

LilyPond Regression Tests

Introduction

This document presents proofs for LilyPond 2.15.36. 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

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'`



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'



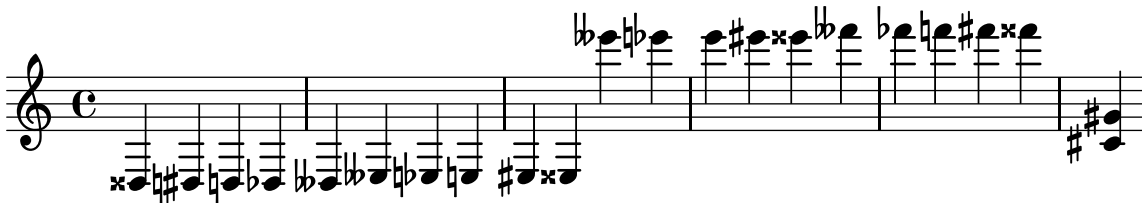
Accidentals can be forced with ! and ? even if the notes are tied. Cautionary accidentals applied to tied notes after a bar line are valid for the whole measure.

'accidental-forced-tie.ly'



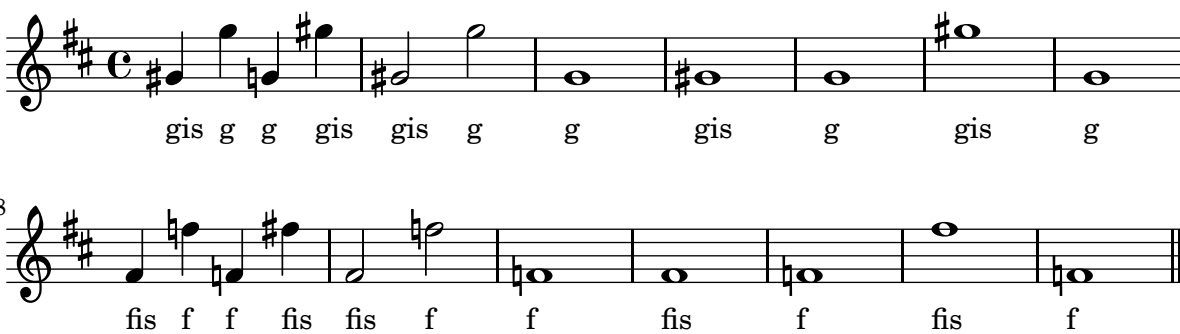
Ledger lines are shortened when there are accidentals. This happens only for the single ledger line close to the note head, and only if the accidental is horizontally close to the head.

'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'



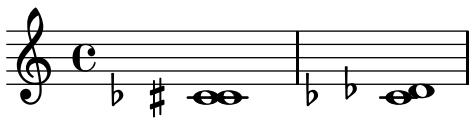
In piano accidental style, notes in both staves influence each other. In this example, each note should have an accidental.

'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'`



Quarter tone notation is supported, including threequarters flat.

`'accidental-quarter.ly'`



A sharp sign after a double sharp sign, as well as a flat sign after a double flat sign is automatically prepended with a natural sign.

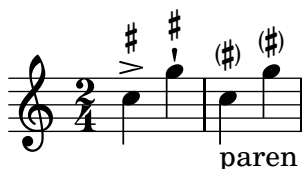
`'accidental-single-double.ly'`



gisis gis geses ges

setting the `suggestAccidentals` will print accidentals vertically relative to the note. This is useful for denoting Musica Ficta.

`'accidental-suggestions.ly'`



paren

The second and third notes should not get accidentals, because they are tied to a note. However, an accidental is present if the line is broken at the tie, which happens for the G sharp.

The presence of an accidental after a broken tie can be overridden.

`'accidental-tie.ly'`



Tied notes with accidentals do not cause problems with spacing.

`‘accidental-unbroken-tie-spacing.ly’`



This shows how modern cross voice auto cautionary accidentals are handled. The first two fifths get accidentals because they belong to different voices. The first f gets cautionary natural because of previous measure. The last f gets cautionary natural because fis was only in the other voice.

`‘accidental-voice.ly’`



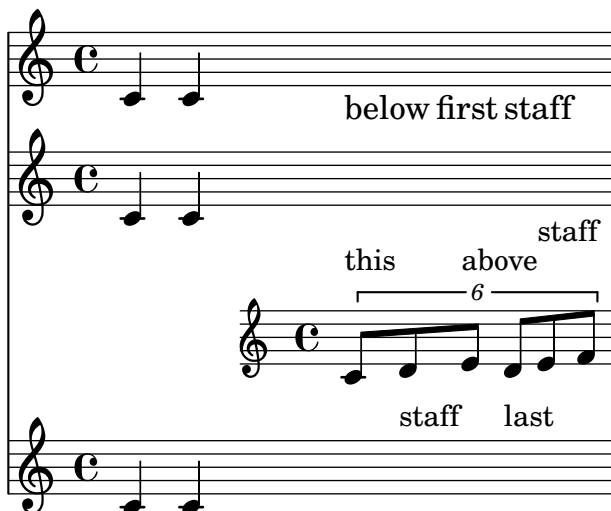
Accidentals work: the second note does not get a sharp. The third and fourth show forced and cautionary accidentals.

`‘accidental.ly’`



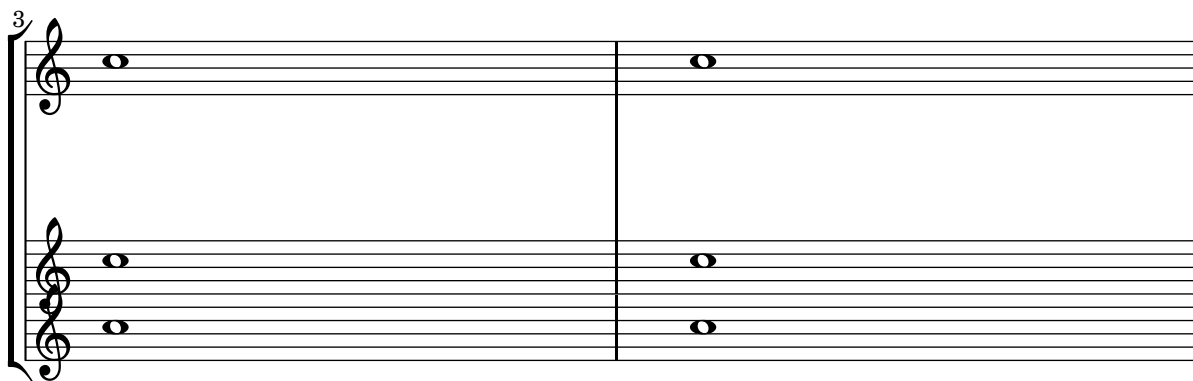
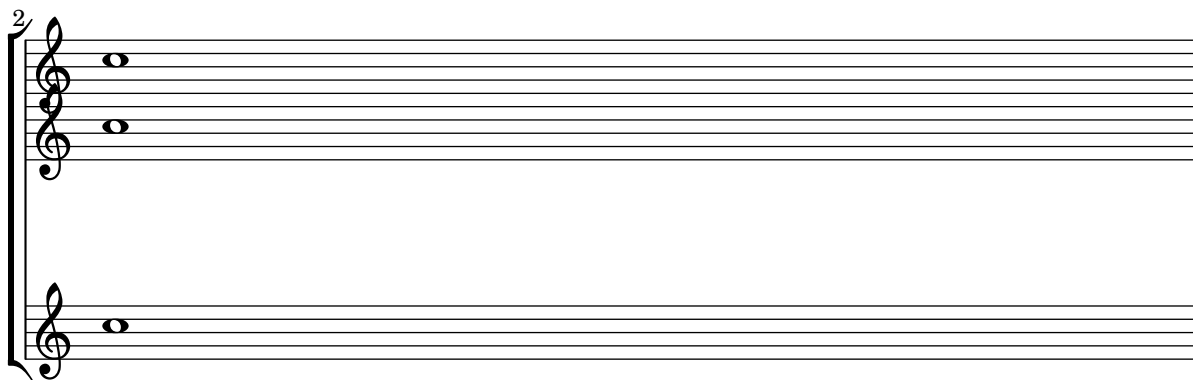
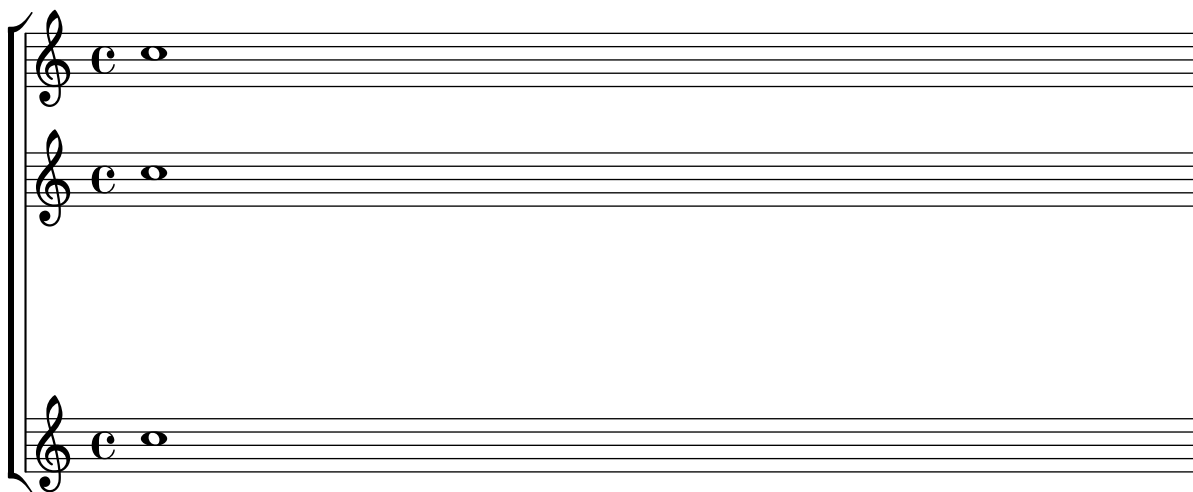
Newly created contexts can be inserted anywhere in the vertical alignment.

`‘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'



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.

`'ambitus-cue.ly'`



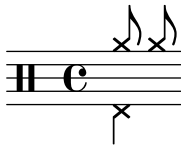
The gaps between an `AmbitusLine` and its note heads are set by the `gap` property.

`'ambitus-gap.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'`



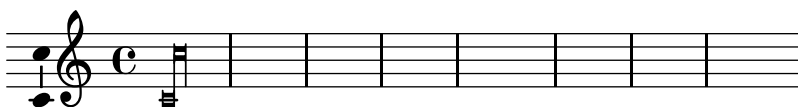
Ambitus accidentals (whether present or not) are ignored by the slur engravers.

`'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.

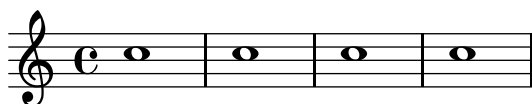
‘ambitus.ly’



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’



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

‘arpeggio-bracket.ly’



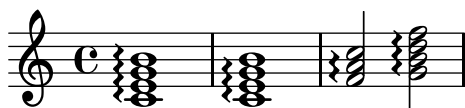
Arpeggio stays clear of accidentals and flipped note heads.

‘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 behaviour.

‘arpeggio-no-overshoot.ly’



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

`'arpeggio-no-staff-symbol.ly'`



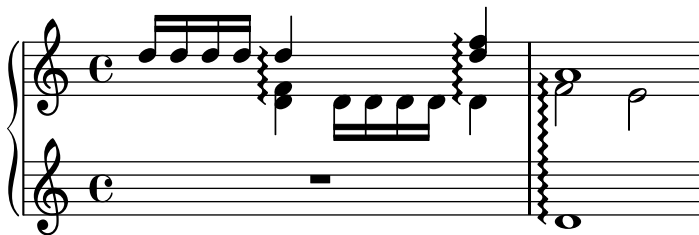
There is a variant of the arpeggio sign that uses a 'vertical slur' instead of the wiggle.

`'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 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'`



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

`'auto-beam-no-beam.ly'`



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

`'auto-beam-partial-grace.ly'`



Autobeaming 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’



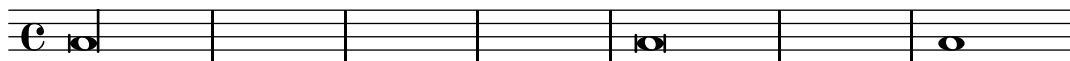
Tuplet-spanner should not put (visible) brackets on beams even if they’re auto generated.

‘auto-beam-tuplets.ly’



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

‘auto-beam.ly’

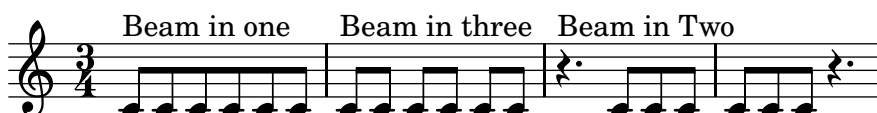


Auto change piano staff switches voices between up and down staves automatically; rests are switched along with the coming note. When central C is reached, staff is not yet switched (by default).

‘auto-change.ly’



‘autobeam-3-4-rules.ly’



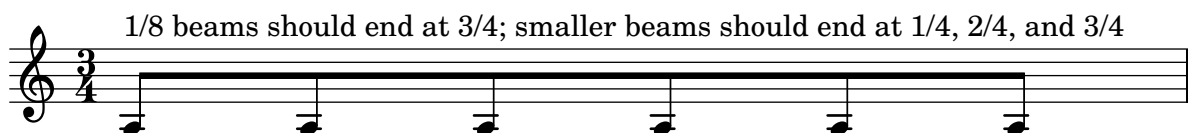
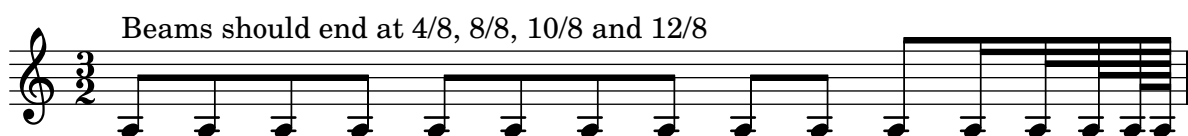
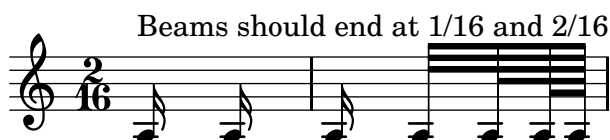
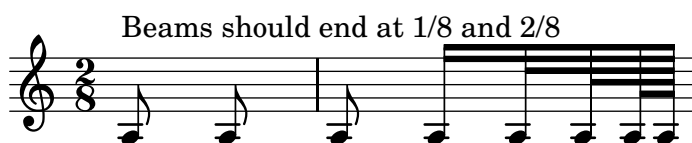
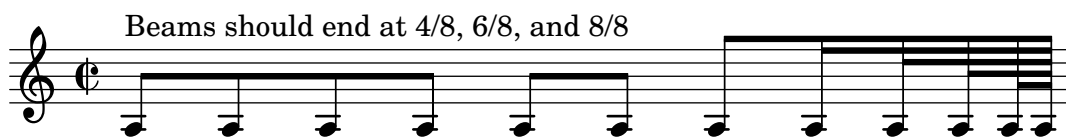
`\noBeam` should terminate an autobeam, even if it's not a recommended place for stopping a beam. In this example, the first three eighth notes should be beamed.

`'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'`



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

The image shows a musical staff in 4/2 time. It contains a series of eighth notes grouped with beams. The beams are placed above the notes and end at specific points corresponding to the time signatures 4/8, 8/8, 12/8, 14/8, and 16/8. The notes are all eighth notes, and the beams are used to group them in pairs, fours, and eights.

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

The image shows a musical staff with a treble clef and a common time signature 'C'. It contains three groups of notes: a group of four eighth notes beamed together, a group of six eighth notes beamed together, and a group of eight eighth notes beamed together. The beams are positioned above the notes and end at the eighth note boundary for each group.

[illegible][illegible]

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

The musical notation shows a single staff with a treble clef and a common time signature 'C'. The melody consists of eighth notes grouped by beams. There are four groups of three eighth notes each, followed by a group of six eighth notes. The beams are positioned above the notes and extend to the right edge of the note group.

Beams should end at 3/8 and 6/8

The image shows a musical staff with a treble clef and a 6/8 time signature. The staff contains a sequence of eighth notes grouped by beams. The first group of three eighth notes is beamed together, and the second group of three eighth notes is also beamed together. The beams are positioned such that they end at the 3/8 and 6/8 marks of the measure, as indicated by the text above the staff.

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

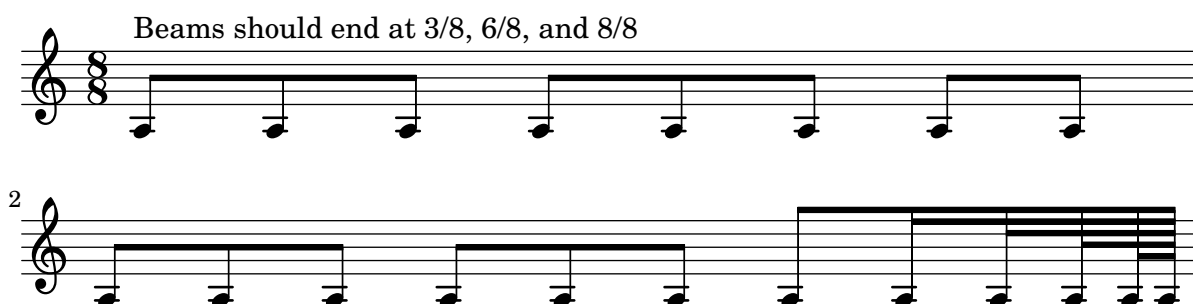
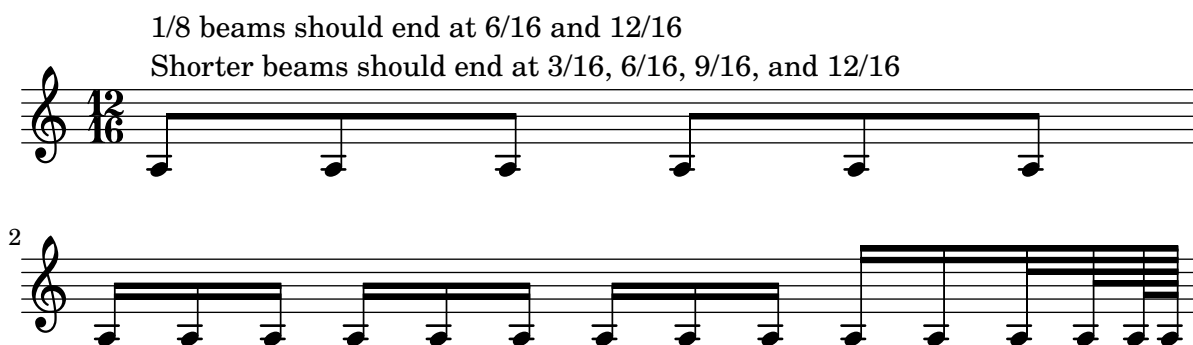
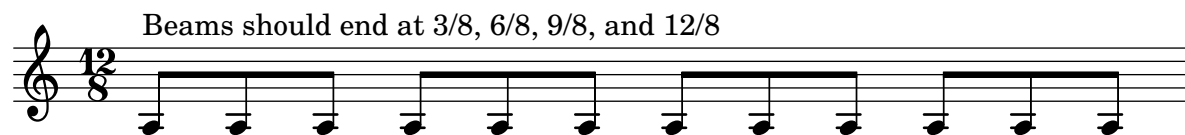
The image shows a musical staff in 2/4 time. It contains a series of eighth notes grouped by beams. The first group of six eighth notes is beamed together and labeled '6/8'. The second group of six eighth notes is beamed together and labeled '12/8'. The third group of four eighth notes is beamed together and labeled '14/8'. The fourth group of four eighth notes is beamed together and labeled '16/8'. The fifth group of four eighth notes is beamed together and labeled '18/8'. The notation demonstrates how beams should be placed to indicate the correct time signature for a given group of notes.

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

The image shows a musical staff in 2/4 time with a treble clef. It contains three measures of music, each with a single eighth note. The first measure has a beam connecting the note to the next measure. The second measure has a beam connecting the note to the next measure. The third measure has a beam connecting the note to the next measure. The beams are positioned such that they end at the 3/8, 6/8, and 9/8 marks of the measure, respectively.

[illegible]

Beams should end at 6/8, 12/8, 18/8, 20/8, 22/8, and 24/8



`'autobeam-start-at-beginning-of-measure-in-3-4.ly'`



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

`'autobeam-triplet-recheck.ly'`



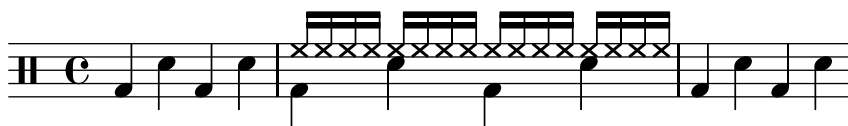
The bottom-level contexts in polyphony shorthand are allocated a context id in order of creation, starting with "1". This snippet will fail to compile if either voice has an invalid context-id string.

`'automatic-polyphony-context-id.ly'`



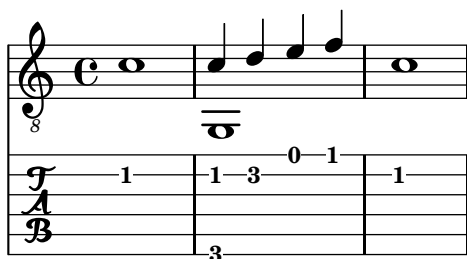
In a DrumStaff, automatic polyphony can be used without explicitly initializing separate voices.

`'automatic-polyphony-drumstaff.ly'`



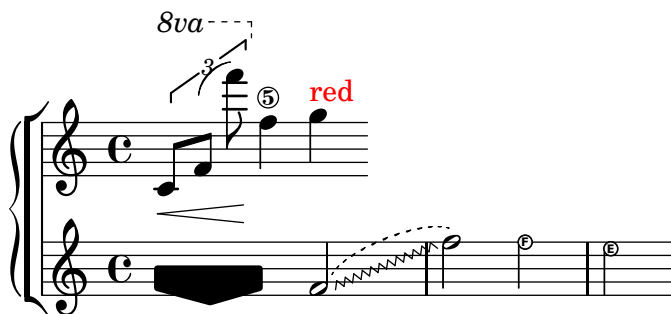
In a TabStaff, automatic polyphony can be used without explicitly initializing separate voices.

`'automatic-polyphony-tabstaff.ly'`



Exercise all output functions

`'backend-exercise.ly'`



`'backend-svg.ly'`

The Brenreiter 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 follows 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 Brenreiter. The stem direction is forced in measure 24. The last beam of that measure is up in Brenreiter because of context. We don't detect that yet.

Note that the Brenreiter 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 (16

Sarabande

6

11

16

21

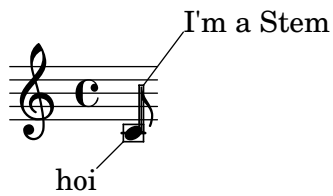
25

7

The image displays a musical score for the Sarabande from the Solo Cello Suite II by Johann Sebastian Bach. The score is written in bass clef with a key signature of one flat (B-flat) and a 3/4 time signature. It consists of six staves of music. The first staff begins with a treble clef and a key signature of one flat. The second staff starts at measure 6, the third at measure 11, the fourth at measure 16, the fifth at measure 21, and the sixth at measure 25. The score includes various musical notations such as eighth notes, sixteenth notes, and rests. Trills are indicated by 'tr' above certain notes. The piece concludes with a final measure marked with a '7'.

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

`'balloon.ly'`



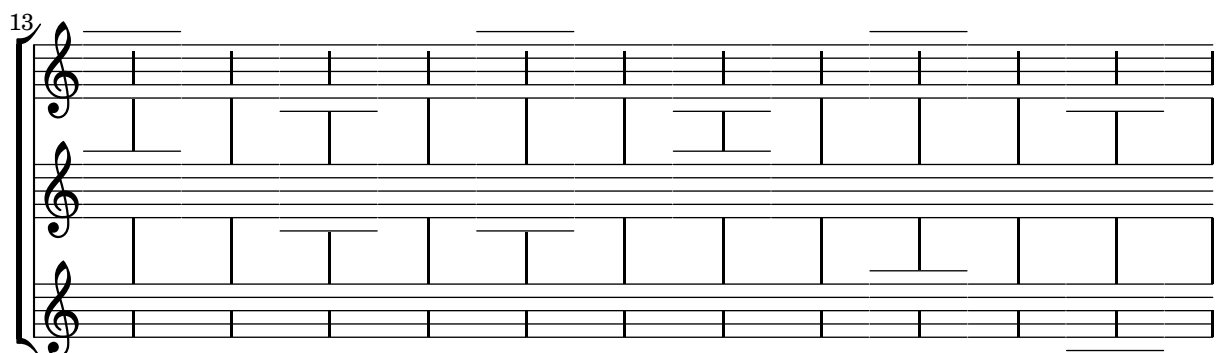
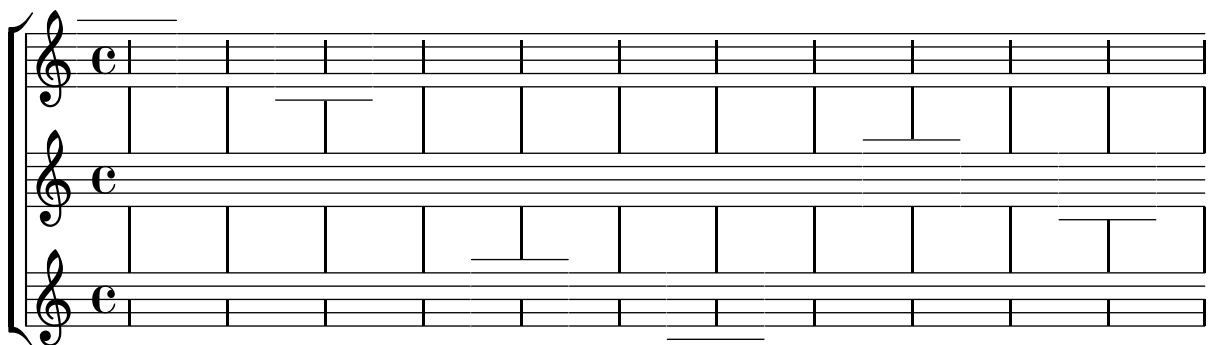
The meaning of `|` is stored in the identifier `pipeSymbol`.

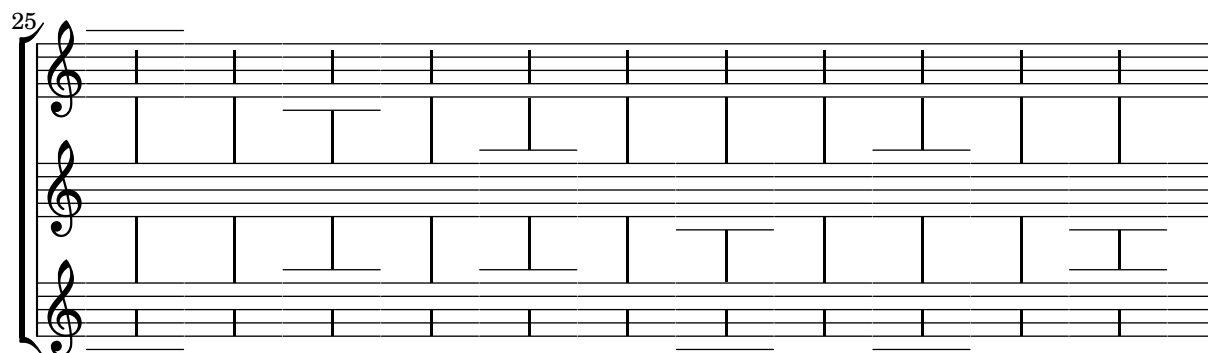
`'bar-check-redefine.ly'`



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.

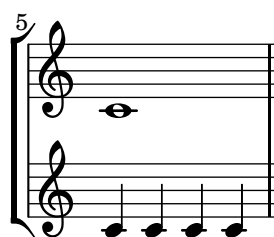
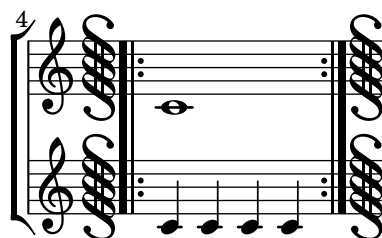
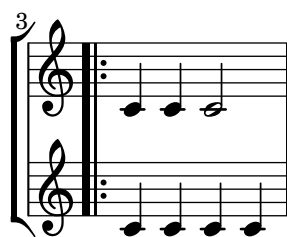
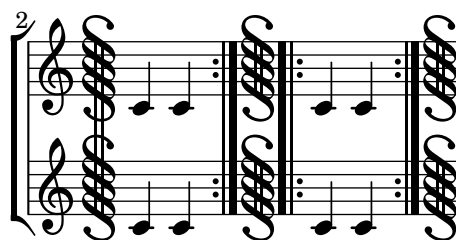
`'bar-extent.ly'`

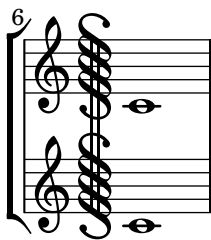




Segno bar lines can be used to mark the begin and the end of a segno part.

`'bar-line-segno.ly'`





Various types of bar lines can be drawn.

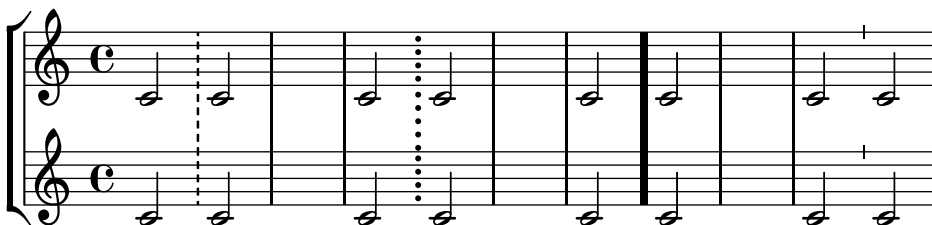
The dashes in a dashed bar line covers staff lines exactly. Dashed barlines between staves start and end on a half dash precisely.

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 "|."`

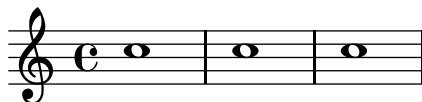
A ticked bar line is a short line of the same length as a staff space, centered on the top-most barline.

`'bar-lines.ly'`



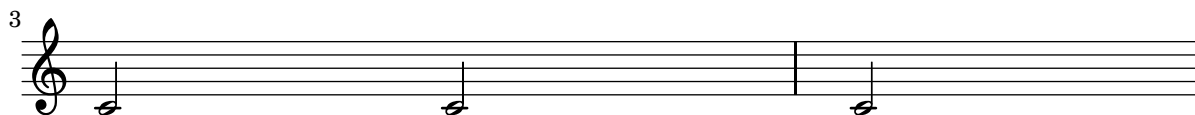
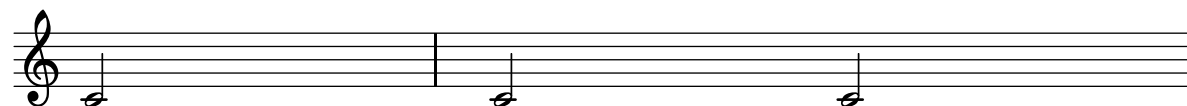
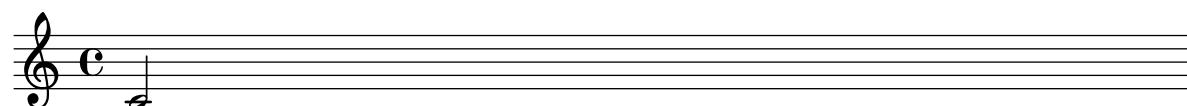
Bar numbers check may be inserted to check whether the current bar number is correct.

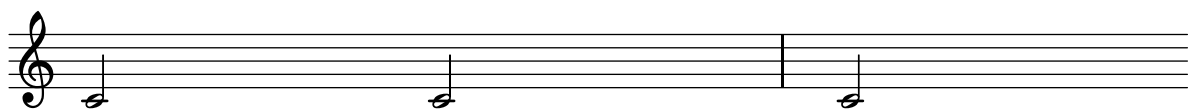
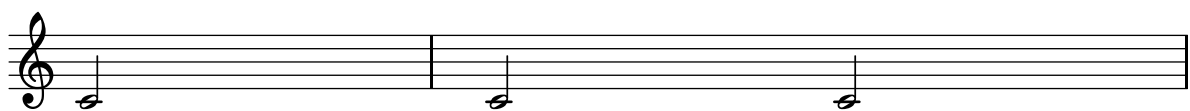
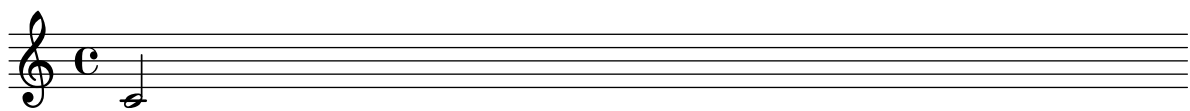
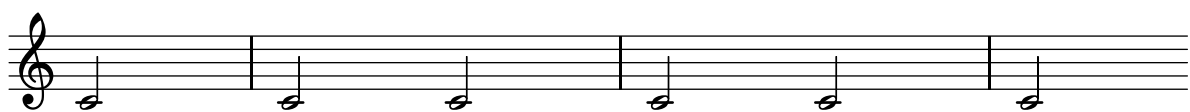
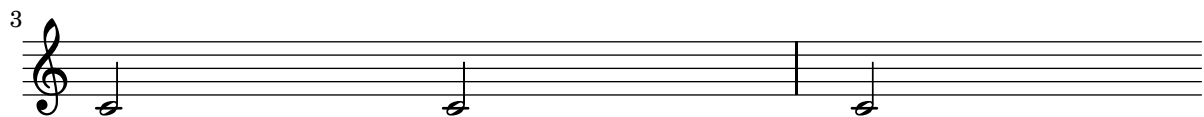
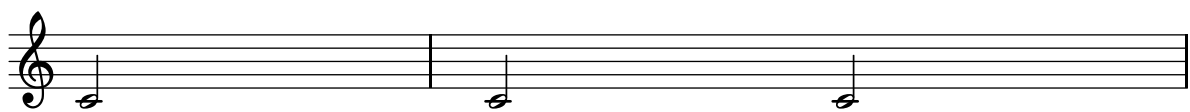
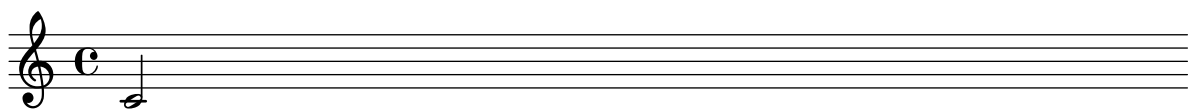
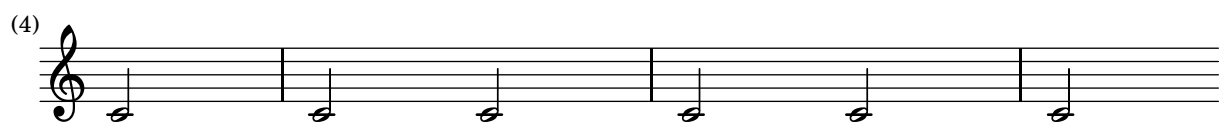
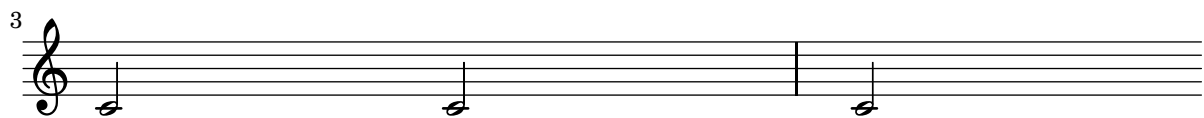
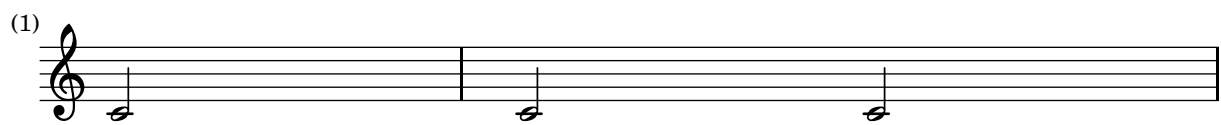
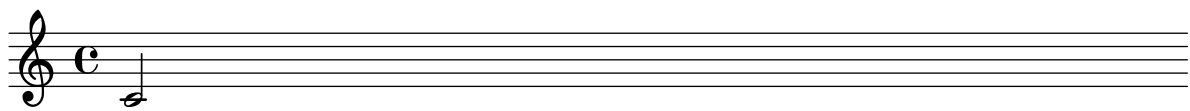
`'bar-number-check-warning.ly'`

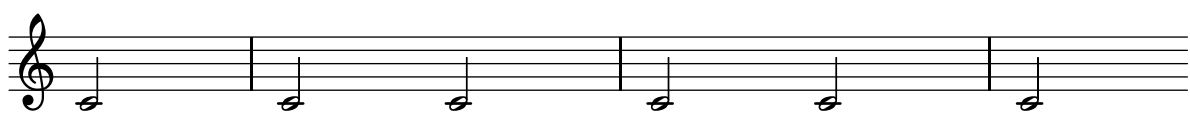
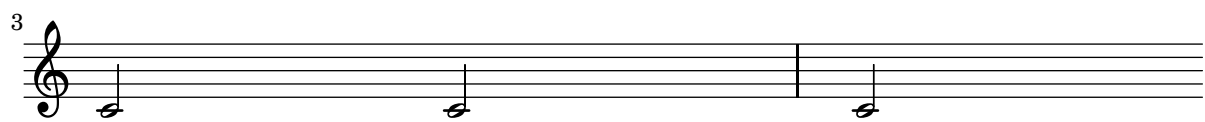
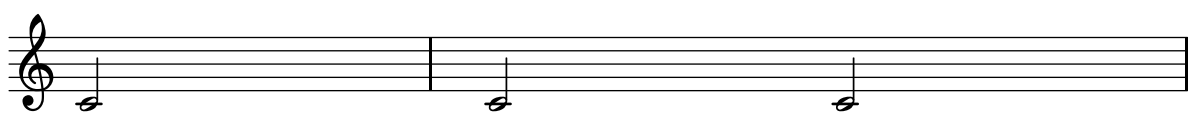
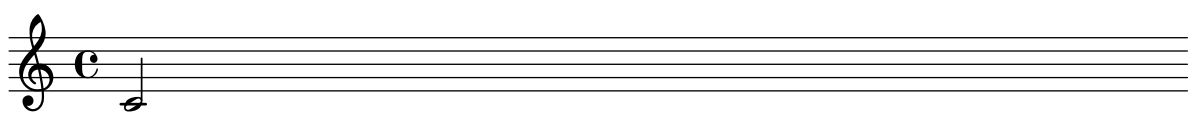
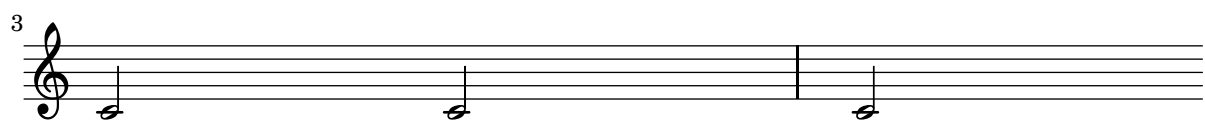
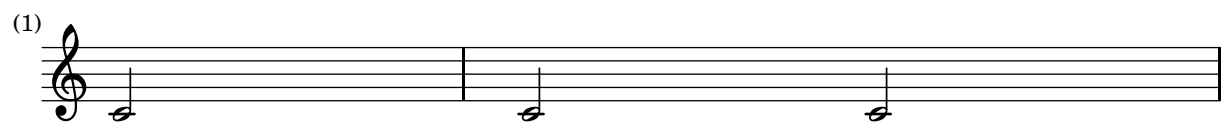
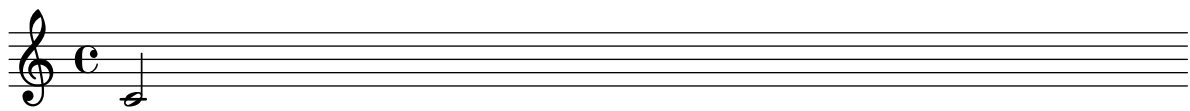
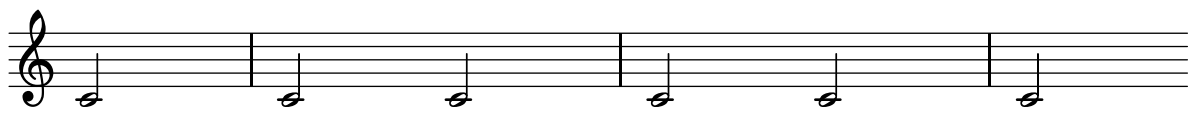


The `barNumberVisibility` property controls at what intervals bar numbers are printed.

`'bar-number-visibility.ly'`







Bar numbers can automatically reset at volta repeats.

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

The image displays four musical staves illustrating the use of the `'bar-number-volta-repeat.ly'` command. Each staff is in common time (C) and contains a series of whole notes. The first staff shows measures 2 through 8, with repeat signs at measures 4 and 5. The second staff shows measures 9 through 15, with repeat signs at measures 11 and 12. The third staff shows measures 2 through 8, with repeat signs at measures 4a and 5a. The fourth staff shows measures 9 through 15, with repeat signs at measures 11a and 12a. The bar numbers are placed above the staves, and the repeat signs are placed below the staves.

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'`

The image shows a musical staff with two measures. The first measure is labeled with the bar number 99999, and the second measure is labeled with the bar number 100000. The third measure is labeled with the bar number 100001. The bar numbers are placed above the staves, and the padding is increased to prevent clashes at the beginning of a line.

Markings can be attached to (invisible) barlines.

`'bar-scripts.ly'`

The image shows a musical staff with two measures. The first measure is labeled with the letter B, and the second measure is labeled with the letter A. The markings are attached to the barlines, and the padding is increased to prevent clashes at the beginning of a line.

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'`


The image shows a musical staff with a sequence of notes. A horizontal beam is placed between the note heads, and a knee is made automatically when the beam fits in a gap between note heads that is larger than a predefined threshold.


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


`'beam-auto.ly'`


The image displays a musical score in staff notation, illustrating the output of the `auto-beam` engraver for various common time signatures. The score is organized into ten staves, each starting with a measure number on the left. The time signatures and note groupings are as follows:


- Staff 1 (Measure 1): 2/4 time signature. Notes are grouped in pairs.
- Staff 2 (Measure 4): 4/4 time signature. Notes are grouped in pairs.
- Staff 3 (Measure 10): C time signature (common time). Notes are grouped in pairs.
- Staff 4 (Measure 12): 2/4 time signature. Notes are grouped in pairs.
- Staff 5 (Measure 14): 3/8 time signature. Notes are grouped in pairs.
- Staff 6 (Measure 19): 3/4 time signature. Notes are grouped in pairs.
- Staff 7 (Measure 21): 3/4 time signature. Notes are grouped in pairs.
- Staff 8 (Measure 22): 3/4 time signature. Notes are grouped in pairs.
- Staff 9 (Measure 24): 3/8 time signature. Notes are grouped in pairs.
- Staff 10 (Measure 26): C time signature (common time). Notes are grouped in pairs.
- Staff 11 (Measure 29): C time signature (common time). Notes are grouped in pairs.


30 


31 

33 


36 


38 


39 


40 

41 

42 

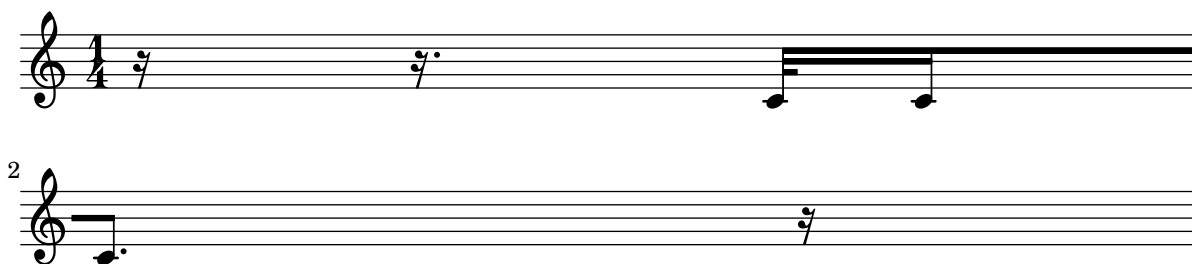
43 

44 

45 

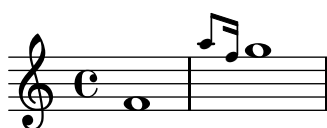
beamlets don't run to end of line if there are no other beamlets on the same height.

`'beam-beamlet-break.ly'`



Beamlets in grace notes remain readable.

`'beam-beamlet-grace.ly'`



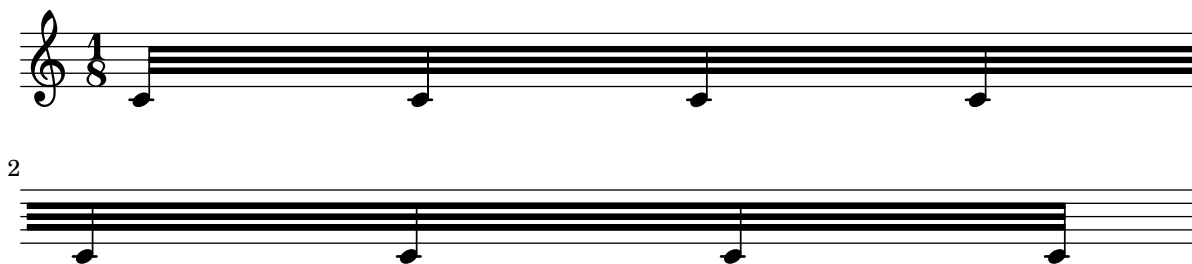
Default beaming patterns can be set for the current time signature.

`'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.

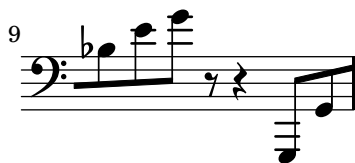
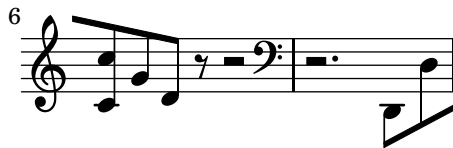
`'beam-break.ly'`



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

`'beam-broken-classic.ly'`

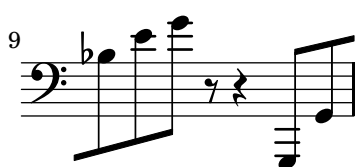
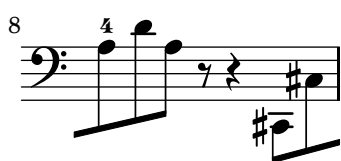
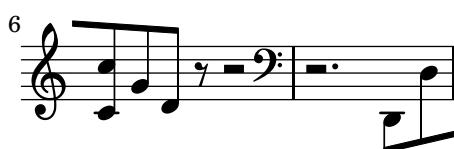
`\override Beam #'positions = #beam::place-broken-parts-individually (default)`



\override Beam #'positions = #beam::align-with-broken-parts

Returns y-positions at the ends of the beam such that beams align-across-breaks.





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

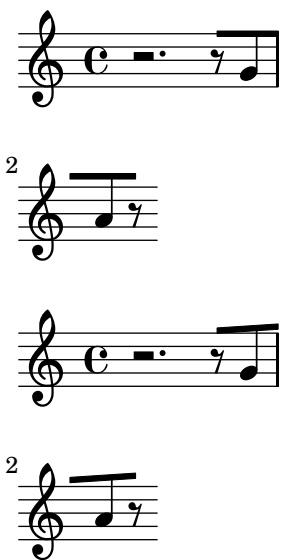
Approximates broken beam positioning in turn-of-the-century Editions Peters scores.





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

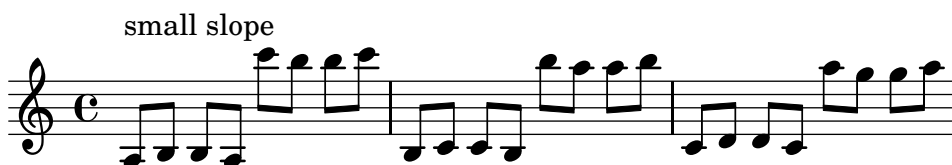
`'beam-broken-difficult.ly'`





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'`



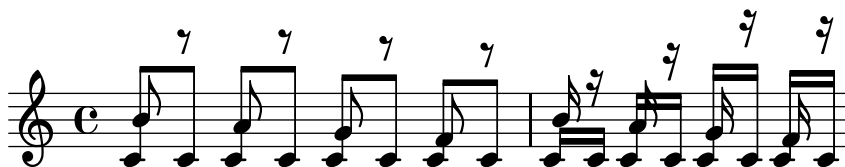
Manual beams do not collide with notes.

`'beam-collision-basic.ly'`



Manual beams do not collide with notes.

`'beam-collision-beamcount.ly'`

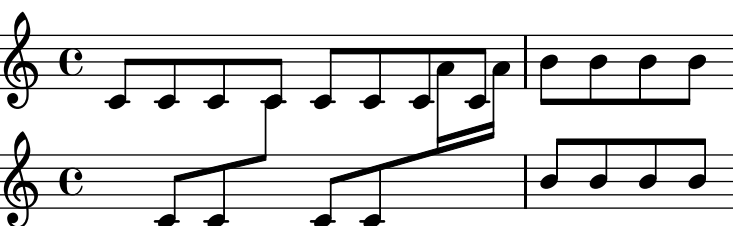


`'beam-collision-classic.ly'`



cross staff beams work with collisions.

`'beam-collision-cross-staff.ly'`



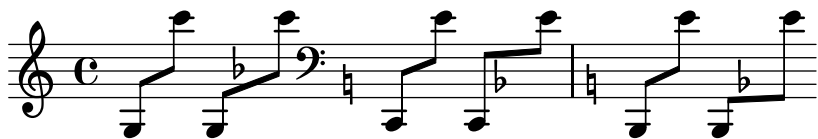
Cross staff beams do collision avoidance.

`'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'





'beam-collision-prefatory-matter.ly'



Beam collisions are resistant to scaled down staves.



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



Concave beaming works for chords as well as monophonic music.



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



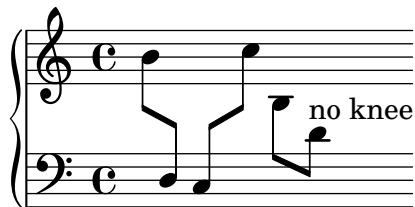
Fully concave beams should be horizontal. Informally spoken, concave refers to the shape of the notes that are opposite a beam. If an up-beam has high notes on its center stems, then we call it concave.

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

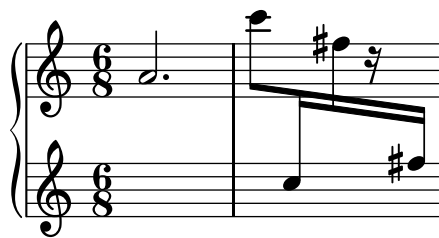




Automatic cross-staff knees work also (here they were produced with explicit staff switches).
 ‘beam-cross-staff-auto-knee.ly’

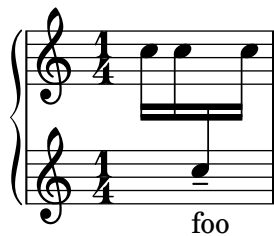


Placement of beamed cross staff rests should be reasonably close to beam.
 ‘beam-cross-staff-rest.ly’

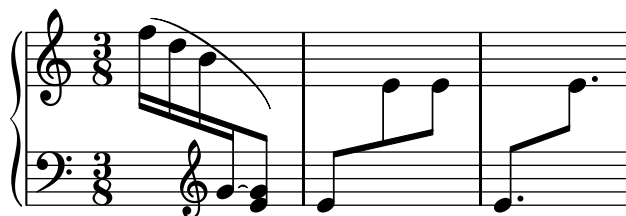


scripts don’t trigger beam formatting. If this does happen, we can have a cyclic dependency on Y-positions of staves.

‘beam-cross-staff-script.ly’

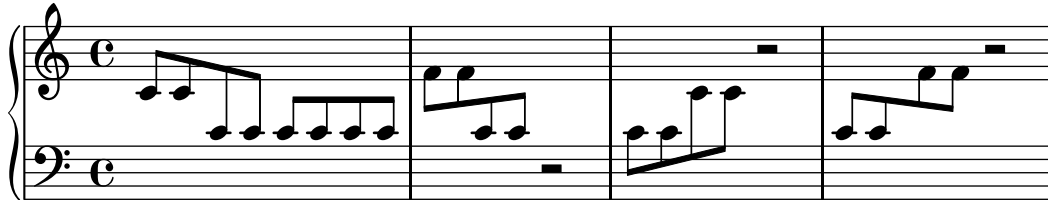


Cross staff (kneed) beams do not cause extreme slopes.
 ‘beam-cross-staff-slope.ly’



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'`



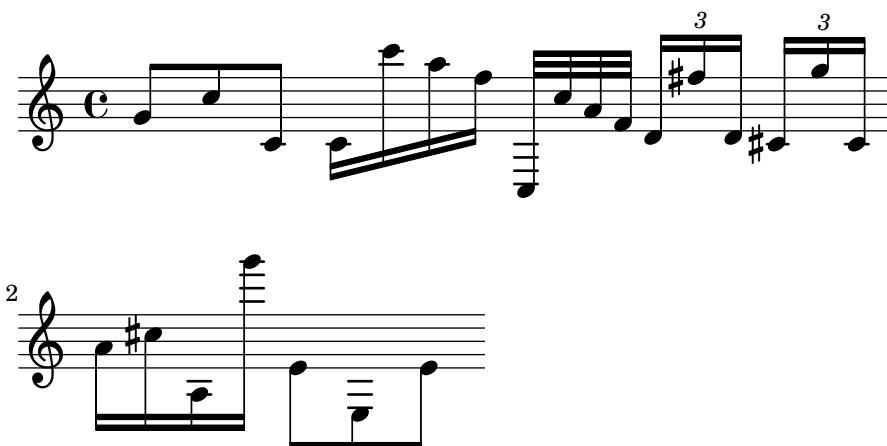
Beamed stems have standard lengths if possible. Quantization is switched off in this example.

`'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.

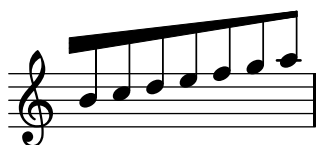
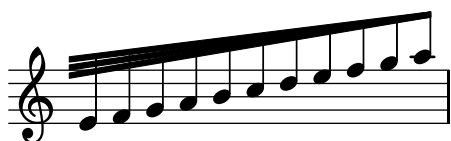
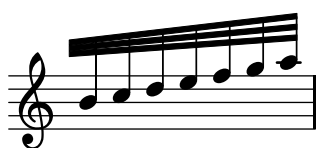
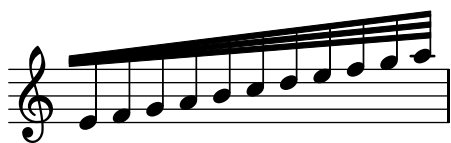
`'beam-extreme.ly'`

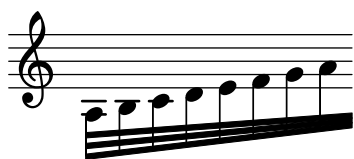
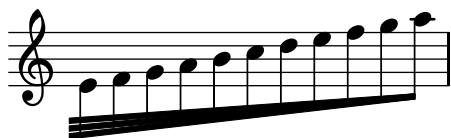
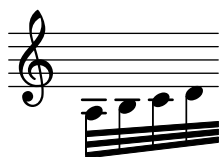
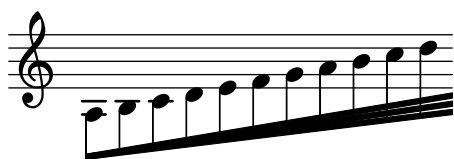
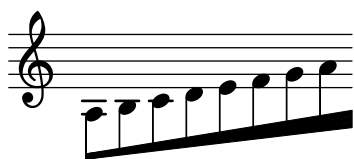
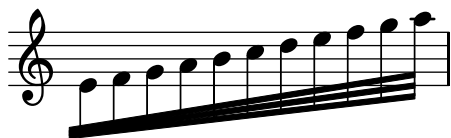
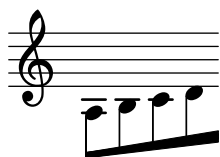


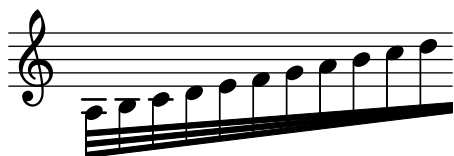
Feathered beams should have the same progress of their feathering at the end of a line break as they do at the beginning of the next line.

`'beam-feather-breaking.ly'`









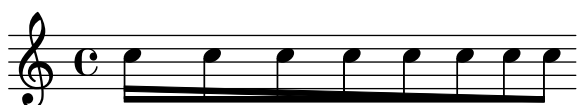
In feathered beams, stems in knees reach up to the feathered part correctly.

`'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'`



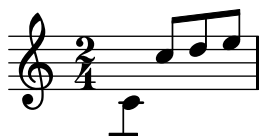
Even very flat but slanted patterns should give slanted beams.

`'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'`



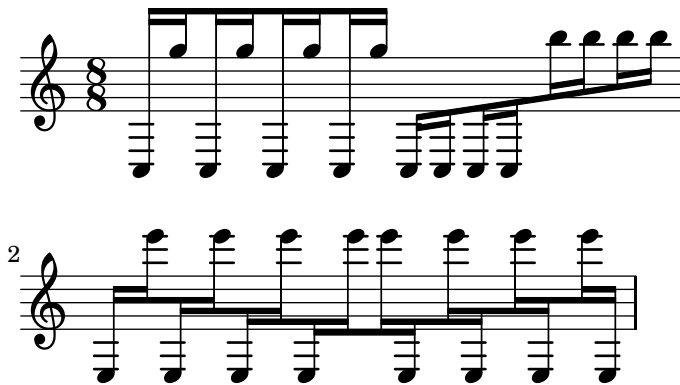
Funky kneed beams with beamlets also work. The beamlets should be pointing to the note head.

`'beam-funky-beamlet.ly'`



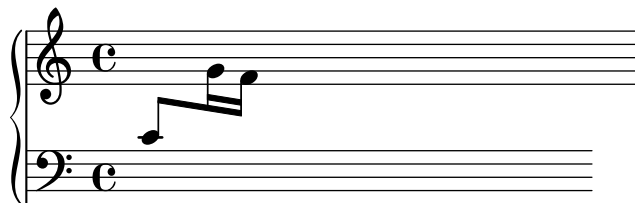
In complex configurations of knee beaming, according to Paul Roberts, the first stem of a beam determines the direction of the beam, and as such the way that following (kneed) stems attach to the beam. This is in disagreement with the current algorithm.

`'beam-funky.ly'`



Beams can be placed across a PianoStaff.

`'beam-isknee.ly'`



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'`



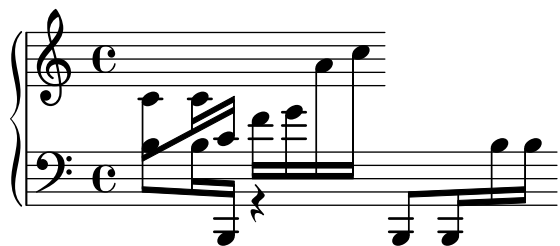
Beaming can be overridden for individual stems.

`'beam-manual-beaming.ly'`



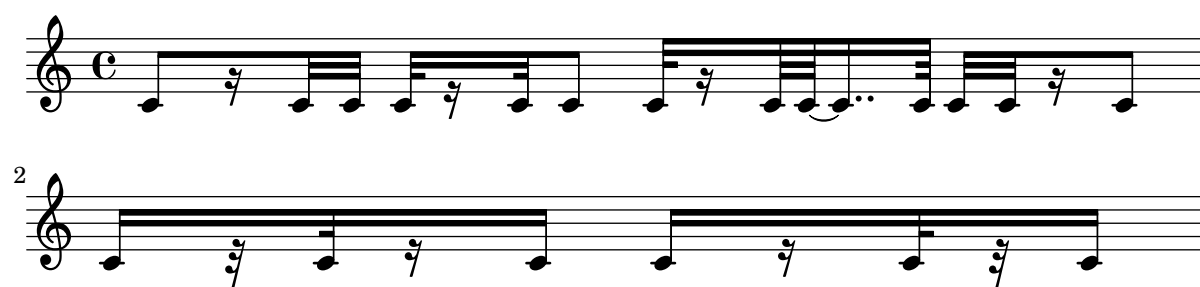
Kneed beams (often happens with cross-staff beams) should look good when there are multiple beams: all the beams should go on continuously at the staff change. Stems in both staves reach up to the last beam.

`'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 barlines.

`'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 quants, taken from Ted Ross' book. If LilyPond finds another quant, the correct quant is printed over the beam.

`'beam-quant-standard.ly'`





Stem lengths take precedence over beam quant: ‘forbidden’ quant values 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’



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’



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’



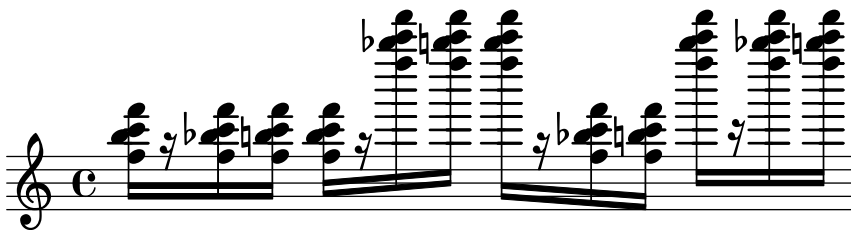
Quarter notes may be beamed: the beam is halted momentarily.

‘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’



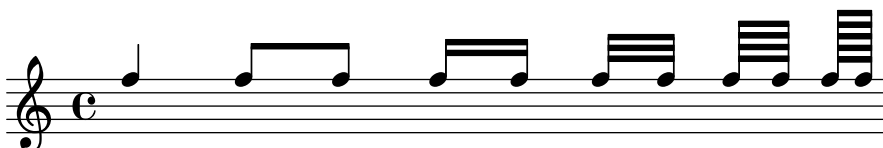
Engraving second intervals is tricky. We used to have problems with seconds being too steep, or getting too long stems. In a file like this, showing seconds, you’ll spot something fishy very quickly.

‘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'`



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'`



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

`'beam-unconnected-beamlets.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'`



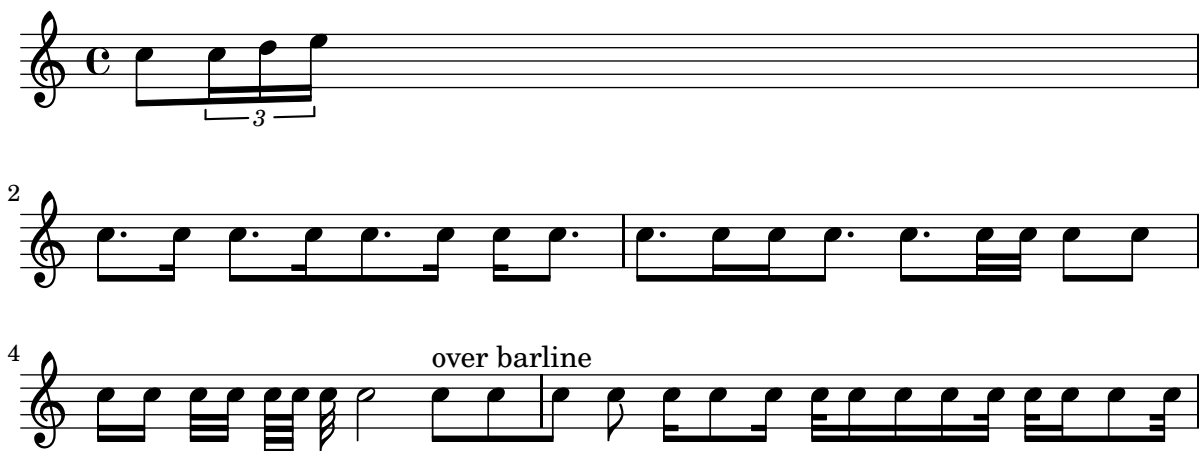
Beams in a completed triplet should be continuous.

`'beaming-triplet-regular.ly'`



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

`'beaming.ly'`



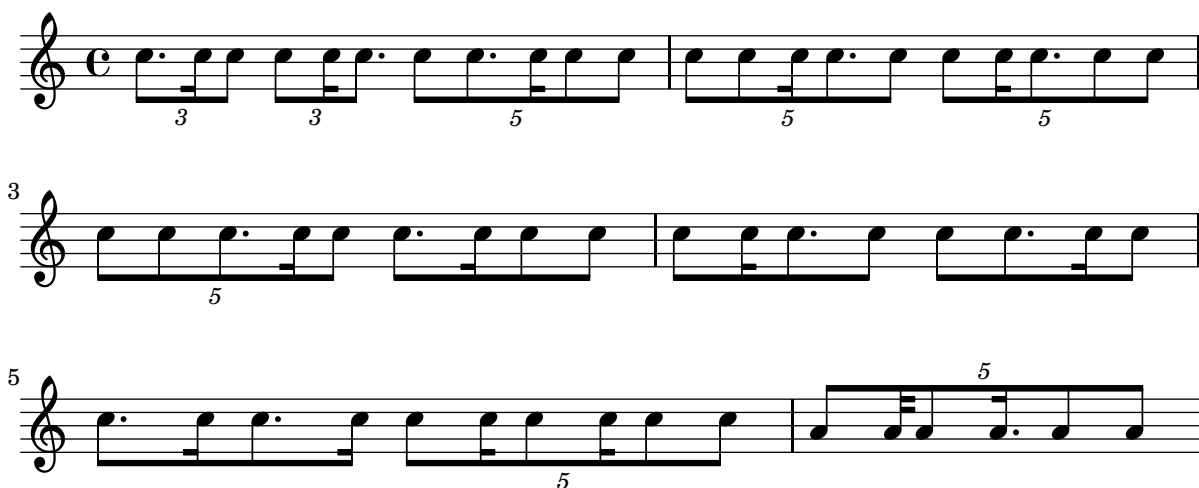
Beamlets can be set to point in the direction of the beat to which they belong. The first beam avoids sticking out flags (the default); the second beam strictly follows the beat.

`'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 tuplets as well as in ordinary time.

`'beamlet-test.ly'`



Beaming can be also given explicitly.

`'beams.ly'`



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

`'bend-after.ly'`



Bends avoid dots, but only if necessary.

`'bend-dot.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'`



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

`'book-identifier-markup.ly'`



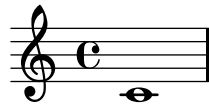
Page ?

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

`'book-label-no-segfault.ly'`

`foo`

‘bookpart-variable.ly’



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.

II SECOND PART

Book with several parts

Second part, with different margins
and page header.



3

Book with several parts

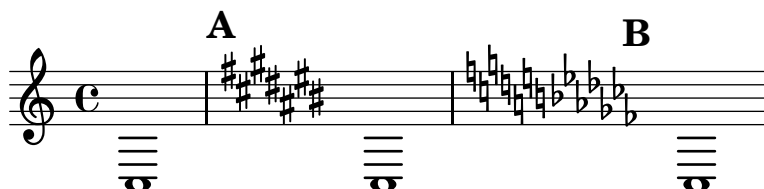
Third part

Table of Contents

First part	1
Second part	2
Third part	3

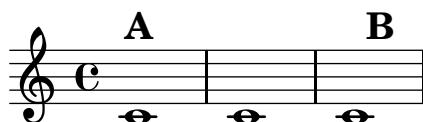
The default callback for `break-align-anchor` in clefs and time/key signatures reads the `break-align-anchor-alignment` property to align the anchor to the extent of the break-aligned grob.

`'break-alignment-anchor-alignment.ly'`



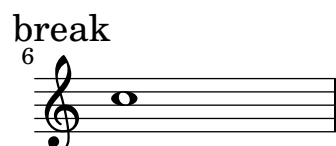
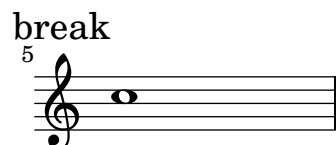
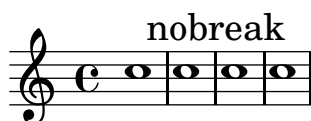
The `break-align-anchor` property of a break-aligned grob gives the horizontal offset at which other grobs should attach.

`'break-alignment-anchors.ly'`



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

`'break.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 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, barlines, neighbor notes etc. The distance between accidental and note is the same for whole notes, breves and longas.

‘breve-extent.ly’



Long titles should be properly centered.

‘center-title.ly’

How Razorback Jumping Frogs Level Six Piqued Gymnast



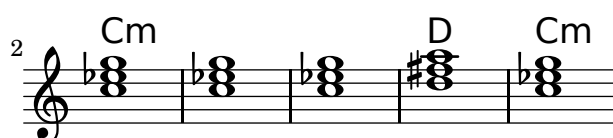
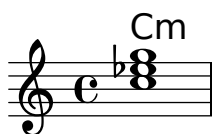
The prefix of additional chord pitches can be tuned with `additionalPitchPrefix`.

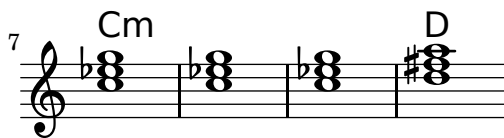
‘chord-additional-pitch-prefix.ly’

C⁹ C^{add9}

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.

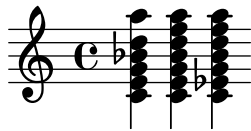
‘chord-changes.ly’





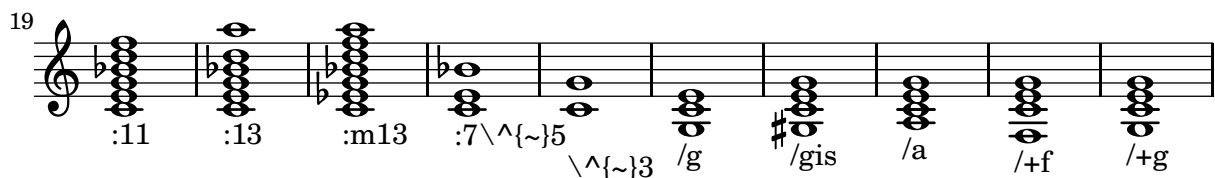
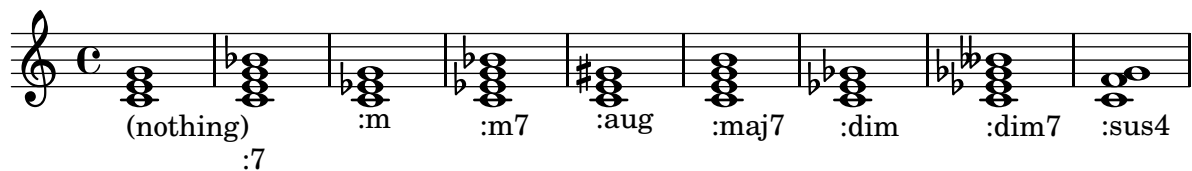
The 11 is only added to major-13 if it is mentioned explicitly.

‘chord-name-entry-11.ly’



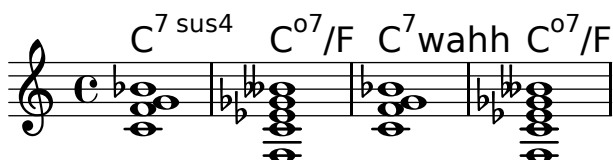
Chords can be produced with the chordname entry code (`\chordmode` mode), using a pitch and a suffix. Here, the suffixes are printed below pitches.

‘chord-name-entry.ly’



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`.

‘chord-name-major7.ly’

C^{\triangle} C^{j7}

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

‘chord-name-minor.ly’

C^m C^{m7} C^- C^{-7}

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.

`'chord-names-in-grand-staff.ly'`

The english naming of chords (default) can be changed to german (`\germanChords` replaces B and Bes to H and B), semi-german (`\semiGermanChords` replaces B and Bes to H and B \flat), italian (`\italianChords` uses Do Re Mi Fa Sol La Si), or french (`\frenchChords` replaces Re to R).

`'chord-names-languages.ly'`

default	E/D	Cm	B/B	B \sharp /B \sharp	B \flat /B \flat
german	E/d	Cm	H/h	H \sharp /his	B/b
semi-german	E/d	Cm	H/h	H \sharp /his	B \flat /b
italian	Mi/Re	Do m	Si/Si	Si \sharp /Si \sharp	Si \flat /Si \flat
french	Mi/Ré	Do m	Si/Si	Si \sharp /Si \sharp	Si \flat /Si \flat

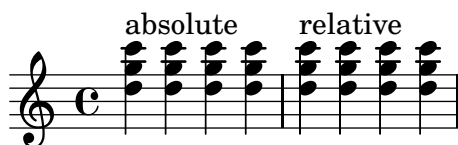
Minor chords may be printed as lowercase letters, in which case the 'm' suffix is omitted in the output.

`'chord-names-lower-case-minor.ly'`

Dm d

Chord repetition handles `\relative mode`: the repeated chords have the same octaves as the original one.

`'chord-repetition-relative.ly'`



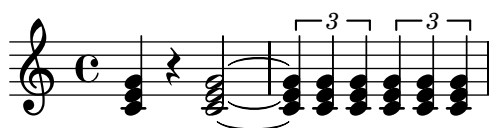
Post events such as fingerings and scripts added to a chord repetition follow the same basic stacking order as chords.

`'chord-repetition-script-stack.ly'`



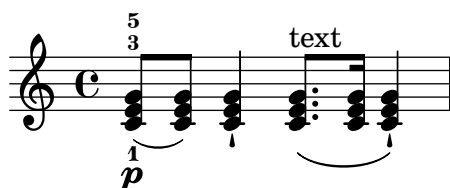
Chord repetitions are expanded late in the processing order and get their note events only then. Check that `\times` still works correctly on them.

`'chord-repetition-times.ly'`



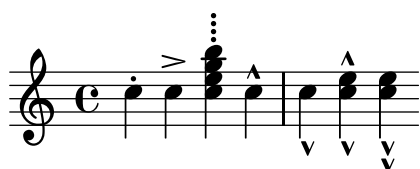
A repetition symbol can be used to repeat the previous chord and save typing. Only note events are copied: articulations, text scripts, fingerings, etc are not repeated.

`'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

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'`



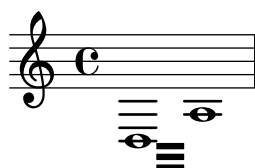
Chord tremolos on a single note.

`'chord-tremolo-single.ly'`



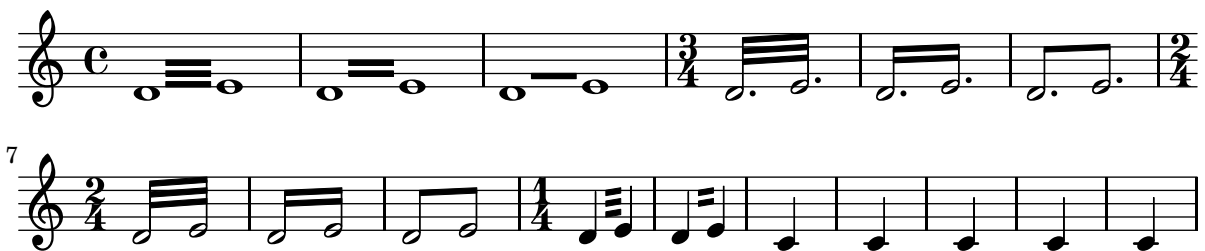
Stem directions influence positioning of whole note tremolo beams.

`'chord-tremolo-stem-direction.ly'`

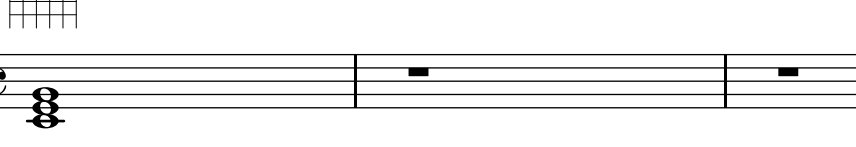


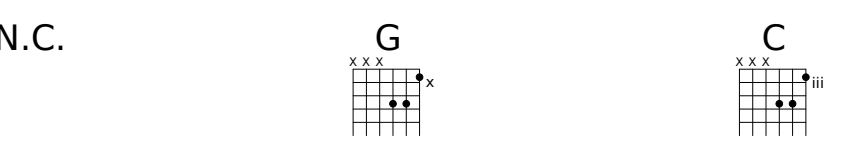
chord tremolos don't collide with whole notes.


'chord-tremolo.ly'

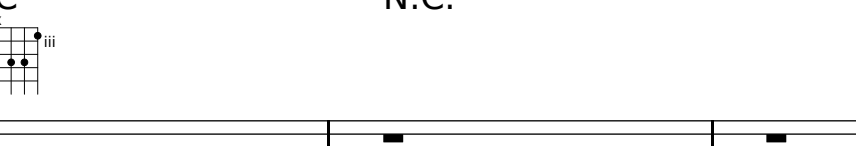


`'chordnames-nochord.ly'`









Jazz chords may have unusual combinations.

`'chords-funky-ignatzek.ly'`

`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.

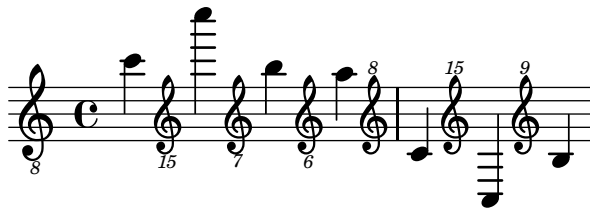
`'chromatic-scales.ly'`

Octavation signs may be added to clefs. By default, their break-visibility 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-oct-visibility.ly'`

Octavation signs may be added to clefs. These octavation signs may be placed below or above (meaning an octave higher or lower), and can take any value, including 15 for two octaves.

`'clef-oct.ly'`



Octavate symbols should be correctly positioned close to the parent clef.

`'clef-octavation.ly'`



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

`'clef-ottava.ly'`



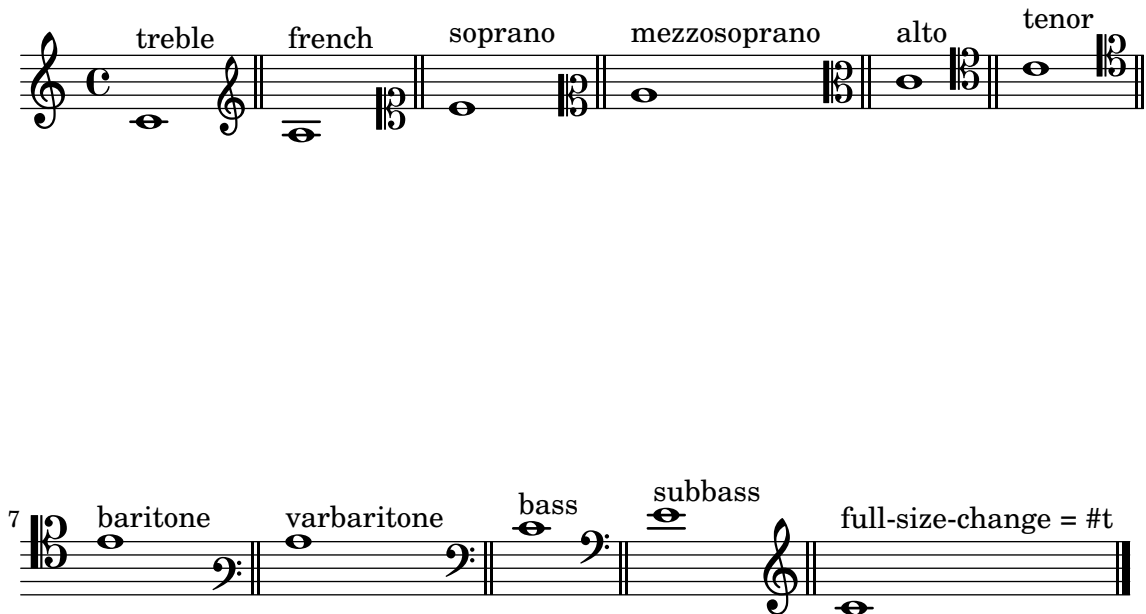
Unknown clef name warning displays available clefs

`'clef-warn.ly'`



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

`'clefs.ly'`



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.

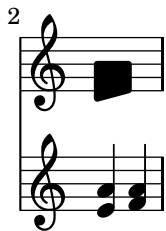
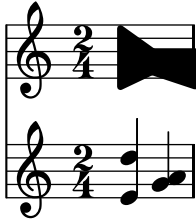
The result will be files named `'base-from-start-to-end[-count].eps'`.

'clip-systems.ly'



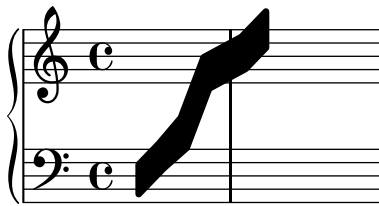
Clusters behave well across line breaks.

`'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'`



Single head notes may collide.

`'collision-2.ly'`



Notes in different staves should be aligned to the left-most note, in case of collisions.

`'collision-alignment.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'`



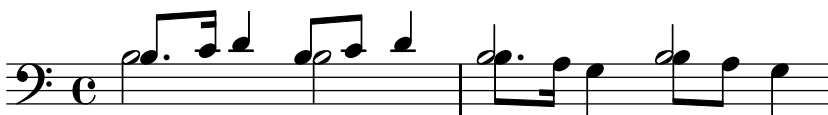
For collisions where the upper note is dotted and in a space, the upper is moved to right. This behavior can be tuned by `prefer-dotted-right`.

`'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'`



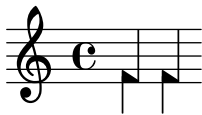
Note heads in collisions should be merged if they have the same positions in the extreme note heads.

`'collision-head-chords.ly'`



The FA note (a triangle) is merged to avoid creating a block-shaped note.

'collision-head-solfa-fa.ly'



Open and black note heads are not merged by default.

`'collision-heads.ly'`



Collision resolution may be forced manually with `force-hshift`.

`'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’



Mixed collisions with whole notes require asymmetric shifts.

‘collision-whole.ly’



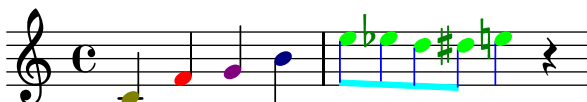
In addition to normal collision rules, there is support for polyphony, where the collisions are avoided by shifting middle voices horizontally.

‘collisions.ly’



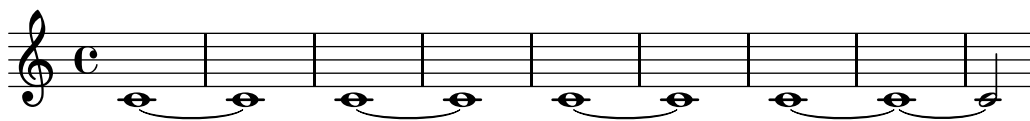
Each grob can have a color assigned to it. Use the \override and \revert expressions to set the color property.

‘color.ly’



If the Note_heads_engraver is replaced by the Completion_heads_engraver, notes with a duration factor still keep their requested appearance.

`'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'`



Complex completion heads work properly in a polyphonic environment.

`'completion-heads-polyphony-2.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'`



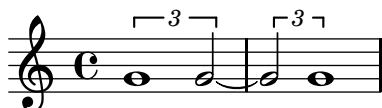
Completion heads will remember ties, so they are started on the last note of the split note.

`'completion-heads-tie.ly'`



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

`'completion-heads-tuplets.ly'`



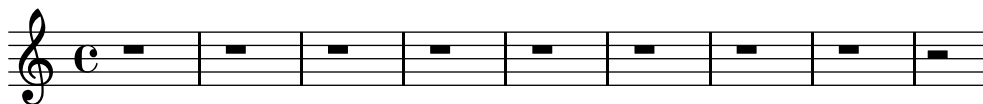
If the `Note_heads_engraver` is replaced by the `Completion_heads_engraver`, notes that cross bar lines are split into tied notes.

`'completion-heads.ly'`



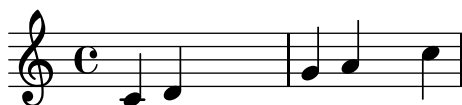
If the `Rest_engraver` is replaced by the `Completion_rest_engraver`, rests with a duration factor still keep their requested appearance.

`'completion-rest.ly'`



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

`'complex-once.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'`



6

7

8

9

11

13

15

a staff should die if there is reference to it.

'context-die-staff.ly'

A musical staff with a treble clef. The note C is written on the first line of the staff. Below the staff, there are four vertical lines of varying heights, representing the four lines of the staff.

$$^2 \quad \text{---} \text{c} \text{---} \text{o} \text{---} |$$

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'`

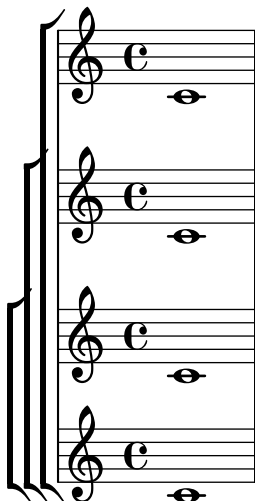
Context modifications can be stored into a variable as a `\with` object. They can be later inserted into another `\with` block.

`'context-mod-with.ly'`



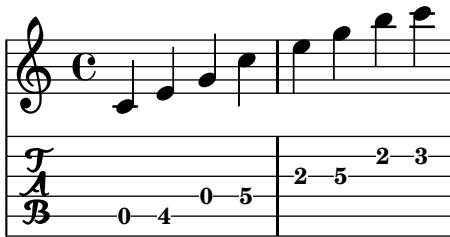
Contexts of the same type can be nested.

`'context-nested-staffgroup.ly'`



Using `\contextStringTuning` does not break compiling.

‘context-string-tuning.ly’



‘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



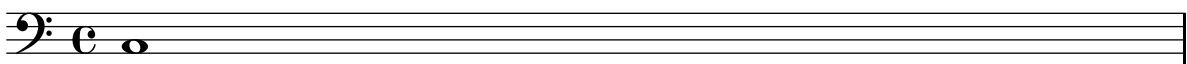
‘cue-clef-manually.ly’



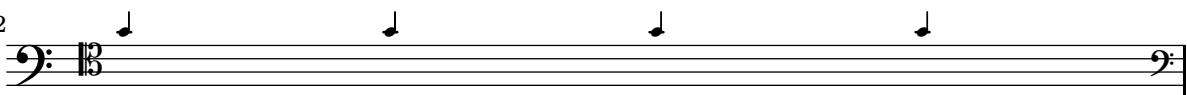
Clefs for cue notes and line breaks. If the cue notes start in a new line, the cue clef should not be printed at the end of the previous line. Similarly, an end clef for cue notes ending at a line break should only be printed at the end of the line.

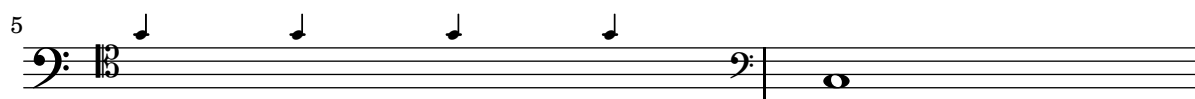
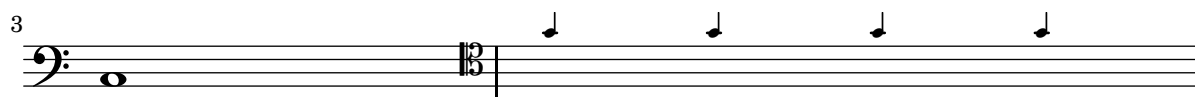
Cue notes going over a line break should print the standard clef on the new line plus an additional cue clef after the time/key signature.

‘cue-clef-new-line.ly’



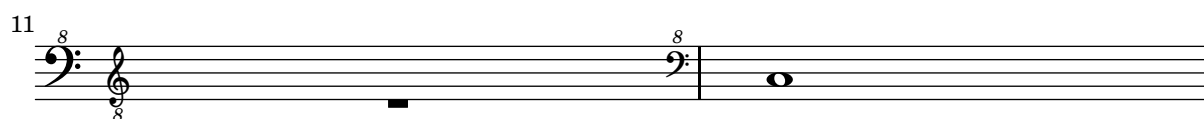
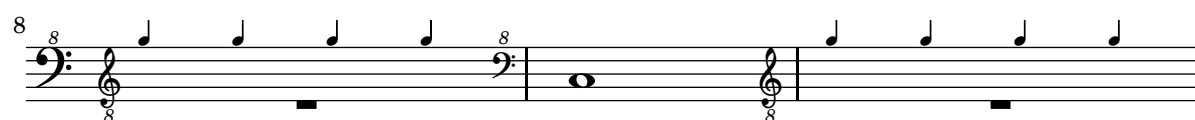
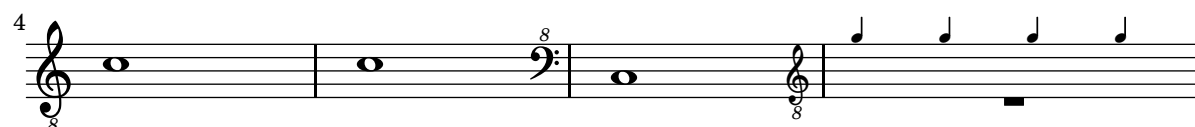
2





Octavation for clefs for cue notes.

'cue-clef-octavation.ly'



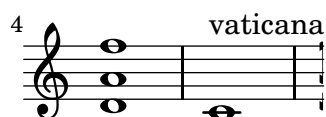
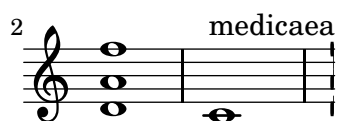
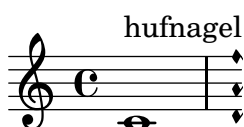
Clefs for cue notes: Print a cue clef at the begin of the cue notes and a canceling clef after the cue notes.

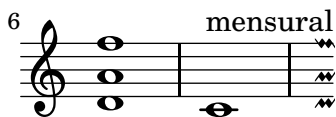
'cue-clef.ly'



Custodes may be engraved in various styles.

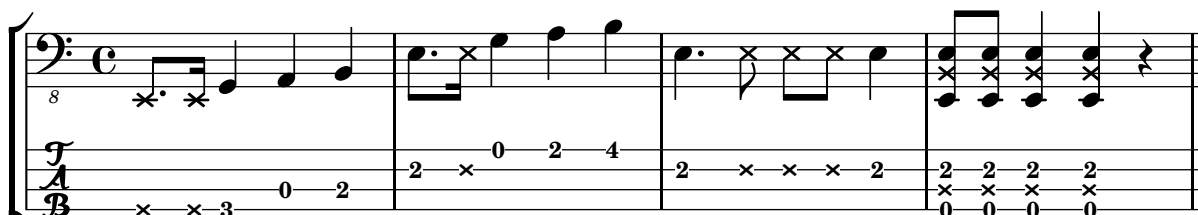
'custos.ly'





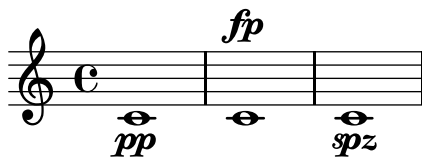
Muted notes (also called dead notes) are supported within normal staves and tablature.

‘dead-notes.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’



This is a test of the `display-lily-music` unit. Problems are reported on the stderr of this run.

‘display-lily-tests.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 :



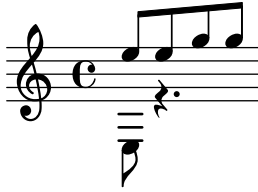
Dots and note-heads should not collide.

‘dot-column-note-collision.ly’



Dot columns do not trigger beam slanting too early.

`'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'`



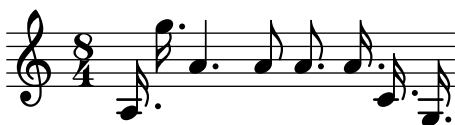
The `dot-count` property for Dots can be modified by the user.

`'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'`



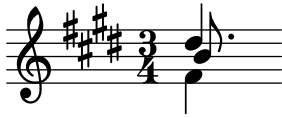
The dots on a dotted rest are correctly accounted for in horizontal spacing.

`'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'`

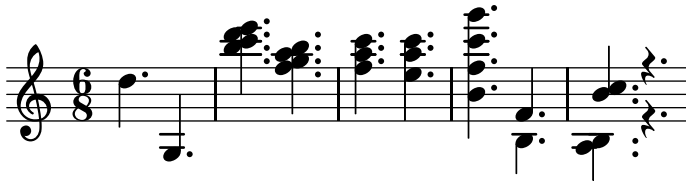


Both noteheads and rests can have dots. Augmentation dots should never be printed on a staff line, but rather be shifted vertically. They should go up, but in case of multiple parts, the down stems have down shifted dots. In case of chords, all dots should be in a column. The dots follow the shift of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

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

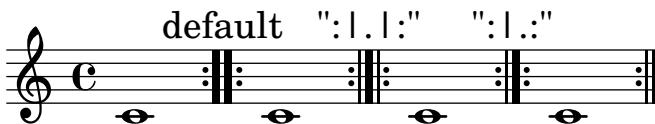
- keeping dots off staff lines,
- keeping dots close to their note heads,
- moving dots in the direction specified by the voice,
- moving dots up.

`'dots.ly'`



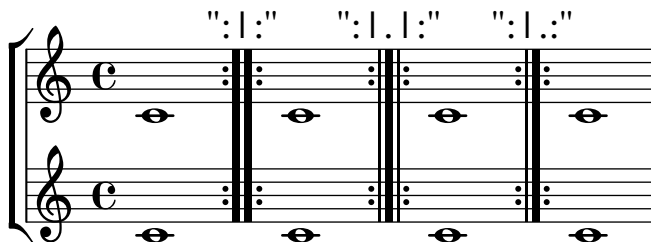
For volte, the style of double repeats can be set using `doubleRepeatType`.

`'double-repeat-default-volta.ly'`



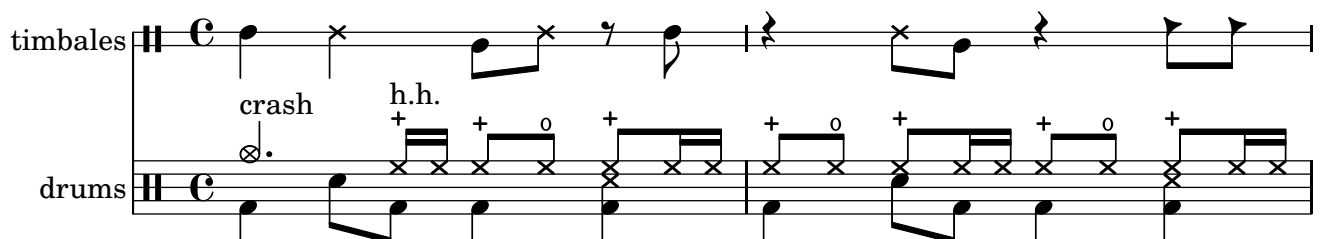
Three types of double repeat bar line are supported.

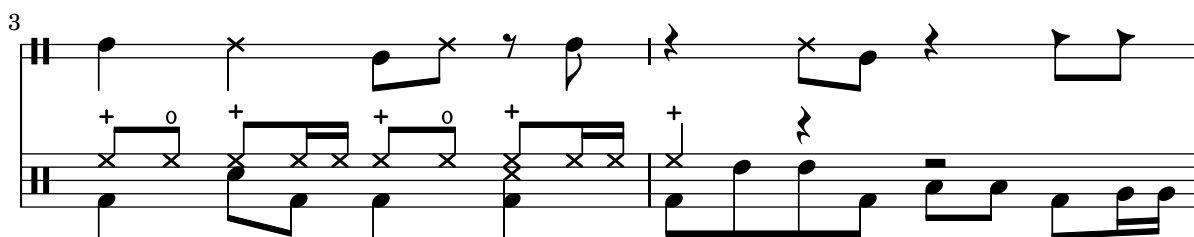
`'double-repeat.ly'`



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'`





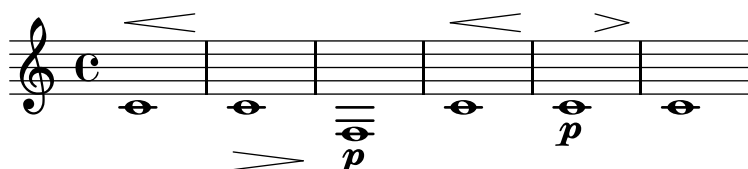
The compression factor of a duration identifier is correctly accounted for by the parser.

‘duration-identifier-compressed.ly’



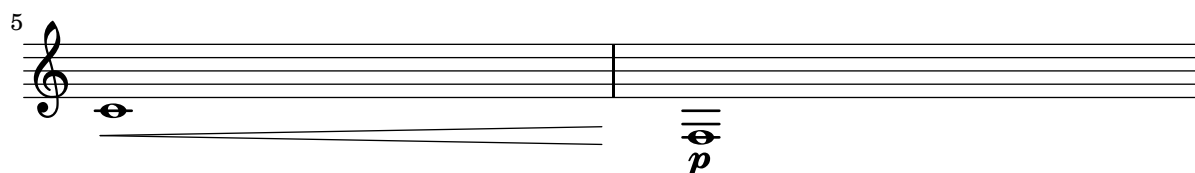
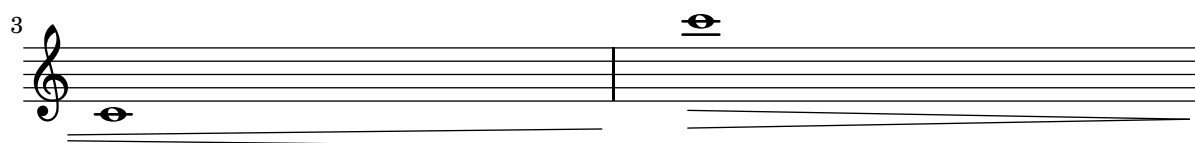
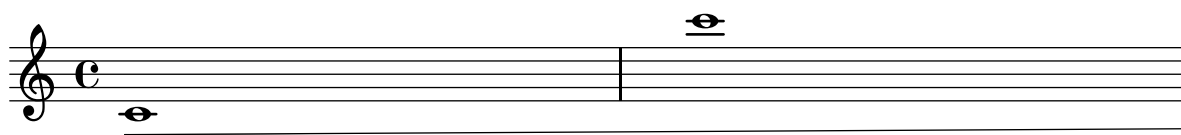
If a dynamic has an explicit direction that differs from the dynamic line spanner’s direction, automatically break the dynamic line spanner.

‘dynamics-alignment-autobreak.ly’



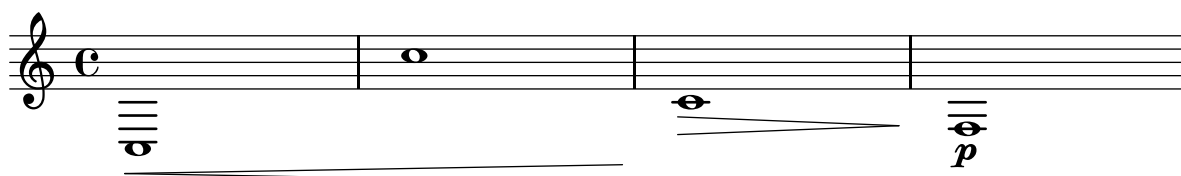
\breakDynamicSpan shall also work if a dynamic spanner crosses a line break.

‘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.

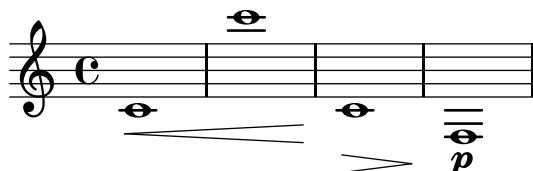
‘dynamics-alignment-breaker-order.ly’





`\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'`



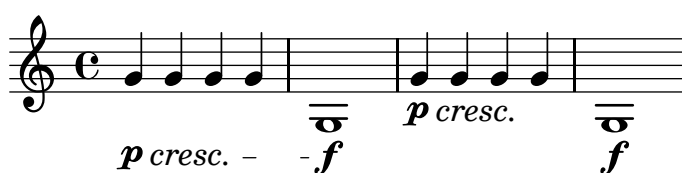
Setting the style of a `DynamicTextSpanner` to `'none` to hide the line altogether should also work over line breaks.

`'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'`



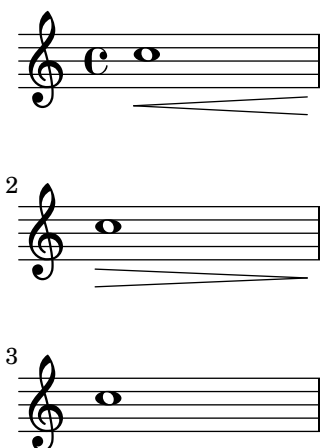
LilyPond automatically shifts dynamics that collide with cross-staff stems when manual beams are used.

`'dynamics-avoid-cross-staff-stem.ly'`



Broken crescendi should be open on one side.

`'dynamics-broken-hairpin.ly'`



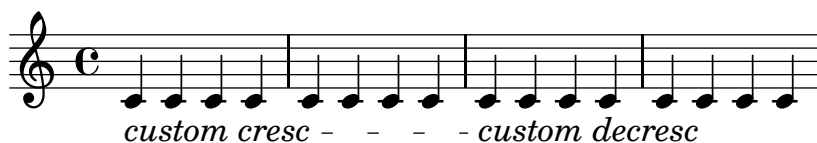
Text spanners work in the Dynamics context.

`'dynamics-context-textspan.ly'`



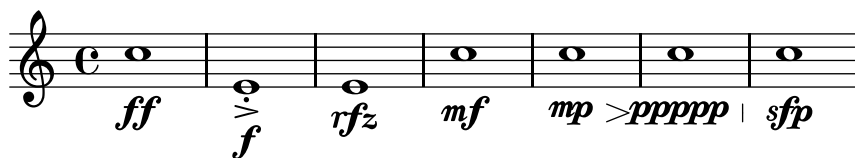
Postfix functions for custom crescendo text spanners. The spanners should start on the first note of the measure. One has to use `-\mycresc`, otherwise the spanner start will rather be assigned to the next note.

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



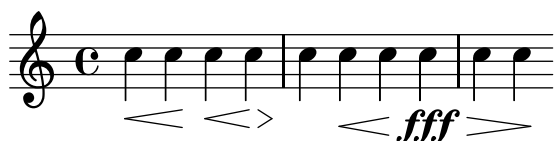
Dynamic letters are kerned, and their weight matches that of the hairpin signs. The dynamic scripts should be horizontally centered on the note head. Scripts that should appear closer to the note head (staccato, accent) are reckoned with.

‘dynamics-glyphs.ly’



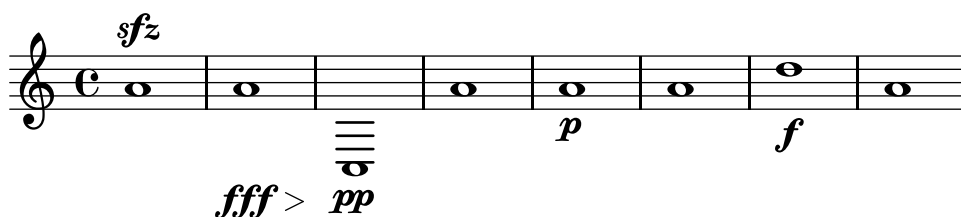
Hairpins extend to the extremes of the bound if there is no adjacent hairpin or dynamic-text. If there is, the hairpin extends to the center of the column or the bound of the text respectively.

‘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’



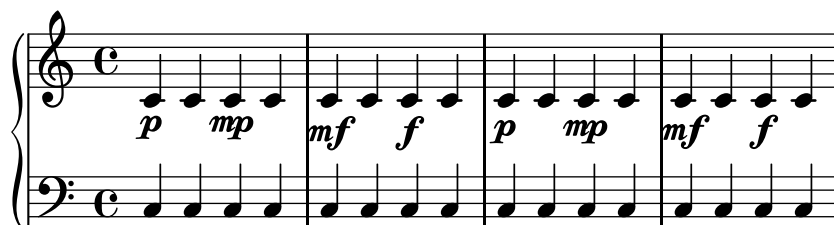
Text dynamics are positioned correctly on rests, i.e., centered on the parent object.

‘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'



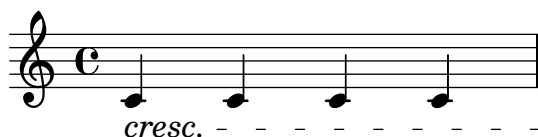
left attach dir for text crescendi starting on an absolute dynamic is changed, so cresc. and the absolute dynamic don't overstrike.

'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'



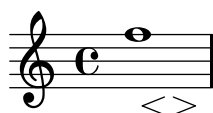
The \cresc, \dim and \decresc spanners are now postfix operators and produce one text spanner. Defining custom spanners is also easy. Hairpin and text crescendi can be easily mixed. \< and \> produce hairpins by default, \cresc etc. produce text spanners by default.

'dynamics-text-spanner-postfix.ly'



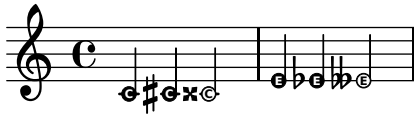
Crescendi may start off-notes, however, they should not collapse into flat lines.

'dynamics-unbound-hairpin.ly'



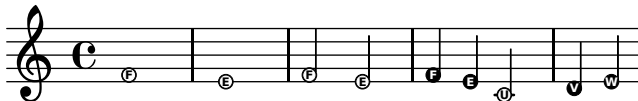
Accidentals are positioned correctly when using Easy notation.

‘easy-notation-accidentals.ly’



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

‘easy-notation.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

violin-1

$\text{♩} = 96$

f *p* *mp* *p*

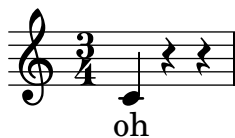
mf *mp* *tip* *mb* $\text{♩} = 120$ *pizz.* *mf*

$\text{♩} = 88$ *lh arco* *p* *f* *III* *II II II II II II*

A complex musical score for violin-1, showing multiple staves with various musical notations including dynamics, articulation, and tempo changes. The score is divided into three systems. The first system starts with a treble clef, a key signature of two sharps (F# and C#), and a common time signature 'C'. It includes a tempo marking '♩ = 96' and dynamics like 'f', 'p', 'mp', and 'p'. The second system starts with a measure rest '5' and includes dynamics like 'mf', 'mp', 'tip', 'mb', a tempo change to '♩ = 120', and 'pizz.'. The third system starts with a measure rest '9' and includes dynamics like 'mp', 'p', 'f', 'lh arco', and 'p'. It also features a 'III' articulation and a series of 'II' articulations.

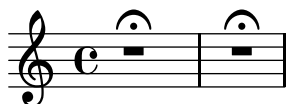
A mode switching command like `\lyricsto` will ‘pop state’ when seeing the lookahead token `\time`, a music function, after its non-delimited argument. This must not cause the extra token parsing state for the music function to disappear.

‘extratoken.ly’



Fermatas over multimeasure rests are positioned as over normal rests.

‘fermata-rest-position.ly’



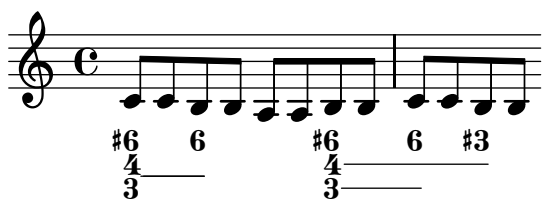
Bass figures can carry alterations.

‘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’



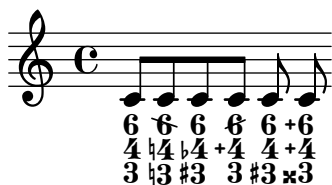
By adorning a bass figure with \!, an extender may be forbidden.

‘figured-bass-continuation-forbid.ly’



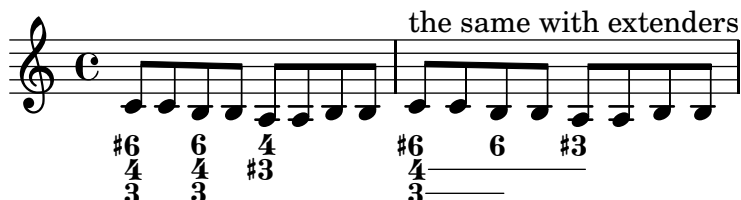
Figured bass extender lines shall be broken when a figure has a different alteration, augmentation or diminishment.

‘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.

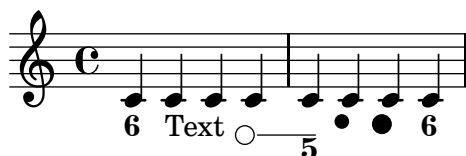
`'figured-bass-durations.ly'`



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-extendere-markup.ly'`



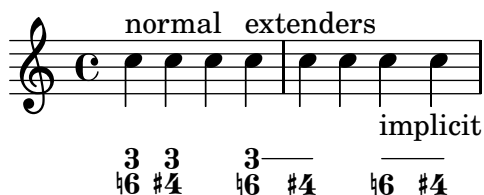
When figures appear inside a voice, `ignoreFiguredBassRest` causes all figures on rests to be discarded and all spanners ended. If set to `#f`, figures on rests are printed.

`'figured-bass-ignore-rest.ly'`



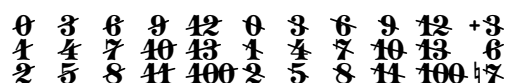
Implicit bass figures are not printed, but they do get extenders.

`'figured-bass-implicit.ly'`

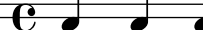


Figured bass supports numbers with slashes through them.

`'figured-bass-slashed-numbers.ly'`



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



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'`



Scripts left of a chord avoid accidentals.

`'finger-chords-accidental.ly'`



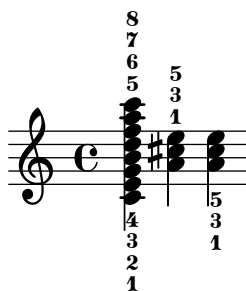
Scripts right of a chord avoid dots.

`'finger-chords-dot.ly'`



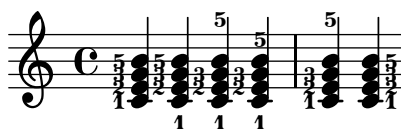
Ordering of the fingerings depends on vertical ordering of the notes, and is independent of up/down direction.

`'finger-chords-order.ly'`



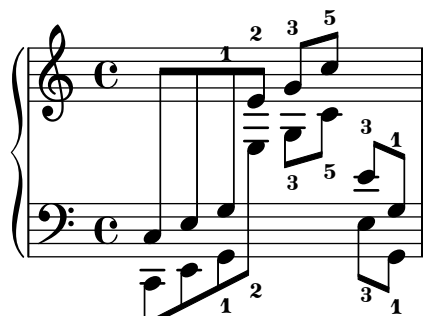
It is possible to associate fingerings uniquely with notes. This makes it possible to add horizontal fingerings to notes.

`'finger-chords.ly'`



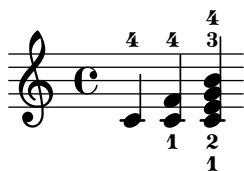
Fingerings work correctly with cross-staff beams.

`'fingering-cross-staff.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'`



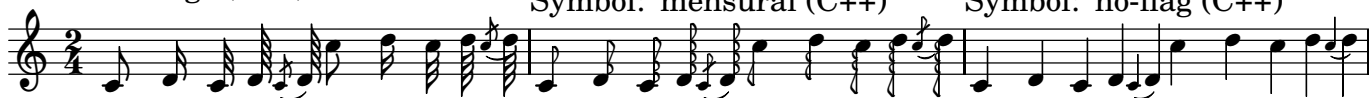
Default flag styles: '(), 'mensural and 'no-flag. Compare all three methods to print them:
(1) C++ default implementation, (2) Scheme implementation using the 'style grob property and
(3) setting the 'flag property explicitly to the desired Scheme function. All three systems should
be absolutely identical.

`'flags-default.ly'`

Default flags (C++)

Symbol: 'mensural (C++)

Symbol: 'no-flag (C++)

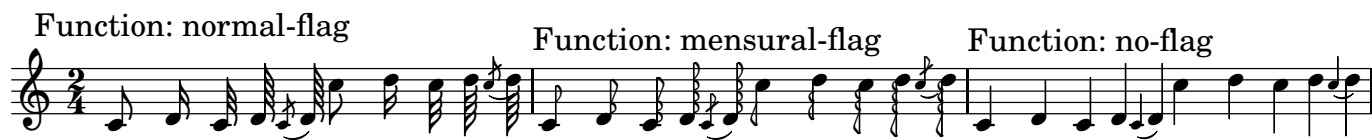


Default flags (Scheme)

Symbol: 'mensural (Scheme)

Symbol: 'no-flag (Scheme)





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'



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

'flags-straight-stockhausen-boulez.ly'



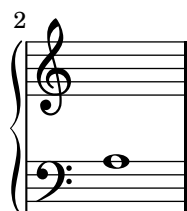
Straight flag styles.

'flags-straight.ly'



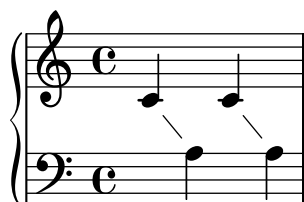
The line-spanners connects to the Y position of the note on the next line. When put across line breaks, only the part before the line break is printed.

'follow-voice-break.ly'



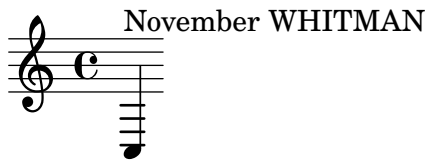
The voice follower is not confused when set for consecutive sets of staff switches.

'follow-voice-consecutive.ly'



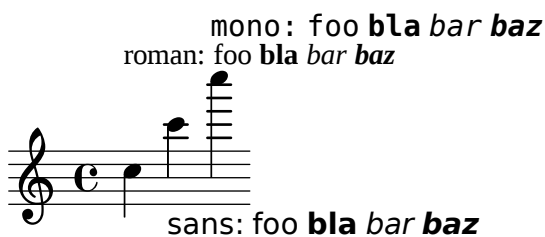
TM and No should not be changed into trademark/number symbols. This may happen with incorrect font versions.

`'font-bogus-ligature.ly'`



The default font families for text can be overridden with `make-pango-font-tree`

`'font-family-override.ly'`



Text set in TrueType Fonts that contain kerning tables, are kerned.

`'font-kern.ly'`

With kerning:

VAVAVA
VAVAVA

Without kerning:

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

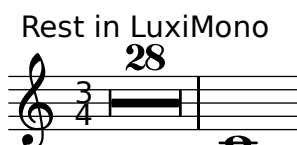
Note that 'the same font size' is related to what lilypond reports on the console if in verbose mode (3.865234375 units for this regression test). If you actually look at the two fonts the optical size differs enormously.

`'font-name-font-size.ly'`

`pfsmpfsm`

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'`



This text is in large Vera Bold

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

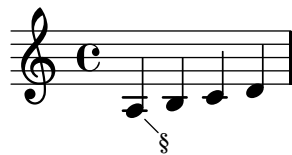
‘font-postscript.ly’



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.

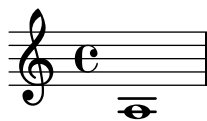
‘footnote-auto-numbering-page-reset.ly’

a b* d† f‡
h i



*c
†e
‡g
§j

2
k l*

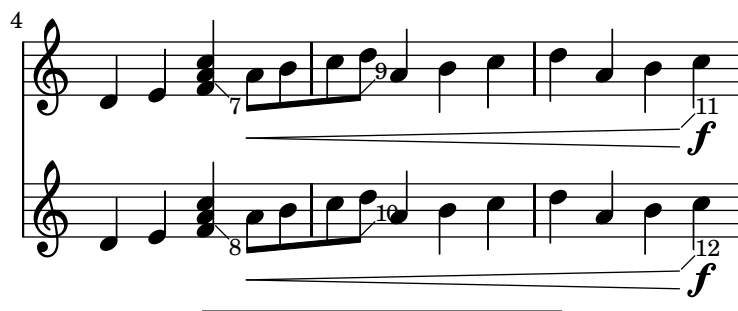
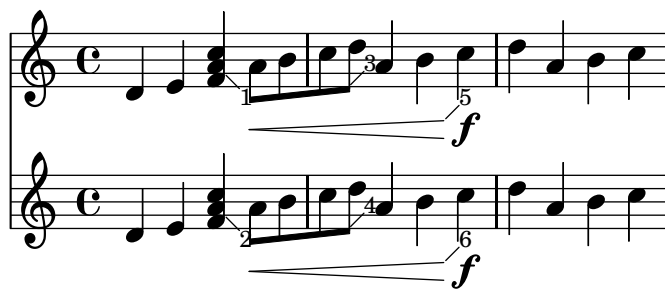


*m
†n
‡o
§p

Music engraving by LilyPond 2.15.36—www.lilypond.org

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

‘footnote-auto-numbering-vertical-order.ly’



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

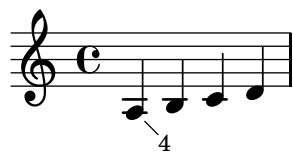


13n
 14n
 15o
 16o
 17p
 18p
 Music engraving by LilyPond 2.15.36—www.lilypond.org

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.

'footnote-auto-numbering.ly'

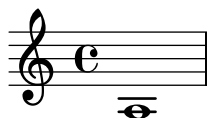
a b¹ d² f³
h i



1c
2e
3g
4j



2
k 15

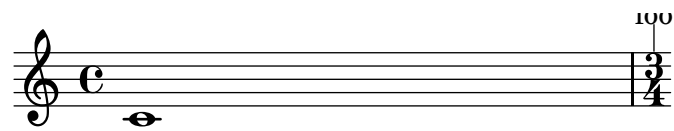


5m
6n
7o
8p

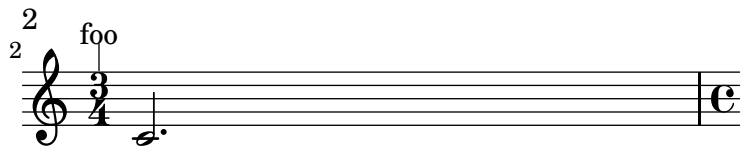
Music engraving by LilyPond 2.15.36—www.lilypond.org

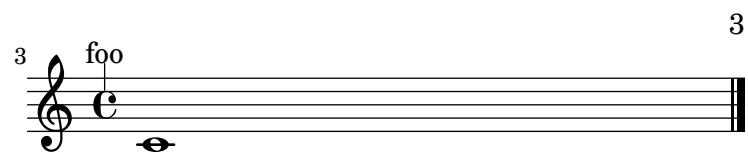
With grobs that have break visibility, footnotes will automatically take the break visibility of the grob being footnoted. This behavior can be overridden.

‘footnote-break-visibility.ly’



bar
bar

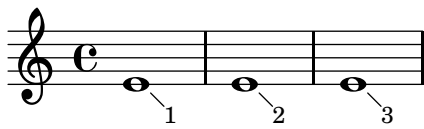




Music engraving by LilyPond 2.15.36—www.lilypond.org

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

‘footnote-footer-padding.ly’



1. Tiny space below.

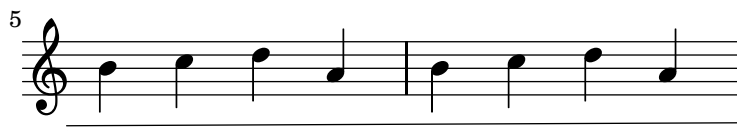
2. Tiny space below.

3. Big space below.

Music engraving by LilyPond 2.15.36—www.lilypond.org

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.

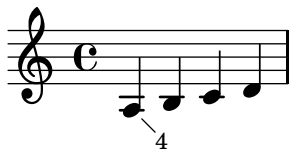




2. Goes to the last broken spanner.
Music engraving by LilyPond 2.15.36—www.lilypond.org

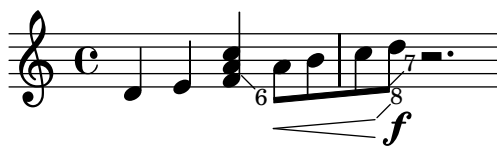
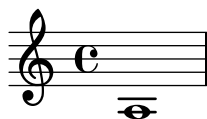
‘footnote.ly’

a¹ b² d³ f³
h i



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

2
kl⁵

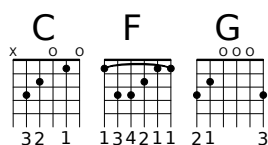


5. m
6. n
7. o
8. p

Music engraving by LilyPond 2.15.36—www.lilypond.org

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

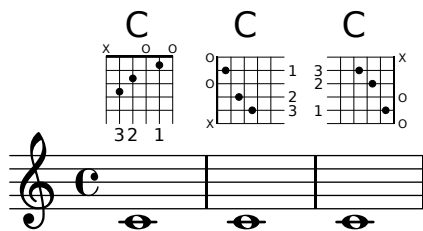
‘fret-boards.ly’

autofrets



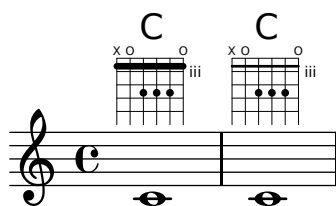
Fret diagrams of different orientation should share a common origin of the topmost fret or string.

`'fret-diagram-origins.ly'`



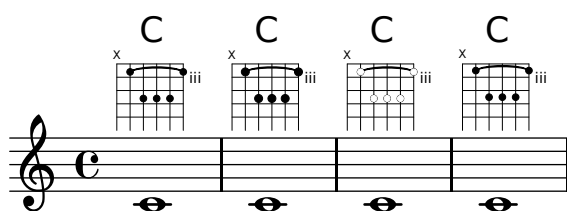
A capo indicator can be added with a fret-diagram-verbose string, and its thickness can be changed.

`'fret-diagrams-capo.ly'`



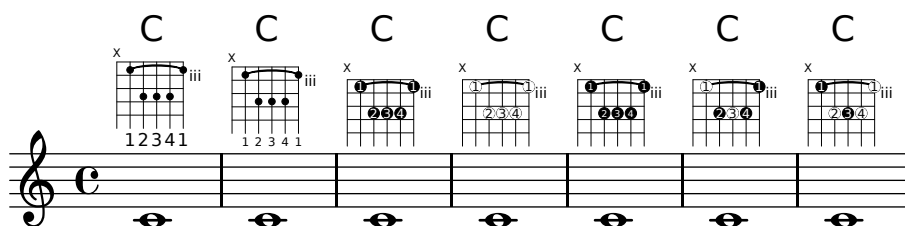
Dots indicating fingerings can be changed in location, size, and coloring.

`'fret-diagrams-dots.ly'`



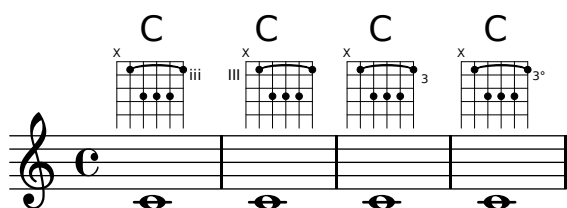
Finger labels can be added, either in dots or below strings. Dot color can be changed globally or on a per-dot basis, and fingering label font size can be adjusted.

`'fret-diagrams-fingering.ly'`



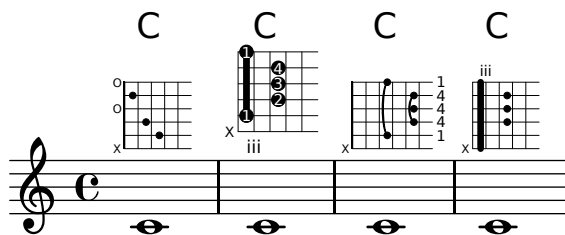
The label for the lowest fret can be changed in location, size, and number type.

`'fret-diagrams-fret-label.ly'`



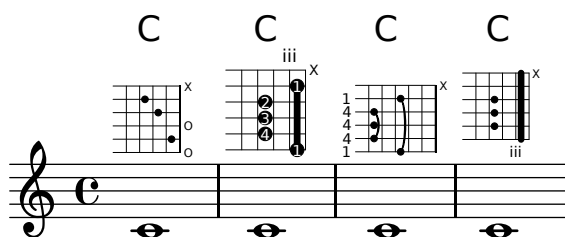
Fret diagrams can be presented in landscape mode.

‘fret-diagrams-landscape.ly’



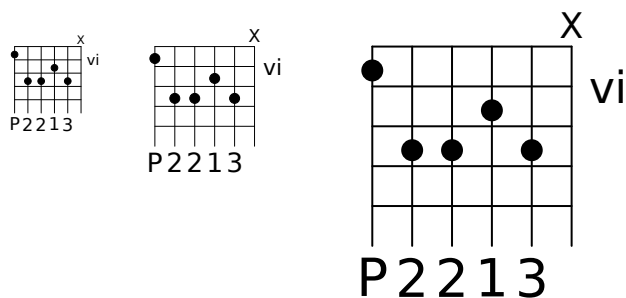
Fret diagrams can be presented in landscape mode.

‘fret-diagrams-opposing-landscape.ly’



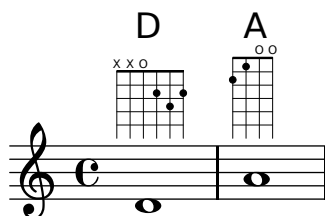
Fret diagrams can be scaled using the **size** property. The position and size of first fret label, mute/open signs, fingers, relative to the diagram grid, shall be the same in all cases.

‘fret-diagrams-size.ly’



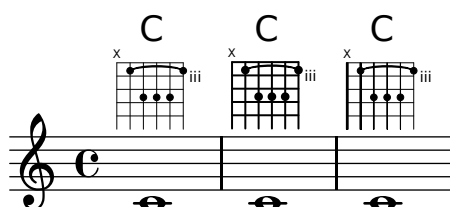
Number of frets and number of strings can be changed from the defaults.

‘fret-diagrams-string-frets.ly’



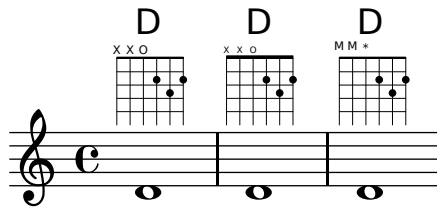
String thickness can be changed, and diagrams can have variable string thickness.

‘fret-diagrams-string-thickness.ly’



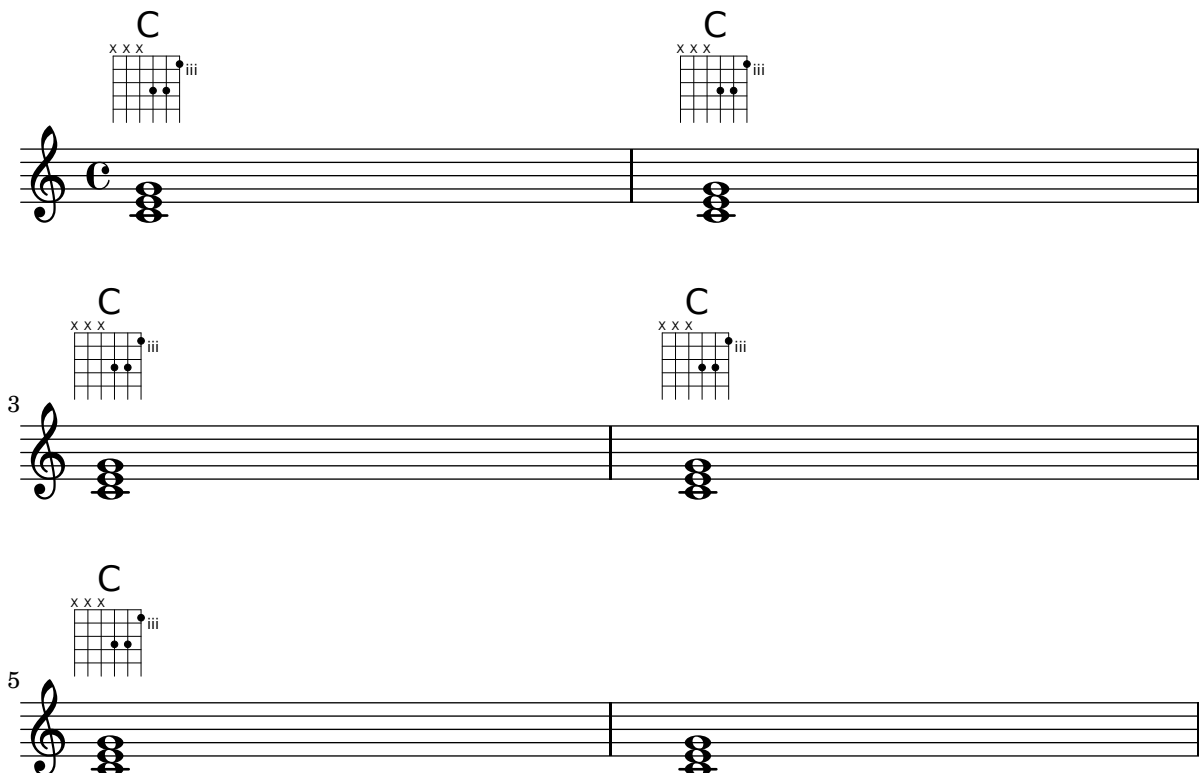
The size, spacing, and symbols used to indicate open and muted strings can be changed.

`'fret-diagrams-xo-label.ly'`



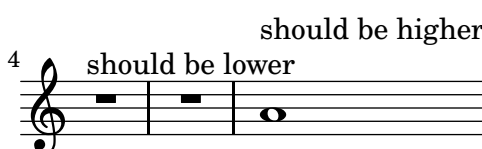
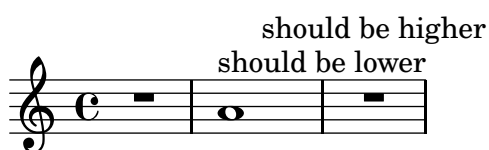
FretBoards can be set to display only when the chord changes or at the beginning of a new line.

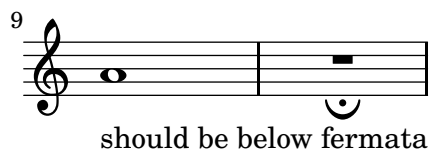
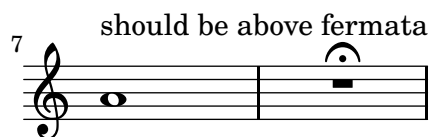
`'fretboard-chordchanges.ly'`



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.

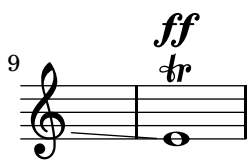
`'glissando-accidental.ly'`



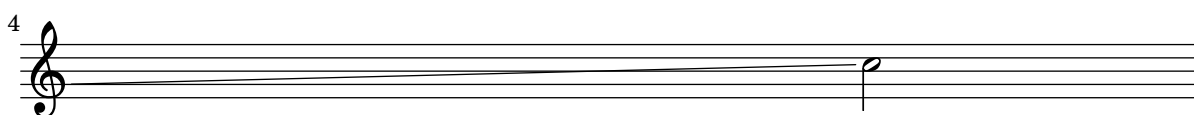
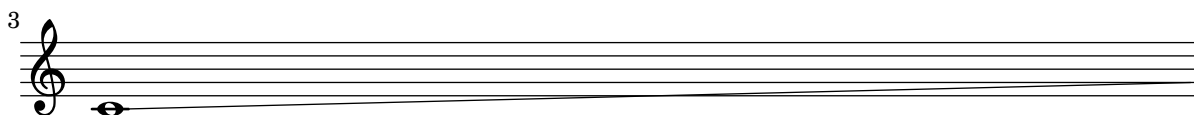
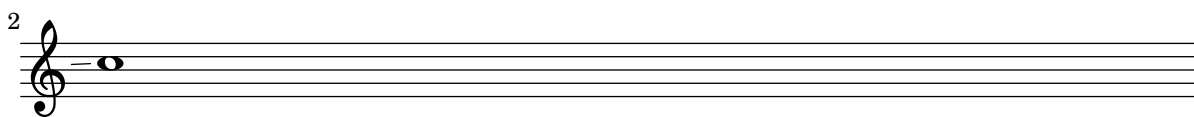
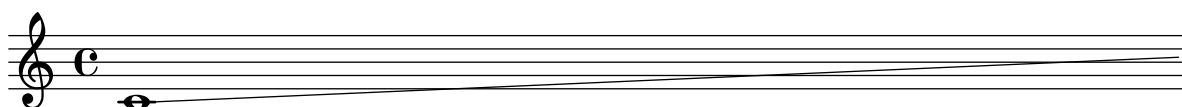
When broken, glissandi can span multiple lines.

`'glissando-broken-multiple.ly'`





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



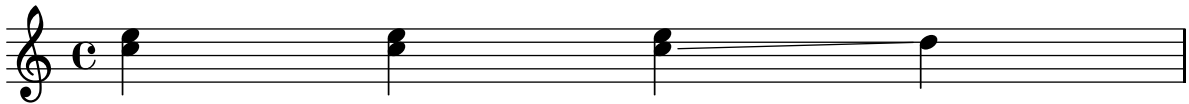
If broken, Glissandi anticipate on the pitch of the next line.
 'glissando-broken.ly'





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'`



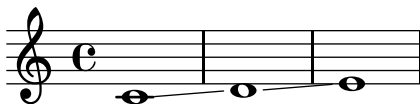
LilyPond typesets glissandi between chords.

`'glissando-chord.ly'`



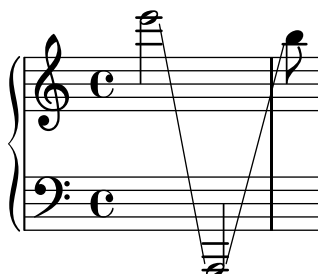
Lilypond prints consecutive glissandi.

`'glissando-consecutive.ly'`



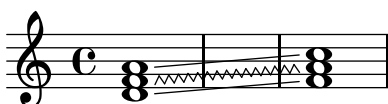
Cross staff glissandi reach their endpoints correctly.

`'glissando-cross-staff.ly'`



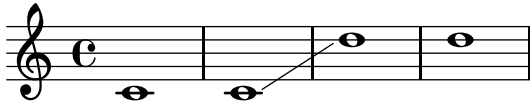
Individual glissandi within a chord can be tweaked.

`'glissando-index.ly'`



Glissandi are not broken. Here a `\break` is ineffective. Use `breakable` grob property to override.

`'glissando-no-break.ly'`



NoteColumn grobs can be skipped over by glissandi.

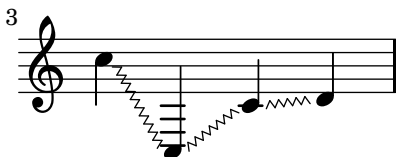
`'glissando-skip.ly'`



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'`



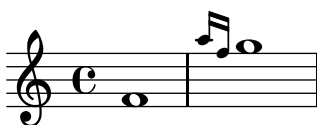
The autobeamer is not confused by grace notes.

`'grace-auto-beam.ly'`



Bar line should come before the grace note.

`'grace-bar-line.ly'`



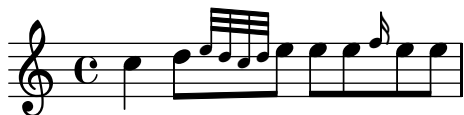
Grace notes do tricky things with timing. If a measure starts with a grace note, the measure does not start at 0, but earlier. Nevertheless, lily should not get confused. For example, line breaks should be possible at grace notes, and the bar number should be printed correctly.

`'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-2.ly'`



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

`'grace-end.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'`



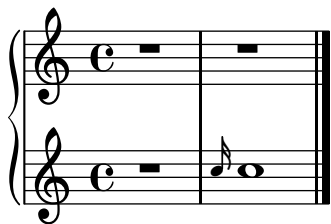
Create grace notes with slashed stem, but no slur. That can be used when the grace note is tied to the next note.

`'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’



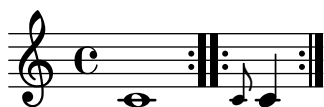
When grace notes are entered with unfolded repeats, line breaks take place before grace notes.

‘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-2.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’

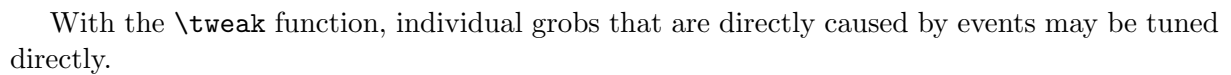


The graphviz feature draws dependency graphs for grob properties.

`'graphviz.ly'`



`'grid-lines.ly'`



If a hairpin ends on the first note of a new stave, 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.

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

9



Measure 9 contains three whole notes: G4, A4, and B4.



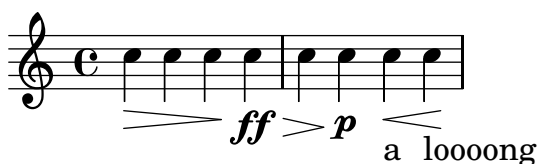
Hairpin crescendi may be dashed.

`'hairpin-dashed.ly'`



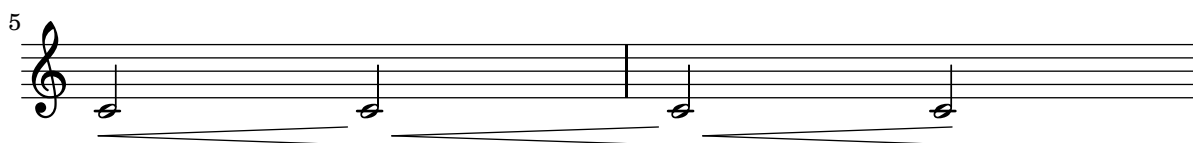
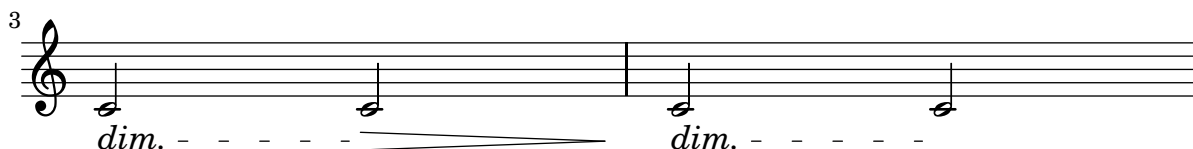
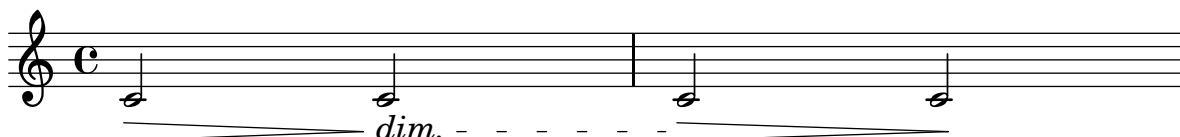
Hairpin dynamics start under notes if there are no text-dynamics. If there are text dynamics, the hairpin does not run into them.

`'hairpin-ending.ly'`



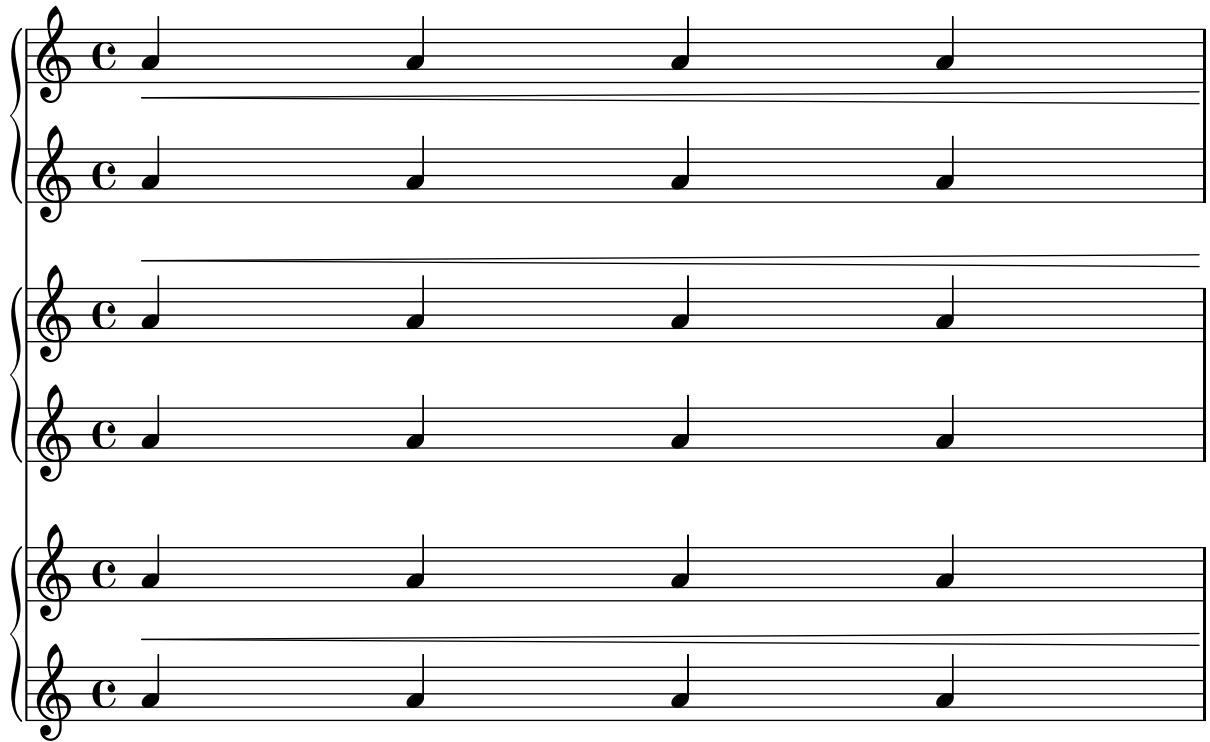
Bound padding for hairpins also applies before following `DynamicTextSpanner` grobs. In this case, bound-padding is not scaled down.

`'hairpin-neighboring-span-dynamics.ly'`



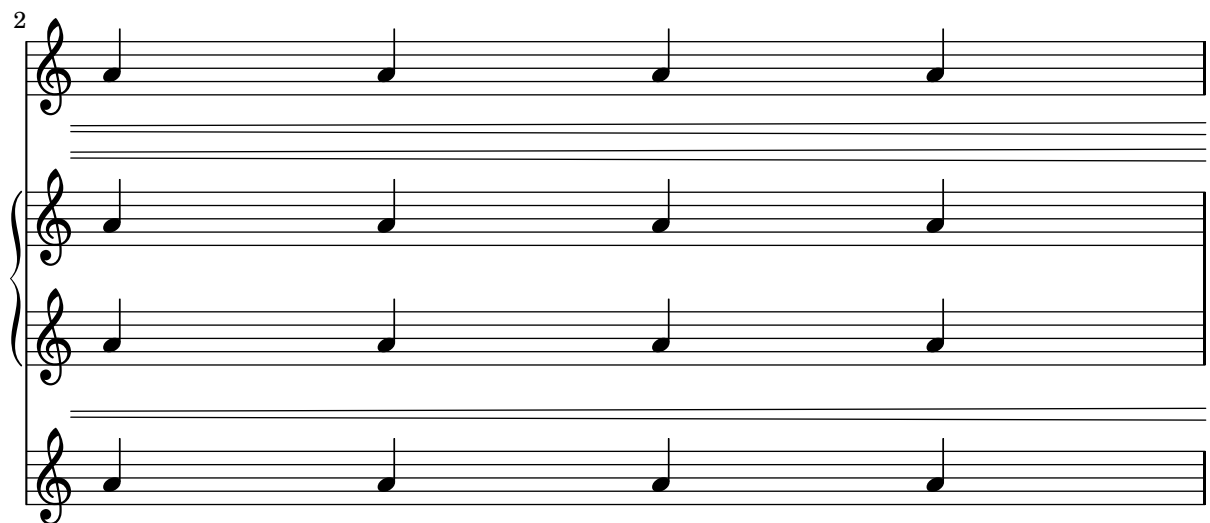
Hairpin grobs do not collide with `SpanBar` grobs. Hairpin grobs should, however, go to the end of a line when the `SpanBar` is not present.

'hairpin-span-bar.ly'

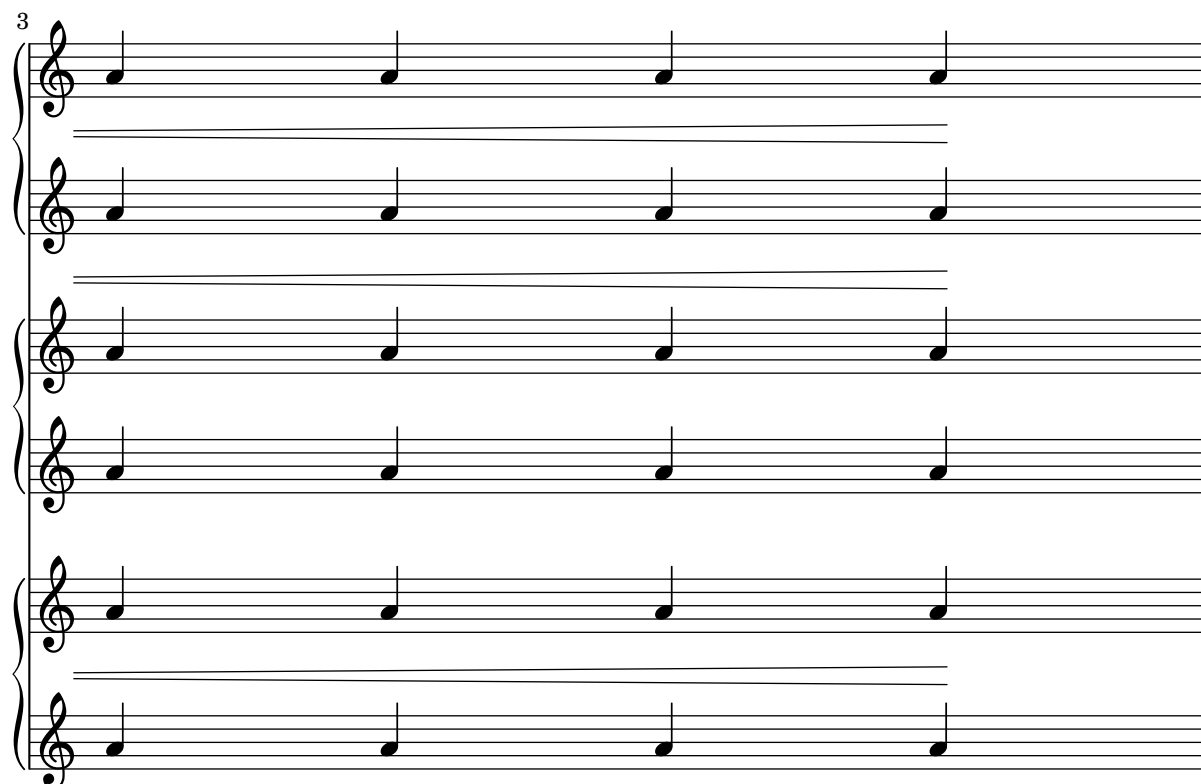


A musical score system consisting of four staves. The first two staves are grouped by a brace on the left and contain a treble clef and a common time signature 'C'. The next two staves are also grouped by a brace on the left and contain a treble clef and a common time signature 'C'. Each staff contains four quarter notes, all positioned on the second line of the staff (F4).

2



A musical score system consisting of four staves. The first two staves are grouped by a brace on the left and contain a treble clef. The next two staves are also grouped by a brace on the left and contain a treble clef. Each staff contains four quarter notes, all positioned on the second line of the staff (F4).



'to-barline is not confused by very long marks.

'hairpin-to-barline-mark.ly'



Hairpins whose end note is preceded by a bar line should end at that bar line.

'hairpin-to-barline.ly'



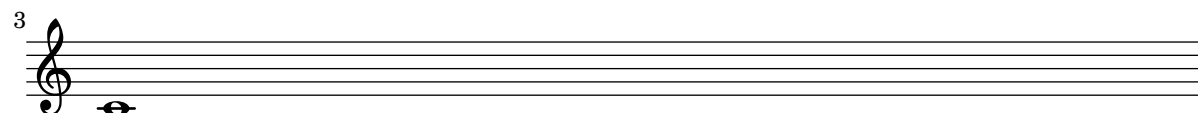
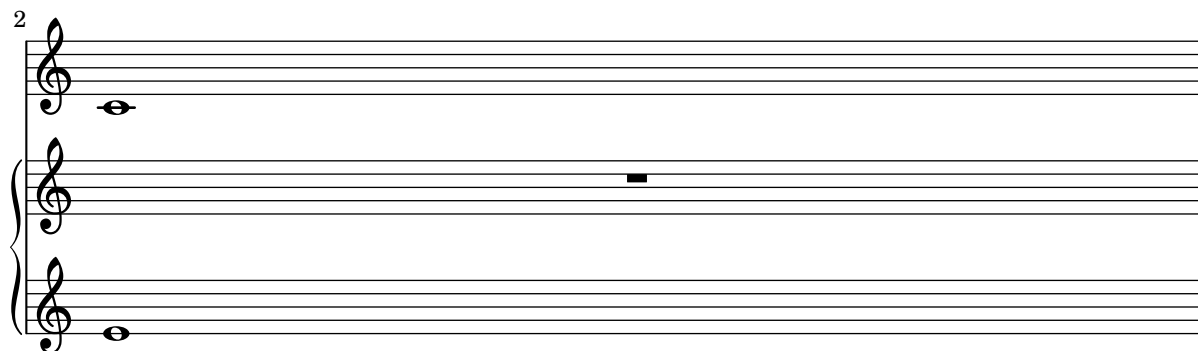
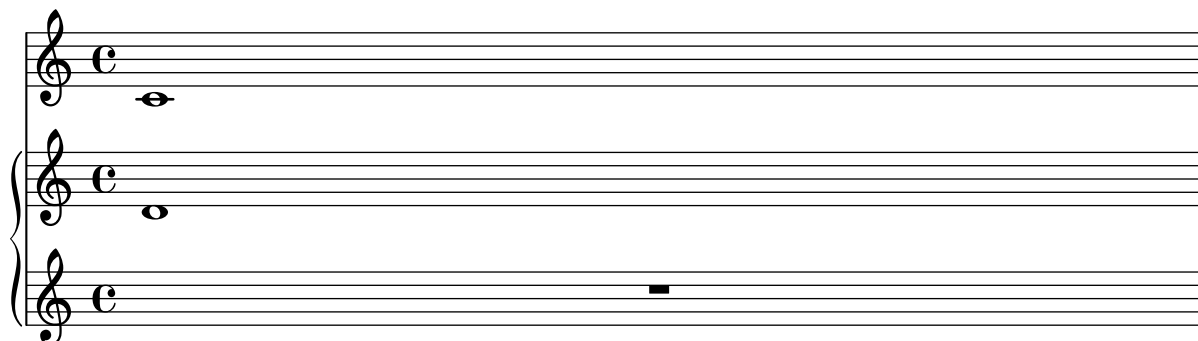
Hairpins end at the left edge of a rest.

'hairpin-to-rest.ly'



Staves in a PianoStaff remain alive as long as any of the staves has something interesting.

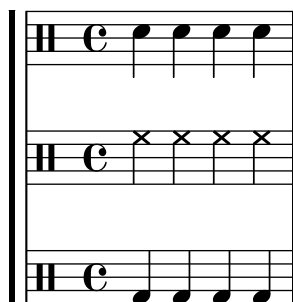
`'hara-kiri-alive-with.ly'`

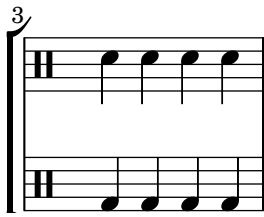


Hara-kiri staves are suppressed if they are empty. This example really contains three drum staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered 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'`



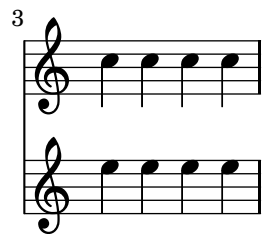


Inserting the harakiri settings globally into the Staff context should not erase previous settings to the Staff context.

`'hara-kiri-keep-previous-settings.ly'`



2



2

3

Two staves of music. The top staff contains four eighth notes, and the bottom staff also contains four eighth notes. Both staves are part of a measure indicated by a brace on the left.

4

A single staff of music containing four eighth notes. It is part of a measure indicated by a brace on the left.

Staves, RhythmicStaves, TabStaves and DrumStaves with percent repeats are not suppressed.
 ‘hara-kiri-percent-repeat.ly’

The first system of the musical score consists of five staves. The top staff is a treble clef with a common time signature 'C' and a whole note. The second staff is a treble clef with a common time signature 'C' and a half note. The third staff is a bass clef with a common time signature 'C' and a triplet of eighth notes. The fourth staff is a bass clef with a common time signature 'C' and a whole note. The fifth staff is a bass clef with a common time signature 'C' and a whole note. Each staff has a repeat sign at the end of the measure.

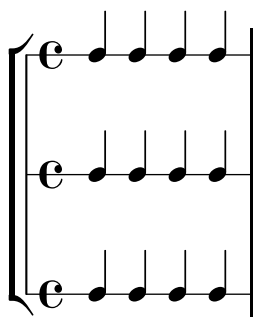
3

The second system of the musical score consists of five staves. The top staff is a treble clef with a common time signature 'C' and a whole note. The second staff is a treble clef with a common time signature 'C' and a half note. The third staff is a bass clef with a common time signature 'C' and a triplet of eighth notes. The fourth staff is a bass clef with a common time signature 'C' and a whole note. The fifth staff is a bass clef with a common time signature 'C' and a whole note. Each staff has a repeat sign at the end of the measure.

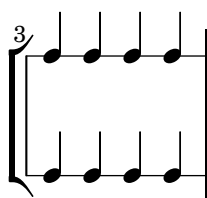
Hara-kiri staves are suppressed if they are empty. This example really contains three rhythmic staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered 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.

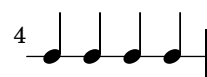
`'hara-kiri-rhythmicstaff.ly'`



2



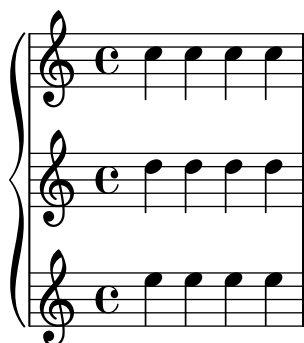
4



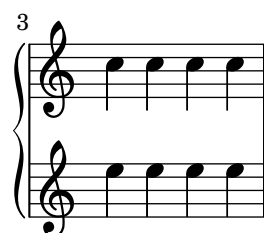
Hara-kiri staves kill themselves if they are empty. This example really contains three staves, but as they progress, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered 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'`



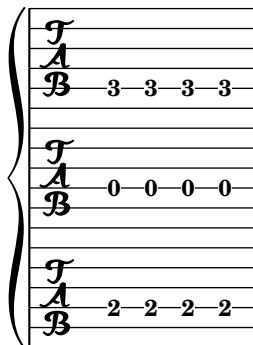
Verse 2.



bla bla

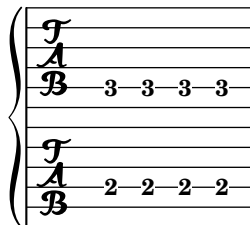
Hara-kiri staves are suppressed if they are empty. This example really contains three tab staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

`'hara-kiri-tabstaff.ly'`

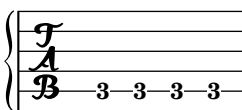


2

3

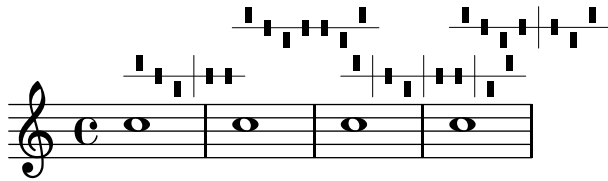


4



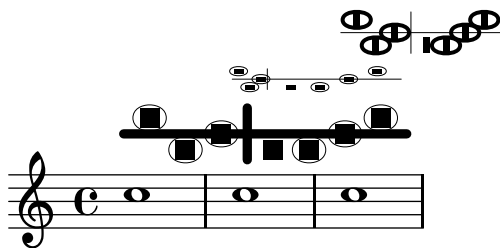
The harp-pedal markup function does some sanity checks. All the diagrams here violate the standard (7 pedals with divider after third), so a warning is printed out, but they should still look okay.

`'harp-pedals-sanity-checks.ly'`



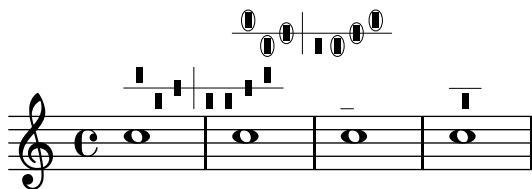
Harp pedals can be tweaked through the size, thickness and harp-pedal-details properties of TextScript.

`'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'`



Cyclic references in header fields should cause a warning, but not crash LilyPond with an endless loop

`'header-cyclic-reference.ly'`

Cyclic reference to

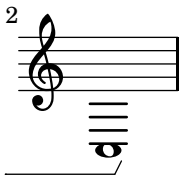
Cyclic reference to Cyclic reference to



Horizontal brackets connect over line breaks.

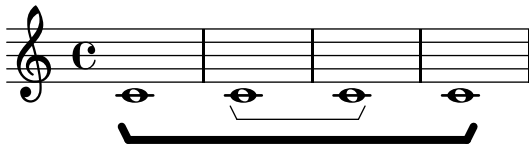
`'horizontal-bracket-break.ly'`





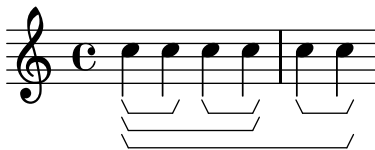
Horizontal brackets are created with the correct event-cause, ensuring tweaks are applied to the correct spanner.

`'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 in the PS backend.

`'id.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'`



test identifiers.

`'identifiers.ly'`



LilyPond does in-notes.

`'in-note.ly'`

this is a test

this is a test

this is a test

¹foobar

²foobar

2

23



27



31



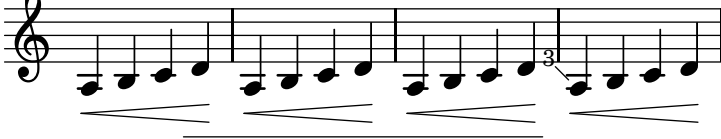
35



39



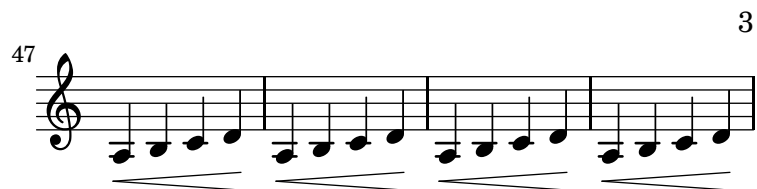
43



1foobar
2foobar
3foobar

this is a test

this is a test



Music engraving by LilyPond 2.15.36—www.lilypond.org

Incipits can be printed using an `InstrumentName` grob.

`'incipit.ly'`



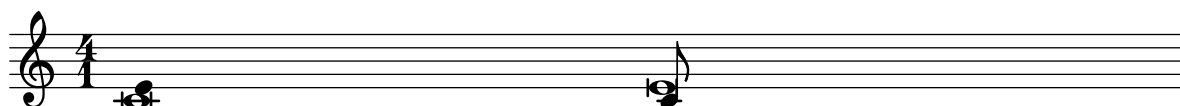
`ly:parser-include-string` should include the current string like a file `\include`.

`'include-string.ly'`



Combine several kinds of stems in parallel voices.

`'incompatible-stem-warning.ly'`





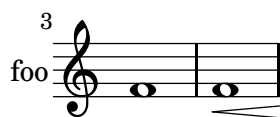
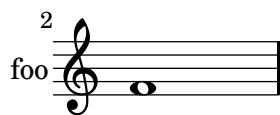
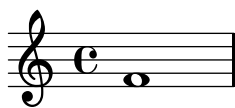
The `Voice.instrumentCueName` property generates instrument names for cue notes. It can also be unset properly.

`'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'`

The diagram illustrates different ways to group musical staves. It features a vertical staff line with several groups of staves. The first group is labeled 'PianoStaff' and contains two staves, 'Right' (treble clef) and 'Left' (bass clef). The second group is labeled 'ChoirStaff' and contains three staves, all with treble clefs. The third group is labeled 'StaffGroup' and contains two staves, both with treble clefs. The fourth group is labeled 'GrandStaff' and contains two staves, 'I' (treble clef) and 'II' (bass clef). The fifth group is labeled 'nested group' and contains three staves, all with treble clefs. Each staff contains a single note, a half note 'c'.

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'`

The diagram shows a single staff with a treble clef. The first measure contains a half note 'c'. The second measure is empty. The staff is labeled 'up' on the left side.

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'`

Piano




Ad. *

Piano



la la

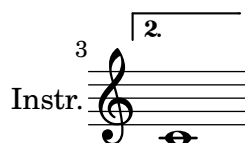
Piano



Moving the Volta_engraver to the Staff context does not affect InstrumentName alignment.

`'instrument-name-volta.ly'`





Instrument names horizontal alignment is tweaked by changing the `Staff.Instrument` `#'self-align-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'`

Left aligned
instrument name

Centered
instrument name

Right aligned
instrument name

Three staves are shown, each with a treble clef and a key signature of one flat. The first staff has the label 'Left aligned instrument name' to its left. The second staff has the label 'Centered instrument name' to its left. The third staff has the label 'Right aligned instrument name' to its left. Each staff contains a whole note on the first line.

Left

Centered

Right

Three staves are shown, each with a treble clef and a key signature of one flat. The first staff has the label 'Left' to its left. The second staff has the label 'Centered' to its left. The third staff has the label 'Right' to its left. Each staff contains a whole note on the first line.

Staff margins are also markings attached to barlines. 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'`

Right

Piano

Left

bert

A `PianoStaff` consisting of three staves. The first staff has a treble clef and a key signature of one flat. The second staff has a bass clef and a key signature of one flat. The third staff has a treble clef and a key signature of one flat. The label 'Right' is to the left of the first staff. The label 'Piano' is to the left of the second staff. The label 'Left' is to the left of the third staff. The label 'bert' is to the left of the third staff. The first staff contains a whole note on the first line. The second staff contains a whole note on the first line. The third staff contains a whole note on the first line. The word 'blah' is written to the right of the third staff.

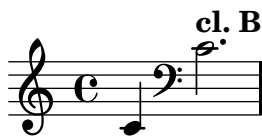
The `switchInstrument` music function prints a warning if the given instrument definition does not exist.

`'instrument-switch-invalid-warning.ly'`



The `switchInstrument` music function modifies properties for an in staff instrument switch.

`'instrument-switch.ly'`



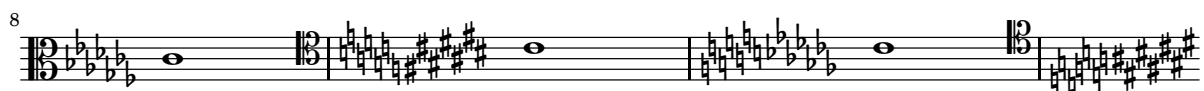
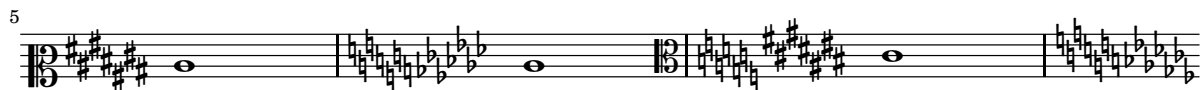
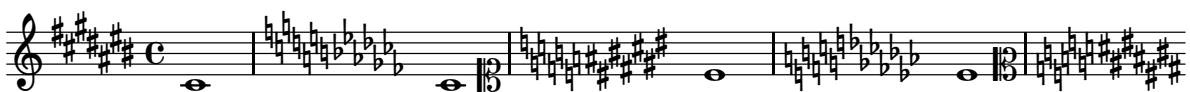
Engravers which do not exist produce a warning.

`'invalid-engraver.ly'`



Each clef has its own accidental placing rules.

`'key-clefs.ly'`



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'



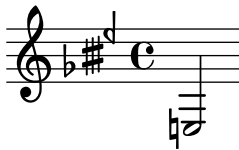
If the clef engraver is removed, the key signature shall use a proper padding > 0 to the start of the staff lines.

```
'key-signature-left-edge.ly'
```



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 `keySignature`.

'key-signature-scordatura-persist.ly'



By setting `Staff.keySignature` 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'



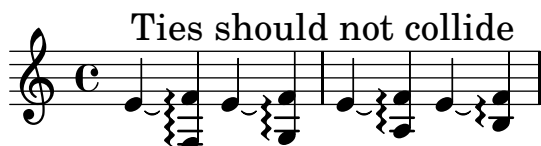
Key signatures may appear on key changes, even without a barline. In the case of a line break, the restoration accidentals are printed at end of a line. If `createKeyOnClefChange` is set, key signatures are created also on a clef change.

`'keys.ly'`



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'`



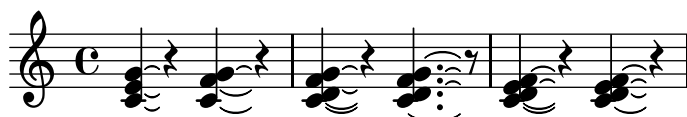
The 'head-direction' of a `LaissezVibrerTieColumn` should be able to be set without causing a segmentation fault.

`'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'

5

A musical staff with a treble clef. It contains four notes: G4 (first space), A4 (second space), B4 (third space), and C5 (fourth space).

4

A musical staff with a treble clef. It contains four notes: F#4 (first space, sharp), G4 (second space), A4 (third space), and B4 (fourth space).

3

A musical staff with a treble clef. It contains four notes: E4 (first space), F#4 (second space, sharp), G4 (third space), and A4 (fourth space).

2

A musical staff with a treble clef. It contains four notes: D4 (first space), E4 (second space), F#4 (third space, sharp), and G4 (fourth space).

A musical staff with a treble clef. It contains four notes: C4 (first line), D4 (first space), E4 (second space), and F#4 (third space, sharp).

Handwritten musical notation on five staves, numbered 2, 6, 7, 8, and 10. Each staff contains four notes, all marked with a flat (b) and a vertical line, suggesting a specific rhythmic or melodic pattern. The notes are positioned on the first, second, third, and fourth lines of each staff.

Staff 2: Four notes on the first, second, third, and fourth lines, each marked with a flat (b) and a vertical line.

Staff 6: Four notes on the first, second, third, and fourth lines, each marked with a flat (b) and a vertical line.

Staff 7: Four notes on the first, second, third, and fourth lines, each marked with a flat (b) and a vertical line.

Staff 8: Four notes on the first, second, third, and fourth lines, each marked with a flat (b) and a vertical line.

Staff 10: Four notes on the first, second, third, and fourth lines, each marked with a flat (b) and a vertical line.

'ledger-line-shorten.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'`



Highly tweaked example of lilypond output

'les-nereides.ly'

LES NÉRÉIDES

THE NEREIDS

ARTHUR GRAY

Allegretto scherzando

System 1:

Piano: Treble and Bass clefs, key signature of two sharps (F# and C#), common time (C). The piece begins with a forte (*f*) dynamic. The bass line features a series of eighth notes and quarter notes, with a slur over the first four measures. The treble line has a whole rest in the first measure, followed by a series of chords and a whole note in the third measure. The system ends with a measure marked *m.d.* and a second ending bracket.

Voice: Treble clef, key signature of two sharps, common time. The lyrics are "The song of the lark". The melody is written in a high register, with a *m.d.* (mezza voce) marking and a *m.g.* (mezza grinta) marking. The system ends with a measure marked *m.d.* and a second ending bracket.

System 2:

Piano: Treble and Bass clefs, key signature of two sharps, common time. The piece continues with a mezzo-forte (*mf*) dynamic. The bass line features a series of eighth notes and quarter notes, with a slur over the first four measures. The treble line has a whole rest in the first measure, followed by a series of chords and a whole note in the third measure. The system ends with a measure marked *m.d.* and a second ending bracket.

Voice: Treble clef, key signature of two sharps, common time. The lyrics are "The song of the lark". The melody is written in a high register, with a *m.d.* (mezza voce) marking and a *m.g.* (mezza grinta) marking. The system ends with a measure marked *m.d.* and a second ending bracket.

System 3:

Piano: Treble and Bass clefs, key signature of two sharps, common time. The piece continues with a mezzo-forte (*mf*) dynamic. The bass line features a series of eighth notes and quarter notes, with a slur over the first four measures. The treble line has a whole rest in the first measure, followed by a series of chords and a whole note in the third measure. The system ends with a measure marked *m.d.* and a second ending bracket.

Voice: Treble clef, key signature of two sharps, common time. The lyrics are "The song of the lark". The melody is written in a high register, with a *m.d.* (mezza voce) marking and a *m.g.* (mezza grinta) marking. The system ends with a measure marked *m.d.* and a second ending bracket.

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`’



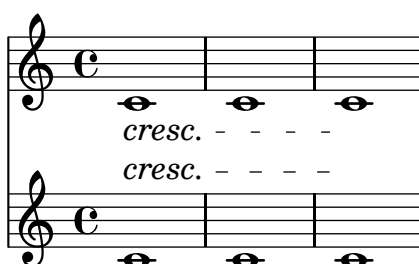
Generate valid postscript even if dash-period is small compared to line thickness.

‘`line-dash-small-period.ly`’



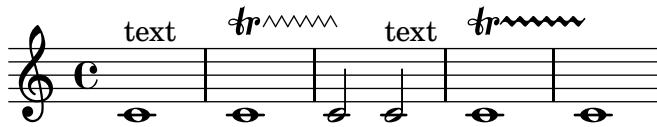
The period of a dashed line is adjusted such that it starts and ends on a full dash.

‘`line-dashed-period.ly`’



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'



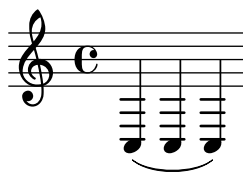
Cover all line styles available.

'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'



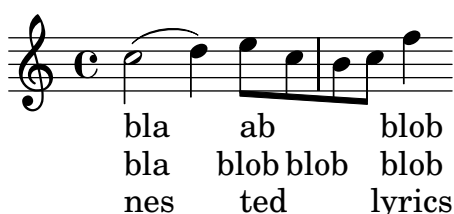
If lyrics are assigned to a non-existing voice, a warning should be printed. However, if the lyrics context does not contain any lyrics, then no warning should be printed.

'lyric-combine-empty-warning.ly'



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'



Polyphonic rhythms and rests do not disturb \lyricsto.

'lyric-combine-polyphonic.ly'



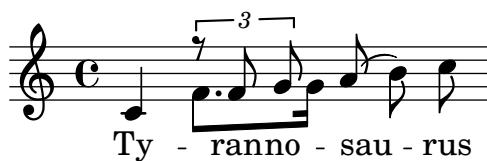
switching voices in the middle of the lyrics is possible using lyricsto.

'lyric-combine-switch-voice-2.ly'



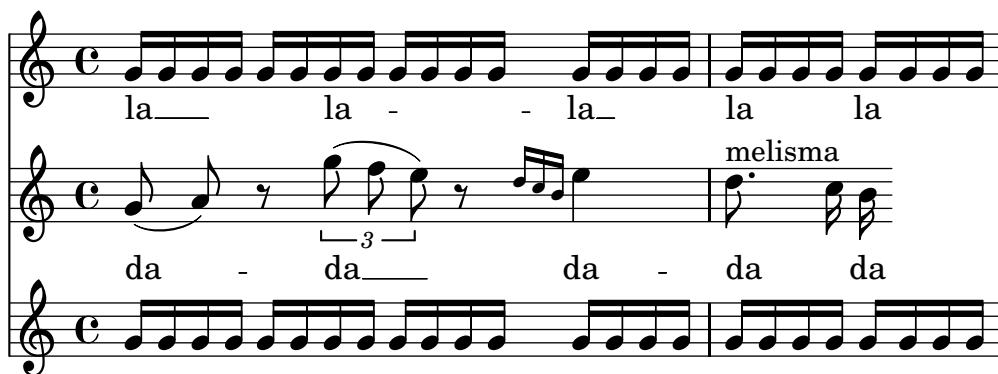
Switching the melody to a different voice works even if the switch occurs together with context instantiation.

'lyric-combine-switch-voice.ly'



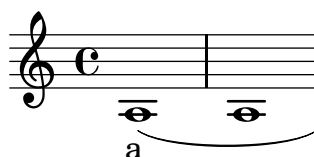
Lyrics can be set to a melody automatically. Excess lyrics will be discarded. Lyrics will not be set over rests. You can have melismata either by setting a property melismaBusy, or by setting automaticMelismas (which will set melismas during slurs and ties). If you want a different order than first Music, then Lyrics, you must precook a chord of staves/lyrics and label those. Of course, the lyrics ignore any other rhythms in the piece.

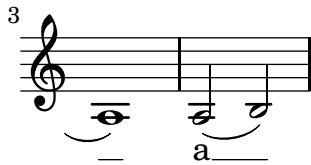
'lyric-combine.ly'



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.

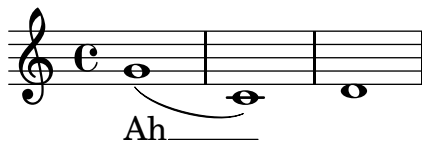
'lyric-extender-broken.ly'





A LyricExtender should end at the right place even if there are more notes in the voice than lyrics.

`'lyric-extender-completion.ly'`



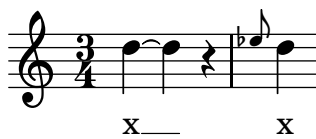
If `includeGraceNotes` is enabled, lyric extenders work as expected also for syllables starting under grace notes.

`'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'`



2



— e d c

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.

`'lyric-hyphen-break.ly'`

2



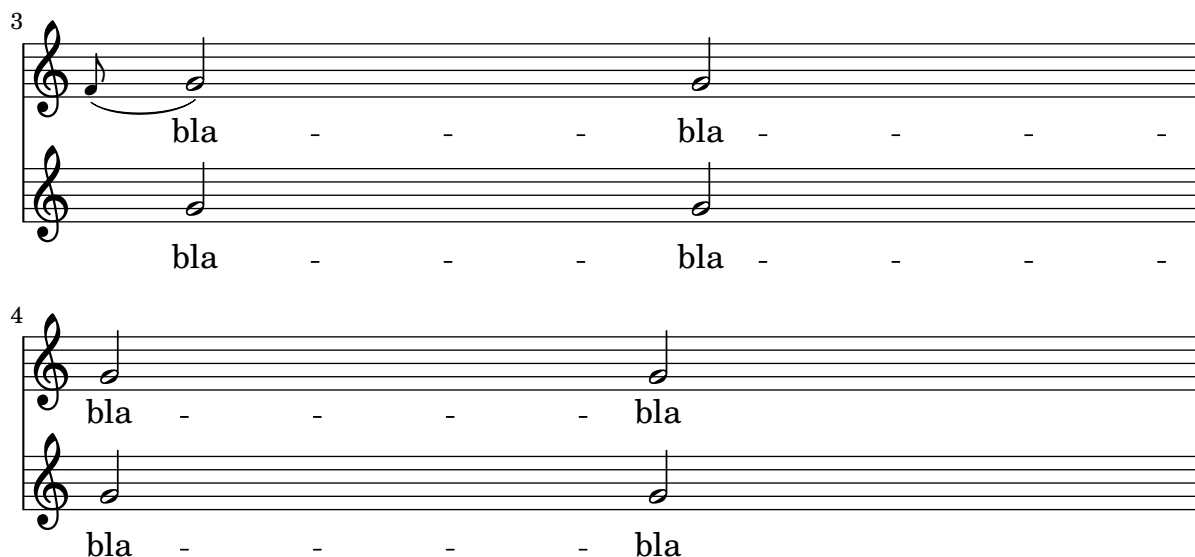
blablabla-

3
- bla.bla.bla

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'`

The Rose Tree



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.

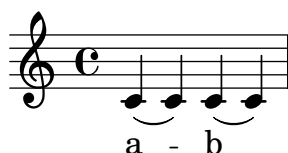
Like all overrides within `\lyricsto` and `\addlyrics`, the effect of a setting is delayed is one syllable.

`'lyric-hyphen-retain.ly'`



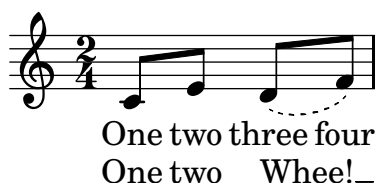
In lyrics, hyphens may be used.

`'lyric-hyphen.ly'`



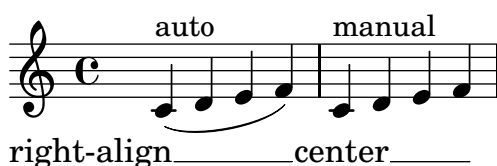
If `ignoreMelismata` is set, lyrics should remain center-aligned.

`'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'`



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'`



Tildes in lyric syllables are converted to tie symbols.

`'lyric-tie.ly'`

wa o a

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

The image displays a musical score in two systems. The first system shows a treble and bass staff with lyrics 'Te - - - - nor' and 'Bas - - - - ses' respectively. The lyrics are aligned above the staves, and the stretching of the notes keeps the lyrics close to their respective staves. The second system shows a treble and bass staff with lyrics 'one!' and 'two!' in the first measure, and 'A - - - -' and 'Be - - - -' in the second measure. The lyrics are aligned above the staves, and the stretching of the notes keeps the lyrics close to their respective staves.

Adding a `Bar_engraver` to the `Lyrics` context makes sure that lyrics do not collide with barlines.

`'lyrics-bar.ly'`

The image displays a musical score in two systems. The first system shows a treble staff with lyrics 'bars' and 'required' in the first measure, and 'lengthened:' and 'for' in the second measure. The lyrics are aligned above the staves, and the stretching of the notes keeps the lyrics close to their respective staves. The second system shows a treble staff with lyrics 'if' and 'noncollision' in the first measure, and 'required' and 'for' in the second measure. The lyrics are aligned above the staves, and the stretching of the notes keeps the lyrics close to their respective staves.

Setting `includeGraceNotes` enables lyrics syllables to be assigned to grace notes.

`'lyrics-includegraces.ly'`



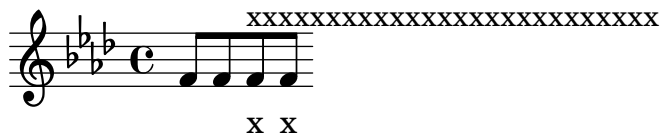
Melismata are triggered by manual beams. Notes in a melisma take their natural spacing over a long syllable.

`'lyrics-melisma-beam.ly'`



Lyric syllables without note attachment are not centered. Centering may cause unintended effects when the paper column is very wide.

`'lyrics-no-notes.ly'`



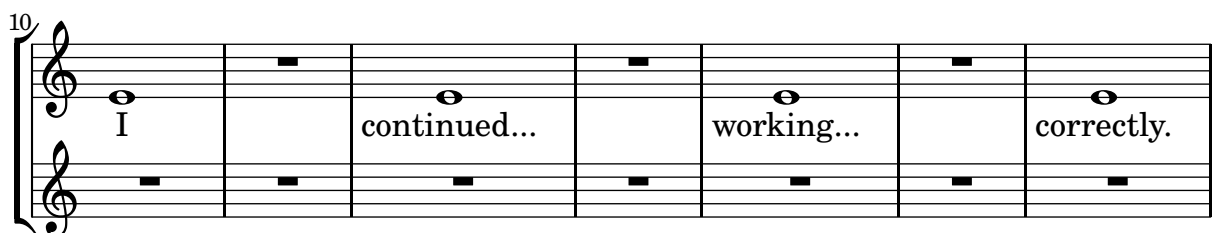
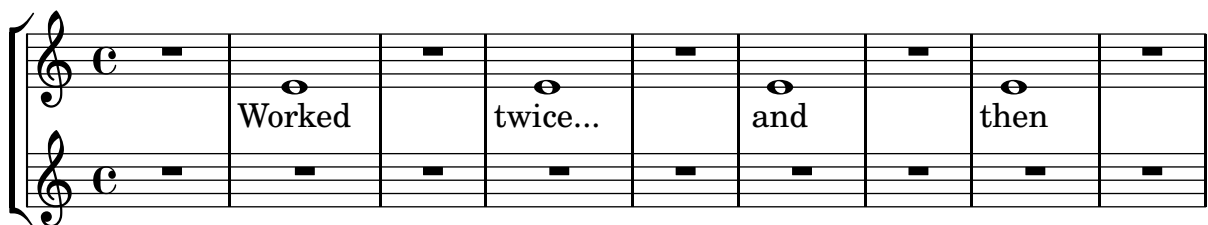
Long lyrics should be allowed to pass under the bar line.

`'lyrics-pass-under-bar.ly'`



Empty measures do not confuse `SpanBarStub`. These lyrics should remain clear of the span bars.

`'lyrics-spanbar.ly'`



Lyrics are not lowered despite the presence of an octavation 8.

‘lyrics-tenor-clef.ly’



The feta font has arrow heads

‘markup-arrows.ly’

► ◄ ▲ ▼ > < ˆ ˘

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 ירכ
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’

לללללל, ררררר.

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-align` or `center-column` shall still reserve space for its whole width and not overwrite the previous stencil.

`'markup-center-align-nocollision.ly'`

AAA BB

AAA BB

AAA BB

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

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’

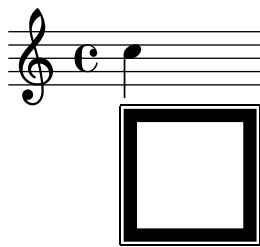
ᵀ

ı

ı

The epsfile markup command reads an EPS file

`'markup-eps.ly'`



The eyeglasses markup function prints out eyeglasses.

`'markup-eyeglasses.ly'`



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

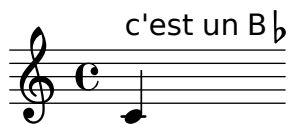
2
arbre généalogique avait été perdu par l'injure du temps. (not orphaned)

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)

`'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'`





















































































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'`



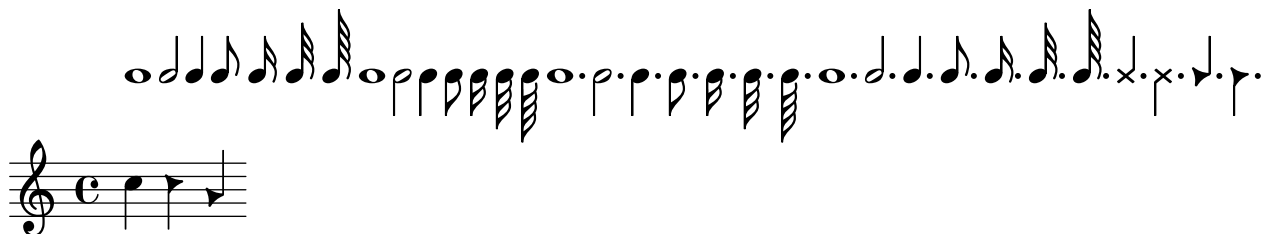
`\note-by-number` and `\note` support all note head styles.

‘markup-note-styles.ly’

default						
altdefault						
baroque						
neomensural						
mensural						
petrucci						
harmonic						
harmonic-black						
harmonic-mixed						
diamond						
cross						
xcircle						
triangle						
slash						

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’



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'`



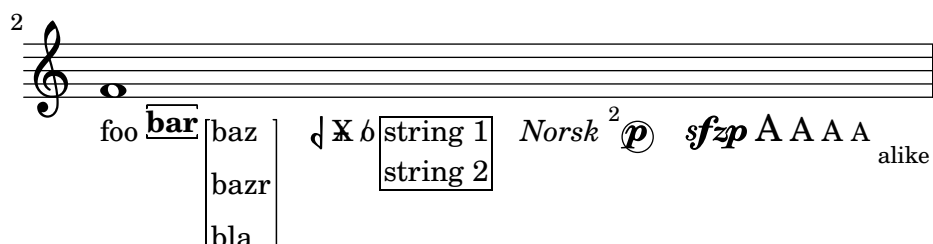
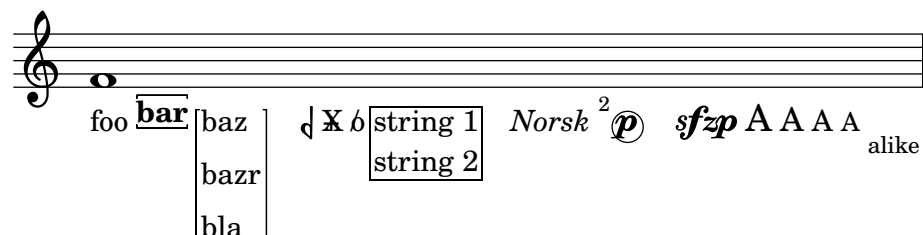
The `\path` markup command allows the user to draw arbitrary paths using a simple syntax. The two paths below should be identical.

`'markup-path.ly'`



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

Originalstimmung:



A list of special character ASCII aliases can be easily included. This works for markups and lyrics.

`'markup-special-characters.ly'`

Markup example:

Input:

`№2 – &OE;dipe…`

Output:

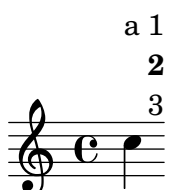
2 – Ædipe...

Lyric example:

Ce ez Infidèles, un cœur in-nocent ne craint rien ;


Markup scripts may be stacked.

`'markup-stack.ly'`



Demo of markup texts, using LilyPond syntax.

'markup-syntax.ly'




foo

bar

baz

bazr



bla



string 1


string 2

fi



Norsk²

white-out

 **Green** ***sfzp*** A A A A alike

Users may define non-standard markup commands using the `define-markup-command` scheme macro.

'markup-user.ly'



HELLO WORLD

The markup commands `\wordwrap` and `\justify` produce simple paragraph text.

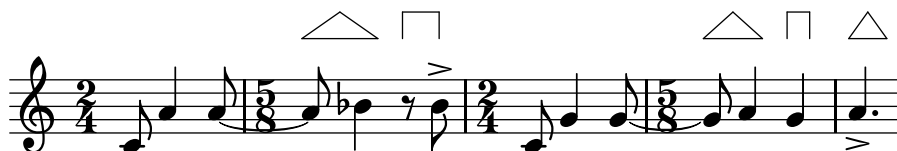
'markup-word-wrap.ly'

this is normal text This is a test of the wordwrapping function. 1 This is a continuing test 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 $\frac{a}{b}$ 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	Om mani padme hum Om mani padme
padme hum Om mani padme hum Om	hum Om mani padme hum Om mani
mani padme hum Om mani padme	padme hum Om mani padme hum Om
hum Om mani padme hum Om mani	mani padme hum Om mani padme hum
padme hum Om mani padme hum.	Om mani padme hum.
Gate Gate paragate Gate Gate	Gate Gate paragate Gate Gate
paragate Gate Gate paragate Gate	paragate Gate Gate paragate Gate
Gate paragate Gate Gate paragate	Gate paragate Gate Gate paragate
Gate Gate paragate.	Gate Gate paragate.

'measure-grouping.ly'



'mensural-ligatures.ly'

BBL BBBBSSBBBL_{LBMxBL} BBBLLSSBLLBB

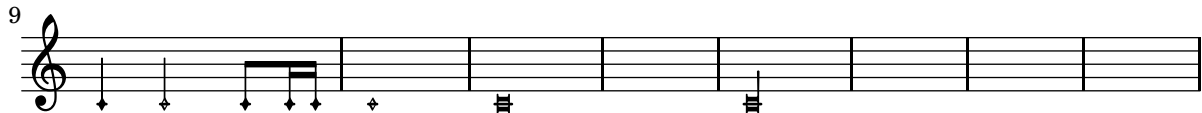
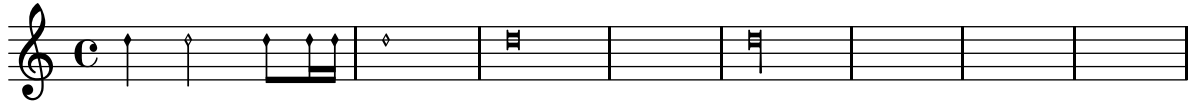
Ockeghem: Missa De plus en plus

MxMx LBBBB MxL BBB LBBBBB. BBBBL SSB LLLL LBBBBBB



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’



A MetronomeMark, RehearsalMark and BarNumber should not effect the starting point of spanners.

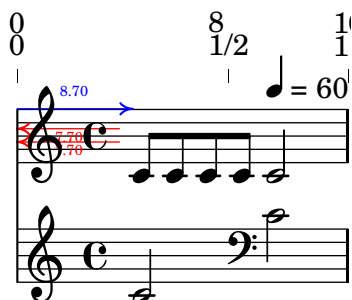
‘metronome-mark-broken-bound.ly’

A musical score consisting of two staves. The top staff is in treble clef with a common time signature 'C' and contains a wavy line representing a tremolo. The bottom staff is in treble clef with a common time signature 'C' and contains a series of eighth notes. A wavy line with a 'tr' symbol is positioned between the two staves. The lyrics 'ah' are written below the bottom staff. A metronome mark 'foooooo (♩ = 90)' is located at the top right. A spanner with the number '1' is placed over the bottom staff.

A musical score consisting of two staves. The top staff is in treble clef with a common time signature 'C' and contains a wavy line representing a tremolo. The bottom staff is in treble clef with a common time signature 'C' and contains a series of eighth notes. A wavy line with a 'tr' symbol is positioned between the two staves. The lyrics 'rrgh' are written below the bottom staff. A metronome mark 'foooooo (♩ = 90)' is located at the top left. A spanner with the number '1' is placed over the bottom staff.

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.

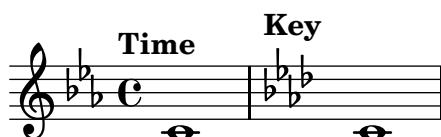
‘metronome-mark-loose-column.ly’



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.

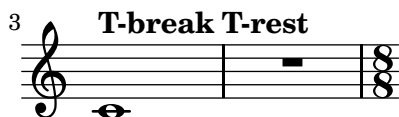
‘metronome-marking-align-order.ly’



`\tempo` marks are aligned with the time signature or first musical element unless the first element is a multi-measure rest: in this case, the tempo mark is aligned with the bar line.

By overriding `break-align-symbols` the default alignment can be changed, as shown by the final metronome mark in this snippet, aligned with a key signature.

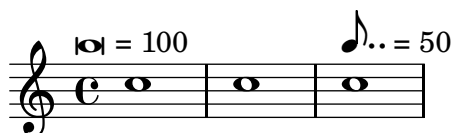
‘metronome-marking-break-align.ly’



Here `\tempo` directives are printed as metronome markings.

The marking is left aligned with the time signature, if there is one.

‘metronome-marking.ly’



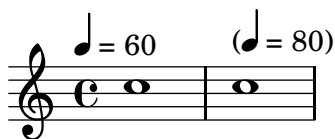
A metronome marking can be added to a multimeasure rest whose engraver was moved to the Staff, without segfaulting.

`'metronome-multimeasure-rest-no-segfault.ly'`



Using an empty text in the metronome marks, one can generate parenthesized tempo marks.

`'metronome-parenthesized.ly'`



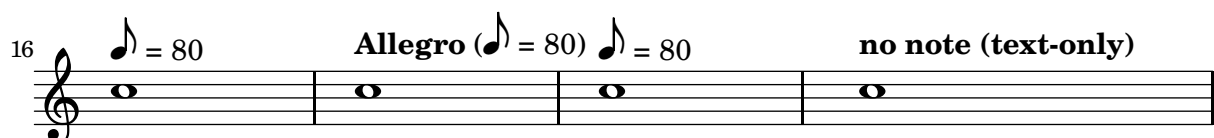
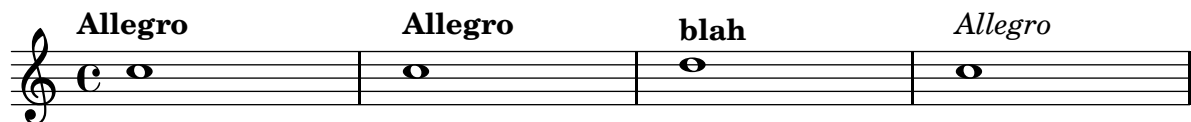
Tempo ranges are supported. By default, numbers are printed with an en-dash character, separated by thin-spaces.

`'metronome-range.ly'`



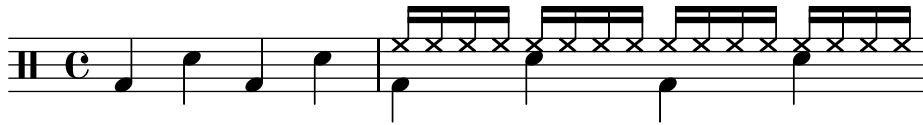
The tempo command supports text markup and/or `'duration=count'`. Using `Score.tempoHideNote`, one can hide the `'duration=count'` in the tempo mark.

`'metronome-text.ly'`



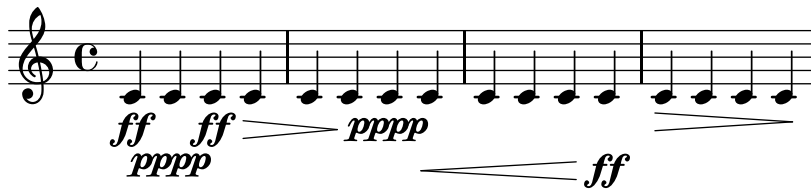
Midi can create drums.

`'midi-drums.ly'`



Midi also handles crescendo and decrescendo, either starting and ending from specified or unspecified sound level.

`'midi-dynamics.ly'`



Grace notes 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 eight musical staves, each showing a different scale. The staves are numbered 6, 10, 14, 18, 23, 28, and 32. The scales are written in treble clef, common time (C). The notes are: C4, D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The scales are: 6: C major (C4-D4-E4-F4-G4-A4-B4-C5-B4-A4-G4-F4-E4-D4-C4), 10: D major (D4-E4-F4-G4-A4-B4-C5-B4-A4-G4-F4-E4-D4), 14: E major (E4-F4-G4-A4-B4-C5-B4-A4-G4-F4-E4), 18: F major (F4-G4-A4-B4-C5-B4-A4-G4-F4), 23: G major (G4-A4-B4-C5-B4-A4-G4), 28: A major (A4-B4-C5-B4-A4), 32: B major (B4-C5-B4-A4-G4-F4-E4-D4-C4). The scales are written in a way that shows the sequence of notes and rests, with some notes marked with an 'x' to indicate specific events.

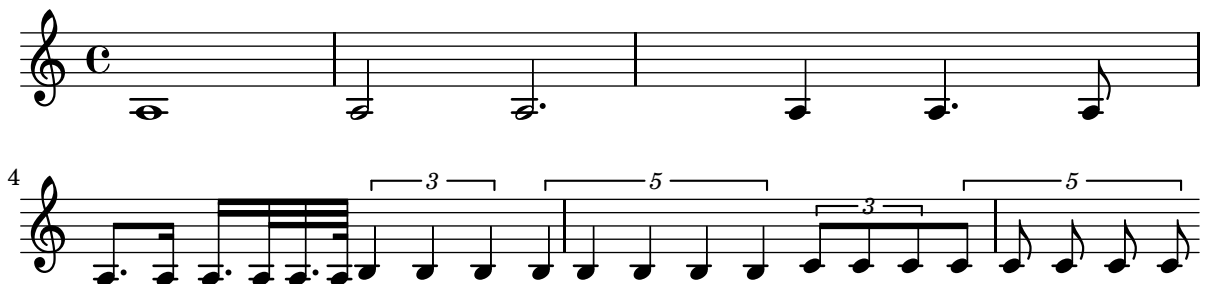


should deliver f' in MIDI
 'midi-transposition.ly'



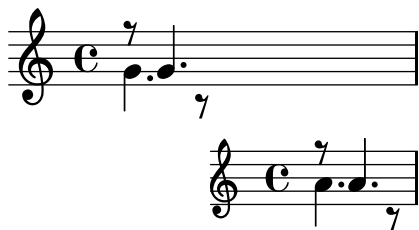
Midi2ly tuplet test.

```
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'

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'



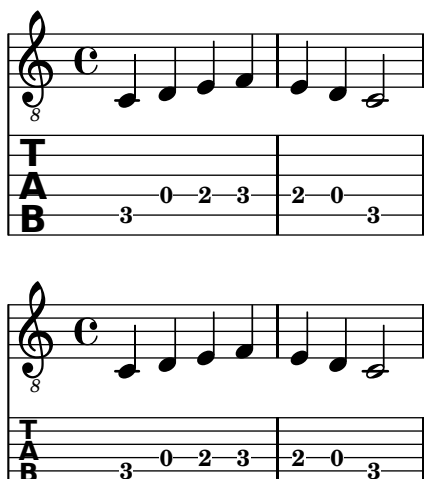
`\modalTranspose`, `\retrograde`, `\inversion` and `\modalInversion` work for an octatonic motif.

'modal-transforms.ly'



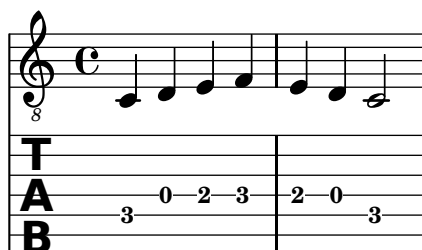
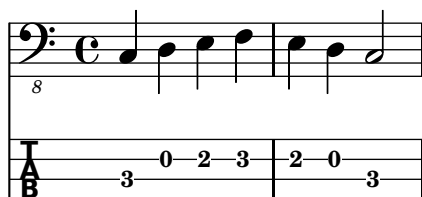
The sans serif style tab clef is automatically adjusted to different string spacings.

'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'`



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

2. *p*

1. Sü - ßes Licht! Aus gol - denen Pfor - ten brichst du
2. Ach, der Lie - be sanf - tes We - hen schwellt mi

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 - such

f

13
dei - ne Ro - sen - pracht, grüß ich dei - ne Ro - sen
zieht mich him - mel - wärts, Sehn - sucht zieht mich him - mel

16
pracht.
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.

'mozart-hrn-3.ly'

Konzert Nr. 3 Es dur

für Horn und Orchester

Horn in F

Wolfgang Amadeus Mozart (1756-1791)

Allegro

4 Tutti 18

p

A

29

35

3

43

tr

B 3

49

con espressione

57

cresc. - - - - - f

63

p *cresc. - - f* **C**

tr

70

15 **D**

mf

91

2

102

2
121 Horn in F

127 **F** 3

135 3

144 **G**

151 *cresc.* - - - - - *f* *ff* *semp*

156 *tr* **H** 3 3 3

162 3 3 3 3 3 *f*

167 3 *tr* 8 *tutti* *f*

Cadenza ad lib.

Romanze

p con molto espressione

6 **A** 8 *mf*

18 2

25 **B** 9

Horn in F

39 **4**

48 **C** **3** *sfp* *sfp* *sfp* *sfp* *p*

58 **D** **3** *p*

66 **3**

74

Rondo

p

7 **13**

26 **7 A** *p*

40 **4**

51 **B** **3**

61

68 **C**

4 Horn in F

75 *p*

82 12 **D**

101 3

114 3

124 **E** 9

139

146 **F**
cresc. - - - - - f

154 *p*

160 7 **G** 4
mf

178 **H**
cresc. - - - - -

186 *f* *tr* 5 *p*

198 5
cresc. - - - - - f

The multi-measure 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 multi-measure rest.

`'multi-measure-rest-center2.ly'`

foo foo foo foo foo



Multi-measure rests are centered also in the case of grace notes.

`'multi-measure-rest-grace.ly'`



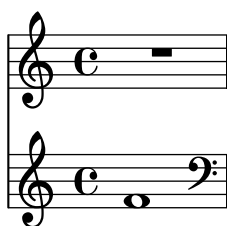
There are both long and short instrument names. Engraving instrument names should not be confused by the multi-measure rests.

`'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'`



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'`



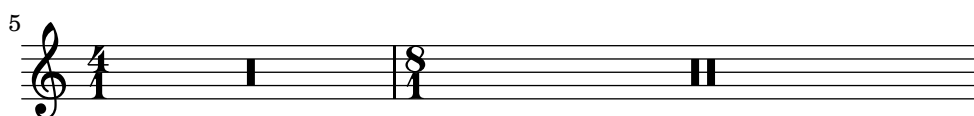
Multi measure rest staff position can be overridden to 0.

`'multi-measure-rest-staff-position.ly'`



Only whole, breve, longa and maxima rests are used by default for multi-measure rests.

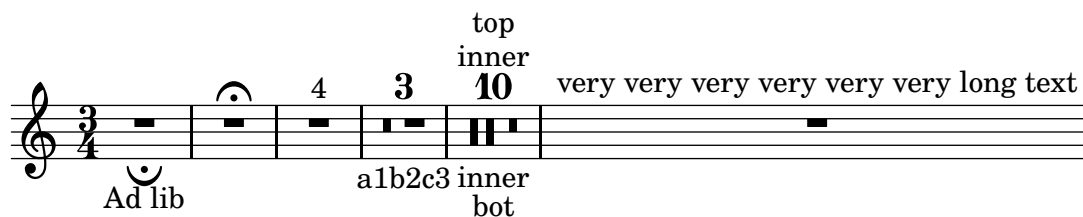
`'multi-measure-rest-standard.ly'`



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'`



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'`



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'`



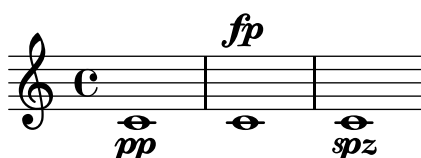
the `endSpanners` music function inserts end span events at the end of a note.

`'music-function-end-spanners.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'`



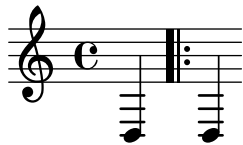
Music functions accept strings as markup arguments when using the type predicate `markup?`

`'music-function-string-markup.ly'`



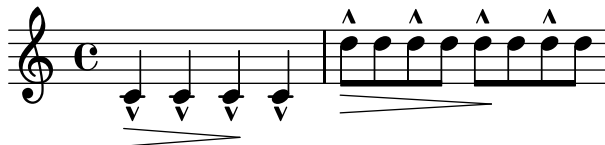
Music functions are generic music transformation functions, which can be used to extend music syntax seamlessly. Here we demonstrate a `\myBar` function, which works similar to `\bar`, but is implemented completely in Scheme.

`'music-function.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|



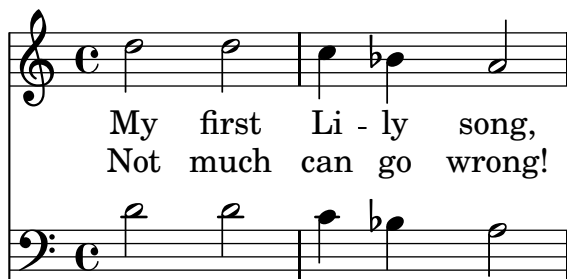
`addlyrics` do not need braces around their arguments, in particular if the arguments are variables.

`'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.

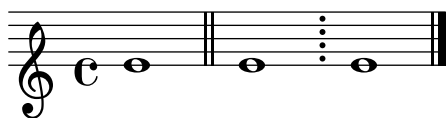
The printing of the staff lines may be suppressed by removing the corresponding engraver.

`'no-staff.ly'`



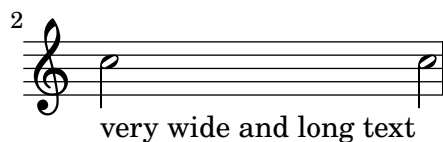
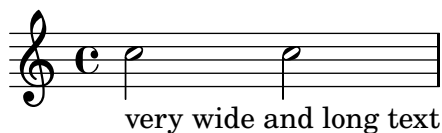
Bar lines are positioned correctly when using custom staves which are not centered around position 0.

`'non-centered-bar-lines.ly'`



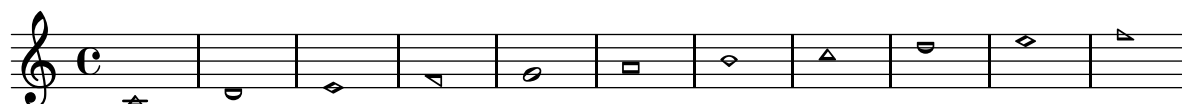
By default, text is set with empty horizontal dimensions. The property `extra-spacing-width` in `TextScript` is used to control the horizontal size of text.

`'non-empty-text.ly'`



Notes can be set in the Aiken (Christian Harmony) style.

`'note-head-aiken.ly'`





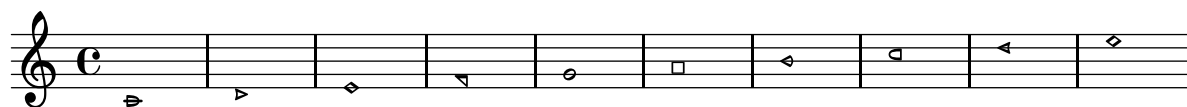
Note heads are flipped on the stem to prevent collisions. It also works for whole heads that have invisible stems.

`'note-head-chord.ly'`



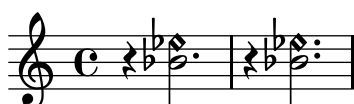
Notes can be set in the Funk (Harmonica Sacra) style.

`'note-head-funk.ly'`



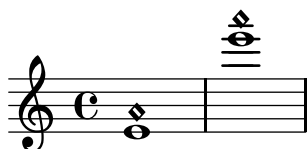
Dots on harmonic note heads can be shown by setting the property `harmonicDots`.

`'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'`



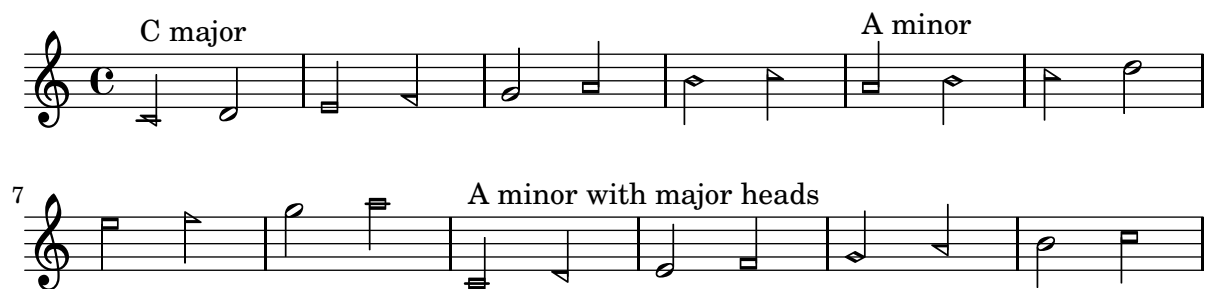
Notes can be set in the Sacred Harp style.

`'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'`

default

altdefault

9

baroque

neomensural

17

mensural

petrucci

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'`

3

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**

Allegro **Allegro** **Allegro** **Allegro** **Allegro** **Allegro** **Allegro**

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'`



The number of stafflines of a staff can be set. Ledger lines both on note heads and rests, as well as barlines, are adjusted accordingly.

`'number-staff-lines.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'`





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Print the option help text, for comparison against previous releases.

`'option-help.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'`

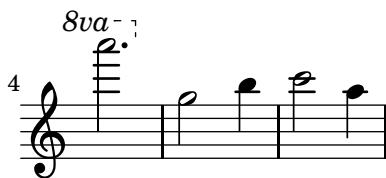
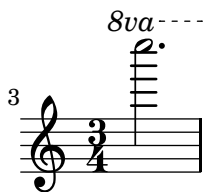
Test optional music function arguments. The output is nonsensical, but if you wrack your brain, you'll figure it out. Remember that optional arguments are matched left to right, and after the first non-match, the rest is skipped.

`'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'`



Both edge heights of an ottava bracket can be specified.

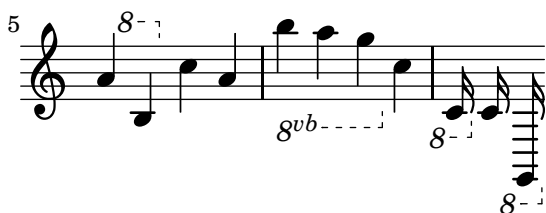
`'ottava-edge.ly'`



Ottava brackets are supported, through the use of the music function `\ottava`.

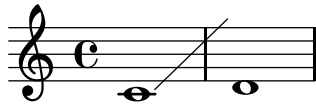
The spanner should go below a staff for 8va bassa, and the ottavation markup can be tuned with `Staff.ottavation`.

`'ottava.ly'`



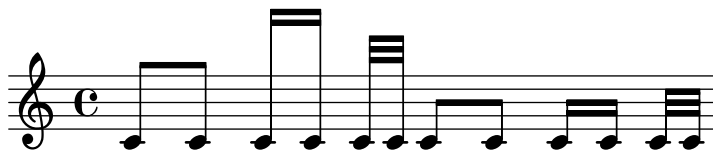
A sublist of grob property lists may be overridden within a callback. This test uses a custom stencil callback which changes the Y coordinate of the right bound of the glissando spanner.

`'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'`

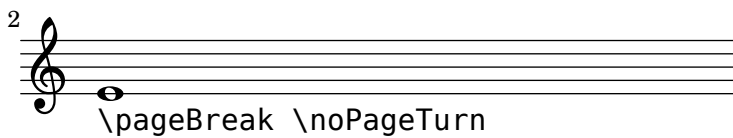
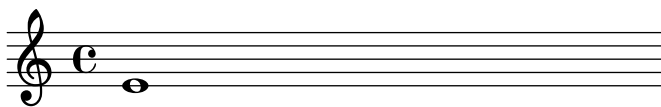
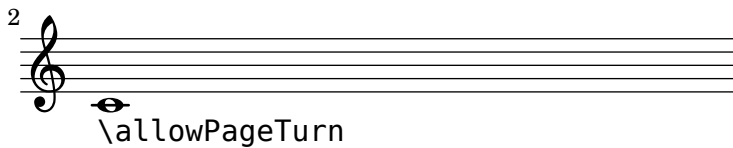
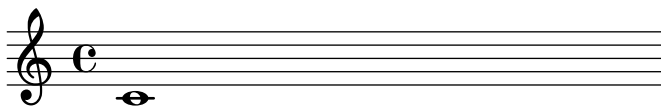


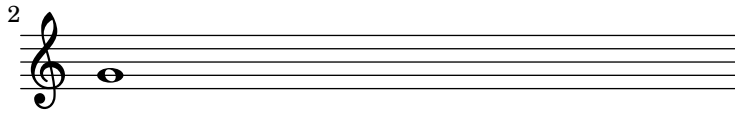
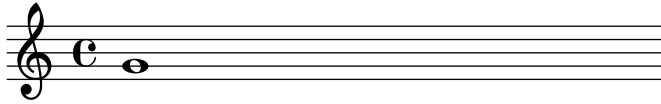


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Page breaking and page turning commands (`\pageBreak`, `\noPageBreak`, etc), can be used at top level.

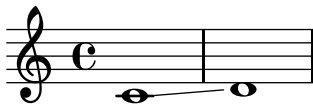
‘page-break-turn-tooplevel.ly’





If a page break is forced where it is forbidden, a warning is printed.

`'page-break-warn-forbidden.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'`



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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’

A musical score consisting of two systems of four staves each. Each staff begins with a treble clef and a common time signature 'C'. The notes are represented by quarter notes, and the lyrics 'bla bla' are written below each pair of notes. The first system contains 12 measures of music. The second system begins with a measure number '4' and also contains 12 measures. The score is designed to demonstrate how padding between markups is honored by the page breaker, resulting in two full pages of music.

4

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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 2.15.36—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 2.15.36—www.lilypond.org

Padding between a score and a markup is honored by the page breaker. This should take up two pages.

`'page-breaking-markup-padding3.ly'`

00

01

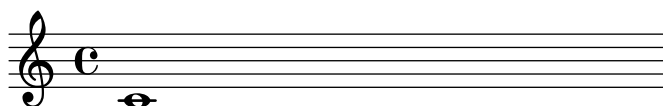


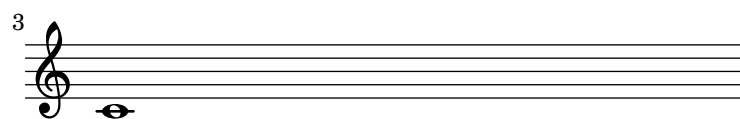
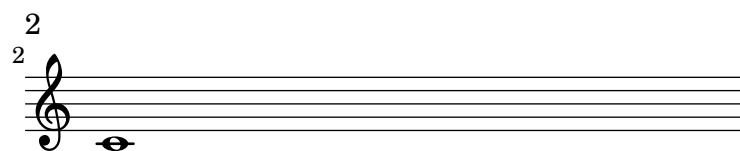
Music engraving by LilyPond 2.15.36—www.lilypond.org

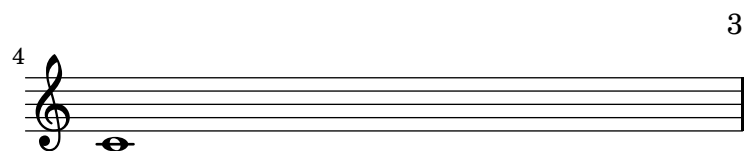
The `max-systems-per-page` variable prevents more than a given number of systems from being on a page. Titles are not counted as systems. `\noPageBreak` can override `max-systems-per-page` in unusual situations.

`'page-breaking-max-systems-per-page.ly'`

Title







Music engraving by LilyPond 2.15.36—www.lilypond.org

minimum-distance is correctly accounted for in page breaking.

‘page-breaking-min-distance.ly’

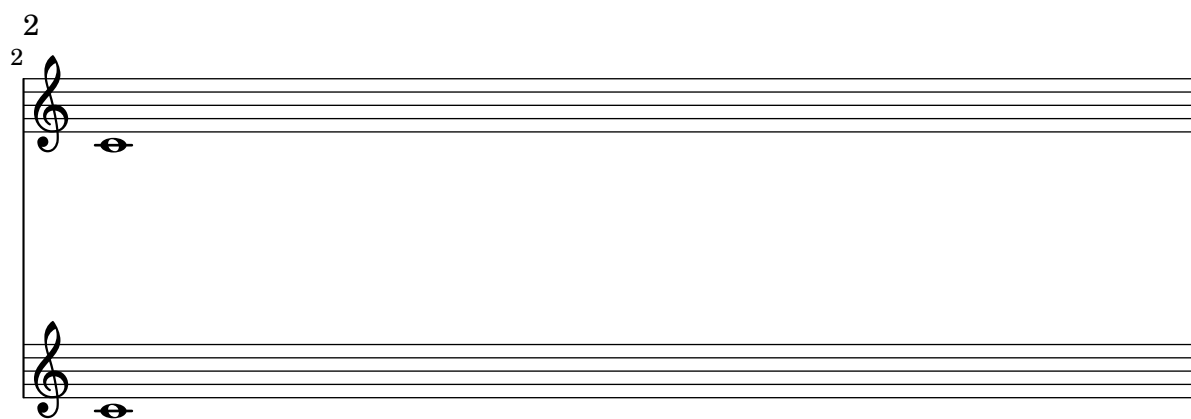
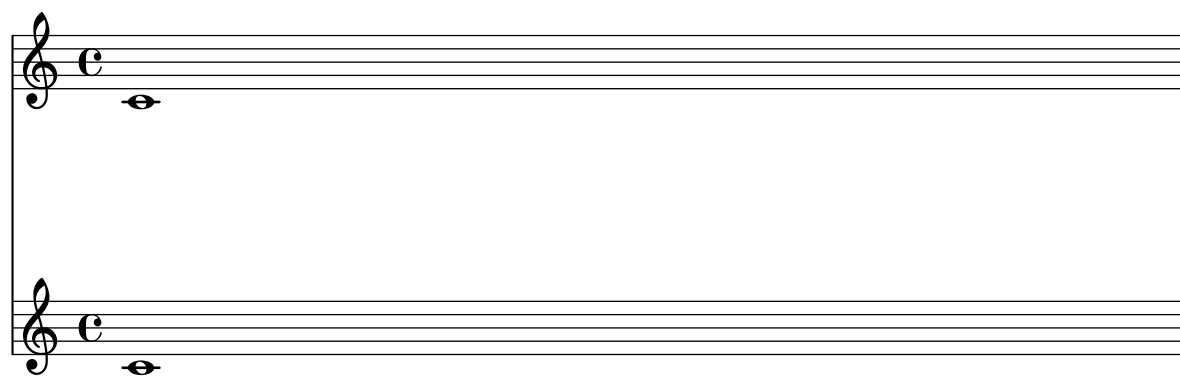




Music engraving by LilyPond 2.15.36—www.lilypond.org

minimum-distance within a system is correctly accounted for in page breaking.

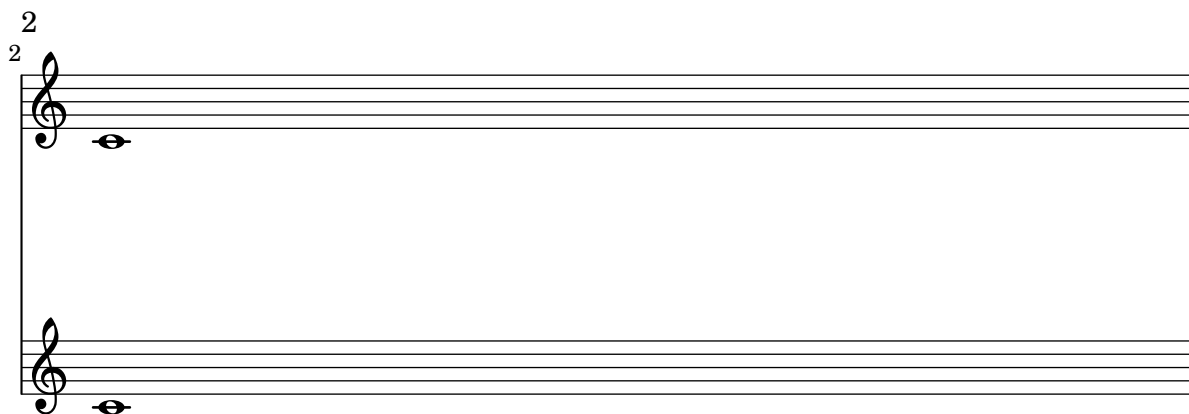
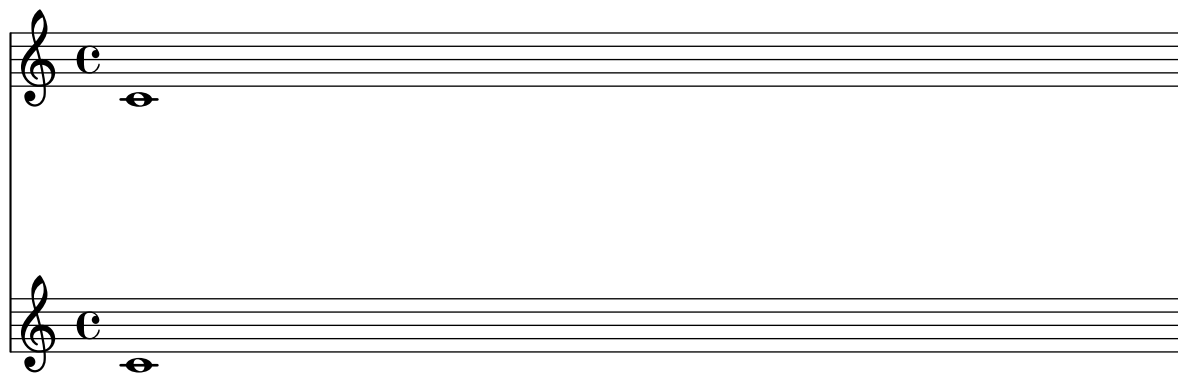
‘page-breaking-min-distance2.ly’



Music engraving by LilyPond 2.15.36—www.lilypond.org

minimum-distance within a system is correctly accounted for in page breaking.

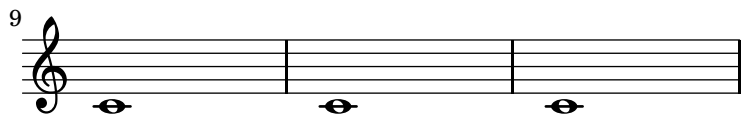
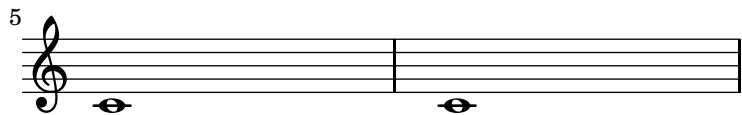
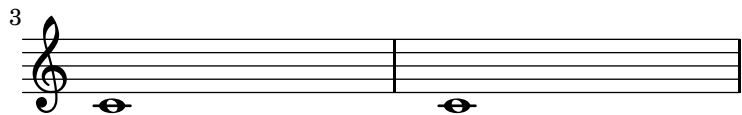
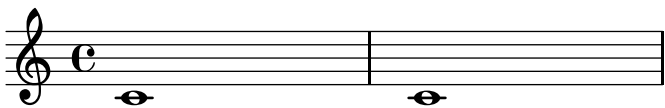
‘page-breaking-min-distance3.ly’

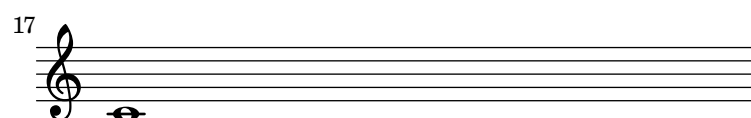
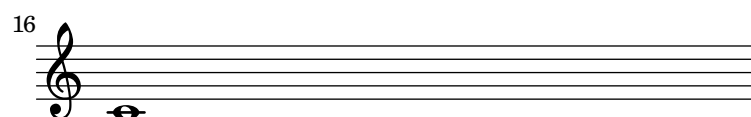
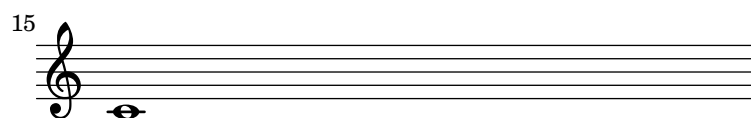
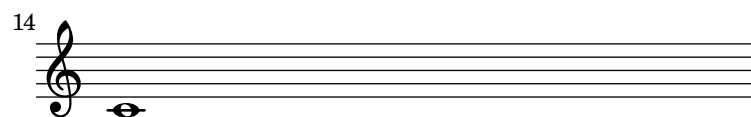
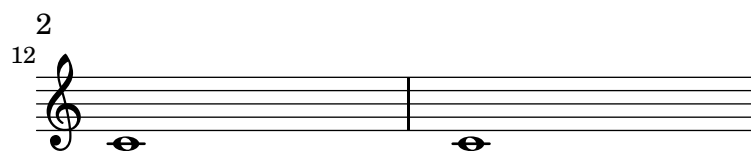


Music engraving by LilyPond 2.15.36—www.lilypond.org

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 2.15.36—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.

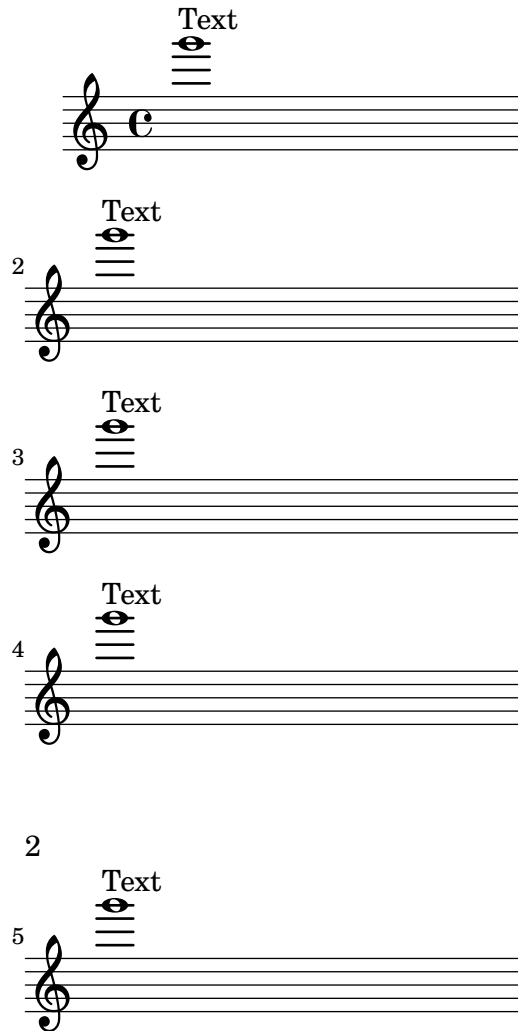
‘page-breaking-min-systems-per-page2.ly’

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

Music engraving by LilyPond 2.15.36—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.

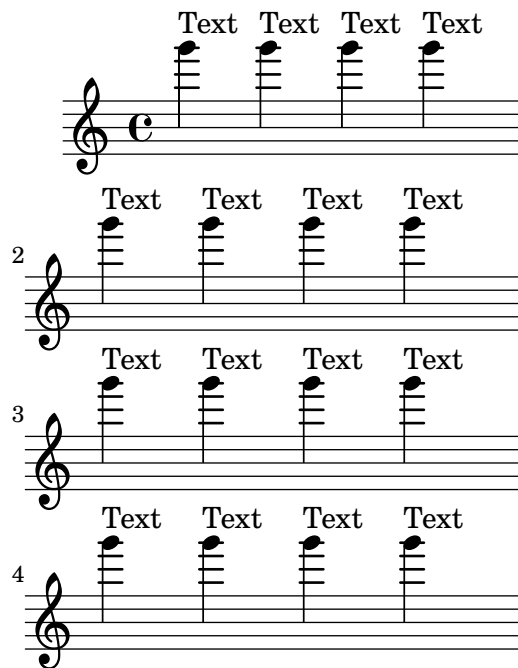
‘page-breaking-outside-staff-estimation.ly’



Music engraving by LilyPond 2.15.36—www.lilypond.org

The height-estimation routine doesn't get confused by multiple outside-staff grobs in the same measure.

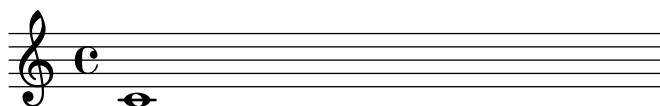
‘page-breaking-outside-staff-estimation2.ly’

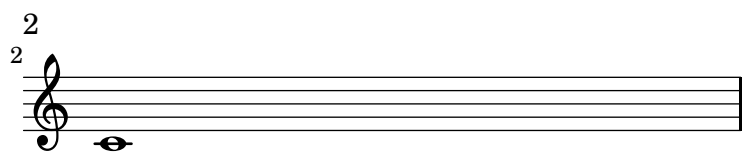


Music engraving by LilyPond 2.15.36—www.lilypond.org

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’

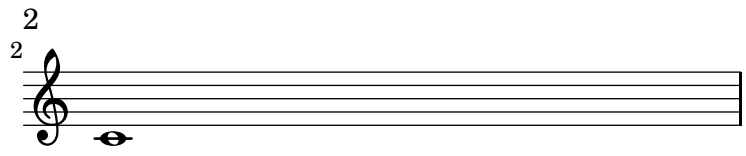
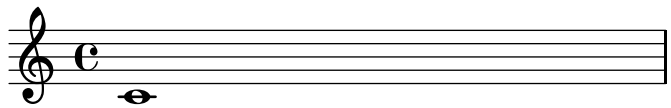




Music engraving by LilyPond 2.15.36—www.lilypond.org

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'`



Music engraving by LilyPond 2.15.36—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 2.15.36—www.lilypond.org

The height of RehearsalMarks is taken into account during page breaking.

‘page-breaking-rehearsal-mark.ly’

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

C

d

Music engraving by LilyPond 2.15.36—www.lilypond.org

system-count and \pageBreak are compatible.

‘page-breaking-system-count-forced-break.ly’



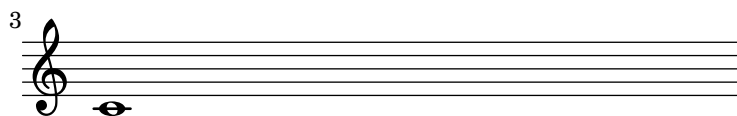
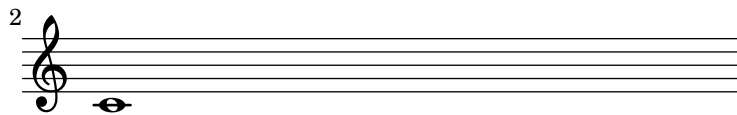
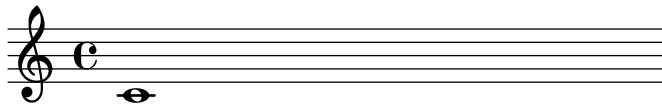


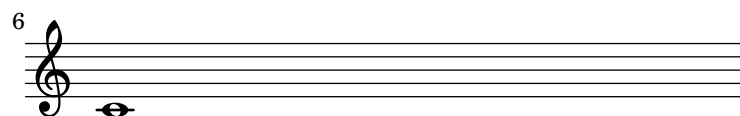
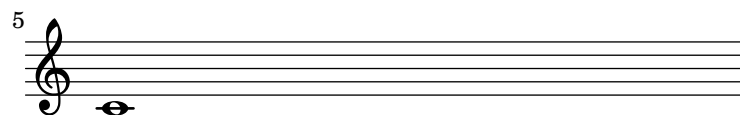
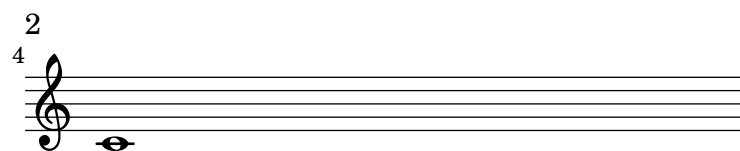
Music engraving by LilyPond 2.15.36—www.lilypond.org

The systems-per-page variable forces a certain number of systems per page. Titles are not counted as systems.

‘page-breaking-systems-per-page.ly’

Title





Music engraving by LilyPond 2.15.36—www.lilypond.org

Stress optimal page breaking. This should look nice and even on 4 a6 pages.

'page-breaks.ly'

Title

(and (the) subtitle)

Sub sub title

Poet

Instrument

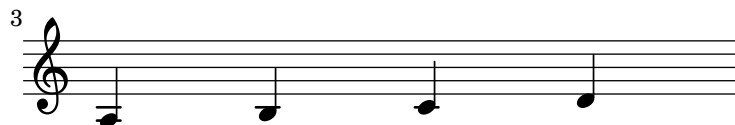
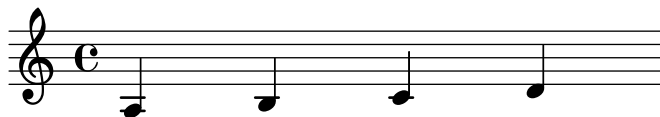
Composer

Meter (huh?)

Arranger

Piece

opus 0



Copyright by /me

2

Instrument

5

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

6

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

7

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

8

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

9

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

10

A musical staff with a treble clef containing four quarter notes: F2, C3, F2, and C3.

Instrument3

11



12



13



14



15

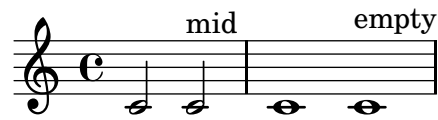


Music engraving by LilyPond 2.15.36 4
www.lilypond.org

`'page-label-loose-column.ly'`

Table of Contents

Mid-line	1
Empty bar line	1



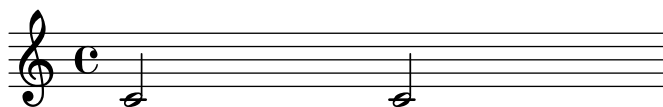
Music engraving by LilyPond 2.15.36—www.lilypond.org

Page labels may be placed inside music or at top-level, and referred to in markups.

`'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	?



A (page 3)

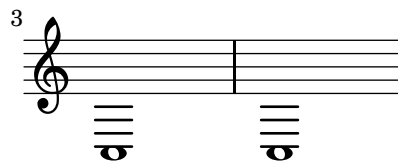
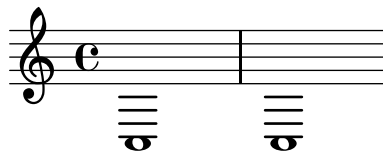




Music engraving by LilyPond 2.15.36—www.lilypond.org

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.

‘page-layout-manual-position.ly’



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.

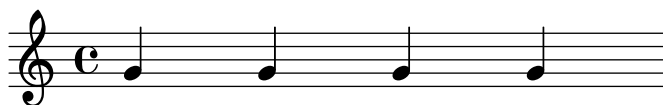
This file is best viewed outside the collated files document.

The space between systems can be limited when there is too much space left on the page by setting `page-limit-inter-system-space`.

`'page-limited-space.ly'`

page top

1



2



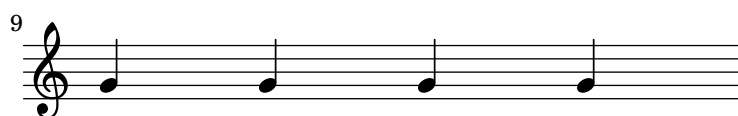
page bottom

page top

2



page bottom



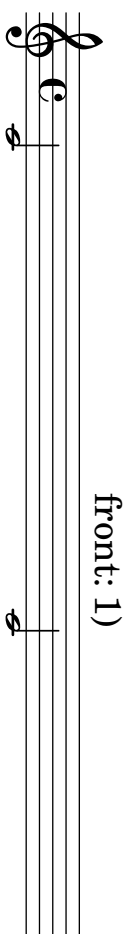
`'page-links-nolabel.ly'`

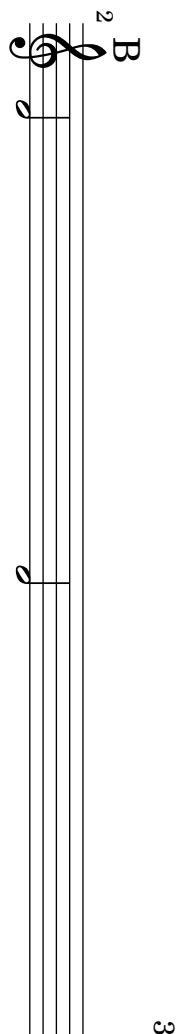
Link to non-existing label

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





‘page-minimal-page-breaking-last-page.ly’

Text

Text

Text

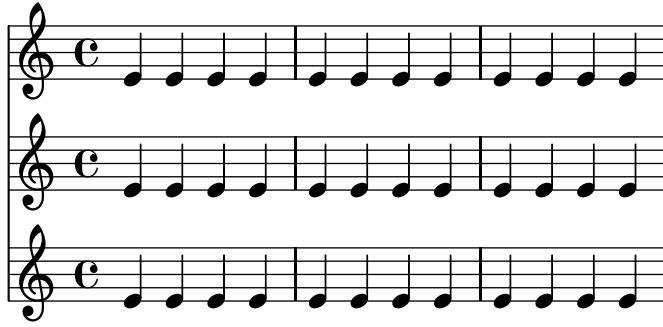
Text

Tagline

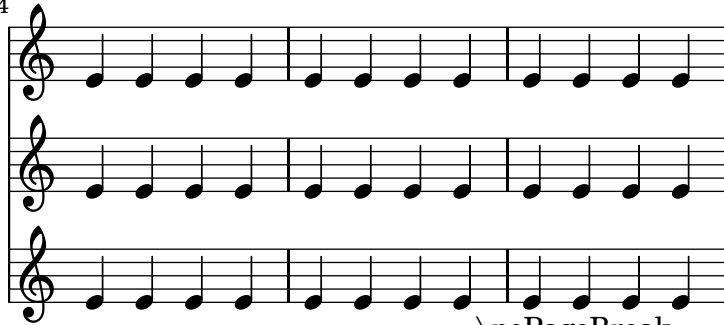
‘page-minimal-page-breaking.ly’



2



4



Music engraving by LilyPond 2.15.36—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 2.15.36—www.lilypond.org

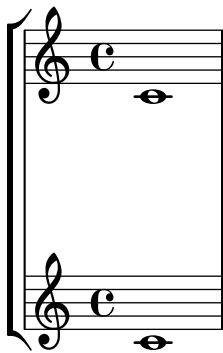
alignment-distances applies to the toplevel `VerticalAlignment` but not to `BassFigureAlign-`ment. The 4 in the bass figure line should be directly below the 6.

`'page-spacing-bass-figures.ly'`

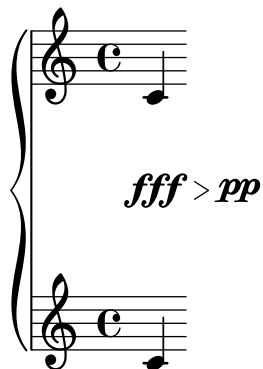


The spring at the bottom of a page is fairly flexible (much more so than the one at the top), so it does not drag the staff to the bottom of the page. However, it is sufficiently stiff to cause stretching.

`'page-spacing-bottom-spring.ly'`



‘page-spacing-dynamics.ly’

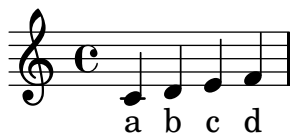


Adjacent lines of markup are placed as closely together as possible.

‘page-spacing-markups.ly’

A
B
C
D
E

‘page-spacing-nonstaff-lines-and-markup.ly’

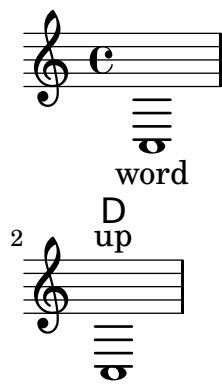


blah blah blah

Music engraving by LilyPond 2.15.36—www.lilypond.org

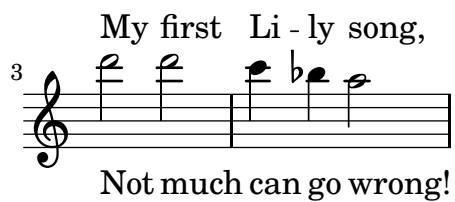
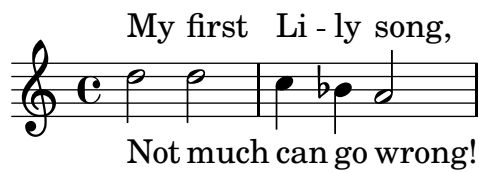
The vertical spacing engine is not confused by a non-staff line below a system followed by a loose line above the next system. Systems are spaced far enough that loose lines are not interleaved, even if gaps would allow interleaving.

‘page-spacing-nonstaff-lines-between-systems.ly’



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.

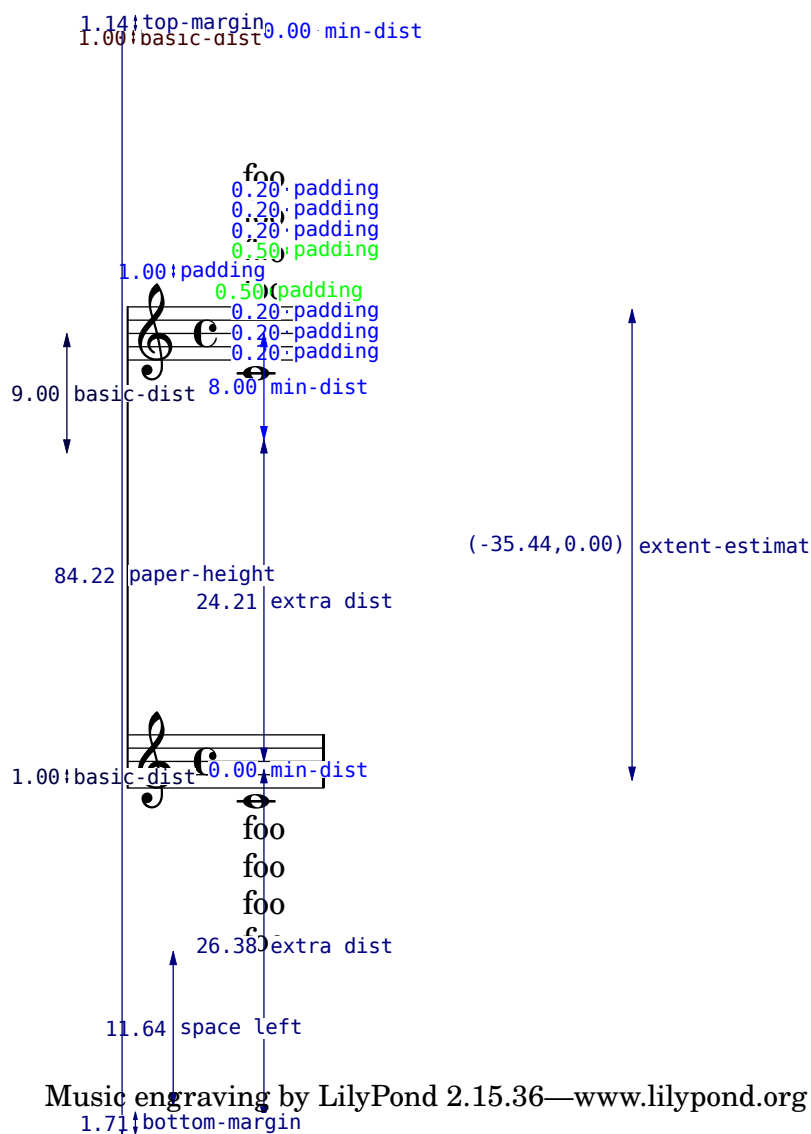
`'page-spacing-nonstaff-lines-bottom.ly'`



Not much can go wrong!

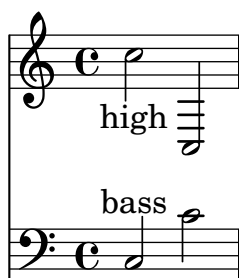
Padding from the header and footer is measured to the first non-staff line, whether or not it is spaceable.

‘page-spacing-nonstaff-lines-header-padding.ly’



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.

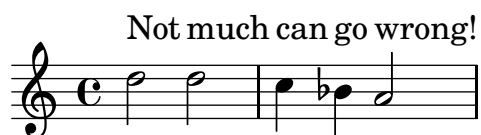
‘page-spacing-nonstaff-lines-independent.ly’



A non-staff line (such as Lyrics) at the top of a system is spaced appropriately.

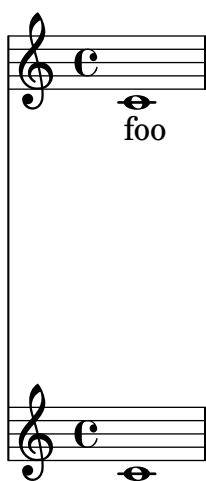
‘page-spacing-nonstaff-lines-top.ly’

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
K



T
A
L
L
M
A
R
K

2

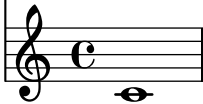


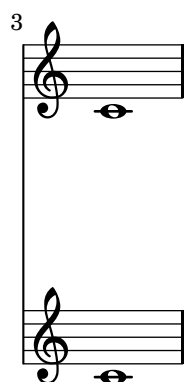
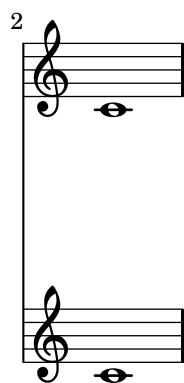
Music engraving by LilyPond 2.15.36—www.lilypond.org

StaffGrouper interacts correctly with \RemoveEmptyStaffContext. In both systems, there should be a large space between the staff groups.

‘page-spacing-staff-group-hara-kiri.ly’

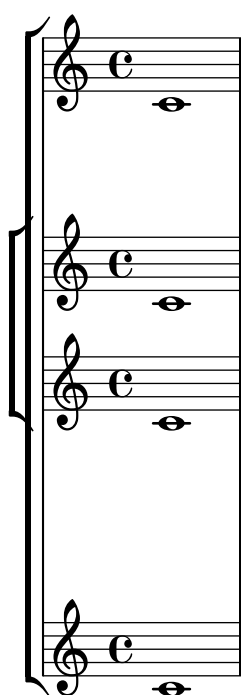






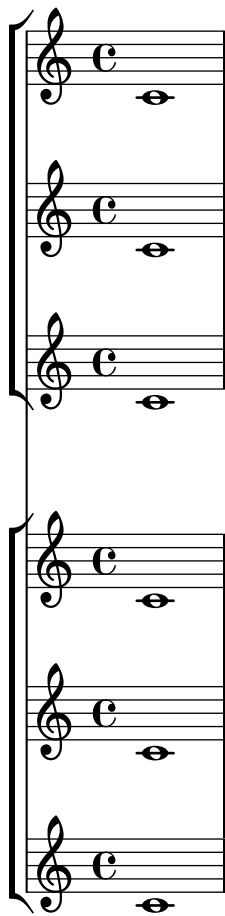
StaffGroups can be nested, in which case the inner StaffGroup wins.

`'page-spacing-staff-group-nested.ly'`



By default, the staves within a StaffGroup are spaced more closely than staves not in a StaffGroup.

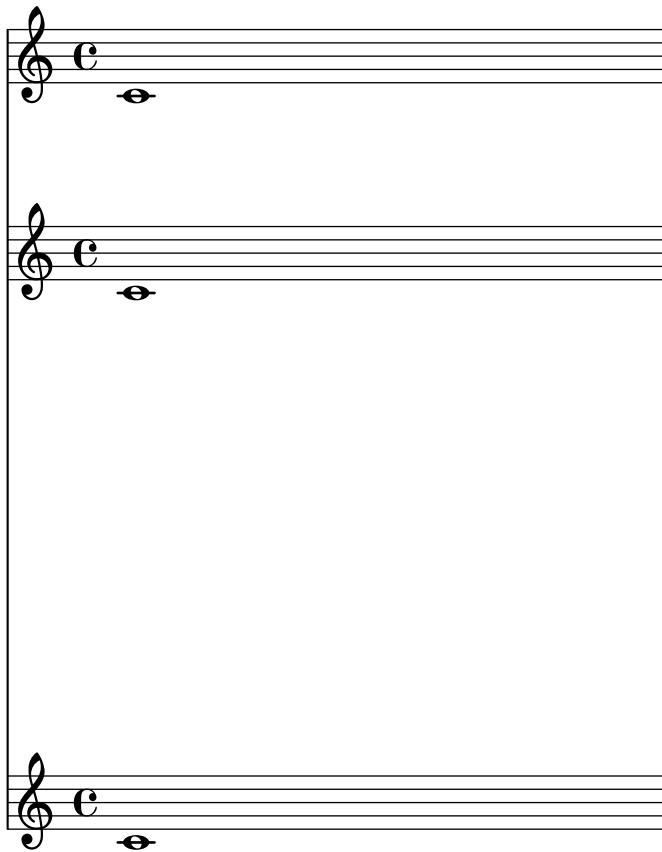
‘page-spacing-staff-group.ly’

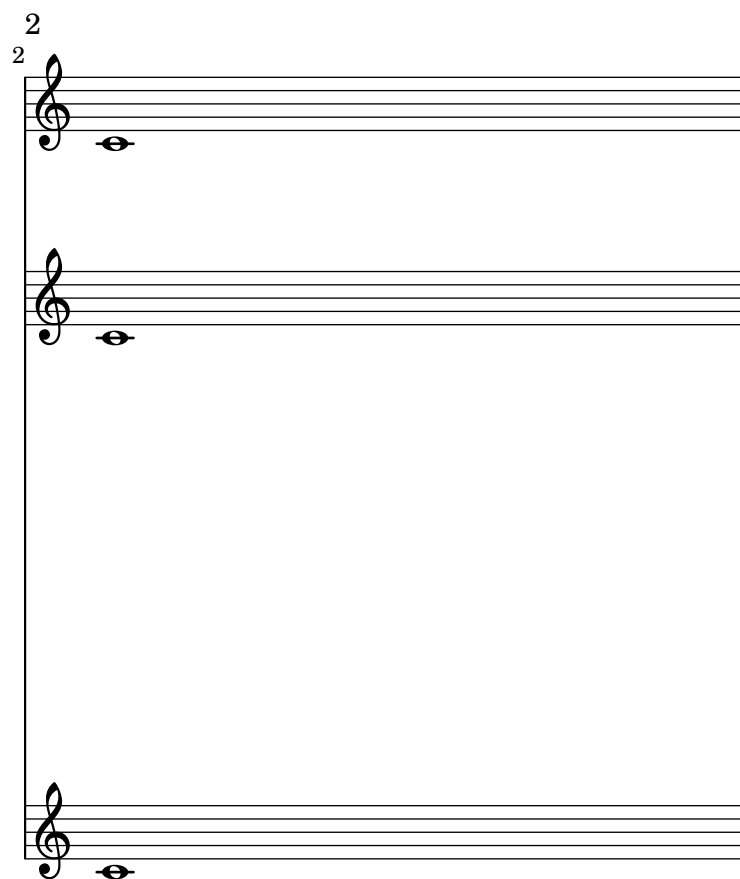


Music engraving by LilyPond 2.15.36—www.lilypond.org

The stretchability property affects the amount that staves will move under extreme stretching, but it does not affect the default distance between staves.

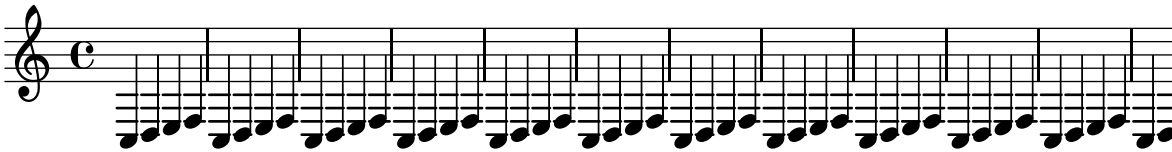
‘page-spacing-stretchability.ly’





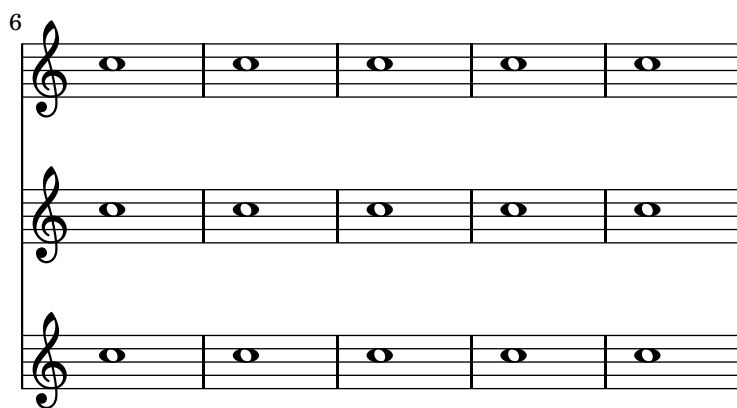
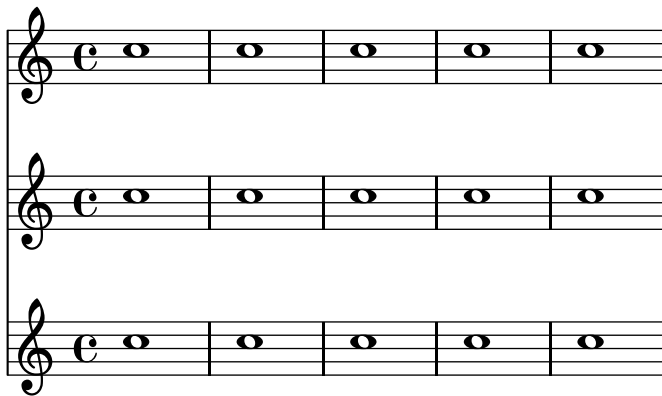
Music engraving by LilyPond 2.15.36—www.lilypond.org

‘page-spacing-system-count-overfull.ly’



Page layout and stretching work with system-count enabled.

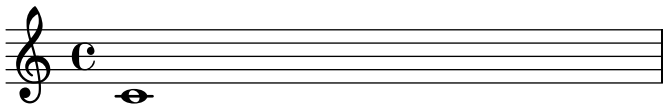
`'page-spacing-system-count.ly'`



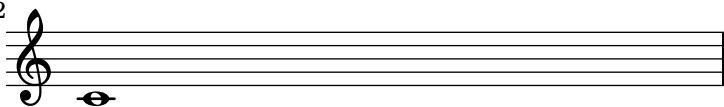
Music engraving by LilyPond 2.15.36—www.lilypond.org

Both the page breaking and the page layout take account of the heights of the header and footer.

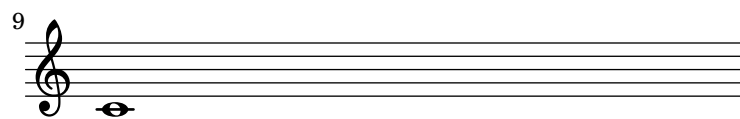
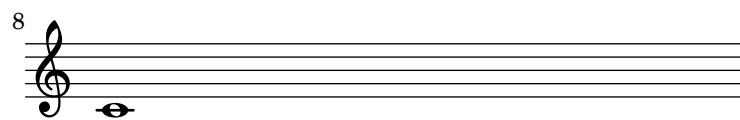
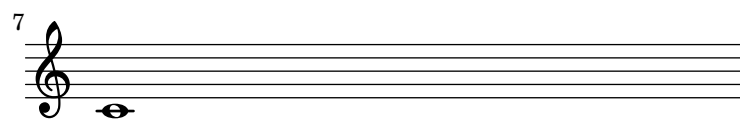
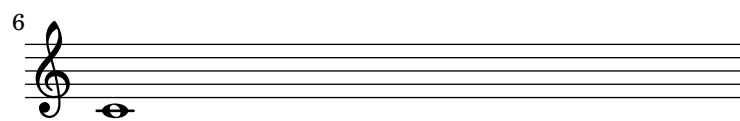
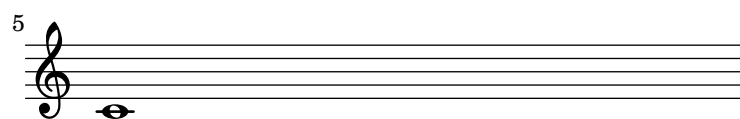
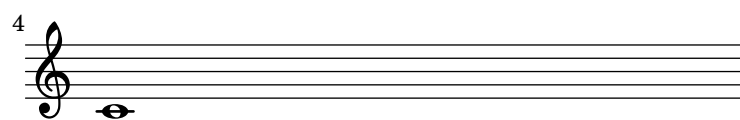
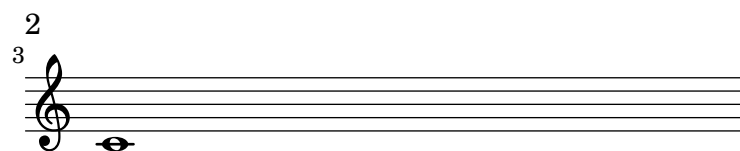
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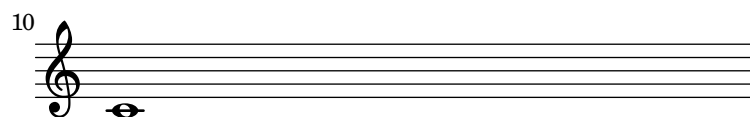


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small footer

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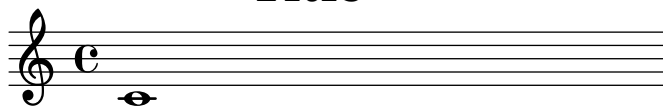


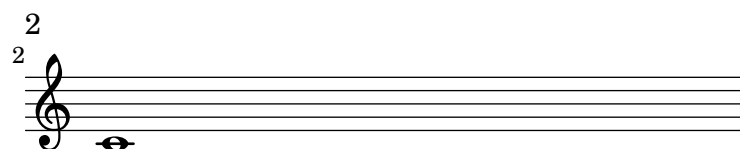
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`top-markup-spacing` controls the spacing from the top of the printable area (i.e. the bottom of the top margin) to a title or markup, when it is the first item on a page.

`‘page-spacing-top-markup-spacing.ly’`

Title



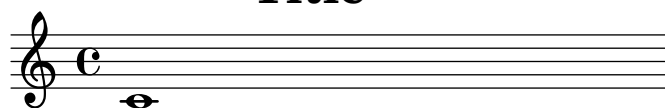


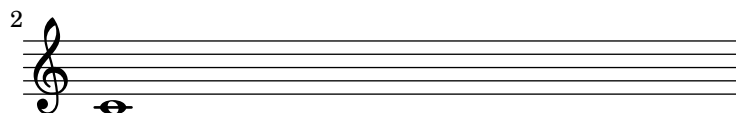
Music engraving by LilyPond 2.15.36—www.lilypond.org

top-system-spacing controls the spacing to the first non-title staff on every page.

`‘page-spacing-top-system-spacing.ly’`

Title





Music engraving by LilyPond 2.15.36—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.

5.18 top-margin

1.00|basic-dist|0.00|min-dist

9.00 basic-dist 7.00 min-dist (-17.16,0.00) extent-estimate

1.04 basic-dist 3.87 extra dist 1.00|padding

1.00|padding 8.00 min-dist

15.42 extra dist

2

9.00 basic-dist 7.00 min-dist (-15.70,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist

1.00|padding 8.00 min-dist

15.42 extra dist

3

9.00 basic-dist 7.00 min-dist (-17.16,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist 1.00|padding

1.00|padding 8.00 min-dist

15.42 extra dist

4

9.00 basic-dist 7.00 min-dist (-21.26,0.52) extent-estimate

1.04 basic-dist 6.91 extra dist 1.00|padding

1.00|padding 8.00 min-dist

15.42 extra dist

5

9.00 basic-dist 7.00 min-dist (-17.16,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist 1.00|padding

1.00|padding 8.00 min-dist

15.42 extra dist

6

9.00 basic-dist 7.00 min-dist (-17.16,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist 1.00|padding

1.00|padding 8.00 min-dist

15.42 extra dist

7

9.00 basic-dist 7.00 min-dist (-15.70,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist

1.00|padding 8.00 min-dist

15.42 extra dist

8

9.00 basic-dist 7.00 min-dist (-17.16,0.46) extent-estimate

1.04 basic-dist 3.87 extra dist 1.00|padding

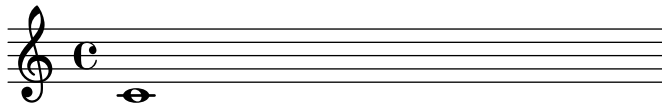
1.00|padding 8.00 min-dist

15.42 extra dist

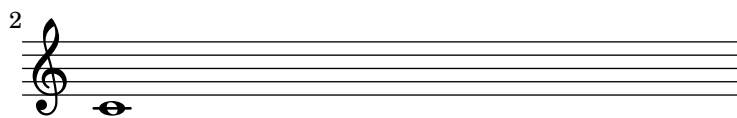
25 staff space to the bottom of the page. (property bottom-space)

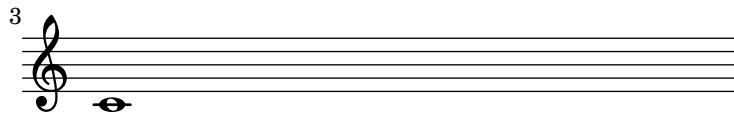
By setting `page-top-space`, the Y position of the first system can be forced to be uniform.

`'page-top-space.ly'`



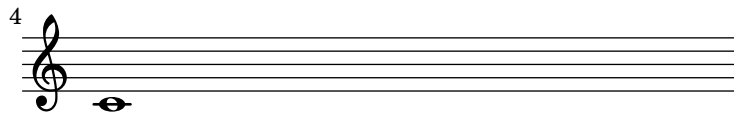
2





4

bla



‘page-turn-page-breaking-auto-first-page.ly’

2



5



10



15



20



25



29



33





Music engraving by LilyPond 2.15.36—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

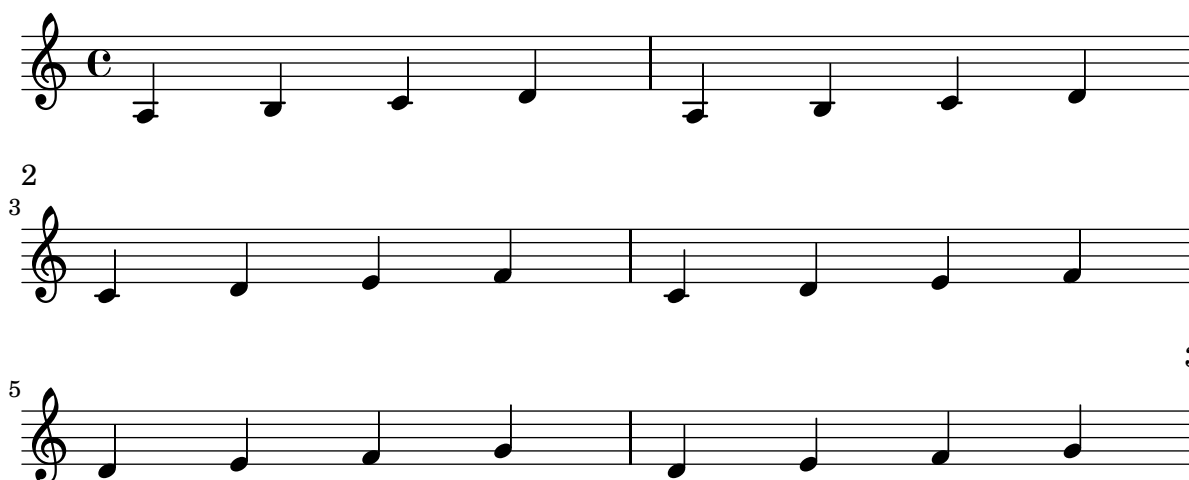
This image shows a musical score for a single system with 7 staves. The first staff begins with a treble clef and a common time signature 'C'. The music consists of a series of eighth notes, with some measures containing rests. The staves are numbered 2, 5, 9, 13, 17, 21, and 25 on the left side. The notation is in black ink on a white background.



Music engraving by LilyPond 2.15.36—www.lilypond.org

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.

‘page-turn-page-breaking-badturns.ly’



Music engraving by LilyPond 2.15.36—www.lilypond.org

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’





Music engraving by LilyPond 2.15.36—www.lilypond.org

The page-turn breaker will put a page turn after a rest unless there is a 'special' barline within the rest, in which case the turn will go after the special barline.

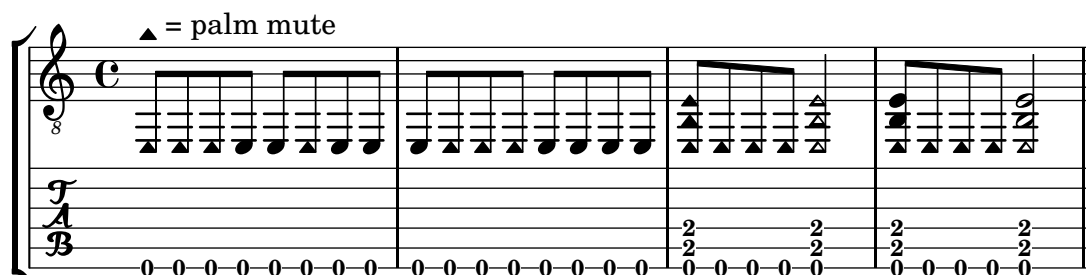
'page-turn-page-breaking.ly'



Music engraving by LilyPond 2.15.36—www.lilypond.org

The palm mute technique for stringed instruments is supported by triangle-shaped note heads.

`'palm-mute.ly'`



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 2.15.36—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.

'paper-margins-consistency.ly'

A musical score consisting of five staves, each containing a continuous sequence of eighth notes. The first staff begins with a treble clef and a common time signature (C). The subsequent staves are marked with measure numbers 9, 17, 25, and 33 at their starting points. Each staff contains 16 measures of music, with each measure consisting of a pair of eighth notes beamed together. The notes follow a consistent rhythmic and melodic pattern across all staves.

Here only left-margin is given, right-margin will remain default.

'paper-margins-left-margin.ly'

The image displays a musical score consisting of seven staves of music. Each staff begins with a treble clef, a common time signature (C), and a key signature of one flat (B-flat). The melody is a continuous eighth-note scale that ascends and then descends. The staves are numbered on the left: 6, 12, 18, 24, 30, and 36. The first staff (labeled 6) contains 16 measures. Each subsequent staff (labeled 12, 18, 24, 30, 36) contains 12 measures. The total number of measures is 72.

If only line-width is given, systems are horizontally centered.

'paper-margins-line-width.ly'



All checks can be avoided by setting check-consistency to `##f` in `\paper`.

‘paper-margins-no-checks.ly’

A musical score consisting of five staves, each containing a continuous sequence of eighth notes. The first staff begins with a treble clef and a common time signature (C). The notes on each staff follow a consistent rhythmic pattern, with the pitch of the notes increasing from the first staff to the fifth. The staves are numbered 9, 17, 25, and 33 on the left side, indicating the starting measure for each system.

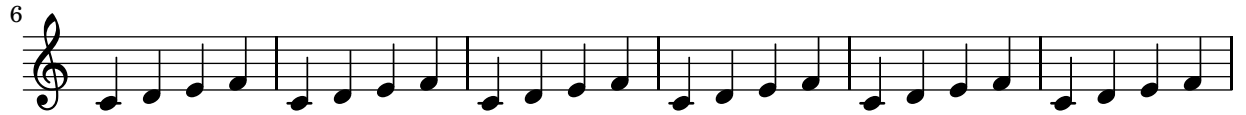
Normally, margin settings must not cause systems to run off the page.

‘paper-margins-overflow.ly’



Here only right-margin is given, left-margin will remain default.

'paper-margins-right-margin.ly'



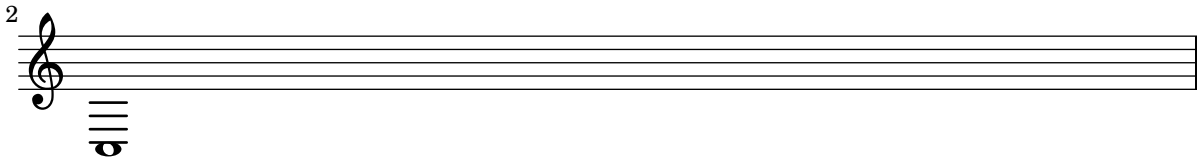
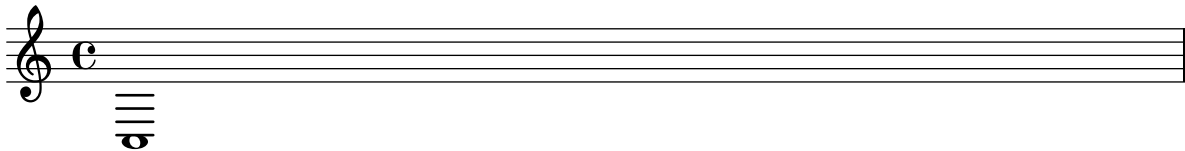
Paper margin settings do not have to be complete. Missing values are added automatically. If no paper settings are specified, default values are used.

‘paper-margins.ly’



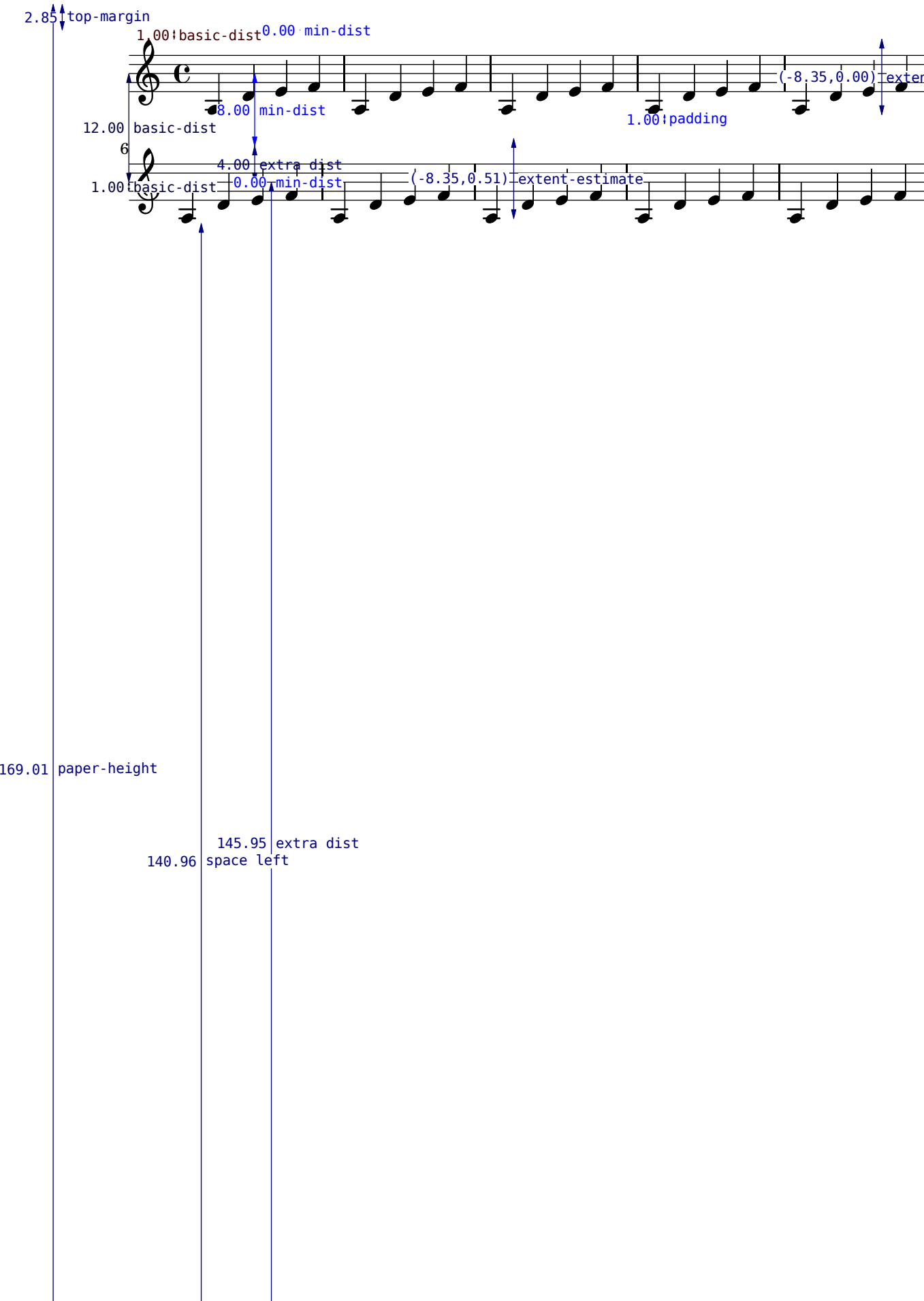
Nested properties can be set in the paper block.

`'paper-nested-override.ly'`



Setting individual nested paper properties does not remove existing settings or break spacing annotation.

‘paper-nested-override2.ly’



In two-sided mode, a binding offset can be specified, which is added to the inner margin automatically.

'paper-twosided-bcorr.ly'

A musical score consisting of 11 staves of music. Each staff begins with a treble clef and a common time signature (C). The music is a continuous sequence of eighth notes, grouped in pairs across each staff. The staves are numbered on the left: 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, and 78. The final staff is labeled 85 at the bottom left, with a single eighth note visible.



195



Two-sided mode allows you to use different margins for odd and even pages.

‘paper-twosided.ly’

A musical score for a piece titled 'paper-twosided.ly'. The score is written on 12 staves, each containing a single melodic line. The music is in common time (C) and features a continuous, ascending eighth-note pattern. The staves are numbered 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, 78, and 85, indicating the starting measure of each line. The notation is consistent across all staves, showing a steady climb in pitch.

2
99

106

113

120

127

134

141

148

155

162

169

176

183

This musical score consists of 12 staves, each containing a single melodic line. The notation is in treble clef with a key signature of one flat (B-flat). The melody is a continuous sequence of eighth notes, starting on G4 and ascending stepwise to G5. The notes are grouped in measures of four, with a bar line after every four notes. The staves are numbered on the left with measure numbers: 99, 106, 113, 120, 127, 134, 141, 148, 155, 162, 169, 176, and 183. A small number '2' is positioned above the first staff.

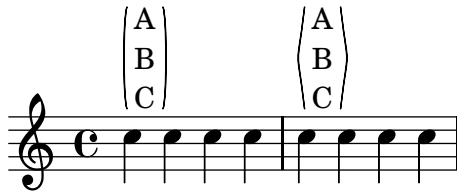
195



The `parenthesize` markup will place parentheses around any stencil.

The angularity of the parentheses can be adjusted.

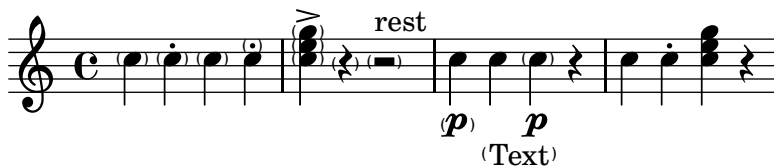
`'parenthesize-markup.ly'`



The `parenthesize` function should also work on single notes (not inside chords), rests and on whole chords (each note of the chord is parenthesized). 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'`



The `parenthesize` function is a special tweak that encloses objects in parentheses. The associated grob is `Score.ParenthesesItem`.

`'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 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’



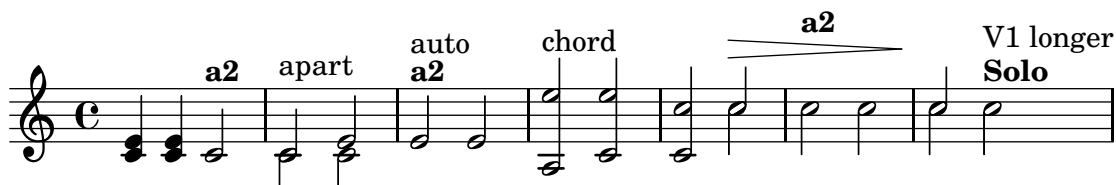
Overrides for the part-combiner, affecting only one moment. The `partcombine...Once` override applies only to one moment, after which the old override – if any – is in effect again.

‘part-combine-force-once.ly’



Overrides for the part-combiner. All functions like `\partcombineApart` and `\partcombineApartOnce` are internally implemented using a dedicated `PartCombineForceEvent`.

‘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’



Part combine texts accept markup.

`'part-combine-markup.ly'`



Multimeasure rests are printed after solos, both for solo1 and for solo2.

`'part-combine-mmrest-after-solo.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'`



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'`



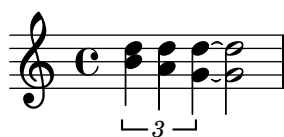
End tuplets events are sent to the starting context, so even after a switch, a tuplet ends correctly.

`'part-combine-tuplet-end.ly'`



Tuplets in combined parts only print one bracket.

`'part-combine-tuplet-single.ly'`



The new part combiner stays apart from:

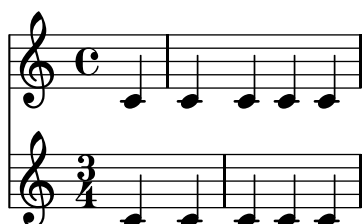
- different durations,
- different articulations (taking into account only slur/beam/tie), and
- wide pitch ranges.

`'part-combine.ly'`



`\partial` works with polymetric staves.

`'partial-polymetric.ly'`



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 € ĂĲœŔŮů)\ ;

UTF-16BE with parentheses:) € ĂĲœŔŮů Latin1 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



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’



Unterminated piano pedal brackets run to the end of the piece.

‘pedal-end.ly’



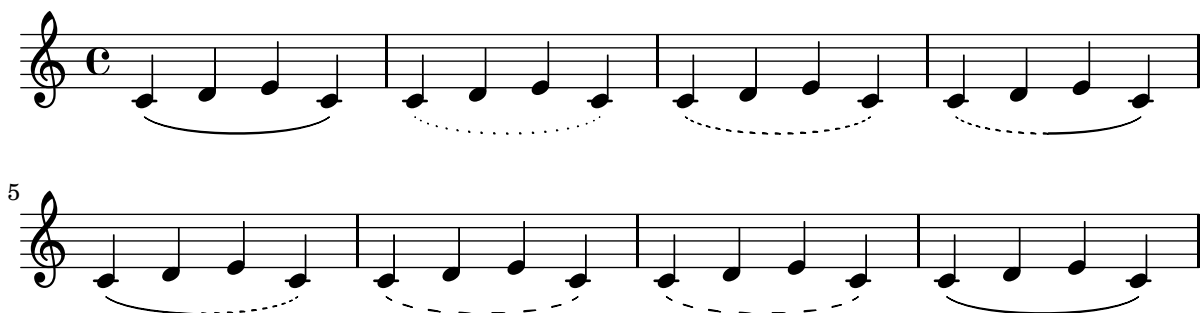
The standard piano pedals style comes with Ped symbols. The pedal string can be also tuned, for example, to a shorter tilde/P variant at the end of the melody.

‘pedal-ped.ly’



The appearance of phrasing slurs may be changed from solid to dotted or dashed.

‘phrasing-slur-dash.ly’



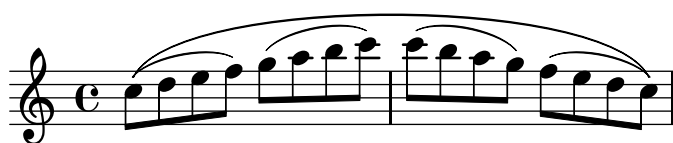
LilyPond does not support multiple concurrent phrasing slurs with the parentheses syntax. In this case, warnings will be given and the nested slur will not be generated. However, one can create a second slur with a different spanner-id.

‘phrasing-slur-multiple.ly’



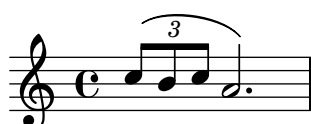
PhrasingSlurs go over normal slurs.

‘phrasing-slur-slur-avoid.ly’



Phrasing slurs do not collide with triplet numbers.

‘phrasing-slur-triplet.ly’

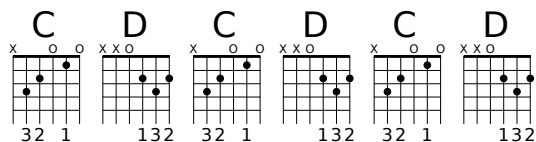


‘point-and-click-types.ly’



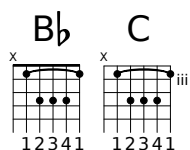
Transposition by less than one octave up or down should not affect predefined fretboards.

‘predefined-fretboards-transpose.ly’



Predefined fretboards and chord shapes can be added.

‘predefined-fretboards.ly’



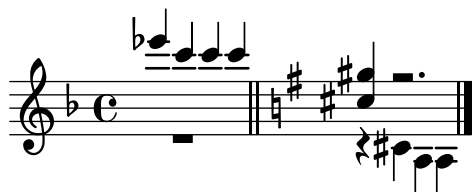
The A is atop an invisible barline. The barline, although invisible, is also translated because it is the last one of the break alignment.

‘prefatory-empty-spacing.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 barlines. 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 clef and bar-line is different from the start of line.

‘prefatory-spacing-matter.ly’



heavily mutilated Edition Peters Morgenlied by Schubert

'profile-property-access.ly'

LilyPond demo

Lieulich, etwas geschwind

1. Sü - ßes
2. いろはに ㇿㇿ

3
Licht! Aus gol - de-nen Pfor - ten brichst du_
ほへど ちり ぬるを

5
sie - gend durch die Nacht. Schö - ner
ㇿㇿ いろ はに ㇿㇿ ほへ

7
Tag, du bist er - wacht.
ちり ぬる

cresc.

f

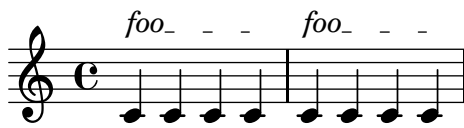
Property overrides and reverts from `\grace` do not interfere with the overrides and reverts from polyphony.

`'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'`



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’

The musical score for 'quote-cue-during.ly' consists of three staves. The top staff, labeled 'quoteMe', shows a melody in treble clef with a key signature of one sharp (F#) and a common time signature (C). It features a series of eighth and sixteenth notes, with a forte (ff) dynamic marking. The middle staff, labeled 'orig (killCues)', shows the original melody with some notes replaced by rests. The bottom staff, labeled 'orig+quote', shows the original melody with the quoted melody overlaid. The quoted melody is marked with a forte (ff) dynamic.

The `cueDuring` and `quoteDuring` forms of quotation will use the variables `quotedCueEventTypes` and `quotedEventTypes` to determine which events are quoted. This allows different events to be quoted for cue notes than for normal quotes.

`quotedEventTypes` is also the fallback for cue notes if `quotedCueEventTypes` is not set.

‘quote-cue-event-types.ly’

The musical score for 'quote-cue-event-types.ly' consists of four staves. The top staff, labeled 'Quoted Voice', shows a melody in treble clef with a key signature of one sharp (F#) and a common time signature (C). It features a series of eighth and sixteenth notes, with a forte (ff) dynamic marking. The second staff, labeled 'quoteDuring', shows the quoted melody with a forte (ff) dynamic marking. The third staff, labeled 'cueDuring', shows the cue melody with a forte (ff) dynamic marking. The bottom staff, labeled 'Fallback', shows the fallback melody with a forte (ff) dynamic marking.

Two quoted voices may refer to each other. In this example, there are notes with each full-bar rest.

‘quote-cyclic.ly’

The musical score for 'quote-cyclic.ly' consists of two staves. Both staves are in treble clef with a common time signature (C). They show parallel music with eighth and sixteenth notes. The first staff has a key signature of one sharp (F#), and the second staff has a key signature of one flat (Bb).

`\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

The image shows three staves of musical notation. The top staff is labeled 'quoteMe' and contains a sequence of notes and rests. The middle staff is labeled 'orig' and contains a sequence of notes and rests. The bottom staff is labeled 'orig+quote' and contains a sequence of notes and rests. The notation is in common time (C). The top staff has a *ff* dynamic marking. The bottom staff has a *ff* dynamic marking.

Quotes may contain grace notes. The grace note leading up to an unquoted note is not quoted.

‘quote-grace.ly’

quoted

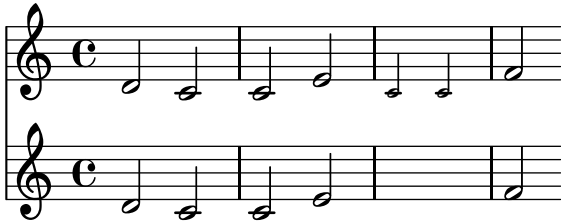
quoted

original

The image shows two staves of musical notation. The top staff is labeled 'quoted' and contains a sequence of notes and rests. The bottom staff is labeled 'quoted' and contains a sequence of notes and rests. The notation is in common time (C). The bottom staff has a *original* label. The bottom staff has a *original* label.

`\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.

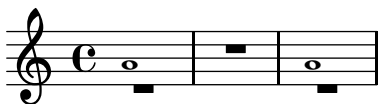
By default, not all events are quoted. By setting the quoted event types to `'(StreamEvent)`, everything should be quoted.

‘quote-overrides.ly’



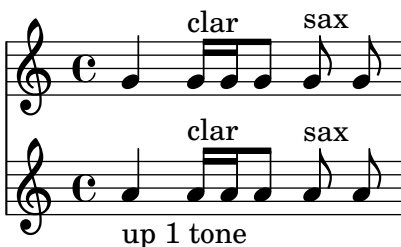
Voices from different cues must not be tied together. In this example, the first note has a tie. This note should not be tied to the second visible note (following the rest). Note that this behavior will not hold for cues in direct succession, since only one `CueVoice` context is created (with `context-id` ‘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 a instrument in F. The target part may be `\transposed`. In this case, all the pitches (including the quoted ones) will transposed as well.

‘quote-transposition.ly’



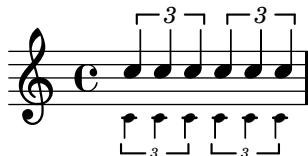
Tuplet bracket ends properly when quoting.

‘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'`

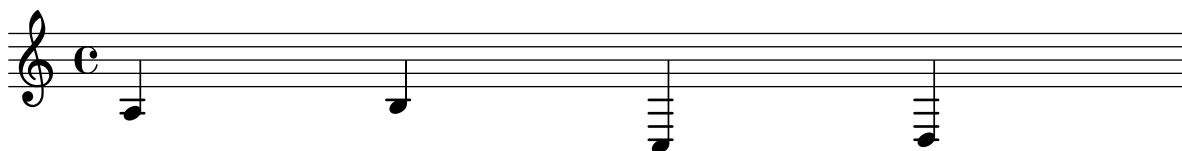


When a score takes up only a single line and it is compressed, it is not printed as ragged.

`'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'`



When the `break-align-symbols` property is given as a list, the alignment depends on which symbols are visible.

`'rehearsal-mark-align-priority.ly'`



RehearsalMarks still align correctly if `Mark_engraver` is moved to another context.

`'rehearsal-mark-align-staff-context.ly'`



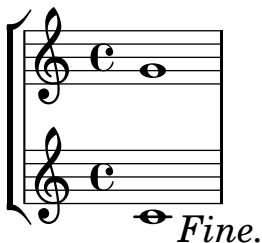
The rehearsal mark is put on top a breakable symbol, according to the value of `break-align-symbols` value of the `RehearsalMark`. The same holds for `BarNumber` grobs.

`'rehearsal-mark-align.ly'`



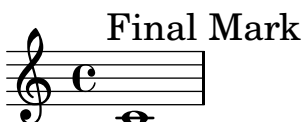
Rehearsal marks with direction `DOWN` get placed at the bottom of the score.

`'rehearsal-mark-direction.ly'`



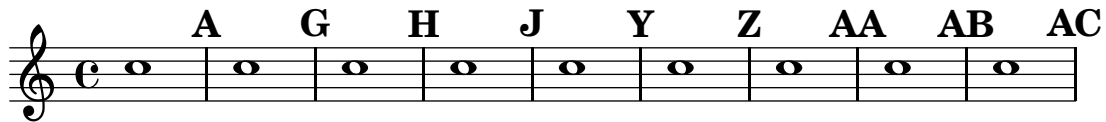
Rehearsal marks at the end of the last measure of a score are automatically made visible.

`'rehearsal-mark-final-score.ly'`



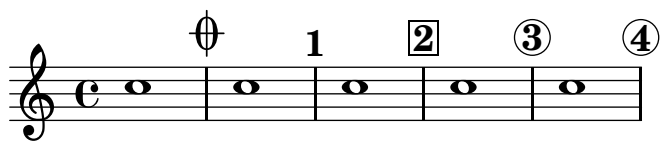
Rehearsal marks in letter style: the I is skipped, and after Z, double letters are used. The mark may be set with `\mark NUMBER`, or with `Score.rehearsalMark`.

`'rehearsal-mark-letter.ly'`



Marks can be printed as numbers. By setting `markFormatter` we may choose a different style of mark printing. Also, marks can be specified manually, with a markup argument.

`'rehearsal-mark-number.ly'`



Relative mode for repeats uses order of entry.

`'relative-repeat.ly'`



`\RemoveEmptyStaves` is defined separately from context definitions so it can be used outside of `\layout` blocks.

`'remove-empty-context-mod.ly'`



2

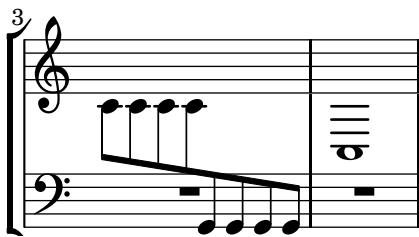
`RemoveEmptyStaves` should keep the pre-existing value of `auto-knee-gap`. In this case, the cross-staff beam should be between the two staves.

`'remove-empty-staves-auto-knee.ly'`



2





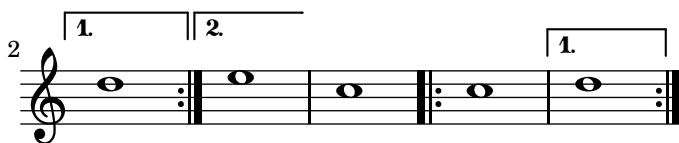
Rests should not keep staves alive when `\RemoveEmptyStaffContext` is active. The following example should have only one staff.

`'remove-empty-staves-with-rests.ly'`



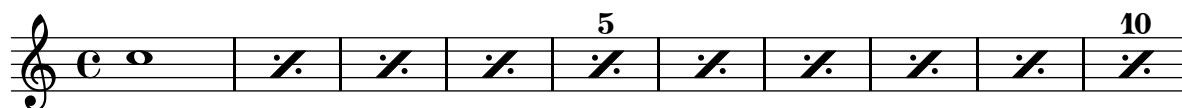
Across linebreaks, the left edge of a first and second alternative bracket should be equal.

`'repeat-line-break.ly'`



Percent repeat counters can be shown at regular intervals by setting `repeatCountVisibility`.

`'repeat-percent-count-visibility.ly'`



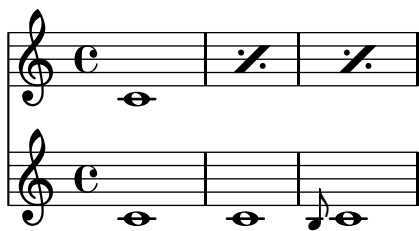
Percent repeats get incremental numbers when `countPercentRepeats` is set, to indicate the repeat counts, but only if there are more than two repeats.

`'repeat-percent-count.ly'`



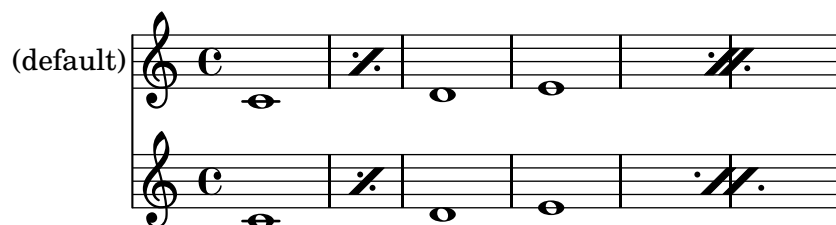
Percent repeats are also centered when there is a grace note in a parallel staff.

‘repeat-percent-grace.ly’



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’



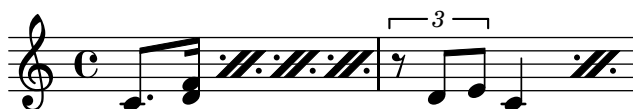
Measure repeats may be nested with beat repeats.

‘repeat-percent.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'`



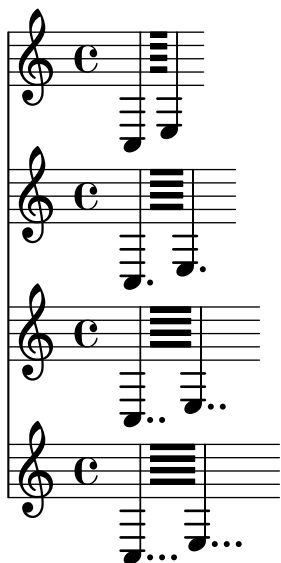
Repeat ties are only connected on the right side to a note head.

`'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'`



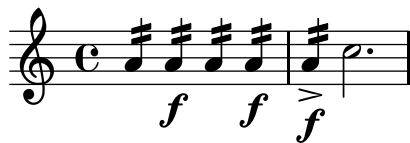
Dots are added to tremolo notes if the durations involved require them.

`'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'`



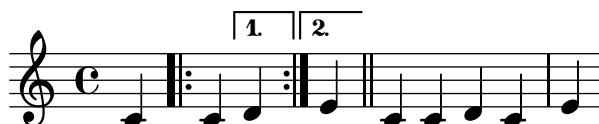
A tremolo can have more than two notes. Also check that linebreaks between tremolos still work and that empty tremolos don't crash.

`'repeat-tremolo-three-notes.ly'`



Volta repeats may be unfolded through the music function `\unfoldRepeats`.

`'repeat-unfold-all.ly'`



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.

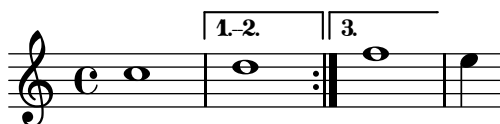
Unfolded behavior:

`'repeat-unfold.ly'`



When too few alternatives are present, the first alternative is repeated, by printing a range for the 1st repeat.

`'repeat-volta-skip-alternatives.ly'`



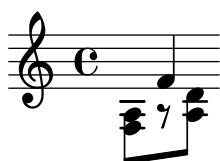
Volta (Semi folded) behavior. Voltas can start on non-barline moments. If they don't barlines should still be shown.

`'repeat-volta.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'`



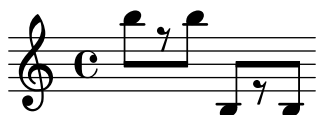
Beam/rest collision takes offset due to Rest #'direction into account properly.

`'rest-collision-beam-restdir.ly'`



Rests under beams are shifted upon collision.

`'rest-collision-beam.ly'`



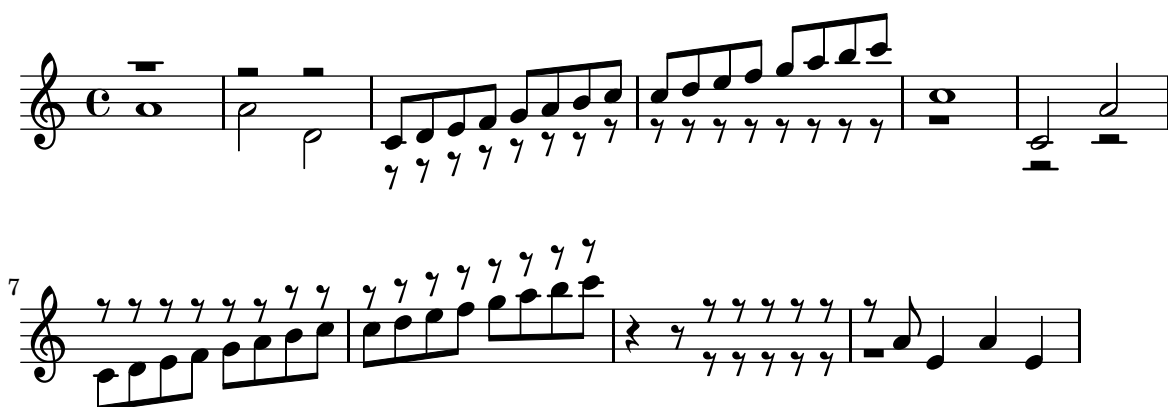
Vertical rest positions in a multi-voice staff should obey the duration of notes; this is, they shouldn't return to a default position too early.

‘rest-collision-note-duration.ly’



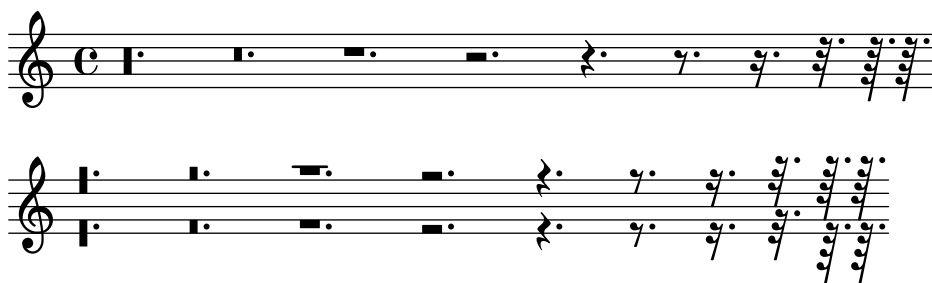
Rests should not collide with beams, stems and noteheads. Rests may be under beams. Rests should be move by integral number of spaces inside the staff, and by half spaces outside. Notice that the half and whole rests just outside the staff get ledger lines in different cases.

‘rest-collision.ly’



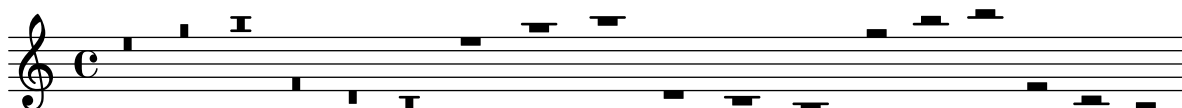
Dots of rests should follow the rest positions.

‘rest-dot-position.ly’



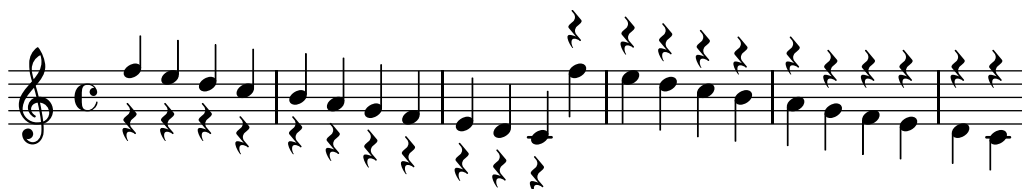
Breve, whole and half rests moving outside the staff should get ledger lines.

‘rest-ledger.ly’



In rest-note collisions, the rest moves in discrete steps, and inside the staff, it moves in whole staff spaces.

‘rest-note-collision.ly’



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'`

This musical score example illustrates the placement of rests on non-standard staves. It features a grand staff with five staves, each containing a treble clef and a common time signature (C). The first four staves are grouped by a brace on the left. The fifth staff is positioned below the first four. The rests are placed on the staves as follows: Staff 1: whole rest on the first line; Staff 2: whole rest on the second line; Staff 3: whole rest on the third line; Staff 4: whole rest on the fourth line; Staff 5: whole rest on the first line. The rests are positioned such that they hang from the staff line by default, except when the position is set by pitch.

This musical score example shows a continuation of the previous example, starting at measure 9. It features a grand staff with five staves, each containing a treble clef and a common time signature (C). The first four staves are grouped by a brace on the left. The fifth staff is positioned below the first four. The rests are placed on the staves as follows: Staff 1: whole rest on the first line; Staff 2: whole rest on the second line; Staff 3: whole rest on the third line; Staff 4: whole rest on the fourth line; Staff 5: whole rest on the first line. The rests are positioned such that they hang from the staff line by default, except when the position is set by pitch.

19

Measures 19-30. The notation shows a sequence of notes and rests across five staves. The first staff has a treble clef, and the others have bass clefs. The notes are mostly eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

31

Measures 31-42. The notation shows a sequence of notes and rests across five staves. The first staff has a treble clef, and the others have bass clefs. The notes are mostly eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

43

Measures 43-54. The notation shows a sequence of notes and rests across five staves. The first staff has a treble clef, and the others have bass clefs. The notes are mostly eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

55

This system contains measures 55 through 68. It features five staves: four for a piano (indicated by 'I' on each staff) and one for a solo voice (indicated by 'I' below the staff). The piano part is a homophonic setting with four voices. The solo voice part has three notes: a half note in measure 55, a half note in measure 61, and a half note in measure 67. The piano accompaniment consists of chords in measures 55, 56, 61, 62, 67, and 68.

69

This system contains measures 69 through 80. It features five staves: four for a piano (indicated by 'I' on each staff) and one for a solo voice (indicated by 'I' below the staff). The piano part continues the homophonic setting. The solo voice part has three notes: a half note in measure 69, a half note in measure 75, and a half note in measure 80. The piano accompaniment consists of chords in measures 69, 70, 75, 76, 80, and 81.

81

This system contains measures 81 through 92. It features five staves: four for a piano (indicated by 'I' on each staff) and one for a solo voice (indicated by 'I' below the staff). The piano part continues the homophonic setting. The solo voice part has three notes: a half note in measure 81, a half note in measure 87, and a half note in measure 92. The piano accompaniment consists of chords in measures 81, 82, 87, 88, 92, and 93.

93

Musical score for measures 93-104. The score consists of a grand staff with four staves and a single staff below. Measures 93-104 are shown. Notes are present in measures 94, 98, and 102 across all staves.

105

Musical score for measures 105-116. The score consists of a grand staff with four staves and a single staff below. Measures 105-116 are shown. Notes are present in measures 106, 110, and 114 across all staves.

117

Musical score for measures 117-128. The score consists of a grand staff with four staves and a single staff below. Measures 117-128 are shown. Notes are present in measures 118, 122, and 126 across all staves.

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'`



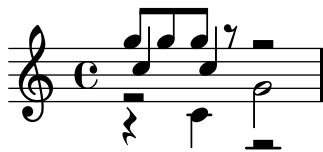
Pitched rests under beams.

`'rest-pitched-beam.ly'`



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-polyphonic-2.ly'`



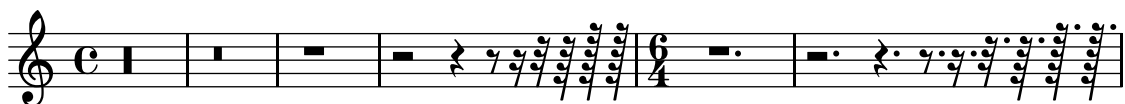
In polyphonic situations, rests are moved according to their **direction** even if there is no opposite note or rest. The amount is two **staff-spaces**.

`'rest-polyphonic.ly'`



There is a big variety of rests. Note that the dot of 8th, 16th and 32nd rests should be next to the top of the rest. All rests except the whole rest are centered on the middle staff line.

`'rest.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 not survive lilypond `-safe-mode`

`‘safe.ly’`

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



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

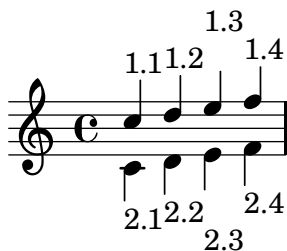
Score with a g

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.

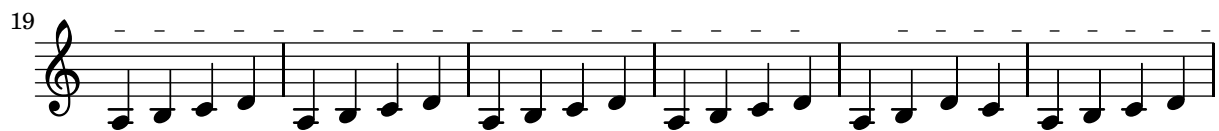
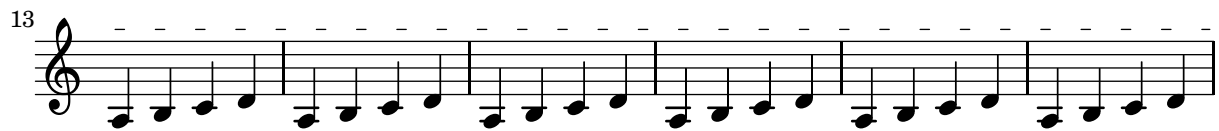
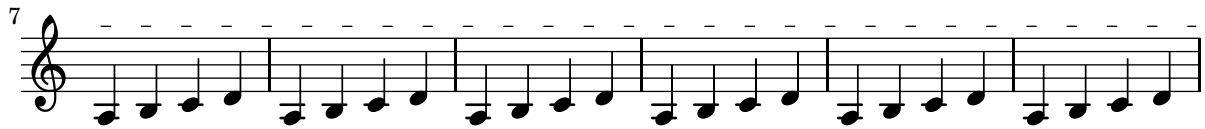
```
'scheme-engraver.ly'
```



Use `define-event-class`, scheme engraver methods, and grob creation methods to create a fully functional text spanner in scheme.

```
'scheme-text-spanner.ly'
```





Markup texts are rendered above or below a score.

'score-text.ly'

High up above

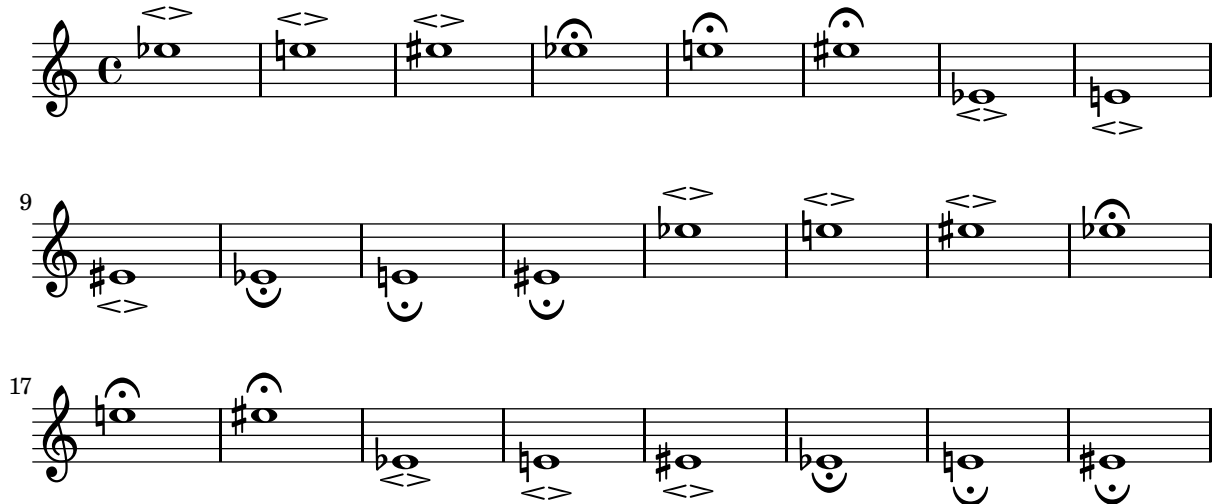
My first Li - ly song,

3
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'`



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).

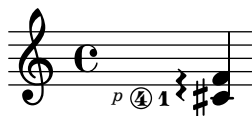
`'script-shift.ly'`



horizontal scripts are ordered, so they do not overlap. The order may be set with `script-priority`.

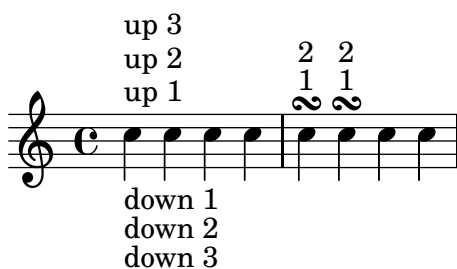
The scripts should not be folded under the time signature.

`'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'`



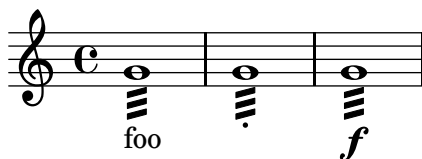
Scripts may be stacked.

`'script-stacked.ly'`



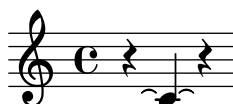
Scripts avoid stem tremolos even if there is no visible stem.

`'script-stem-tremolo.ly'`



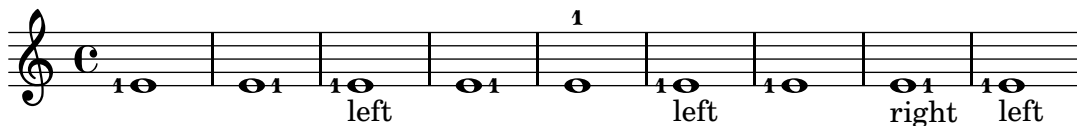
Semi tie directions may be forced from the input.

`'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'`



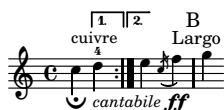
`\shiftDurations` can use negative dot values without causing a crash.

‘shift-durations-negative-dots.ly’



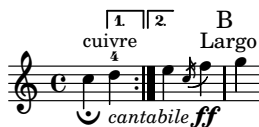
Different text styles are used for various purposes.

‘size11.ly’



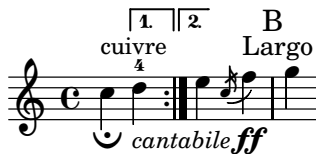
Different text styles are used for various purposes.

‘size13.ly’



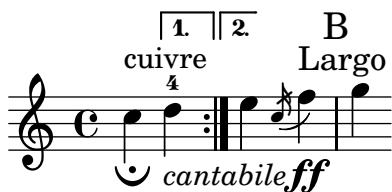
Different text styles are used for various purposes.

‘size16.ly’



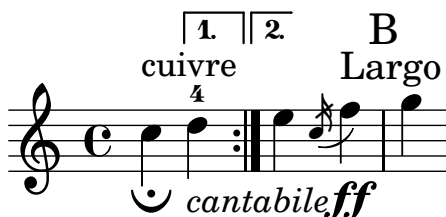
Different text styles are used for various purposes.

‘size20.ly’



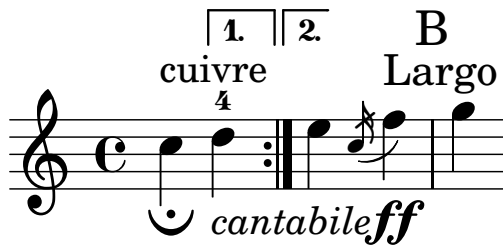
Different text styles are used for various purposes.

‘size23.ly’



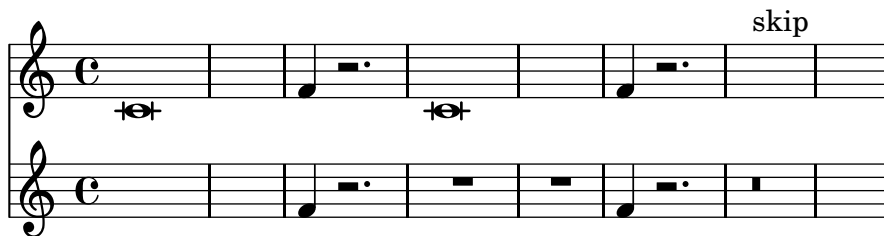
Different text styles are used for various purposes.

‘size26.ly’



skip-of-length and mmrest-of-length create skips and rests that last as long as their arguments.

‘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’



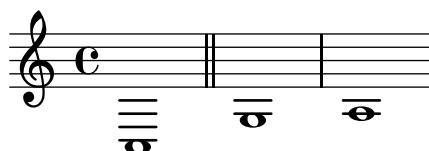
When skipTypesetting is set during a skipBars-induced MultiMeasureRest spanner, no segfault occurs.

‘skiptypesetting-multimeasurerest.ly’



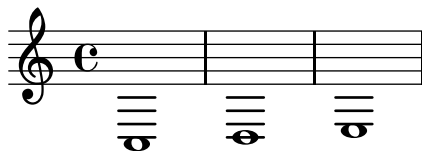
showFirstLength and showLastLength may be set at the same time; both the beginning and the end of the score will be printed.

‘skiptypesetting-show-first-and-last.ly’



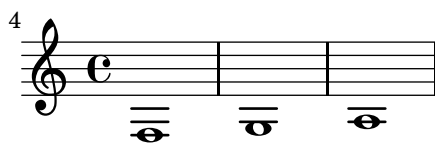
showFirstLength will only show the first bit of a score

`'skiptypesetting-show-first.ly'`



`showLastLength` will only show the last bit of a score

`'skiptypesetting-show-last.ly'`



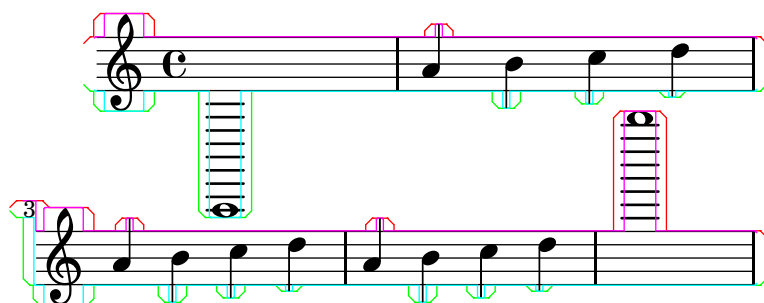
Tuplet brackets are also skipped with `skipTypesetting`.

`'skiptypesetting-tuplet.ly'`



`'-ddebug-skyline'` draws the outline of the skyline used.


`'skyline-debug.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'


5
3



5
3



5
3



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



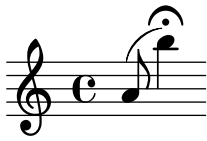
this goes below the dynamic

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'`

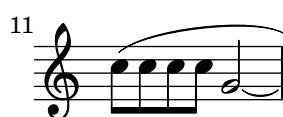


‘slur-avoid.ly’



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.

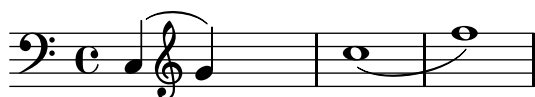
‘slur-broken-trend.ly’





Slurs avoid clefs, but don't avoid barlines.

`'slur-clef.ly'`



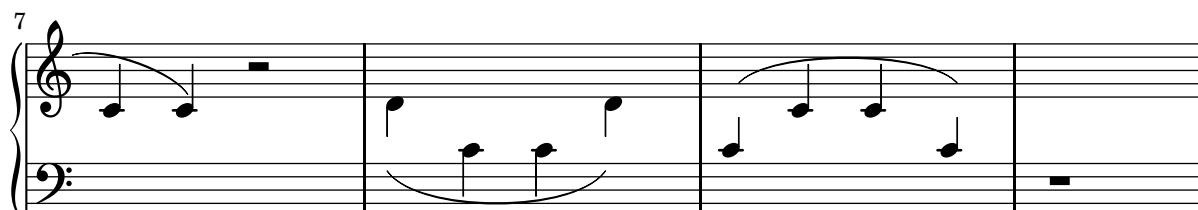
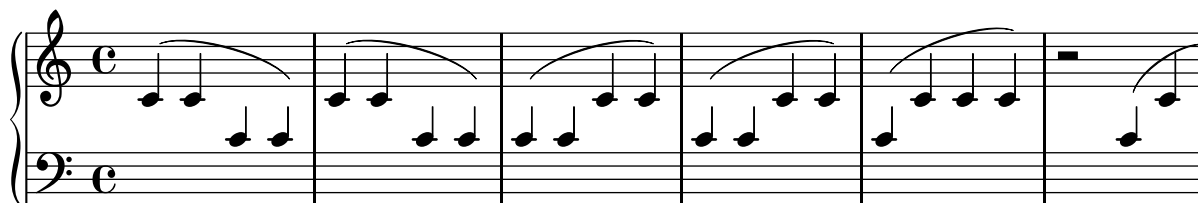
Slurs that depend on a cross-staff beam are not calculated until after line-breaking.

`'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’



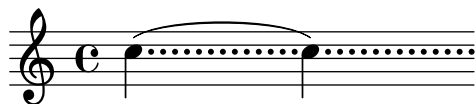
Slurs avoid dots.

‘slur-dot-collision.ly’



Slurs should not get confused by augmentation dots. With a lot of dots, the problems becomes more visible.

‘slur-dots.ly’



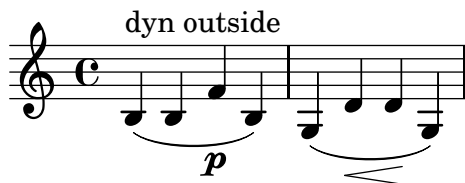
Some composers use slurs both above and below chords. This can be typeset by setting `doubleSlurs`

‘slur-double.ly’



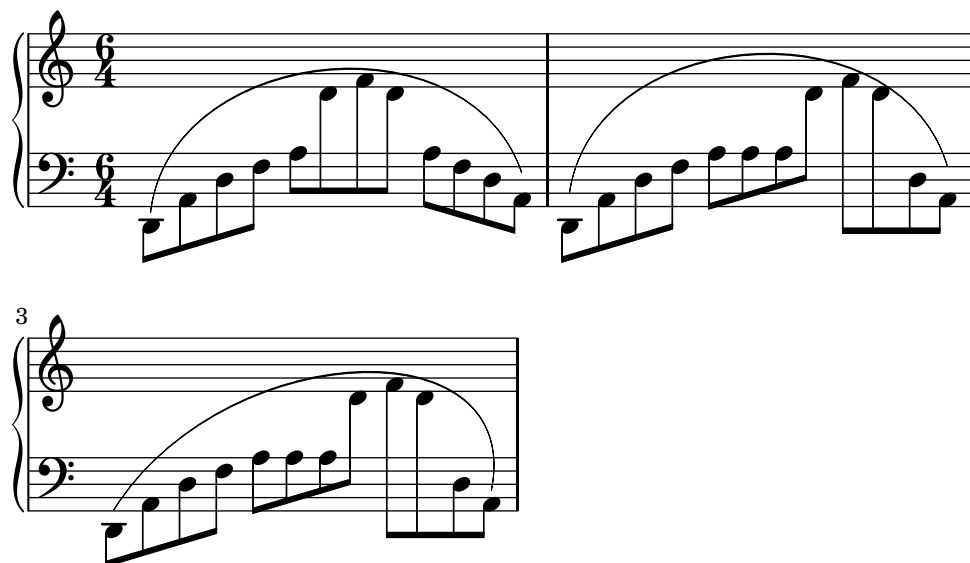
Dynamics avoid collision with slur.

‘slur-dynamics.ly’



Extreme slurs are scaled to fit the pattern, but only symmetrically. Asymmetric slurs are created by setting `eccentricity`.

`'slur-extreme.ly'`



Appoggiatura and acciaccaturas 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'`



Setting `positions` overrides the automatic positioning of the slur. It selects the slur configuration closest to the given pair.

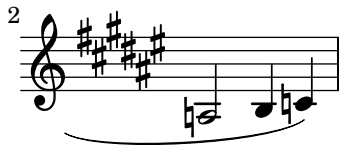
`'slur-manual.ly'`



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'`



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'`.

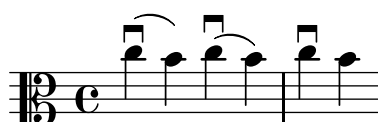
`'slur-scoring.ly'`





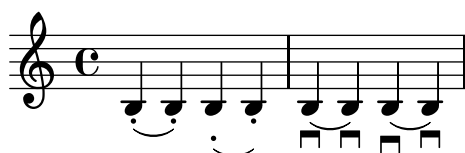
Slurs avoid scripts with `avoid-slur` set to `inside`, scripts avoid slurs with `avoid-slur` set to `around`. Slurs and scripts keep a distance of `slur-padding`.

`'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'`



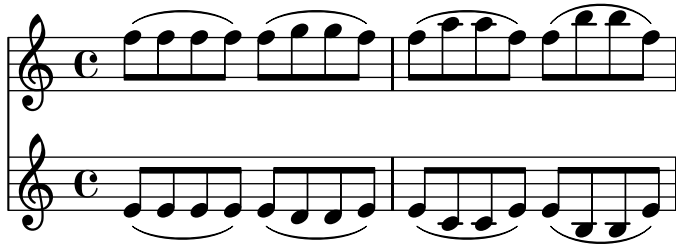
A slur's shift region is automatically made higher to accommodate extra encompass elements.

`'slur-shift-region.ly'`



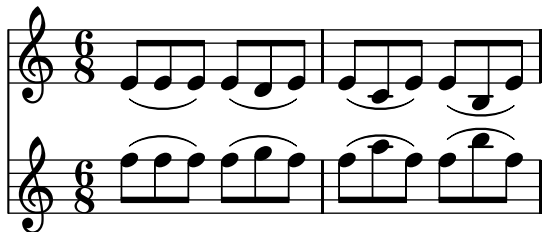
Symmetric figures should lead to symmetric slurs.

‘slur-symmetry-1.ly’



Symmetric figures should lead to symmetric slurs.

‘slur-symmetry.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’



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.

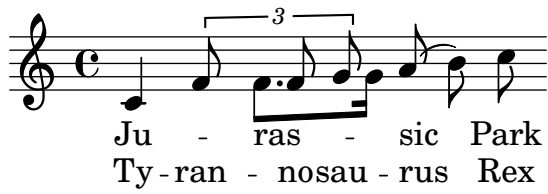
‘song-reordering.ly’



Ju - ras - sic Park
Ty-ran - nosau - rus Rex

Festival song synthesis output supports reordered lyrics.

‘song-reordering2.ly’



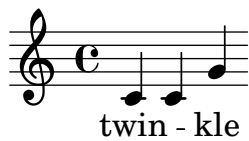
Festival song synthesis output supports repeat signs.

‘song-repetition.ly’



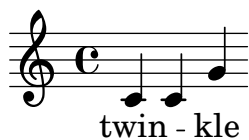
Festival song synthesis output supports lyrics which are not complete words.

‘song-skip-noword.ly’



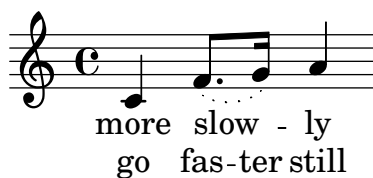
Festival song synthesis output supports skips.

‘song-skip.ly’



Festival song synthesis output supports slurs.

‘song-slurs.ly’



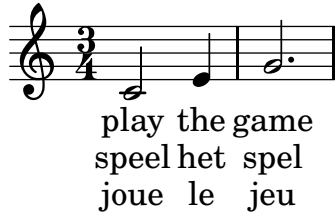
Festival song synthesis output supports divided voices.

‘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’



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’





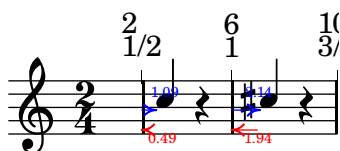
Accidentals sticking out to the left of a note will take a little more space, but only if the spacing is tight.

‘spacing-accidental.ly’



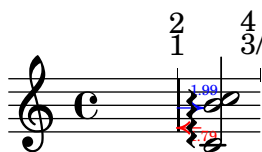
An accidental following a bar gets space so the left edge of the acc is at 0.3 staff space from the bar line

‘spacing-bar-accidental.ly’



An arpeggio following a bar gets space

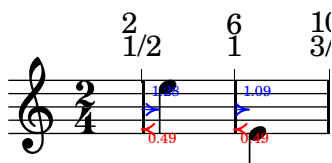
‘spacing-bar-arpeggio.ly’



Downstem notes following a barline are printed with some extra space. This is an optical correction similar to juxtaposed stems.

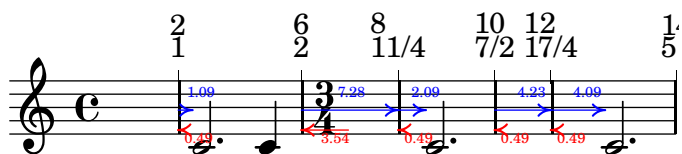
The bar upstem should be approx 1.1 staff space, the bar downstem 1.3 to 1.5 staff space.

‘spacing-bar-stem.ly’



Notes that fill a whole measure are preceded by extra space.

‘spacing-bar-whole-measure.ly’



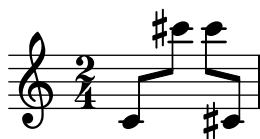
Clef changes at the start of a line get much more space than clef changes halfway the line.

‘spacing-clef-first-note.ly’



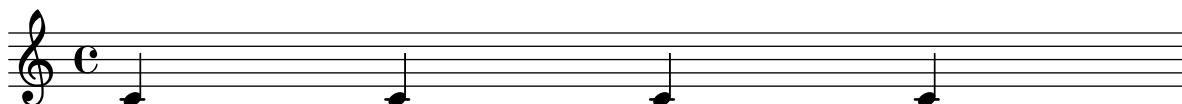
If right hand stems have accidentals, optical spacing correction is still applied, but only if the stem directions are different.

‘spacing-correction-accidentals.ly’



Empty barlines 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’



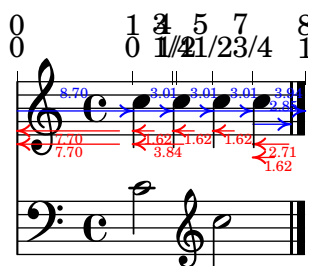
A clef can be folded below notes in a different staff, if this does not disrupt the flow of the notes.

‘spacing-folded-clef.ly’



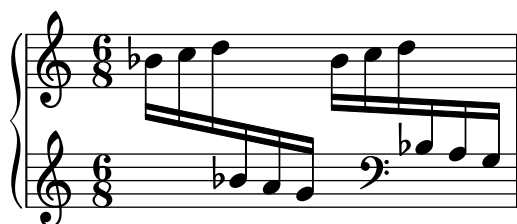
A clef can be folded below notes in a different staff, if there is space enough. With `Paper_column` stencil callbacks we can show where columns are in the score.

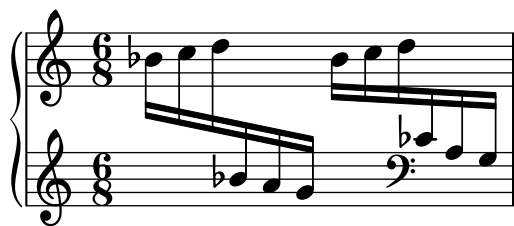
‘spacing-folded-clef2.ly’



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'`



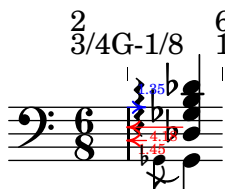
Grace note runs have their own spacing variables in `Score.GraceSpacing`. So differing grace note lengths inside a run are spaced accordingly.

`'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 barline do not collide.

`'spacing-horizontal-skyline-grace.ly'`



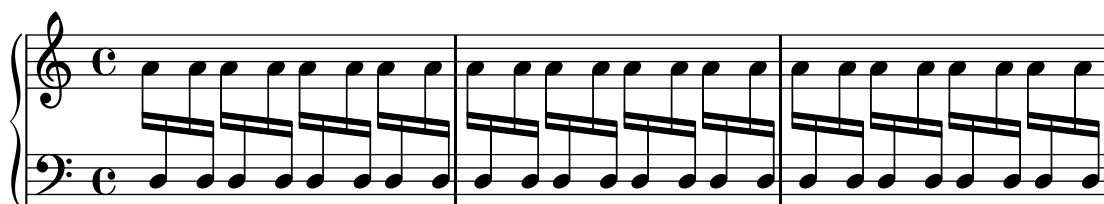
accidentals may be folded under preceding notes.

`'spacing-horizontal-skyline.ly'`



Spacing corrections for kneed beams still work when compression is involved.

`'spacing-knee-compressed.ly'`



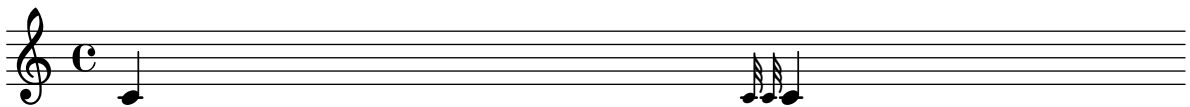
For knees, the spacing correction is such that the stems are put at regular distances. This effect takes into account the width of the note heads and the thickness of the stem.

‘spacing-knee.ly’



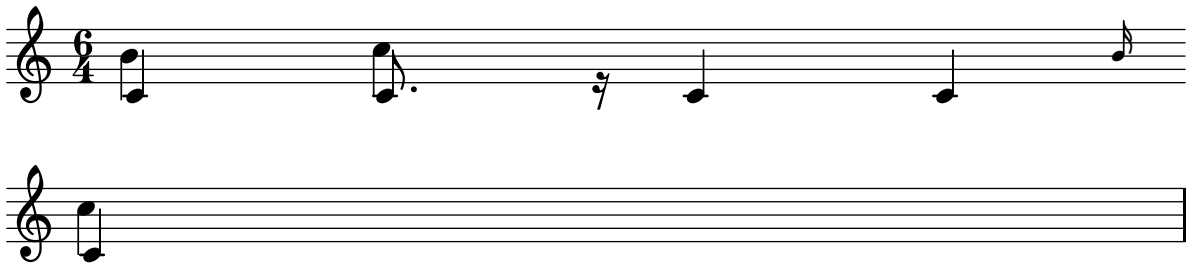
Even in case of incorrect contexts (eg. shortlived contexts) that break linking of columns through spacing wishes, **strict-note-spacing** defaults to a robust solution. This test passes if it does not seg fault; instead it should produce three programming error messages. Note that, in tight music with strict note spacing, grace notes will collide with normal notes. This is expected.

‘spacing-loose-grace-error.ly’



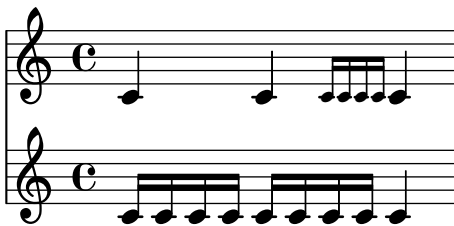
If a floating grace spacing section attaches to a note across a line break, it gets attached to the end of line.

‘spacing-loose-grace-linebreak.ly’



With **strict-grace-spacing**, grace notes don’t influence spacing.

‘spacing-loose-grace.ly’



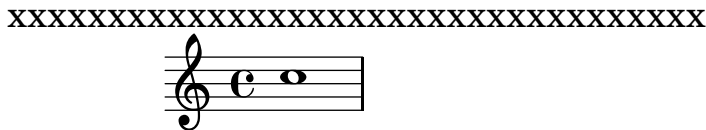
Loose columns (here, the treble clef) are spaced correctly in polyphonic music.

‘spacing-loose-polyphony.ly’



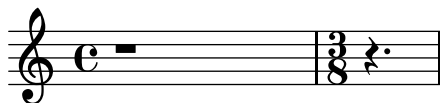
Width of marks does not affect spacing.

‘spacing-mark-width.ly’



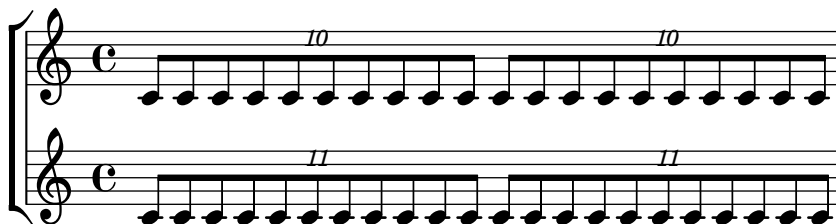
Horizontal spacing is bounded by the current measure length. This means that the 3/8 setting does not affect the whole rest spacing.

‘spacing-measure-length.ly’



Concurrent tuplets should be equidistant on all staves. Such equidistant spacing is at odds with elegant engraver spacing; hence it must be switched on explicitly with the **uniform-stretching** property of SpacingSpanner.

‘spacing-multi-tuplet.ly’



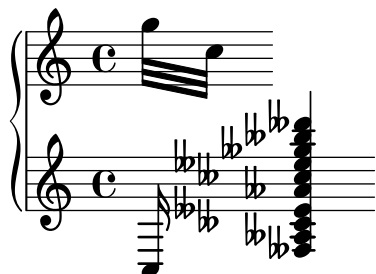
In the absence of NoteSpacings, wide objects still get extra space. In this case, the slash before the barline gets a little more space.

‘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 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’`



The space after a paper column can be increased by overriding the padding property.

`‘spacing-paper-column-padding.ly’`



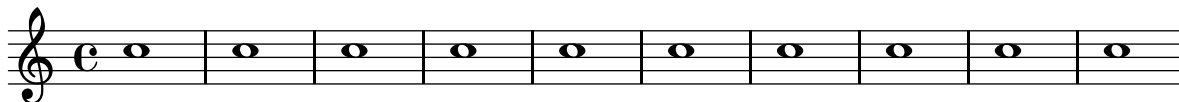
Proportional notation can be created by setting `proportionalNotationDuration`. Notes will be spaced proportional to the distance for the given duration.

`‘spacing-proportional.ly’`

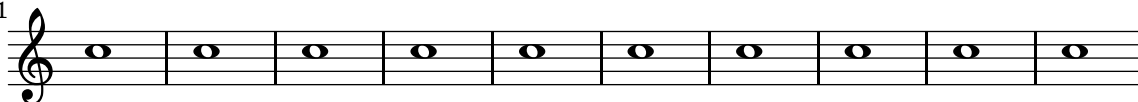


If `ragged-last` is set, the systems are broken similar to paragraph formatting in text: the last line is unjustified.

‘spacing-ragged-last.ly’



11



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’



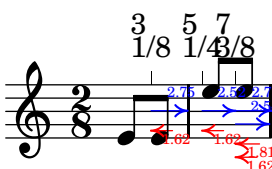
When `space-to-barline` is false, we measure the space between the note and the start of the clef. When `space-to-barline` is true, we measure the space between the note and the start of the barline.

‘spacing-space-to-barline.ly’



Upstem notes before a barline are printed with some extra space. This is an optical correction similar to juxtaposed stems.

‘spacing-stem-bar.ly’



'spacing-stem-direction.ly'

'spacing-stem-same-direction.ly'

`'spacing-stick-out.ly'`

`'spacing-strict-notespacing.ly'`

`'spacing-strict-spacing-grace.ly'`

An empty barline does not confuse the spacing engine too much. The two scores should look approximately the same.

`'spacing-to-empty-barline.ly'`



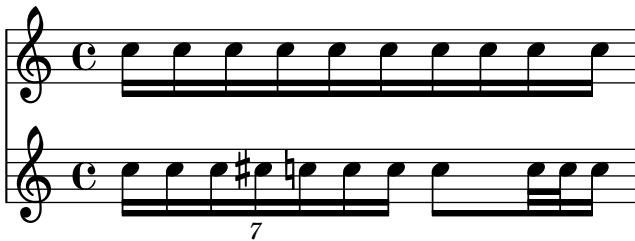
Space from a normal note (or barline) to a grace note is smaller than to a normal note.

`'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'`

long-syllable a b c long-syllable a b c

syllable a b c syllable a b c

word a b c word a b c

5

Articulations on cross-staff stems do not collide with span bars.

‘span-bar-articulation.ly’

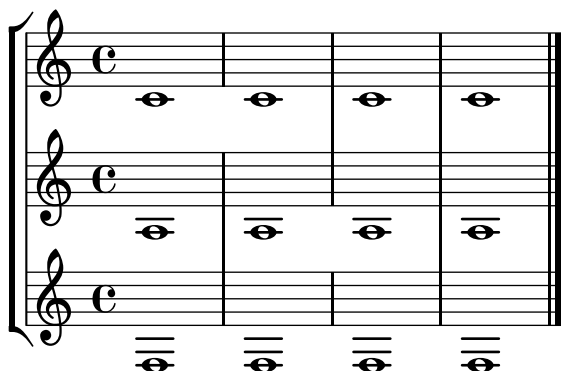
At the beginning of a system, the |: repeat barline is drawn between the staves, but the :| is not.

‘span-bar-break.ly’

2

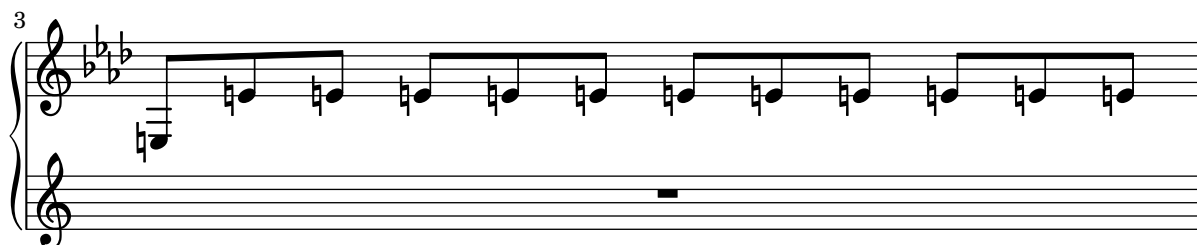
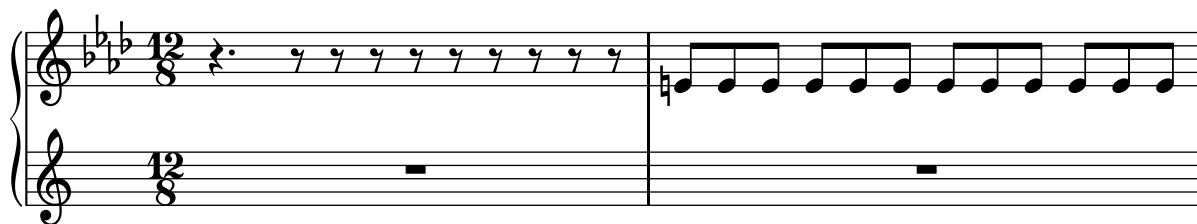
Span bars can be turned on/off on a staff-by-staff basis.

`'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.

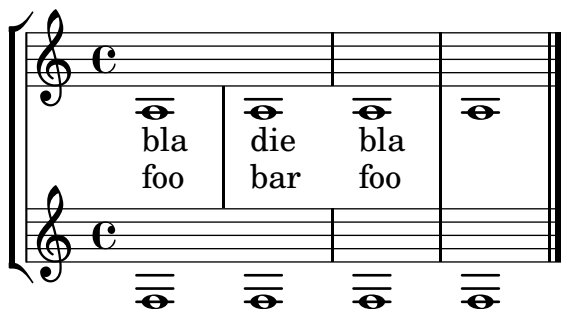
`'span-bar-spacing.ly'`



Span bars are drawn only between staff bar lines. By setting bar lines to transparent, they are shown only between systems.

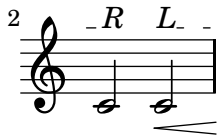
Setting SpanBar transparent removes the barlines between systems.

`'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’

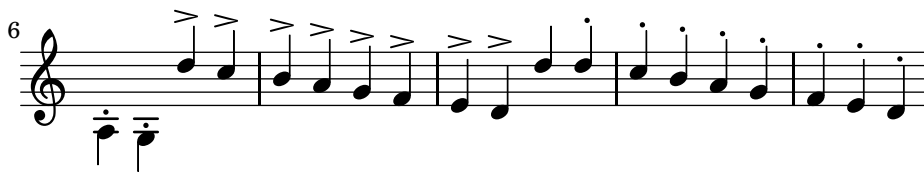
The **break-overshoot** property sets the amount that a spanner (in this case: the beam and tuplet bracket) in case of a line break extends beyond the rightmost column and extends to the left beyond the prefatory matter.

`'spanner-break-overshoot.ly'`



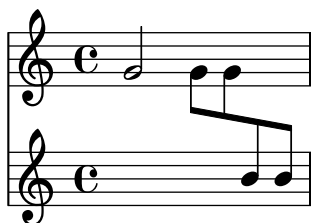
Some scripts must have quantized positions. VERTICAL position descend monotonously for a descending scale. The staccato dot is close to the notehead. If the head is in a space, then the dot is in the space next to it.

`'staccato-pos.ly'`



Staves stay alive long enough to complete an automatic beam.

`'staff-change-autobeam.ly'`



Staves can be started and stopped at command.

`'staff-halfway.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'`



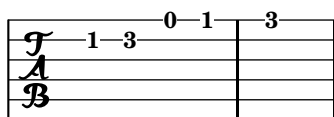
The space between scores containing `Staffs` and `TabStaffs` should be consistent. In this example, all of the spacings should be equivalent.

`'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'`



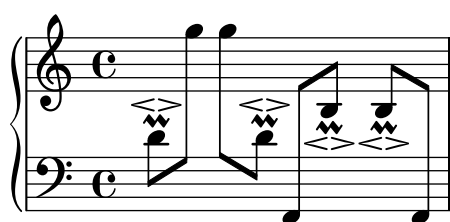
Stanza numbers are put left of their lyric. They are aligned in a column.

`'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'`



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'`



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'`

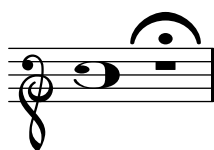


`‘stencil-hacking.ly’`



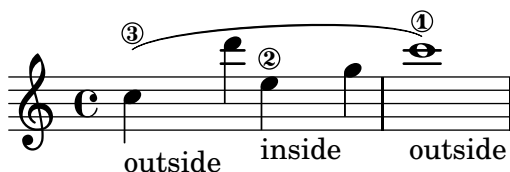
Stencils can be scaled using `ly:stencil-scale`. Negative values will flip or mirror the stencil without changing its origin; this may result in collisions unless the scaled stencil is realigned (e.g., the time signature in this test).

`‘stencil-scale.ly’`



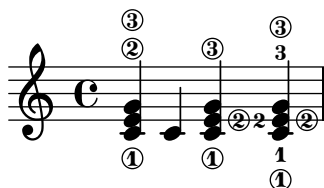
String numbers should only be moved outside slurs when there is a collision.

`‘string-number-around-slur.ly’`



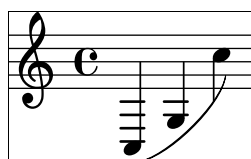
String numbers can be added to chords. They use the same positioning mechanism as finger instructions.

`‘string-number.ly’`



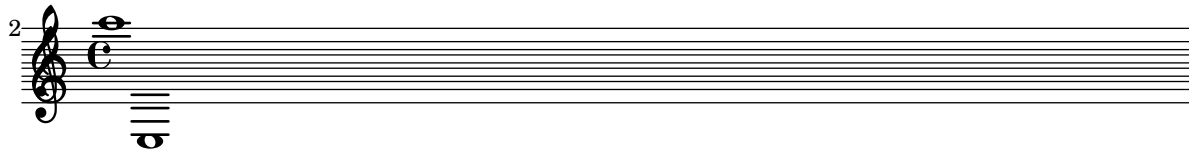
The size of every system is correctly determined; this includes postscript constructs such as slurs.

`‘system-extents.ly’`



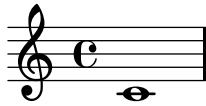
By setting the padding between systems to a negative value, it is possible to eliminate the anti-collision constraints.

'system-overstrike.ly'



System separator positioning works with all spaceable staff contexts.

‘system-separator-spaceable-staves.ly’



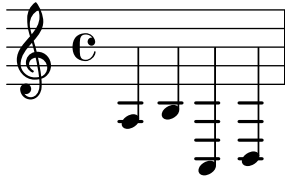
System separators may be defined as markups in the **system-separator-markup** field of the paper block. They are centered between the boundary staves of each system.

'system-separator.ly'

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 common time signature 'C' and a repeat sign (two parallel diagonal lines). The first system features a fermata over the first measure of both the treble and bass staves. The second system, preceded by a double bar line and the number '3', has a fermata over the first measure of the bass staff. The third system, preceded by a double bar line and the number '5', also has a fermata over the first measure of the bass staff. Each system is divided into two measures by a vertical bar line, with a fermata present in the first measure of the specified staff in each system.

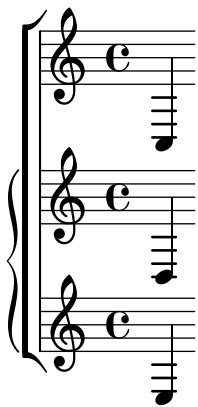
When the staff-space is increased, the system-start delimiter should still be collapsed (i.e. the collapse-height should not give an absolute length, but a multiple of staff-spaces).

`'system-start-bar-collapse-staffspace.ly'`



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'`



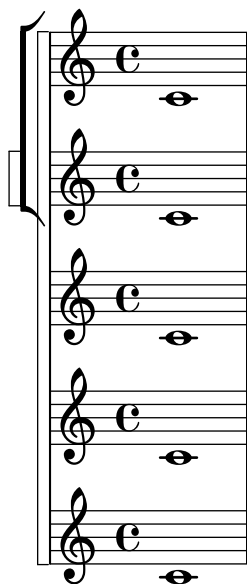
A heavy-bar system start delimiter may be created by tuning the `SystemStartBar` grob.

`'system-start-heavy-bar.ly'`



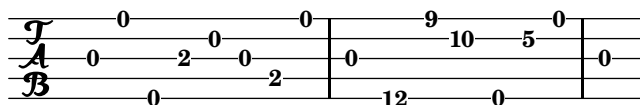
Deeply nested system braces, brackets, etc., may be created with the `systemStartDelimiterHierarchy` property.

‘system-start-nesting.ly’



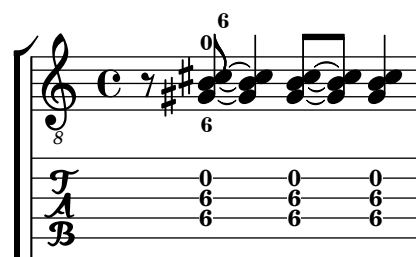
Tablature may also be tuned for banjo.

‘tablature-banjo.ly’



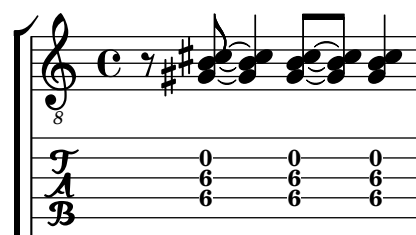
In a TabStaff, the chord repetition function needs to retain string and fingering information. Using `\tabChordRepeats` achieves that, in contrast to the music on the main staff.

‘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'`

The image shows a musical staff in treble clef with a C-clef. The staff contains a sequence of notes: a half note on G4, a quarter note on A4, a quarter note on B4, a quarter note on C5, a quarter note on B4, a quarter note on A4, and a half note on G4. Below the staff is a tablature staff with three strings labeled T, A, and B. The fret numbers for each string are: T (1, 5, 7, 9, 10, 1), A (3, 3, 5, 7, 10, 3), and B (3, 3, 5, 7, 8, 3).

With full notation, the dots on the tablature heads should respect two-digit fret numbers.

`'tablature-dot-placement.ly'`

The image shows a musical staff in treble clef with a C-clef. The staff contains three chords, each marked with a circled 3. The first chord is on G4, the second on A4, and the third on B4. Below the staff is a tablature staff with three strings labeled T, A, and B. The fret numbers for each string are: T (8, 10, 10), A (10, 8, 10), and B (10, 10, 10). Dots are placed on the fret numbers to indicate the fret position.

Tremoli applied to double stems in a `TabVoice` should be centered on the double stem.

`'tablature-double-stem-tremolo.ly'`

The image shows a musical staff in treble clef with a C-clef. The staff contains a double stem on G4, marked with a tremolo symbol. Below the staff is a tablature staff with three strings labeled T, A, and B. The fret numbers for each string are: T (2), A (2), and B (2).

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'`

The image shows a musical staff in treble clef with a C-clef. The staff contains a chord with notes on G4, A4, B4, and C5. Above the staff is a fretboard diagram for a C major chord, showing open strings (O) on G, A, and B, and a sharp on C. Below the staff is a tablature staff with three strings labeled T, A, and B. The fret numbers for each string are: T (0), A (0), and B (0).

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’

Glissando lines in tablature have the right slope.

‘tablature-glissando.ly’

Fret numbers belonging to grace notes are smaller.

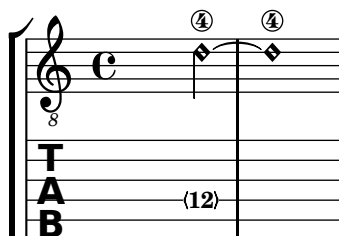
‘tablature-grace-notes.ly’

Harmonics can be specified either by ratio or by fret number.

‘tablature-harmonic-functions.ly’

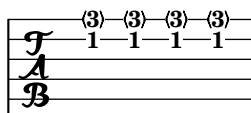
When a harmonic note is tied in tablature, neither the fret number nor the harmonic brackets for the second note appear in the tablature.

`'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.

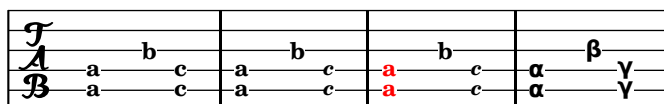
`'tablature-harmonic.ly'`



A sample tablature with lettered tab, using fretLabels to modify the fret letters.

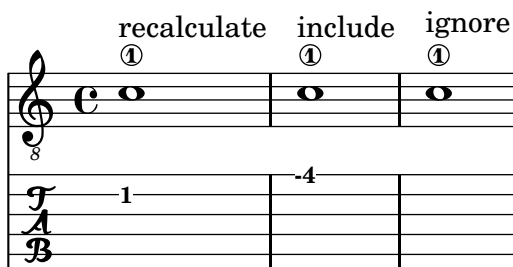
By default, letters are drawn sequentially from the alphabet, but if the context property fretLabels is defined, these are substituted. If specified, the length of fretLabels must be sufficient to label all the frets used. A warning is issued if the length is too short.

`'tablature-letter.ly'`



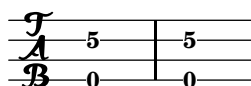
Negative fret numbers calculated due to assigning a string number can be displayed, ignored, or recalculated. Here we should have all three cases demonstrated.

`'tablature-negative-fret.ly'`



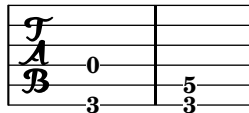
Open strings can always be part of a chord in tablature, even when frets above 4 have been used in the chord. In this case, both chords should show an open fourth string.

`'tablature-open-string-chord.ly'`



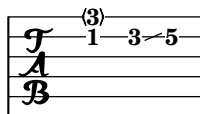
Open strings are part of a chord in tablature, even when `minimumFret` is set. This can be changed via `restrainOpenStrings`.

`'tablature-open-string-handling.ly'`



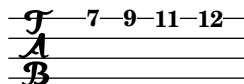
Tab supports slides.

`'tablature-slide.ly'`



For other tunings, it is sufficient to set `stringTunings`. The number of staff lines is adjusted accordingly.

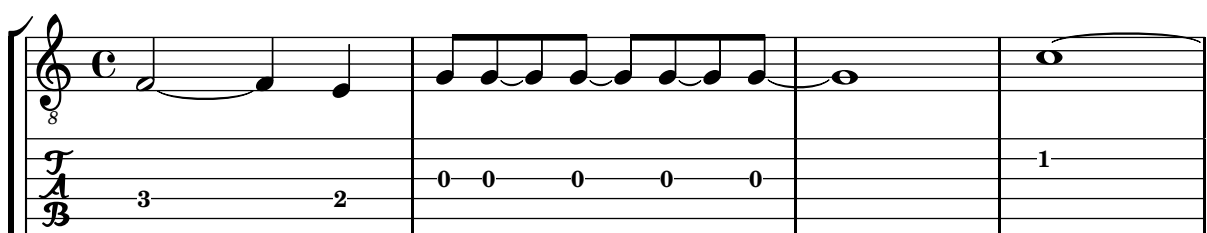
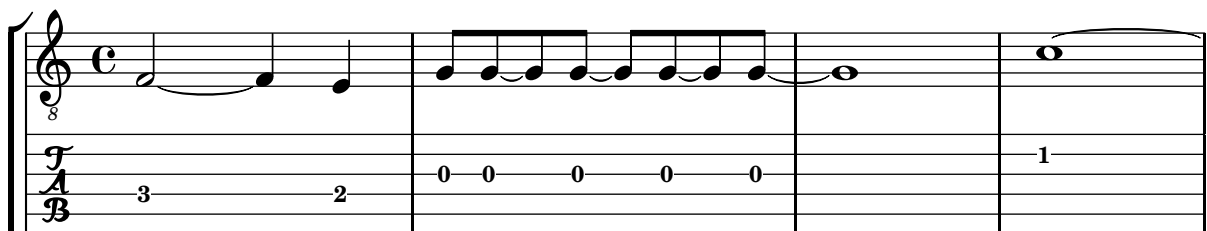
`'tablature-string-tunings.ly'`



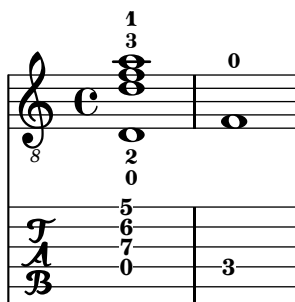
In tablature, notes that are tied to are invisible except after a line break or within a second volta; here, the fret number is displayed in parentheses.

As an option, the notes that are tied to may become invisible completely, even after line breaks.

`'tablature-tie-behaviour.ly'`



`'tablature-zero-finger.ly'`

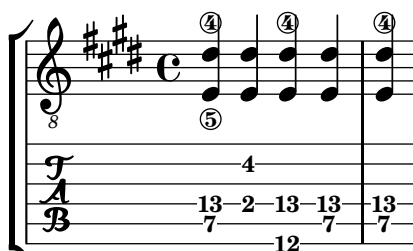


A sample tablature, with both normal staff and tab.

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.

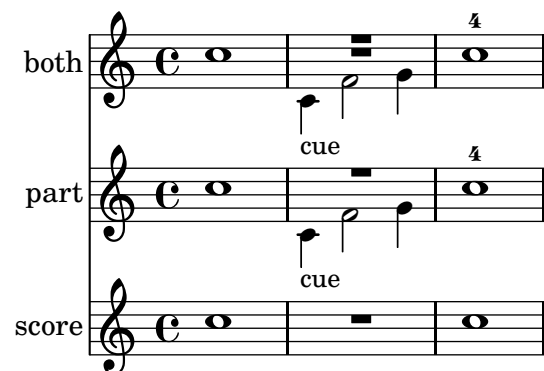
String numbers can be entered as note articulations (inside a chord) and chord articulations (outside a chord)

`'tablature.ly'`



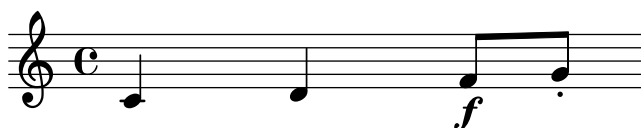
The `\tag` command marks music expressions with a name. These tagged expressions can be filtered out later. This mechanism can be used to make different versions of the same music. In this example, the top stave displays the music expression with all tags included. The bottom two staves are filtered: the part has cue notes and fingerings, but the score has not.

`'tag-filter.ly'`



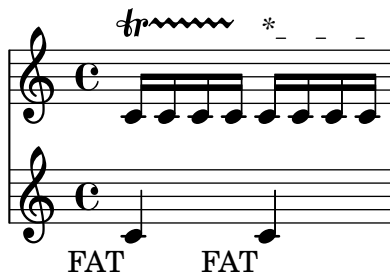
This file gives a different result each time it is run, so it should always show up in the output-distance testing.

`'test-output-distance.ly'`



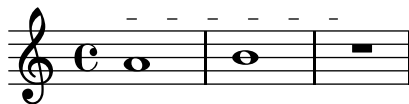
Text and trill spanners are attached to note columns, so attachments in other staves have no effect on them.

`'text-spanner-attachment-alignment.ly'`



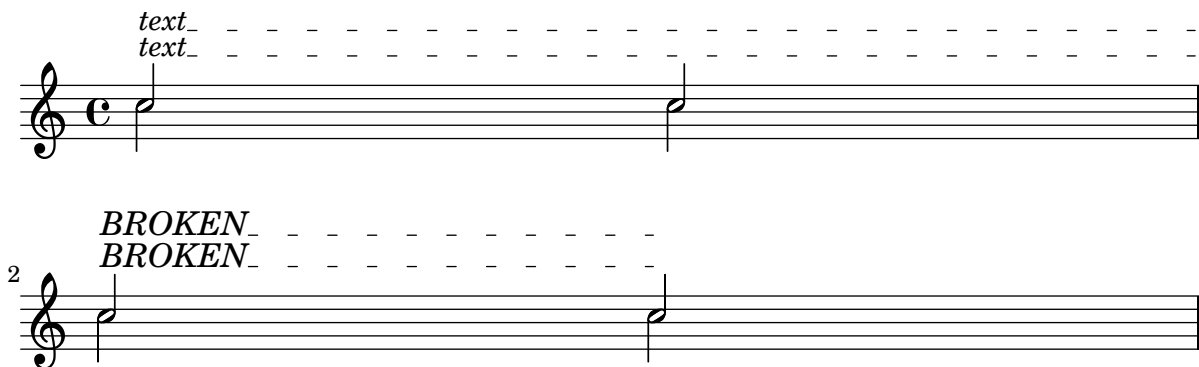
Text spanners ending on full-measure rests do not stop prematurely on preceding note heads.

`'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'`



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'`



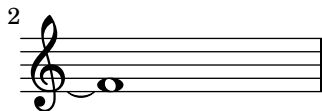
when `tieWaitForNote` is set, the right-tied note does not have to follow the left-tied note directly. When `tieWaitForNote` is set to false, any tie will erase all pending ties.

`'tie-arpeggio.ly'`



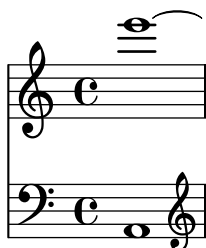
Broken ties honor `minimum-length` also. This tie has a `minimum-length` of 5.

`'tie-broken-minimum-length.ly'`



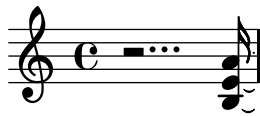
Broken tie lengths are not affected by clefs in other staves.

`'tie-broken-other-staff.ly'`



Ties behave properly at line breaks.

‘tie-broken.ly’



2



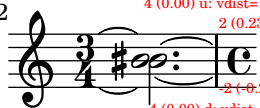
Tie detail property multi-tie-region-size controls how many variations are tried for the extremal ties in a chord.

‘tie-chord-broken-extremal.ly’



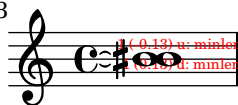
1 (0.27) u: line center=0.09 conf=0.09 lhdist=1.01 TOTAL=22.41
-4 (0.27) d: line center=0.09 conf=0.09 lhdist=21.22

2



4 (0.00) u: vdist=13.70 TOTAL=27.41
2 (0.23) u: line center=0.10 conf=0.10 vdist=4.41 TOTAL=15.58
2 (-6.23) d: line center=0.15 conf=0.15 vdist=4.41 lhdist=2.19 length symm=4.30
-4 (0.00) d: vdist=13.70

3



1 (0.13) u: minlength=1.52 conf=1.52 rhdist=15.97 TOTAL=34.97
-4 (0.23) d: minlength=1.52 conf=1.52 rhdist=15.97

Switching on debug-tie-scoring annotates the tie scoring decisions made.

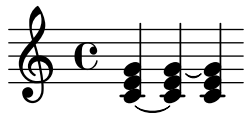
‘tie-chord-debug.ly’



5 (0.25) u: vdist=1.21 TOTAL=29.95
4 (0.23) u: vdist=1.08 lhdist=12.76
1 (-0.18) u: lhdist=1.01 rhdist=1.79
2 (-6.23) d: vdist=1.08 lhdist=2.19 length symm=8.58 pos symmetry=0.25

Individual chord notes can also be tied

‘tie-chord-partial.ly’

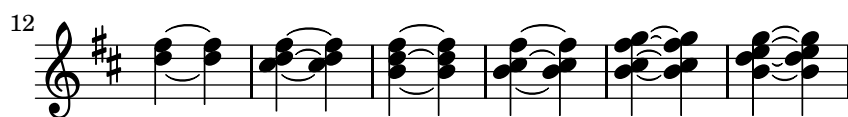


In chords, ties keep closer to the note head vertically, but never collide with heads or stems. Seconds are formatted up/down; the rest of the ties are positioned according to their vertical position.

The code does not handle all cases. Sometimes ties will printed on top of or very close to each other. This happens in the last chords of each system.

‘tie-chord.ly’





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'`



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'`



Tying a grace to a following grace or main note works.

`'tie-grace.ly'`



If using integers, the tie will vertically tune for staff line avoidance. If using a floating point number, this is taken as the exact 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**.

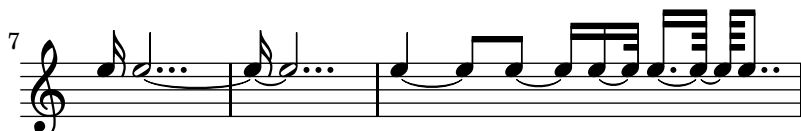
`'tie-single-manual.ly'`



Formatting for isolated ties.

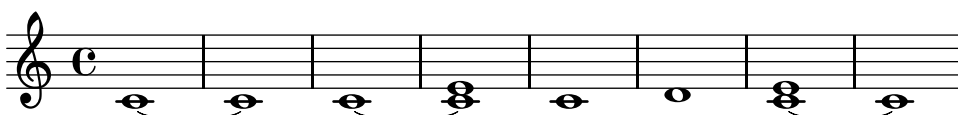
- short ties are in spaces
- long ties cross staff lines
- ties avoid flags of left stems.
- ties avoid dots of left notes.
- short ties are vertically centered in the space, as well those that otherwise don't fit in a space
- extremely short ties are put over the noteheads, instead of between.

`'tie-single.ly'`



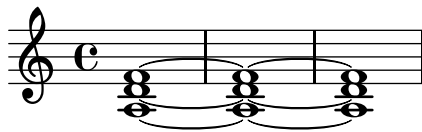
When a tie is followed only by unmatched notes and the tie cannot be created, Lilypond prints out a warning unless `tieWaitForNote` is set.

`'tie-unterminated.ly'`



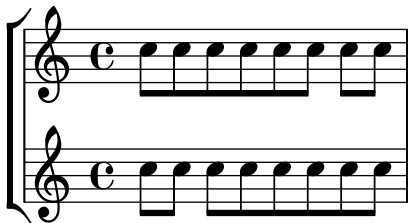
For whole notes, the inside ties do not cross the center of the note head, horizontally.

‘tie-whole.ly’



Default values for time signature settings can vary by staff if the `Timing_translator` and `Default_bar_line_engraver` are 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 input representation is generic, and may be translated to XML.

‘to-xml.ly’



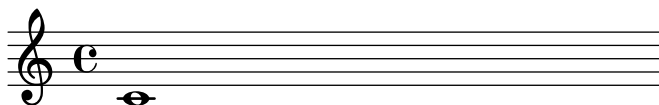
A table of contents is included using `\markuplist \table-of-contents`. The toc items are added with the `\tocItem` command. In the PDF backend, the toc items are linked to the corresponding pages.

‘toc.ly’

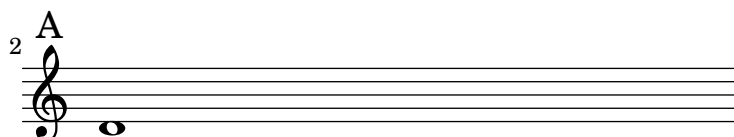
Table of Contents

First part	?
Second part	?
Third part	?
The first score	2
Mark A	3
The second score	4

2



3



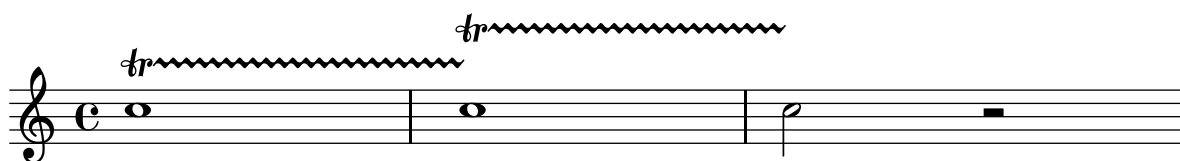
4
Second score



Music engraving by LilyPond 2.15.36—www.lilypond.org

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'`

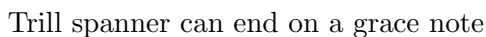


A TrillSpanner crossing a line break should restart exactly above the first note on the new line.

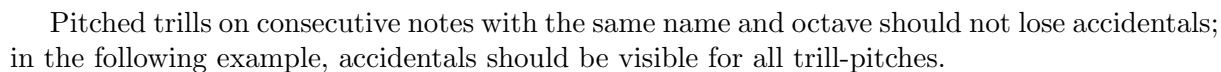
`'trill-spanner-broken.ly'`



`'trill-spanner-chained.ly'`



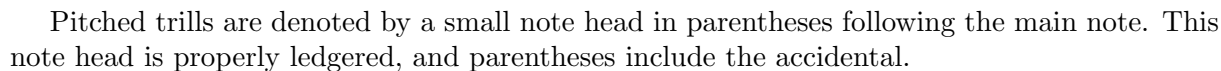
'trill-spanner-grace.ly'



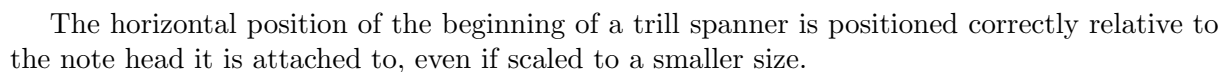
'trill-spanner-pitched-consecutive.ly'



'trill-spanner-pitched-forced.ly'



'trill-spanner-pitched.ly'

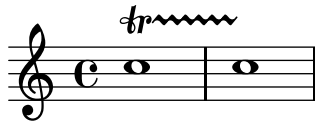


'trill-spanner-scaled.ly'



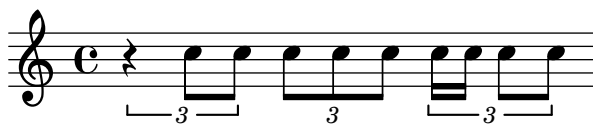
The trill symbol and the wavy line are neatly aligned: the wavy line should appear to come from the crook of the r

`'trill-spanner.ly'`



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'`



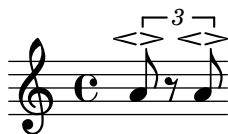
TupletBracket grobs avoid Fingering grobs.

`'tuplet-bracket-avoid-fingering.ly'`



Tuplet brackets avoid scripts by default.

`'tuplet-bracket-avoid-scripts.ly'`



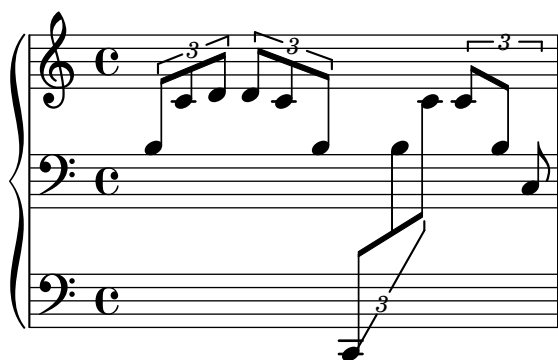
TupletBracket grobs avoid StringNumber grobs.

`'tuplet-bracket-avoid-string-number.ly'`



Cross-staff tuplets are drawn correctly, even across multiple staves.

`'tuplet-bracket-cross-staff.ly'`



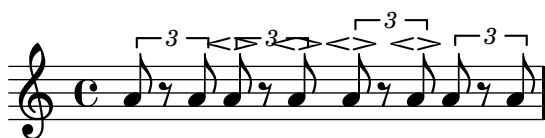
The direction of tuplet brackets is the direction of the majority of the stems under the bracket, with ties going to UP.

`'tuplet-bracket-direction.ly'`



Tuplet brackets' outside staff priority can be set. Brackets, by default, carry their numbers with them.

`'tuplet-bracket-outside-staff-priority.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'`

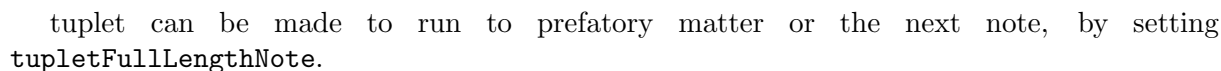


Broken tuplets are adorned with little arrows. The arrows come from the `edge-text` property, and thus be replaced with larger glyphs or other text.

`'tuplet-broken.ly'`



'tuplet-full-length-extent.ly'



If `tupletFullLength` is set, tuplets end at the start of the next non-tuplet note.

The size of the tuplet bracket gap is adjusted to the width of the text.

Nested tuples do collision resolution, also when they span beams.

Broken nested tuples avoid each other correctly.

‘tuplet-nest-broken.ly’

The image shows four staves of musical notation. Staff 1: A treble clef, common time signature, followed by a whole rest and then a triplet of eighth notes. Staff 2: A treble clef, followed by a triplet of eighth notes, a triplet of eighth notes, and a triplet of eighth notes. Staff 3: A treble clef, followed by a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, and a triplet of eighth notes. Staff 4: A treble clef, followed by a triplet of eighth notes, a triplet of eighth notes, and a triplet of eighth notes.

Tuplets may be nested.

‘tuplet-nest.ly’

The image shows two staves of musical notation. Staff 1: A treble clef, common time signature, followed by a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, and a triplet of eighth notes. Staff 2: A treble clef, followed by a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, a triplet of eighth notes, and a triplet of eighth notes.

Removing Stem-engraver doesn’t cause crashes.

‘tuplet-no-stems.ly’

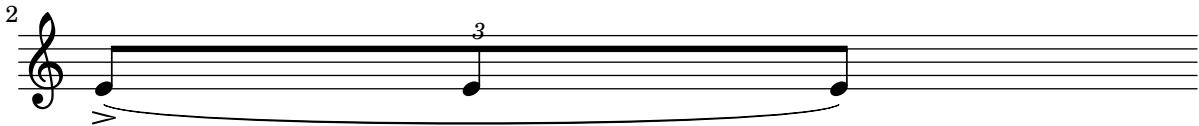
The image shows a single staff of musical notation. It features a treble clef, a common time signature, and a triplet of eighth notes.

Tuplet numbers’ outside staff priority can be set.

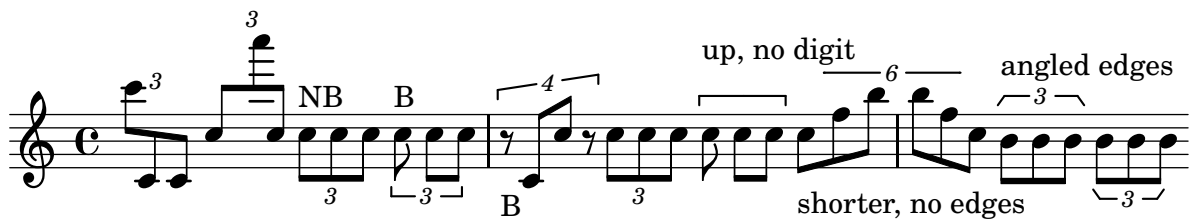
‘tuplet-number-outside-staff-priority.ly’

The image shows a single staff of musical notation. It features a treble clef, a common time signature, and a triplet of eighth notes.

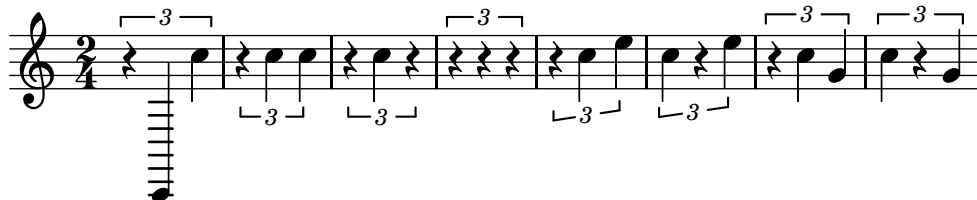
`'tuplet-number-slur-script.ly'`



'tuple-properties.ly'



`'tuple-rest.ly'`

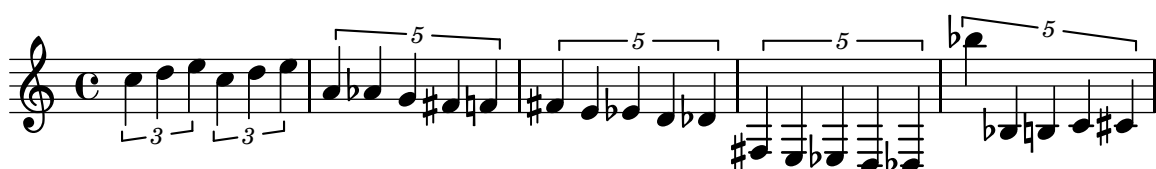


'tuplet-single-note.ly'



The bracket direction is determined by the dominating stem direction.

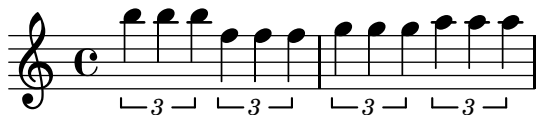
'tuplet-slope.ly'





Horizontal tuplet brackets are shifted vertically to avoid staff line collisions.

`'tuplet-staffline-collision.ly'`



`'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'`



heavily mutilated Edition Peters Morgenlied by Schubert

‘typography-demo.ly’

LilyPond demo

Lieblich, etwas geschwind

1. Sü - ßes
2. いろはに ㇿ

3
Licht! Aus gol - de-nen Pfor - ten brichst du_
ほへど ちり ぬるを

5
sie - gend durch die Nacht. Schö - ner
ㇿ いろ はに ㇿ ほへ

7
Tag, du bist er - wacht.
ちり ぬる

cresc.

f

unpure-pure containers take 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'`



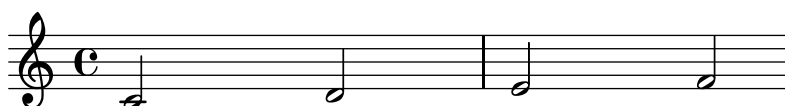
words in mixed font in a single string are separated by spaces as in the input string. Here a Russian word followed by a roman word.

`'utf-8-mixed-text.ly'`

Hallo

Various scripts may be used for texts (like titles and lyrics) introduced 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'`



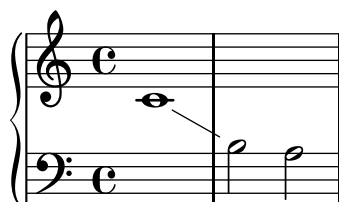
זה כי סתם לשמוע ,
 いろはにほへとちりぬるをわがよたれぞつねならむ
 à vo - cê uma



איך תנצח קרפד ,
 うゐのおくやまけふこえてあさきゆめみじ
 can - ção legal

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'`



Broken volta spanners behave correctly at their left edge in all cases.

‘volta-broken-left-edge.ly’

Bass

3 1.

6

9 2.

12 1. 2.

15

17 1. 2.

20

23 1. 2.

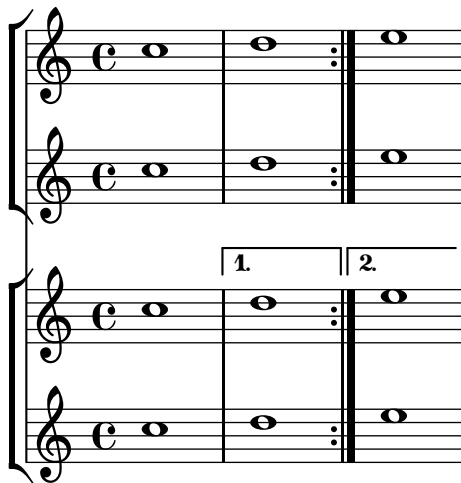
Volte using `repeatCommands` can have markup text.

‘volta-markup-text.ly’

1. 2. 3. *ad lib.* 4.

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'`



If you specify two different key signatures at one point, a warning is printed.

`'warn-conflicting-key-signatures.ly'`



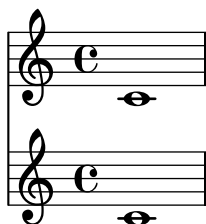
If a warning is expected, but not triggered, print out a warning about this fact. This will be used to detect missing warnings in our regtests.

`'warn-expected-warning-missing.ly'`



A warning is printed if a dynamic spanner is unterminated.

`'warn-terminated-span-dynamic.ly'`



If the `'whiteout` property of a grob is set to `#t`, that part of all objects in lower layers which falls under the extent of the grob is whited out. Here the `TimeSignature` whites out the `Tie` but not the `StaffSymbol`.

`'whiteout-lower-layers.ly'`



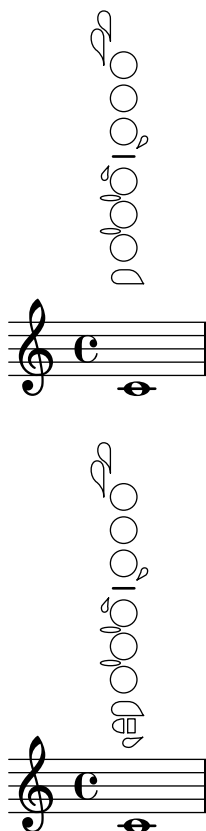
The `whiteout` command underlays a white box under a markup.

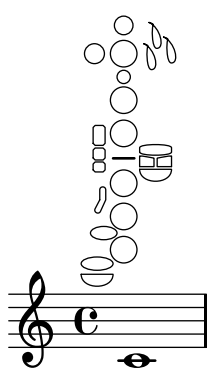
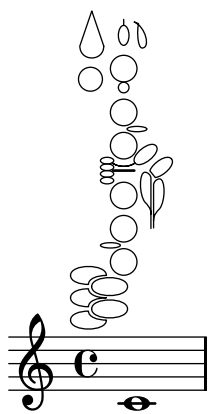
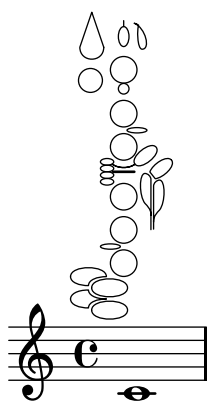
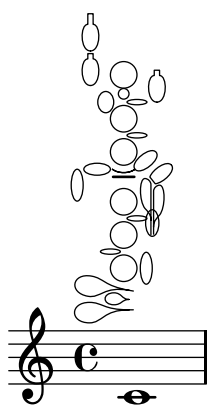
`'whiteout.ly'`

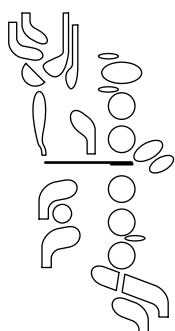
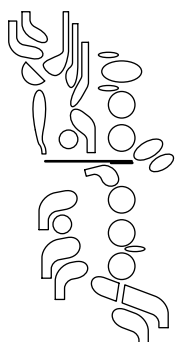


Empty woodwind diagrams for all instruments in `woodwind-diagrams.scm`.

`'woodwind-diagrams-empty.ly'`







Lists all possible keys for all instruments in `woodwind-diagrams.scm`

`'woodwind-diagrams-key-lists.ly'`

Setting `staff-space` to 0 does not cause a segmentation fault.

`'zero-staff-space.ly'`

