuplets are indicated by a bracket with a number. There should be no bracket if there is a beam exactly matching the length of the tuplet. The bracket does not interfere with the stafflines, and the number is centered in the gap in the bracket.

The bracket stops at the end of the stems, if the stems have the same direction as the bracket. The endings can be adjusted with `bracket-flare`.

`tuplets.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`turkish-makam-accidental-glyphs.ly`

All ‡



‡

Overrides can be the target of a `\propertyTweak`, with the tweaks accumulating as override. The main application is for stacking commands implemented in terms of `\propertyTweak`. This example should show the starting chord with blue, cross-styled note heads and a red stem.

`tweaks-as-overrides.ly`



heavily mutilated Edition Peters Morgenlied by Schubert

`typography-demo.ly`



## LilyPond demo

Lieulich, etwas geschwind

1. Sü - ßes  
2. いろはに כף

3

Licht! Aus gol - denen Pfor - ten brichst du sie - gend durch die  
ta ta ほへど ちり ぬるを Жъл дю ля ה הいろはに כף

6

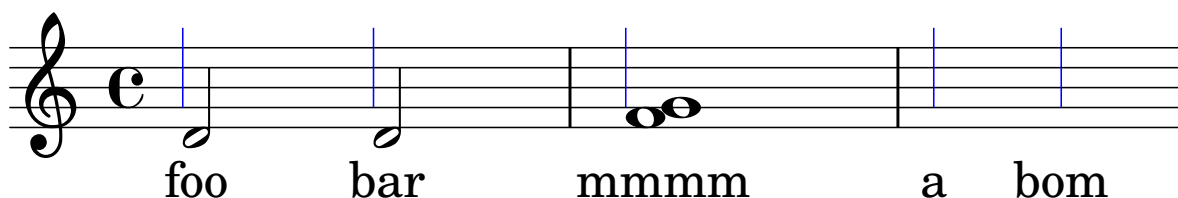
Nacht. Schö - ner Tag, du bist er - wacht.  
ta ta ほへ ちり ぬる Жъл дю ля

*cresc.* *f*

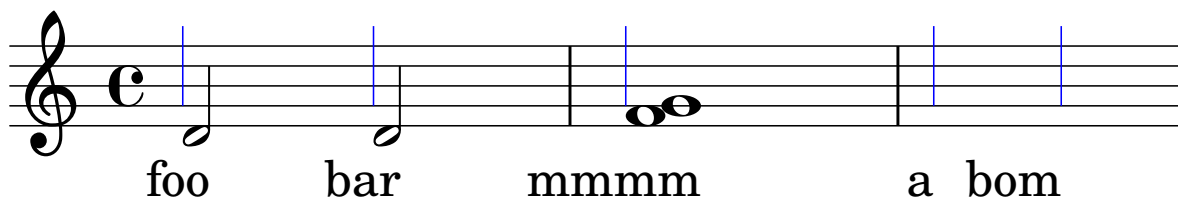
Lyrics without an `associatedVoice` should align properly. If there are notes in the `PaperColumn`, they should align to them, and when there are no notes, they should align relative to the `PaperColumn` itself (represented with blue `GridLines` here)

`unassociated-lyrics-alignment.ly`

default (centered):



right-aligned:



`\unfolded` hides music until a repeat is unfolded. In this case, a second staff appears when the piece is unfolded.

`unfolded-spec.ly`



`unpure-pure-container` takes two arguments: an unpure property and a pure property. The pure property is evaluated (and cached) for all pure calculations, and the unpure is evaluated for all unpure calculations. In this regtest, there are three groups of two eighth notes. In the first group, the second note should move to accommodate the flag, whereas it should not in the second group because it registers the flag as being higher. The flag, however, remains at the Y-offset dictated by `ly:flag::calc-y-offset`. In the third set of two 8th notes, the flag should be pushed up to a Y-offset of 8.

`unpure-pure-container.ly`



`\once \unset` should change a context property value for just one timestep and then return to the previous value.

`unset-once.ly`



words in mixed font in a single string are separated by spaces as in the input string. Here a Russian word followed by a roman word.

`utf-8-mixed-text.ly`

Здравствуйте Hallo

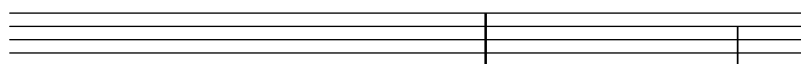
In GUILE v2, embedded Scheme can contain UTF-8 strings and identifiers. Here, identifier `bööh` contains music with the text "bööh"

`utf-8-scheme.ly`



Various scripts may be used for texts (like titles and lyrics) by entering them in UTF-8 encoding, and using a Pango based backend. Depending on the fonts installed, this fragment will render Bulgarian (Cyrillic), Hebrew, Japanese and Portuguese.

`utf-8.ly`



който

gal

version-seen.ly

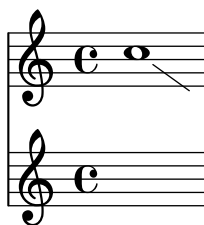
Score level Vertical\_align\_engraver ignore axis groups that are not spanners. In this case, the Devnull context has no Axis\_group\_engraver, so the NoteColumn appears like a parent-less axis group; even so, the Score level alignment ignores it.

vertical-alignment-spanner-only.ly



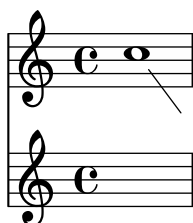
Voice followers can be broken across more than two systems.

voice-follower-broken-several-systems.ly



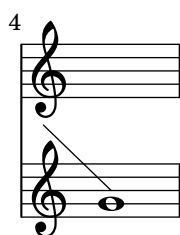
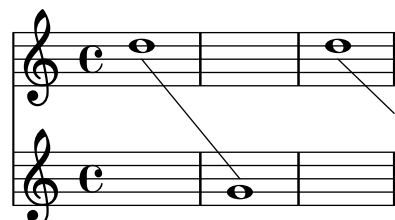
Voice followers have acceptable slopes across lines breaks.

voice-follower-broken.ly



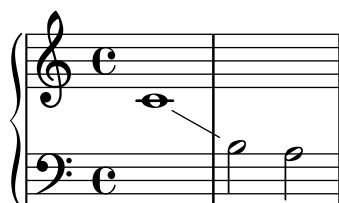
Adjustments to `VoiceFollower.bound-details.left.Y` are relative to the `VoiceFollower` grob's start staff. In this test, the lines should start and end at the exact middle of the respective staves.

`voice-follower-y-tweaks.ly`



Whenever a voice switches to another staff a line connecting the notes can be printed automatically. This is enabled if the property `followVoice` is set to true.

`voice-follower.ly`



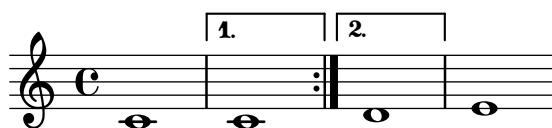
The `\voices` command can be used for continuing voices and changing the order of `\voiceOne...``\voiceFour` style overrides.

`voices-command.ly`



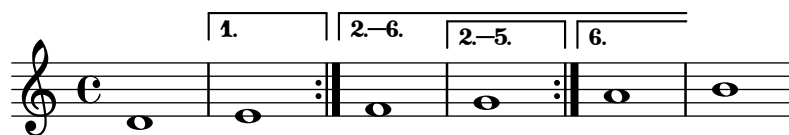
Volta bracket end hooks can be added for other bar line types.

`volta-bracket-add-volta-hook.ly`



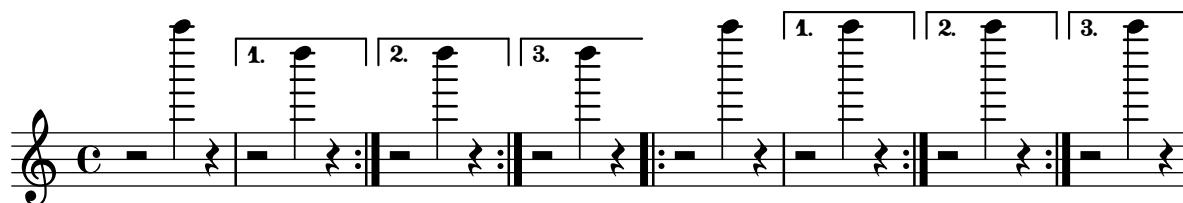
When alternatives are nested, volta brackets stack with the outermost alternative on top. In this case, alternatives for volte 2-5 and 6 are nested inside an alternative for volte 2-6.

`volta-bracket-nest.ly`



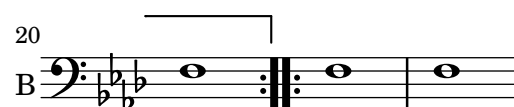
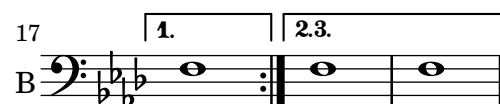
Volta brackets are vertically fit to objects below them.

volta-bracket-vertical-skylines.ly



Broken volta spanners behave correctly at their left edge in all cases.

volta-broken-left-edge.ly



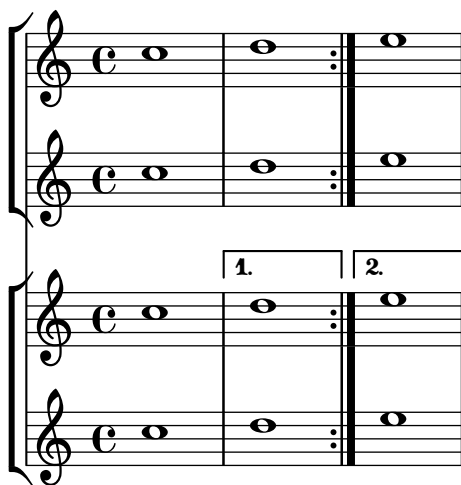
Volte using `repeatCommands` can have markup text.

`volta-markup-text.ly`



By putting `Volta_engraver` in a staff context, one can get volta brackets on staves other than the topmost one.

`volta-multi-staff-inner-staff.ly`



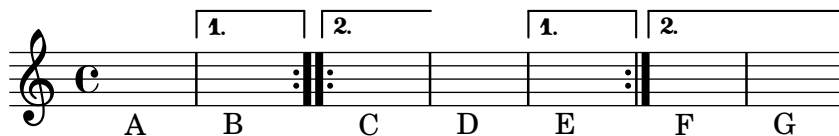
By default, the volta brackets appear only in the topmost staff.

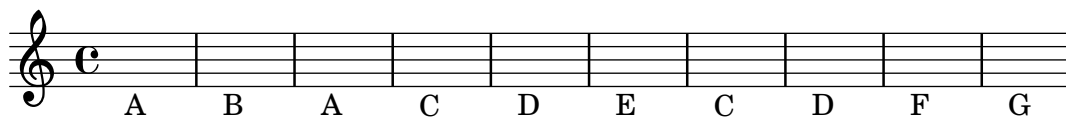
`volta-multi-staff.ly`



A final volta bracket overhanging the next section can be achieved with the `repeatCommands` property.

`volta-overhang.ly`





`\volta` can add volta-specific grace notes.

`volta-spec-after-grace.ly`



`\volta` can add a volta-specific dynamic.

`volta-spec-dynamic.ly`



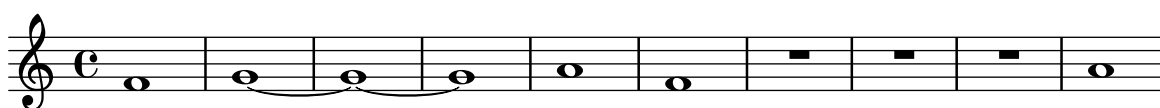
Simultaneous alternatives can appear as elements of sequential alternatives. The simultaneous alternatives are used in order as the sequential alternative is unfolded.

`volta-spec-in-alternative.ly`



`\volta` is useful for nth-time-only music. Desired explanatory text must be added manually.

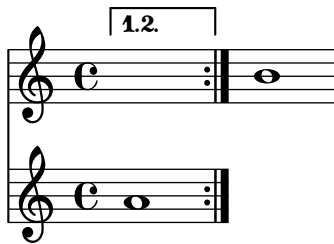
`volta-spec-once.ly`



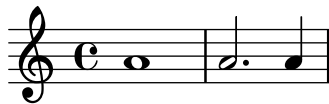
A new context inside `\volta` ends at the proper time. The staff with an A note should have only one measure.

`volta-spec-ossia.ly`

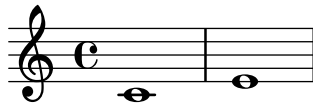




volta-spec-rhythm.ly



volta-spec-set.ly



volta-spec-tie.ly



volta-spec-unfold-in-unfold.ly

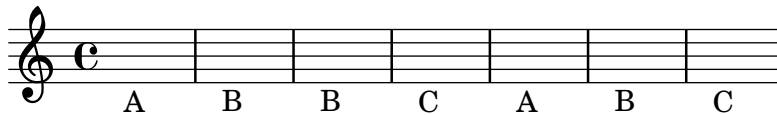
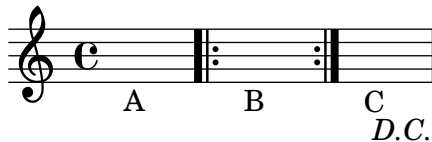


volta-spec-unused.ly



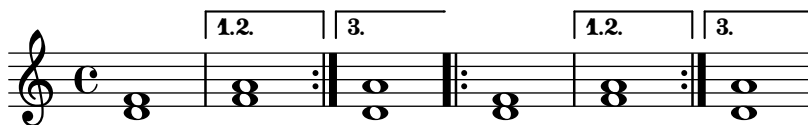
`\volta` and `\unfolded` can remove/add music in the main body of a repeated section even if they change the length. In this case, a repeat is skipped after *D.C.*

`volta-spec-volta-in-segno.ly`



`\volta` pertains to the innermost repeat. In this case, alternative notes are inside a volta repeat, so they are engraved as chords even though the volta repeat is inside an unfolded repeat.

`volta-spec-volta-in-unfold.ly`



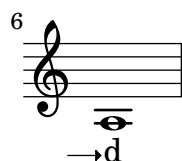
`\volta` can remove arbitrary music from the main body of a repeated section. In each staff, a rest between those marked 1 and 2 has been removed.

`volta-unused.ly`



A vowel transition runs to the end of the line if it continues on the next line, or if the next lyric syllable is at the first note on the next line. Transition arrows are printed at the beginning of the line only when they go past the first note, or when property `after-line-breaking` is `#t`.

`vowel-transition-broken.ly`



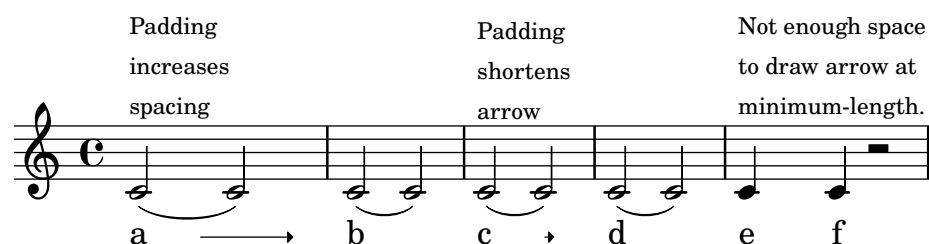
The length of the transition between one syllable and the next is indicated by the length of the arrow, which may not start immediately after a new syllable.

`vowel-transition-delayed-start.ly`



For vowel transitions, `minimum-length` refers to the drawn length of the arrow. The protrusion of the syllables and padding is in effect added to `minimum-length` for spacing. This default behavior can be changed by overriding `springs-and-rods`, which may cause the transition arrow not to be drawn if there is insufficient space (rather than adding the space necessary to draw it at `minimum-length`). `minimum-length-after-break` controls the minimum length of the segment following a system break.

`vowel-transition-minimum-length.ly`



When a syllable is horizontally offset, the arrow should adjust accordingly.

vowel-transition-offset-syllable.ly

3



e

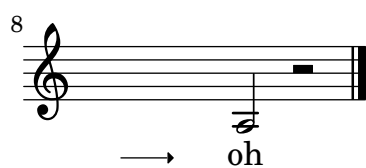
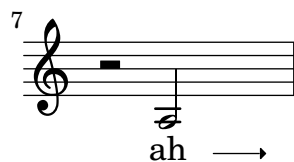
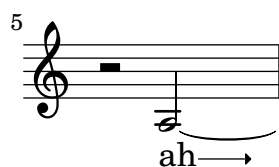
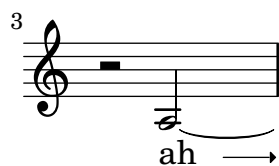
For vowel transitions, left/right padding are independent of left-broken/right-broken padding.

`vowel-transition-padding-broken.ly`

2



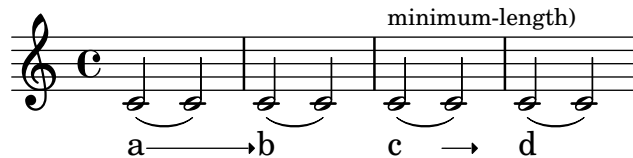
oh



Padding does not cause VowelTransitions to become shorter than `minimum-length`. Instead, space is added if necessary leaving the arrow at `minimum-length`.

`vowel-transition-padding.ly`

Padded, but  
spacing is  
not changed.  
(Arrow is still  
longer than  
`minimum-length`)



Space is added  
to allow for  
padding. Arrow  
is drawn at  
minimum-length

5

eeee→ffffggggg → hhhhh

Vowel transition arrows are always drawn, but they do not protrude into the margin. Instead, space is added so that the arrow can be drawn at `minimum-length`.

`vowel-transition-right-margin.ly`

c d e VeryLongSyllable→

2

e d c VeryLongSyllable→

3

c

A vowel transition arrow may span several notes. The arrow may extend past a rest, but not past the next lyric syllable.

`vowel-transition.ly`

ah→oh ah→oh

`\vshape` works on cross-staff slurs.

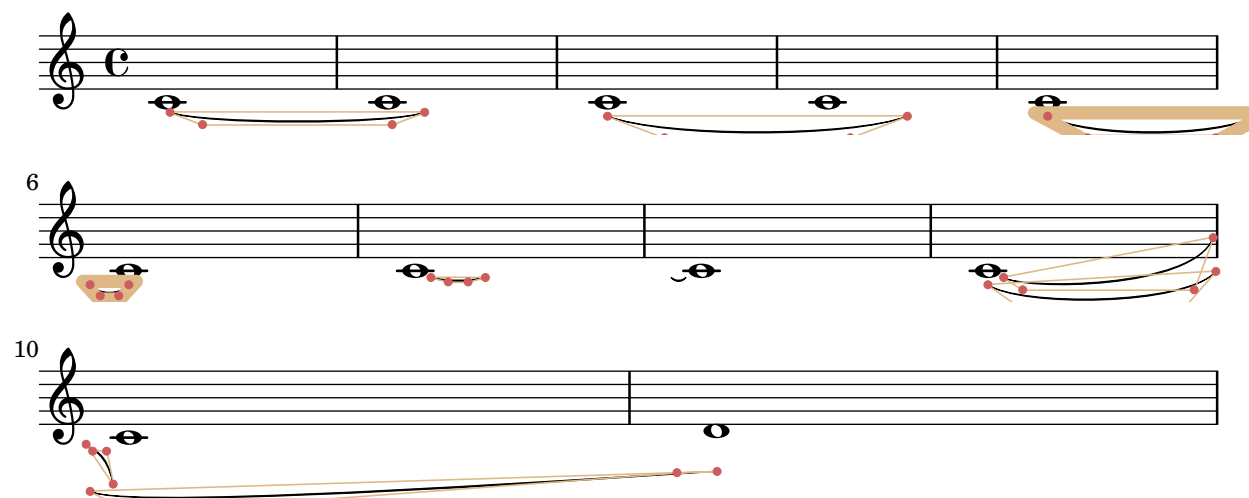
`vshape-cross-staff.ly`

ah→oh ah→oh

The `\vshape` command acts like the `\shape` command, and additionally displays control points and polygons for easier tweaking of the values.

The polygons are drawn on top of other notation, and the points on top of the polygons.

vshape.ly



If you specify two different key signatures at one point, a warning is printed.

warn-conflicting-key-signatures.ly



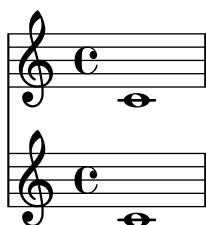
If a warning is expected, but not triggered, print out a warning about this fact. This will be used to detect missing warnings in our regtests.

warn-expected-warning-missing.ly



A warning is printed if a dynamic spanner is unterminated.

warn-unterminated-span-dynamic.ly



If the 'whiteout' property of a grob is set to a number or #t, that part of all objects in lower layers which falls under the extent of the grob's whiteout area is whited out. Here the TimeSignature whites out the Tie but not the StaffSymbol.

whiteout-lower-layers.ly





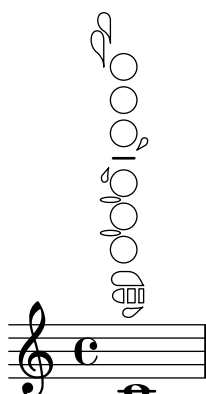
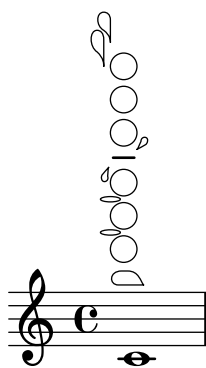
The `whiteout` command underlays a white background under a markup. The shape is determined by `whiteout-style`. The default is `box` which produces a rectangle. `rounded-box` produces a rounded rectangle. `outline` approximates the outline of the markup.

`whiteout.ly`

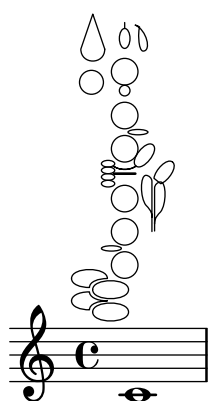
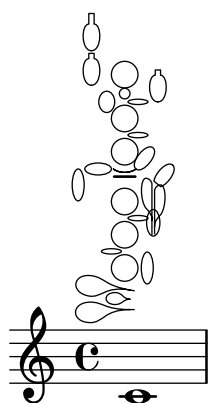
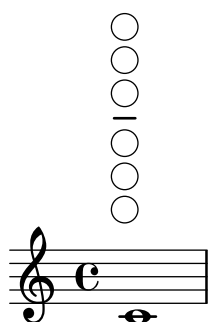
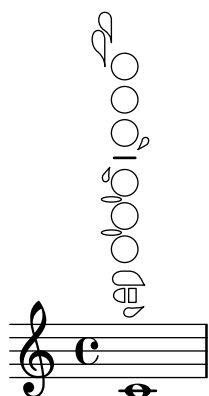


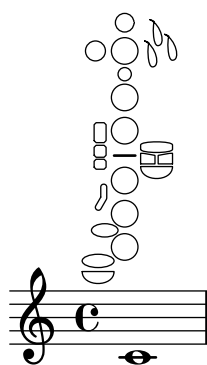
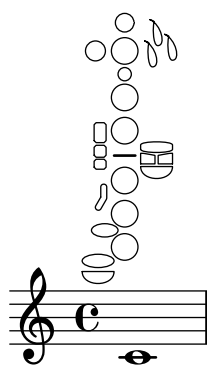
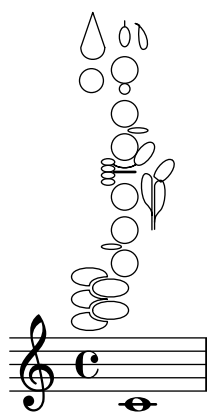
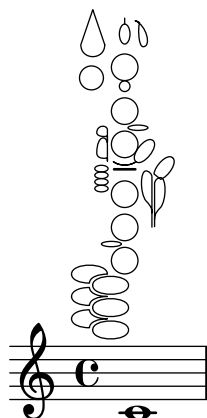
Empty woodwind diagrams for all instruments in `woodwind-diagrams.scm`.

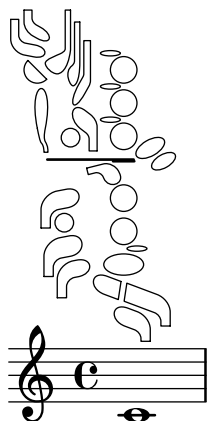
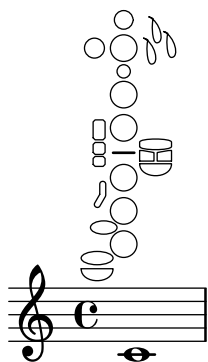
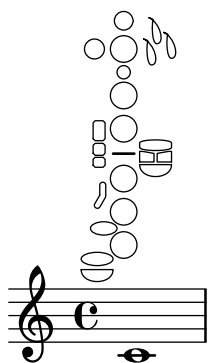
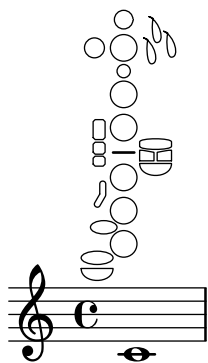
`woodwind-diagrams-empty.ly`

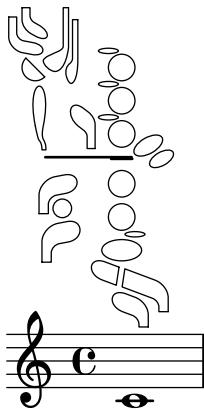












Woodwind diagram with partial fill and trills.

woodwind-diagrams-fill-and-trill.ly

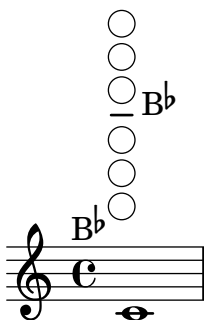
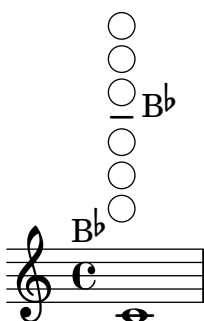
- ○ one1q
- ○ two1h
- ● three3q
- — four1qT
- ● five1qT3q
- ● sixT

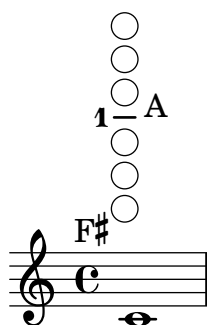
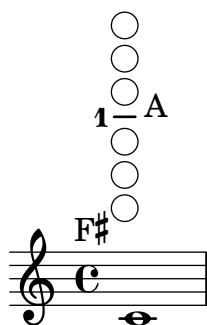
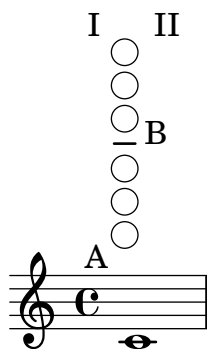
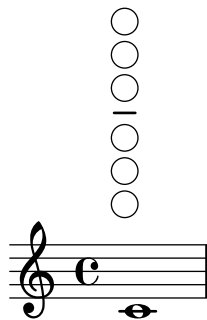
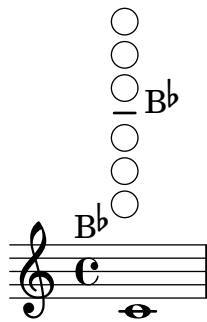
Lists all possible keys for all instruments in woodwind-diagrams.scm

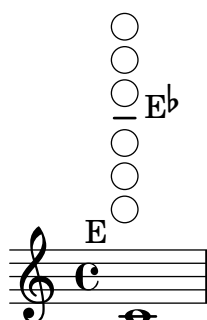
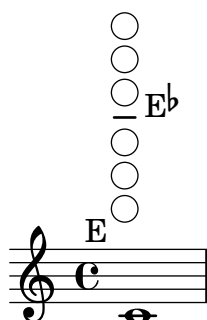
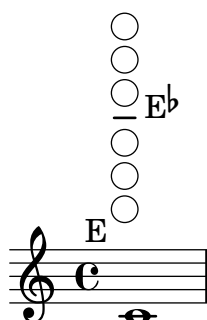
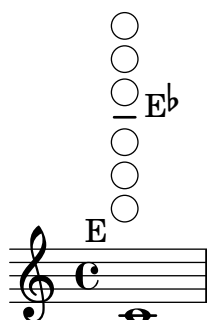
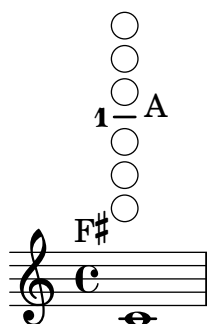
woodwind-diagrams-key-lists.ly

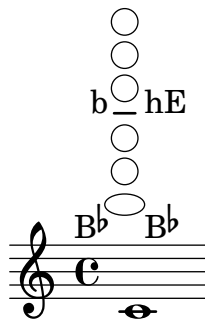
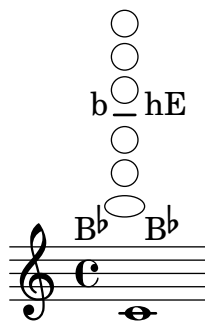
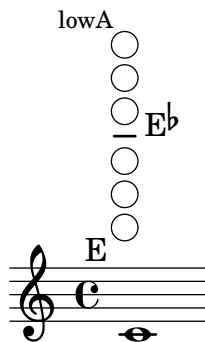
Woodwind diagrams for all instruments in woodwind-diagrams.scm with key names, one pressed per text stencil.

woodwind-diagrams-key-names.ly



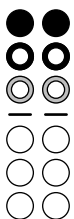






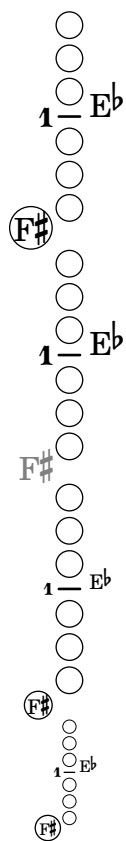
Woodwind diagram with ring key and ring trill.

woodwind-diagrams-ring-keys.ly



Woodwind diagrams with text.

woodwind-diagrams-text.ly



Setting staff-space to 0 does not cause a segmentation fault.

zero-staff-space.ly

