Relief SingleLine

## Font formats	OTF(-SVG), SVG, TTF, OTF, WOFF2
## Designers	François Chastanet, Noëlie Dayma, Élisa Garzelli
## Designers URL	https://github.com/isdat-type/Relief-SingleLine
## Manufacturer	institut supérieur des arts et du design Toulouse / isdaT (https://www.isdat.fr/)
Font Description	*Relief SingleLine* is a versatile sans serif “single-line” font with open paths oriented towards CNC (Computer Numerical Control) engraving and fab labs environments. *Relief SingleLine* with its skeletal logic and parametric thickness can also be useful in print and web experiments. The structure of this alphabet is influenced by Adrian Frutiger’s little known and underrated *Vectora* typeface. *Relief SingleLine* has several stylistic sets, proposing lowercases alternates g, l, y and a punctuation variant for small size inscriptions (period and related signs). *Relief SingleLine* provides a single-line path for a pen, laser, or milling tool to follow for an efficient and clean looking typographical rendering. *Relief SingleLine* allows the user to drastically reduce the machining time while offering a quality Bézier curves rendering. *Relief SingleLine* is the first single-line font working in the Adobe CC environment (CC 2019 and above) with kerning and opentype features. Relief SingleLine project explores different font formats: open paths (OTF-SVG for Adobe, SVG for Inkscape + Hershey Text Extension, TTF for CAD softwares and closed outlines (OTF, WOFF2) or coding experiments on [Drawbot](https://www.drawbot.com/) (UFO). *Relief SingleLine* typeface is an open-source project distributed under the Open Font License ([OFL](https://scripts.sil.org/ofl))and available for download on the following isdaT-type Github [repository](https://github.com/isdat-type/Relief-SingleLine)
License	This Font Software is licensed under the SIL Open Font License, Version 1.1. This license is available with a FAQ at:
License info URL	https://scripts.sil.org/ofl
Copyright	Copyright 2021 The Relief SingleLine Project Authors

How to use the Open Paths?

Adobe CC ≥2019: OpenType-SVG color font method

→fonts/open_otf-svg/

As this project is primarily focusing on graphic user interface solutions opened the largest possible audiences, ⋆Relief SingleLine⋆ typeface is distributed as an OpenType-SVG color font format in order to simplify the layout process for the 2D fab lab community, i.e. having a single-line font editable in popular vector graphics and typographic composition softwares such as Illustrator or Indesign. OpenType-SVG technology represents an interesting alternative to permit single-line fonts wider distribution and easier use. To our knowledge, ⋆Relief SingleLine⋆ is the first single-line font working in the Adobe CC environment (CC 2019 and above), opening new perspectives for makers worldwide. Fab lab users oriented towards 2D graphic practices can now easily access quality Bézier curves, kerning and OpenType features in their single-line typographical layouts!

Simply install the “Relief SingleLine-Regular_svg.otf” on your system (or directly in the / Fonts subfolder of Illustrator or Indesign), open Illustrator or Indesign, compose your paragraphs and titlings; when the layout is finished, duplicate it and just use the / Text / Vectorize function to obtain a single-line design to export as PDF or SVG file to engrave through your favorite CNC machine (pen plotters, laser cutting or milling machine).

⋆Relief SingleLine⋆ export as OpenType-SVG format was made possible thanks to [Frederik Berlaen](https://typemytype.com/)’s ⋆otf-svgMaker⋆ Python script for [Robofont](https://robofont.com/). This script permits to export any skeletal UFO-based font project towards a single-line OTF-SVG font. ⋆otf-svgMaker⋆ uses [roundingPen](https://github.com/typemytype/outlinerRoboFontExtension/blob/master/Outliner.roboFontExt/lib/outlinePen.py) script by Just Van Rossum. ⋆otf-svgMaker⋆ script will be soon available in this repository.

CAD softwares: “closed” TTF toward open paths method...

→fonts/open_ttf/

By definition, a TTF export is based on closed vector paths. Nevertheless [Rhinoceros 3D](https://www.rhino3d.com/) and some other CAD softwares are able to use “closed” TTF single-line fonts by opening the closed letters’ structure the right way in their design interfaces with multiple views. When previewing a closed TTF file in your system you will get a triangular surfaces kind of display, no worries, the CAD software should correctly interprets it as a single-line typeface with open paths.

When operating the text tool dialog box, one can find a special feature to tick that permits single-line fonts usage (Windows version only in Rhinoceros 3D), then select the desired closed TTF. But composing paragraphs is often not possible, you can just write some words aligned on the same baseline (no line breaks depending on softwares), so limited to basic titling usages only.

Drawbot + UFO method

→sources/Relief-SingleLine.ufo

If you have some Python coding skills, you can play around with ⋆Relief SingleLine⋆ main .ufo source in [Drawbot](https://www.drawbot.com/) to export toward PDF or SVG textual vector patterns to engrave. UFO ([Unified Font Objects](https://unifiedfontobject.org/)) is a cross-platform, cross-application, human readable format for storing font data.

Inkscape + Hershey Text

Extension SVG fonts method

→fonts/open_svg/

First install Relief-SingleLine-Regular.otf on your system; then copy Relief-SingleLine-Regular.svg there:

- (macOS) `/Applications/Inkscape.app/Contents/Resources/share/inkscape/extensions/svg_fonts`
- (Windows) `C:\Program Files\Inkscape\share\inkscape\extensions\svg_fonts`

Only for Windows users: if you can not use Relief-SingleLine-Regular.svg even if effectively copied in the /svg_fonts folder, try:

right-click on Relief-SingleLine-Regular.svg then select Properties/Security/Unlock/Apply

Compose your layout in [Inkscape](https://inkscape.org/) using Relief-SingleLine-Regular.otf, launch [Hershey Text Extension](https://www.evilmadscientist.com/2019/hershey-text-v30/) (now available by default) to render your text blocks as single-line letters go to: Extension/Text/Hershey Text

Then, in font select *Other* (bottom of the list after the existing Hershey fonts) and type Relief-SingleLine-Regular in the next field of the dialog box as a path/name, then apply rendering.

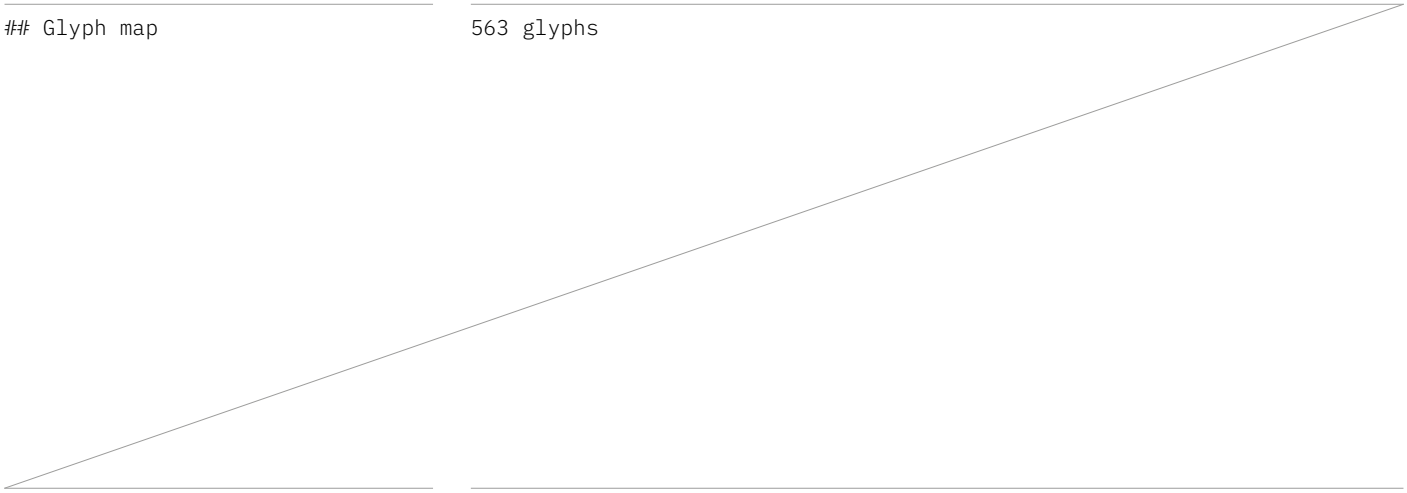
Beware to first copy your source text blocks: after the Hershey Text Extension rendering process, texts are becoming not editable. Hershey Text Extension unfortunately apparently disables the kerning values even if truly embedded in the SVG font.

Process to export towards (old) SVG format with open paths:

- Open a skeletal UFO file in [FontForge](https://fontforge.org/)
- File/Generate fonts/Select SVG font format
- Rename your font as simple as possible to have a short path/name when using Hershey Text Extension (important: no space in the name)
- Generate
- Open the SVG file in a text editor (such as Sublime Text) and run two find and replace actions:
  find z” / replace by ” /
  find zM replace by M
- Save as a new SVG file.

Glyph map

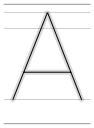
563 glyphs



Vertical metrics

	SingleLine	Outline
Units perEm	1000	1000
yMax lacute	980	1000
yMin Gcommaaccent	-240	-260
Ascender	745	765
Caps Height	680	700
xHeight	555	575
Descender	-190	-210
Underline Position	-200	-200
Underline Thickness	0	40

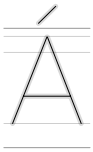
A



70 70

676

Aacute



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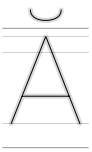
Abreve



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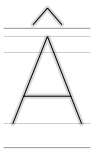
Acircumflex



70 70

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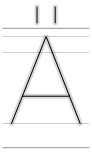
Adieresis



70 70

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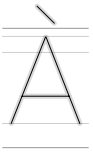
Agrave



70 70

676

Amacron

70 70

676

Aogonek

70 34

676

Aring

70 70

676

Atilde

70 70

676

AE

45 90

919

B

140 100

634

C

95 85

665

Cacute

95 85

665

Ccaron

95 85

665

Ccedilla

95 85

665

Ccircumflex

95 85

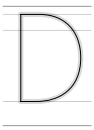
665

Cdotaccent

95 85

665

D



140 84

693

Eth

45 84

713

Dcaron

140 84

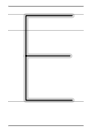
693

Dcroat

45 84

713

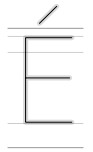
E



140 90

591

Eacute



140 90

591

Ebreve

140 90

591

Ecaron

140 90

591

Ecircumflex

140 90

591

Edieresis

140 90

591

Edotaccent

140 90

591

Egrave

140 90

591

Emacron

140 90

591

Eogonek

140 90

591

F

140 70

551

G

95 110

676

Gbreve

95 110

676

Gcircumflex

95 110

676

uni0122

95 110

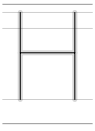
676

Gdotaccent

95 110

676

H



140 140

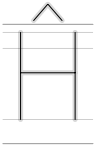
706

Hbar

40 40

706

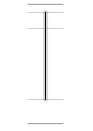
Hcircumflex



140 140

706

I



140 140

280

Iacute

72 73

280

Ibreve

20 20

280

Icircumflex

29 29

280

Idieresis

69 69

280

Idotaccent

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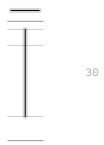
Igrave

72 73

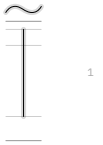
280

Imacron



Iogonek

Itilde



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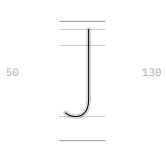

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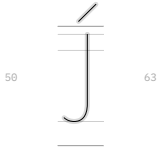

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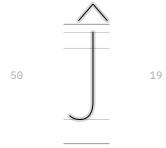

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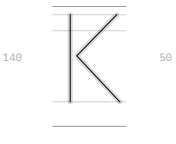

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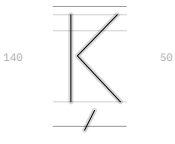
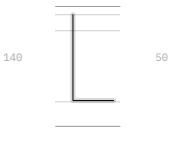
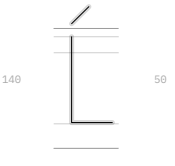


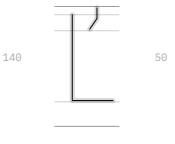
L



Lacute



Lcaron



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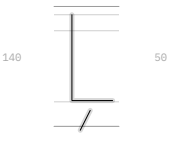

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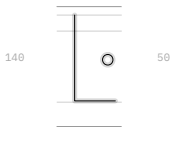

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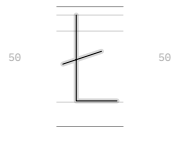

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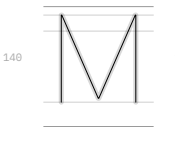

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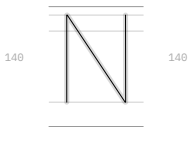

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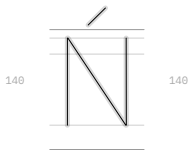

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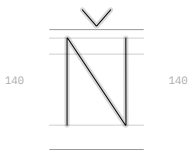

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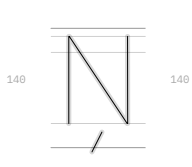

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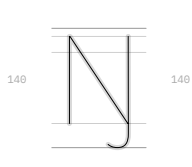

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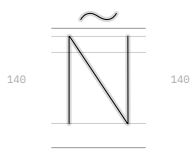
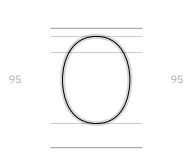


O



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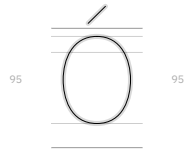
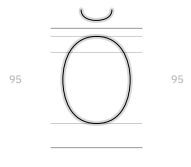


Obreve



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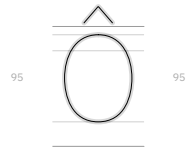
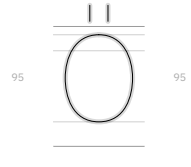
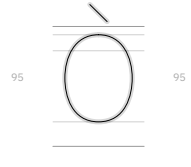


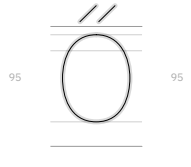
Odieresis



Ograve



Ohungarumlaut



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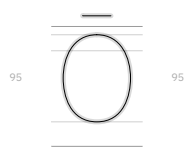

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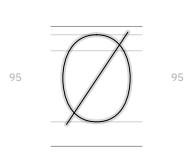

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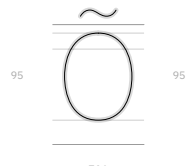

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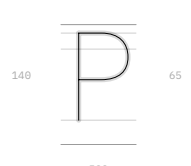

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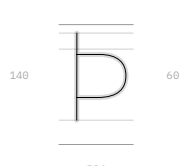

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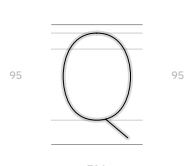

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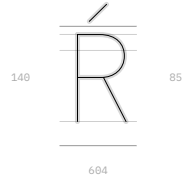

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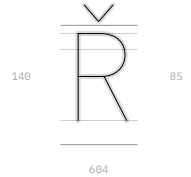

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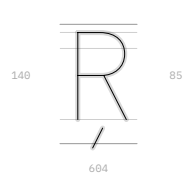

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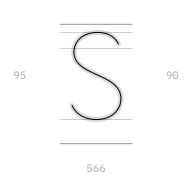

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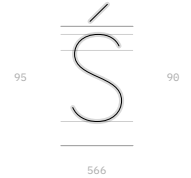

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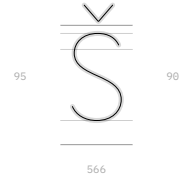

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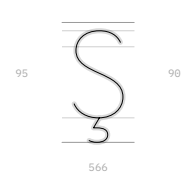

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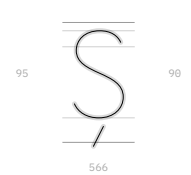

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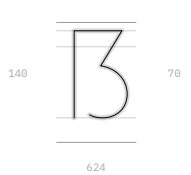

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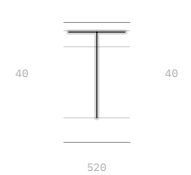

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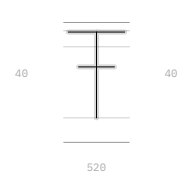

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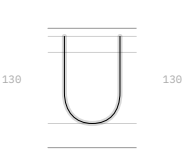

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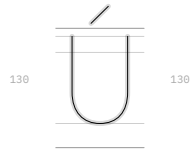

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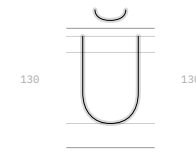

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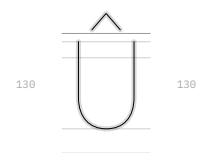

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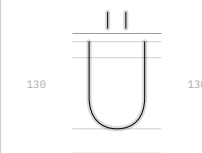

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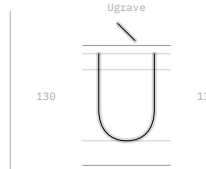

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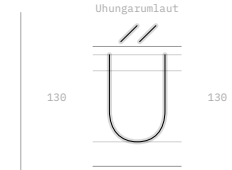

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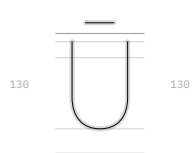

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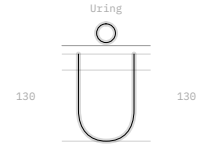

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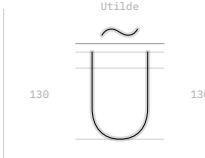

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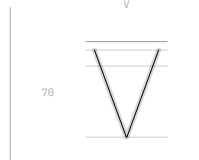

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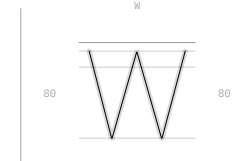

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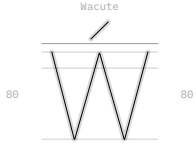

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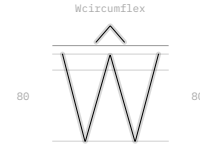

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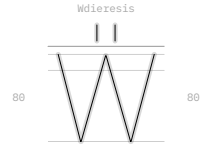

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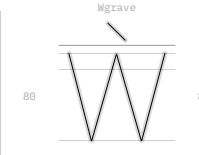

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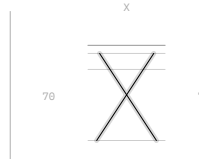

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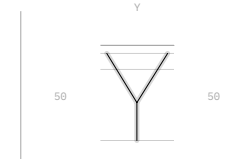

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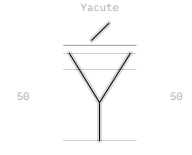

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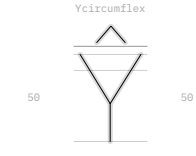

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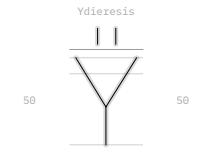

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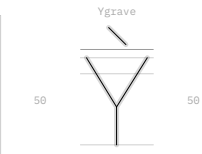

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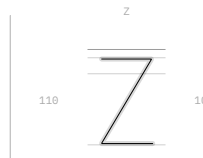

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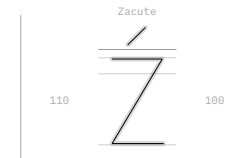

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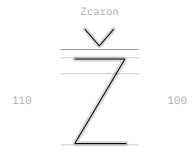

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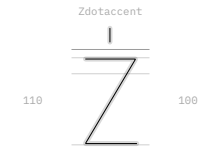

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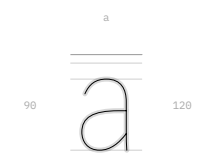

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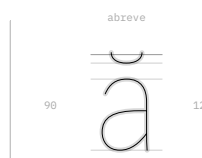

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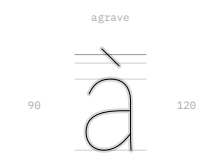

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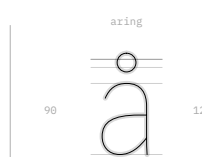

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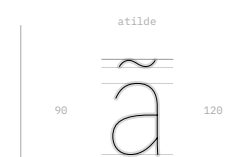

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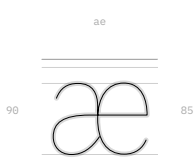

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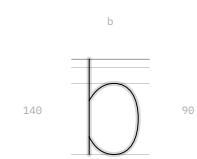

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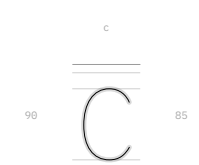

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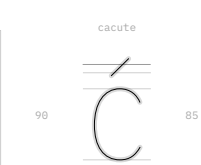

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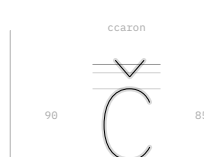

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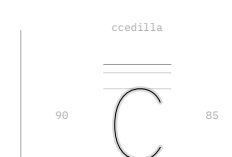

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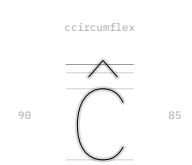

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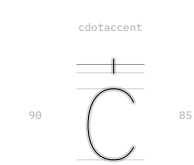

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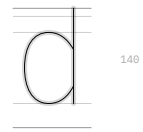

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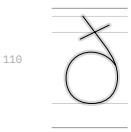

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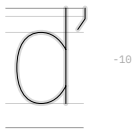

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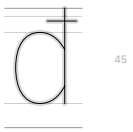

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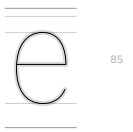

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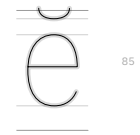

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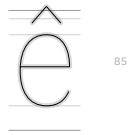

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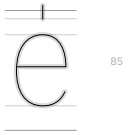

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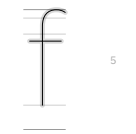

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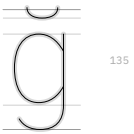

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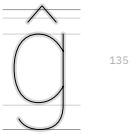

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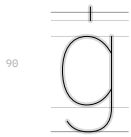

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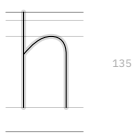

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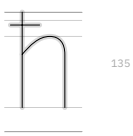

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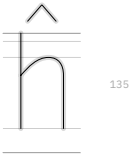

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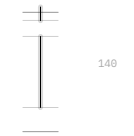

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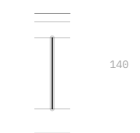

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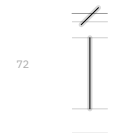

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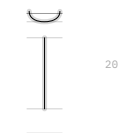

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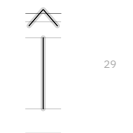

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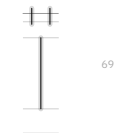

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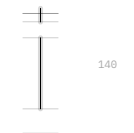

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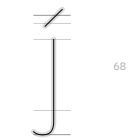

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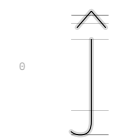

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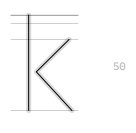

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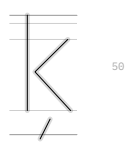

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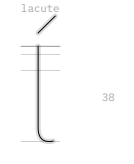

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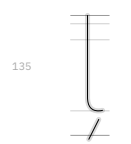

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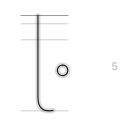

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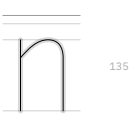

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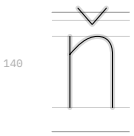

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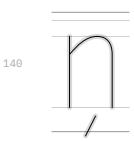

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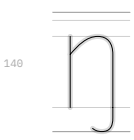

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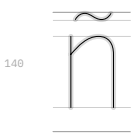

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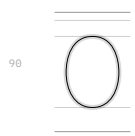

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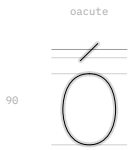

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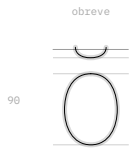

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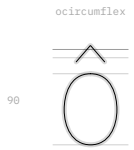

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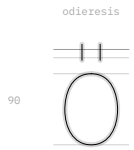

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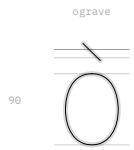

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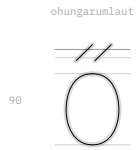

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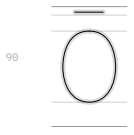

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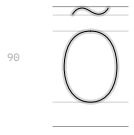

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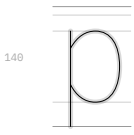

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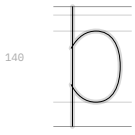

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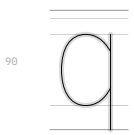

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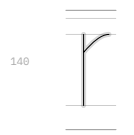

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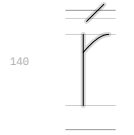

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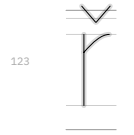

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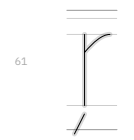

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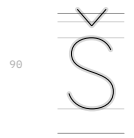

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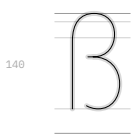

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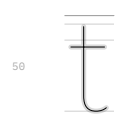

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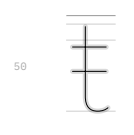

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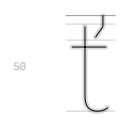

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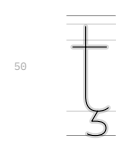

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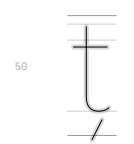

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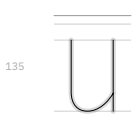

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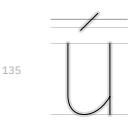

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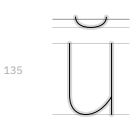

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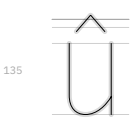

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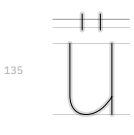

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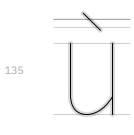

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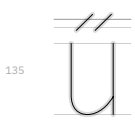

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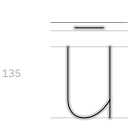

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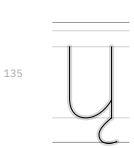

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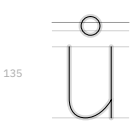

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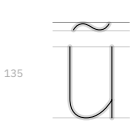

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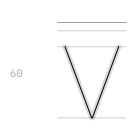
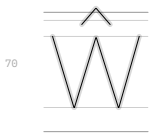


w

wacute

wcircumflex



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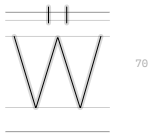

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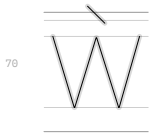
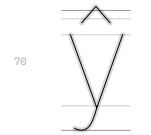


x

y

yacute

ycircumflex



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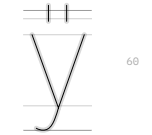

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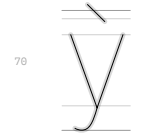
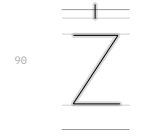


z

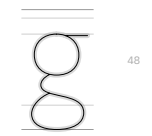
zacute

zcaron

zdotaccent



g.ss01



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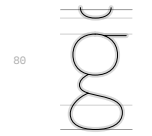
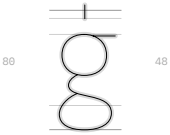


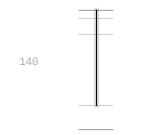
gcircumflex.ss01

uni0123.ss01

gdotaccent.ss01



l.ss02



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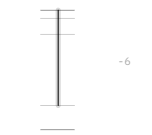

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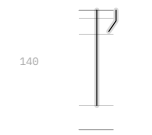

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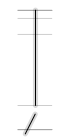
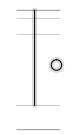
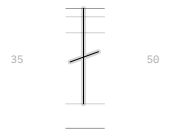


ldot.ss02

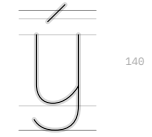


lslash.ss02

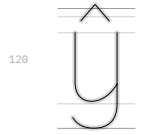


y.ss03

yacute.ss03



ycircumflex.ss03



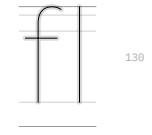
ydieresis.ss03

ygrave.ss03

fi

fl

fl.ss02

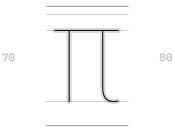


ordfeminine

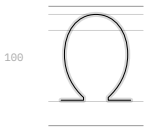
ordmasculine

Delta

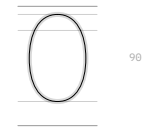
pi



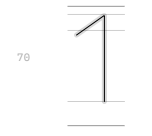
Omega



zero



one



two

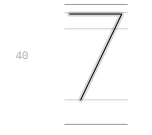
three

four

five

six

seven



eight

nine

zero.zero

zero.osf

one.osf

two.osf

three.osf

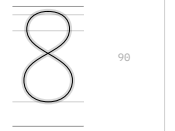
four.osf

five.osf

six.osf

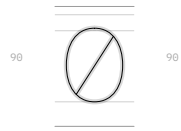
seven.osf

eight.osf



nine.osf

zero.osf.zero



zero.subs

one.subs

two.subs

three.subs

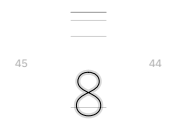
four.subs

five.subs

six.subs

seven.subs

eight.subs



nine.subs

zero.dnom

one.dnom

two.dnom

three.dnom

four.dnom

five.dnom

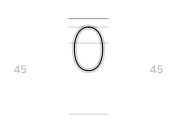
six.dnom

seven.dnom

eight.dnom

nine.dnom

zero.numr



one.numr

two.numr

three.numr

four.numr

five.numr

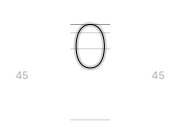
six.numr

seven.numr

eight.numr

nine.numr

uni2070



uni00B9

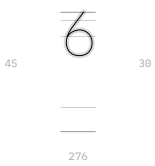
uni00B2

uni00B3

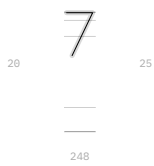
uni2074

uni2075

uni2076



uni2077



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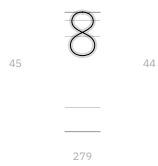
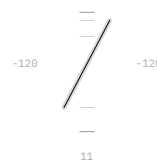


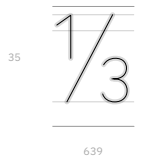
uni2079

fraction



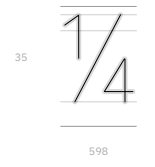
onehalf

uni2153



uni2154

onequarter



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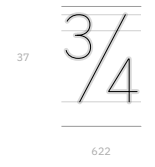

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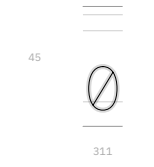

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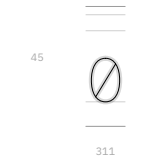

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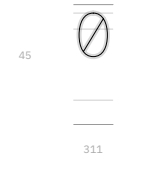

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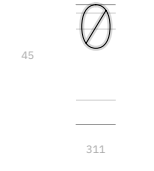

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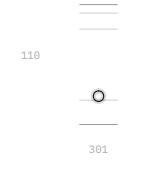

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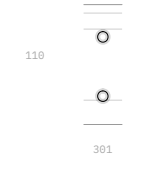

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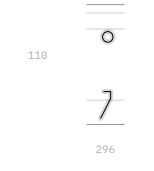

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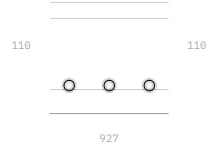

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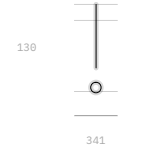

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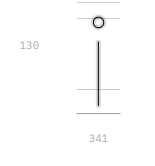

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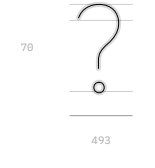

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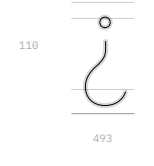

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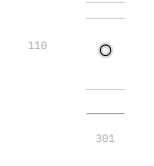

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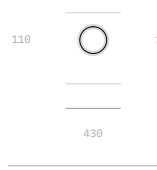

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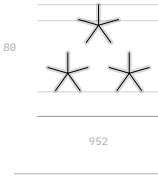

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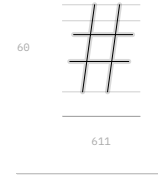

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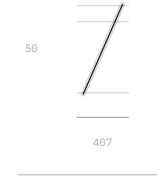

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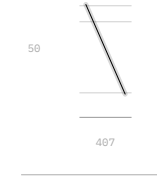

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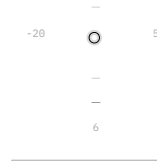

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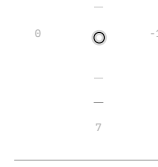

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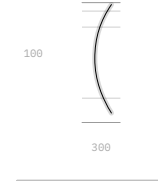

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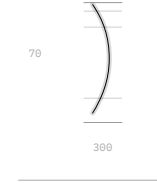

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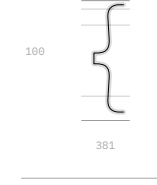

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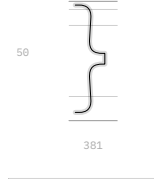

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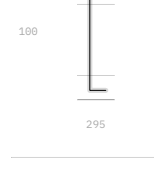

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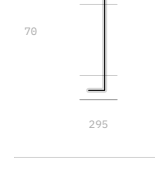

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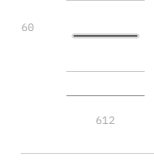

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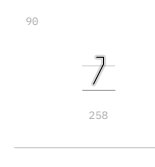

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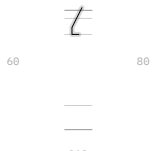

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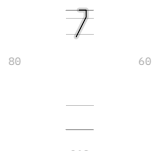

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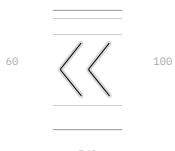

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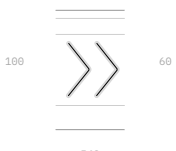

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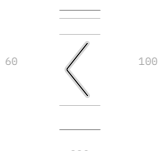

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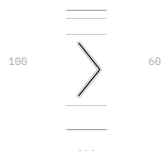

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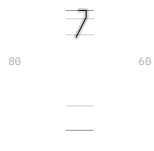

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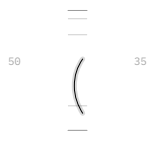

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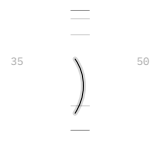

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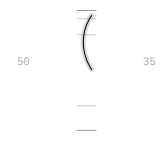

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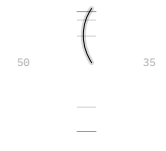

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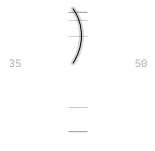

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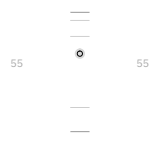

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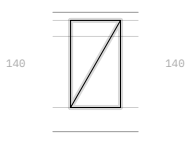

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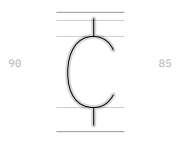

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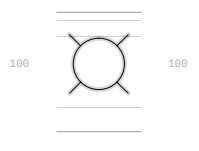

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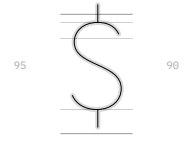

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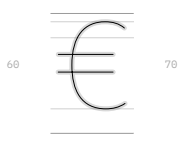

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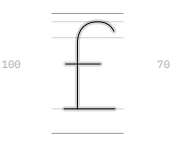

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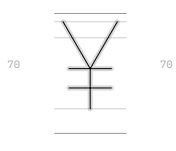

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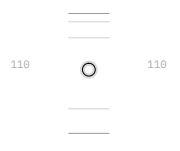

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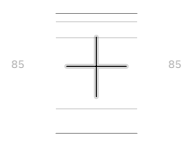

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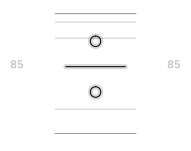

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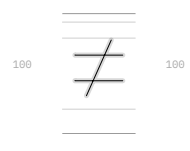

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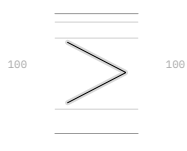

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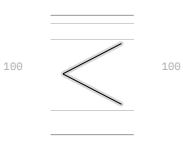

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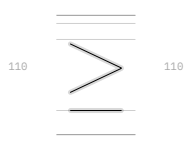

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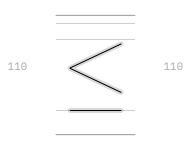

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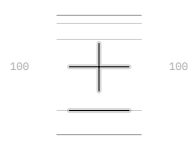

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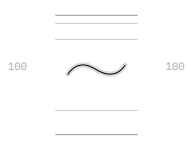

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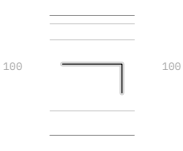

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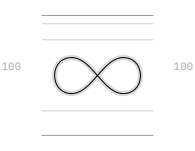

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radical

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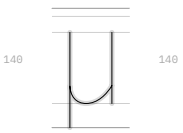

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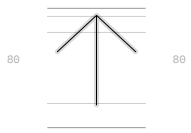
percent

perthousand

arrowup



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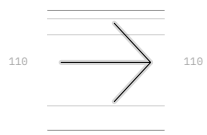

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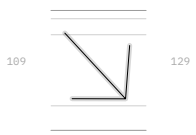

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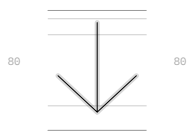

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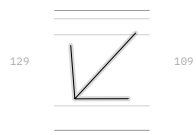

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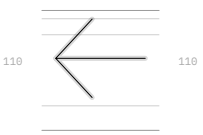

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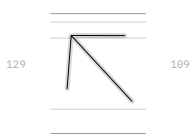

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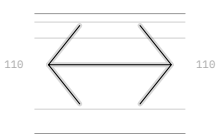

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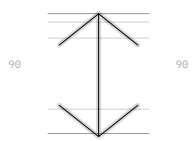

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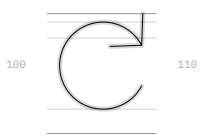

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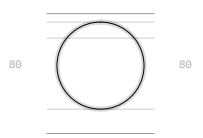

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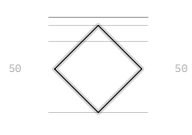

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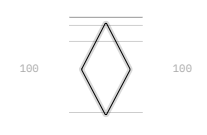

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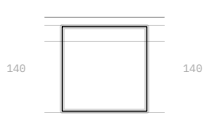

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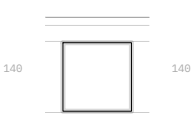

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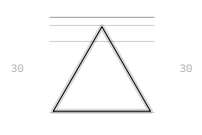

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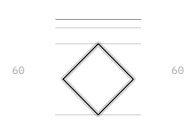

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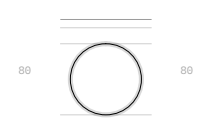

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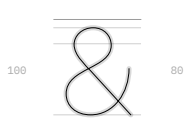

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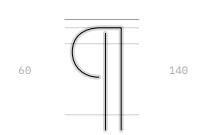

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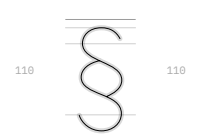

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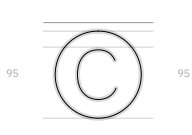

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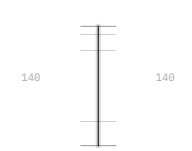

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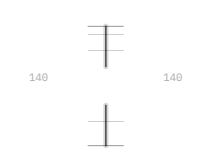

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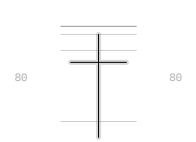

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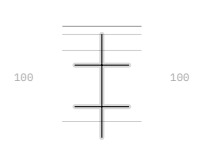

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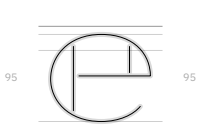

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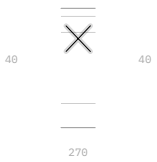

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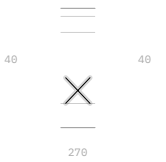

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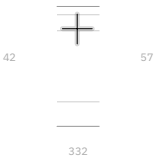

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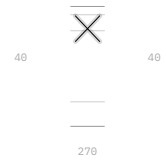

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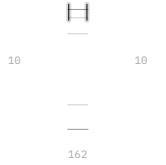

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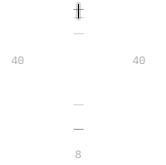

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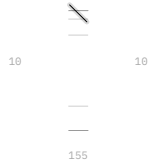

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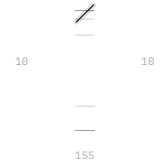

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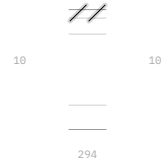

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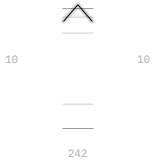

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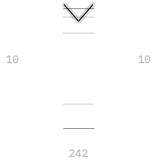

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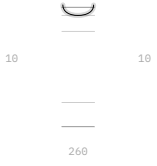

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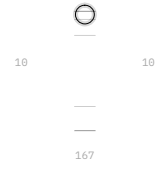

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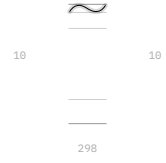

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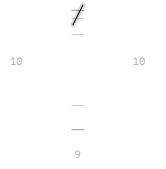

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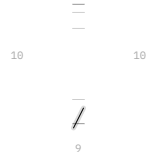

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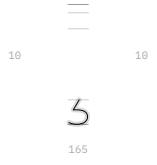

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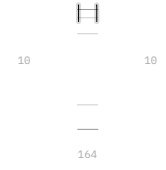

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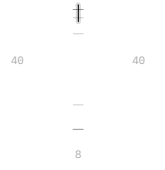
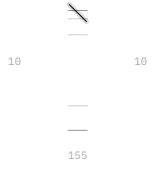


grave



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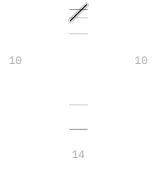
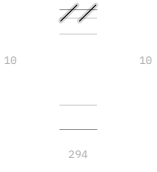
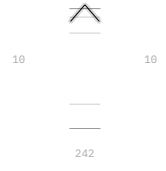


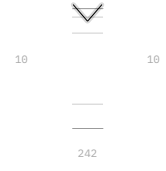
hungarumlaut



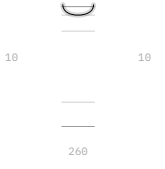
circumflex



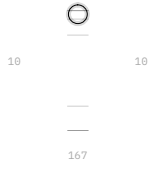
caron



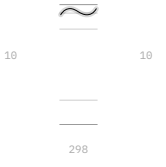
breve



ring



tilde



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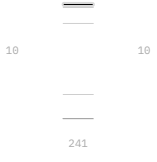
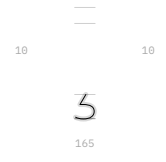
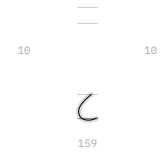


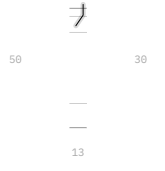
cedilla



ogonek



caron.alt



OpenType features

OTF-SVG for Adobe

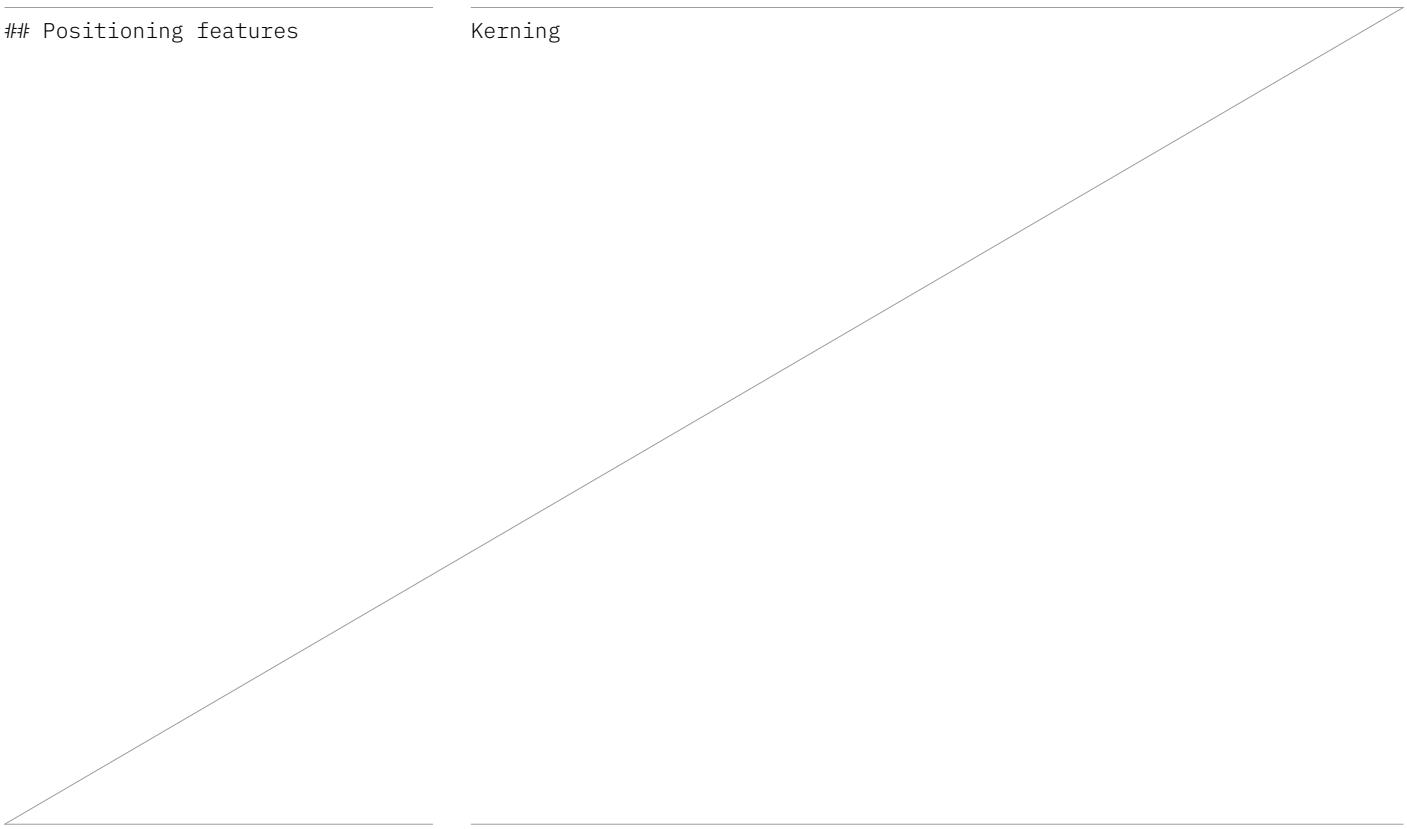
For details about OpenType Layout Features see the OpenType Layout tag registry.

Substitution features

aalt	Access All Alternates	
ccmp	Glyph Composition/Decomposition	
locl	Localized Forms	
subs	Subscript	
sinf	Scientific Inferiors	
sups	Superscript	
numr	Numerators	
dnom	Denominators	
frac	Fractions	
ordn	Ordinals	
lnum	Lining Figures	
onum	Oldstyle Figures	
case	Case-Sensitive Forms	
dlig	Discretionary Ligatures	
liga	Standard Ligatures	
zero	Slashed Zero	
ss01	Stylistic Set 1	g
ss02	Stylistic Set 2	l, fl
ss03	Stylistic Set 3	y
ss04	Stylistic Set 4	Dot Default style for Rhino (TTF)
ss05	Stylistic Set 5	Dot

Positioning features

Kerning



Contributors

Élisa Garzelli & Noëlie Dayma, isdaT Graphic Design Department students.

[François Chastanet](http://francoischastanet.com/), isdaT Graphic Design Department teacher in typography and type design, design and project coordination.

[Tanguy Vanlaeys](https://vnls-tanguy.tumblr.com/), research on CNC type started at [ANRT](https://anrt-nancy.fr/), advices on Inkscape + Hershey Text Extension usages and open paths (old) SVG fonts export tricks, TTF exports, illustrations and type specimen layouts.

[Frederik Berlaen](https://typemytype.com/), ⋆otf-svgMaker⋆ Python script for [Robofont](https://robofont.com/) exporting from any skeletal UFO source an OTF-SVF color font permitting editable single-line typographic layouts in the Adobe CC environment (CC 2019 and above).

210 latin languages supported

Abenaki
Afaan Oromo
Afar
Afrikaans
Albanian
Alsatian
Amis
Anuta
Aragonese
Aranese
Aromanian
Arrernte
Arvanitic
Asturian
Atayal
Aymara
Bashkir
Basque
Belarusian
Bemba
Bikol
Bislama
Bosnian
Breton
Cape Verdean
Catalan
Cebuano
Chamorro
Chavacano
Chichewa
Chickasaw
Cimbrian
Cofan
Corsican
Creek
Crimean Tatar
Croatian
Czech
Danish
Dawan
Delaware
Dholuo
Drehu
Dutch
English
Esperanto
Estonian
Faroese
Fijian
Filipino
Finnish
Folkspraak
French
Frisian
Friulian
Gagauz
Galician
Ganda
Genoese
German
Gikuyu
Gooniyandi
Greenlandic
Guadeloupean
Gwichin
Haitian Creole
Han
Hawaiian
Hiligaynon
Hopi
Hotcak
Hungarian
Icelandic
Ido
Ilocano
Indonesian
Interglossa
Interlingua
Irish
Istroromanian
Italian
Jamaican
Javanese
Jerriais
Kala Lagaw Ya
Kapampangan
Kaqchikel
Karakalpak
Karelian
Kashubian
Kikongo
Kinyarwanda
Kiribati
Kirundi
Klingon
Kurdish
Ladin
Latin
Latino Sine
Latvian
Lithuanian
Lojban
Lombard
Low Saxon
Luxembourgish
Maasai
Makhuwa
Malay
Maltese
Manx
Maori
Marquesan
Meglenoromanian
Meriam Mir
Mirandese
Mohawk
Moldovan
Montagnais
Montenegrin
Murrinhpatha
Nagamese Creole
Ndebele
Neapolitan
Ngiyambaa
Niuean
Noongar
Norwegian
Novial
Occidental
Occitan
Oshiwambo
Ossetian
Palauan
Papiamento
Piedmontese
Polish
Portuguese
Potawatomi
Qeqchi
Quechua
Rarotongan
Romanian
Romansh
Rotokas
Sami Inari
Sami Lule
Sami Northern
Sami Southern
Samoan
Sango
Saramaccan
Sardinian
Scottish Gaelic
Serbian
Seri
Seychellois
Shawnee
Shona
Sicilian
Silesian
Slovak
Slovenian
Slovio
Somali
Sorbian Lower
Sorbian Upper
Sotho Northern
Sotho Southern
Spanish
Sranan
Sundanese
Swahili
Swazi
Swedish
Tagalog
Tahitian
Tetum
Tok Pisin
Tokelauan
Tongan
Tshiluba
Tsonga
Tswana
Tumbuka
Turkish
Turkmen
Tuvaluan
Tzotzil
Ukrainian
Uzbek
Venetian
Vepsian
Volapuk
Voro
Wallisian
Walloon
Waraywaray
Warlpiri
Wayuu
Welsh
Wikmungkan
Wiradjuri
Wolof
Xavante
Xhosa
Yapese
Yindjibarndi
Zapotec
Zulu
Zuni

Credit

A part of the layout was generated through a script based on [Font to PDF repository] (https://github.com/loicsander/Font2PDF) — update with fontparts — from Loïc Sander with DrawBot.