

# Elstob: A Variable Font for Medievalists

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# I. Introduction

The Elstob font (named for the eighteenth-century medievalist Elizabeth Elstob) is based on the Double Pica typeface commissioned by Bishop John Fell in the seventeenth century and used by the Oxford University Press for many years. Though its origin is an old-style typeface, it includes many modernizing touches, and it exploits the latest in font technology so as to provide capabilities available in few other fonts. It comes in two versions: **static** and **variable**.

## I.I. The Static Font

Most of the fonts on your computer are static: that is, each file contains outlines for a single style. For example, the ubiquitous Times New Roman typically has four styles in four files: regular, bold, italic, and bold italic. Because it has more than one style, we call Times New Roman a **font family**. Think of this family as having two stylistic **axes**, one being the **roman–italic** axis, on which only two positions are available (since in serif typefaces there is no middle ground between roman and italic), and the other being the **Weight** axis, on which many positions are possible, though the Times New Roman font family provides only two—regular and bold. Some static font families come packaged in more than four files and provide both more stylistic axes and more positions on these axes.

The static version of Elstob (ElstobD, where the D stands for “Desktop”) consists of forty-eight files (don’t panic—you’re not required to install them all) and has three stylistic axes: **Roman–Italic**, **Weight**, and **Optical Size**. The weights are ExtraLight, Light, Regular, Medium, SemiBold, Bold, and ExtraBold.

The **Optical Size** axis varies the shapes of characters to look good at particular sizes. The static version comes in five optical sizes: 8pt, 10pt, 12pt (Regular), 14pt,

and 18pt. You should choose the one that comes as close as possible to the point size of the text you are setting—for example, “ElstobD 8pt” for footnotes and “ElstobD 14pt Medium” for subheads, depending on your stylistic preferences.

## 1.2. The Variable Font

A **variable** font packages an almost infinite number of styles into a single font file. Whereas the static version of Elstob consists of forty-eight files, the variable version consists of only two: `Elstob.ttf` (roman) and `Elstob-Italic.ttf` (italic). And yet the variable version provides many more stylistic choices than the static version because you can choose any value along any of the font’s stylistic axes. The **weight** axis runs from 200 **Extra Light** to **800 Extra Bold**. You can choose either of those, or one of the other standard weights: 300 for **Light**, 400 for **Regular**, 500 for **Medium**, 600 for **SemiBold**, or 700 for **Bold**. Or you can, if you’re so minded, choose an oddball weight like 523.45.

In addition to the **Weight** axis, Elstob has three others, **Optical Size**, **Grade**, and **Spacing**, and the italic face has one more, **Slant**. **Optical Size** works the same in the variable version as it does in the static version, but you are not limited to five optical sizes, so you can tune your type more closely to the size of your text. This axis runs from 6 to 18 (the numbers corresponding roughly to point sizes). Some applications (like Adobe InDesign) will automatically choose the appropriate value (though you may override it if you like).

**Grade** (0–1) is like **Weight**, but it varies the weight of characters without changing their widths. This can be useful in web pages, where dynamically changing the **Weight** axis (for example, on mouseover) may cause text to reflow annoyingly. **Grade** will not generally be useful in printed documents.

**Spacing** (0–1) increases the width of the space character and a few related characters (such as non-breaking space). A value of zero (the default) produces the original spacing of this font. A value of one produces the wider spacing typical of documents printed in the nineteenth century and earlier. Use this axis with **ss18** (“Old-style punctuation spacing”) to adhere closely to the complex system of spacing typical of the era of metal type.

**Slant** (0–15) varies the slant of the italic from 0 *steeply slanted* to 15 *nearly upright*. The slant of the static fonts is equivalent to a *Slant of 6 in the variable font*.

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The values of the various axes can be combined in any way you like. You will find, however, that some combinations are problematic or inadvisable. For example, you can add a little Grade to ExtraBold text to produce **even bolder text**, but if you overdo it, letters will collide and become misshapen—**like this**. You should add a Grade of no more than 0.2 to the ExtraBold face. Combining ExtraBold and maximum Slant may also produce misshapen characters. It is not unexpected that, in a three- or four-dimensional design space, some positions will be less than optimal: experiment with the Elstob specimen page to find the styles you like.

When beginning a project with Elstob, consider whether the software you're using has adequate support for variable fonts. If not, use the static version. All of the major web browsers support variable fonts, which you can control via CSS. The major programs of the Adobe Creative Suite also support variable fonts, as does Lua<sub>T</sub>E<sub>X</sub>, used to produce this document;<sup>1</sup> but most desktop applications (such as word processors) do not. ElstobD, the static version of Elstob, should work with all applications.

Elstob aims to cover all European languages using the Latin alphabet, and it offers a curated collection of Unicode characters of interest to medievalists. It includes the basic International Phonetic Alphabet and the most commonly used mathematical symbols. Version 2 includes many stylistic revisions and a few new characters, especially letters and diacritics from the *Ormulum*, recently added to Unicode. The OpenType features of the font have been revised to match as closely as possible those of the developer's Junicode font. Unnecessary or redundant features have been removed, and technical changes have been made to improve accessibility.

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<sup>1</sup>Make sure to use the latest version of Lua<sub>T</sub>E<sub>X</sub>, as support for variable fonts was added very recently. Xe<sub>T</sub>E<sub>X</sub> does not support variable fonts.

## 2. Specimens

A B C D E F G H I

J K L M N O P Q R S

T U V W X Y Z Þ Æ P

a b c d e f g h i j k l m n o p q r s t u v w x

Quousque tandem abutere,

Catilina, patientia nostra?

*Quousque tandem abutere,*

*Catilina, patientia nostra?*

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9

## 2.1. Old English (Regular)

Sum wer wæs ġeseten on þām lande þe is ġehāten Hus; his nama wæs Iob. Se wer wæs swīðe bilewite and rihtwīs and ondrædende God and forbūgende yfel. Him wāron ācennede seofan suna and ðrēo dohtra. Hē hæfde seofon ðūsēd scēapa and ðrēo ðūsēd olfenda, fīf hund ġetȳmu oxena and fīf hund assan and ormæte micelne hīred. Se wer wæs swīðe mære betwux eallum ēasternum, and his suna fērdon and ðēnode ælc oðrum mid his ġōdum on ymbhwyrfte æt his hūse, and þærtō heora swustru ġelaðodon.

## 2.2. Old English with insular letter-forms (Light + sso2)

Her on ðisum ġearpe forðferðe ælfgiue ymma Eaðparðer cýnger modor 7 harðacnuter cýnger. 7 on þam rýlran ġearpe ġeræðde se cýng 7 hīr rītan þ̅ mann rceolde forðian ut to Sandric rīpu. 7 rēton paulf eorl 7 oddan eorl to heafoðmannū þærto. Ða ġependē Godrine eorl út frā brýcge mid hīr rīcȳpum to ýrepan. and let ut ane dæge ær mid-rumener mærræfene þ̅ he cō to nærrē. þe īr beruðan rumenea. Ða cō hit to rītenne þā eorlū ut to randric. 7 hī þa ġependon ut æfter þam oðrum rīpum. 7 beað man landfýrde ut ongean þa rīpu.

## 2.3. Old English in runes (various weights + ssi2)

WITIH WITENON FENEP N̅I WMRXMEBMRIX PFR̅B XF̅YRIH XR̅FR̅I PFR̅ NM̅ N̅I XRMINT  
 XIYF̅F̅N̅ NR̅F̅F̅H̅ BF̅I. WITIH WITENON FENEP N̅I WMRXMEBMRIX PFR̅B XF̅YRIH  
 XR̅FR̅I PFR̅ NM̅ N̅I XRMINT XIYF̅F̅N̅ NR̅F̅F̅H̅ BF̅I. WITIH WITENON FENEP N̅I  
 WMRXMEBMRIX PFR̅B XF̅YRIH XR̅FR̅I PFR̅ NM̅ N̅I XRMINT XIYF̅F̅N̅ NR̅F̅F̅H̅  
 BF̅I. WITIH WITENON FENEP N̅I WMRXMEBMRIX PFR̅B XF̅YRIH XR̅FR̅I PFR̅ NM̅  
 N̅I XRMINT XIYF̅F̅N̅ NR̅F̅F̅H̅ BF̅I. WITIH WITENON FENEP N̅I WMRXMEBMRIX  
 PFR̅B XF̅YRIH XR̅FR̅I PFR̅ NM̅ N̅I XRMINT XIYF̅F̅N̅ NR̅F̅F̅H̅ BF̅I. WITIH  
 WITENON FENEP N̅I WMRXMEBMRIX PFR̅B XF̅YRIH XR̅FR̅I PFR̅ NM̅ N̅I  
 XRMINT XIYF̅F̅N̅ NR̅F̅F̅H̅ BF̅I.

## 2.4. Middle English: *Ancrene Wisse* (Medium)

Nan ancre bi mi read ne ſchal makien ꝥfeſſiun. ꝥ if bihaten afe heaſtꝥ  
but ꝥreo ꝥingef. ꝥ beoð obedience. chaſtete. ⁊ ftude ſteaðelueſtneſſe. ꝥ  
ha ne ſchal ꝥ ftude neaũ mare changin bute foꝛ nede ane. af ſtrengðe  
⁊ deaðeſ dred. obedience of hire biſchop oðer of hiſ herre. foꝛ hꝥa ſe  
nimeð ꝥing on hond ⁊ bihat hit Godd af heaſt foꝛte don hitꝥ ha bint  
hire ꝥerto. ⁊ ſunegeð deadliche i ꝥe bꝛuche. 3ef ha hit bꝛekeð pillef.  
3ef ha hit ne bihat napt. ha hit mei do ꝥah ⁊ leauen hꝥen ha pel pule.

## 2.5. Middle English: *The Ormulum* (SemiBold + cv8[1], cv38[2], cv40[1], cv36[1])

Nu bꝛoþeꝛꝛ ꝥalltē bꝛoþeꝛ min. afftē ꝥe flæſheſſ kīde. ⁊ bꝛoþeꝛ min  
i cꝛiſtēnndom. ꝥꝛꝛꝥ fulluhht ⁊ ꝥꝛꝛꝥ tꝛoþe. ⁊ bꝛoþeꝛꝛ min i  
goddeſſ huſ. ȝēt o ꝥe ꝥꝛīde ꝛiſe. ꝥꝛꝛꝥ ꝥatt ꝛit hafenn taken ba. an  
ꝛeȝell boc to follȝenn. Vnnðeꝛꝛ kanunnkeſſ hað. ⁊ lif. Spa ſum ſannt  
appꝛtīn fette. Iēē hafe ðon ſpa ſum ꝥu baððꝥ ⁊ foꝛþeðð te ꝥi ꝛille. ꝥ  
Iēē hafe ꝛend īntill enngliſſh. goddeſſpelleſſ hallȝe láꝛeꝥ Afftē ꝥ liēle  
ꝛitt ꝥatt me. min ðꝛiḥhtīnn hafeþ lenned.

## 2.6. Early Modern English (Light Italic)

*When the right vertuous E.W. and I were at the Emperours Court together,  
wee gave our ſelves to learne horſemanſhip of Jon Pietro Pugliano, one that  
with great commendation had the place of an Eſquire in his ſtable: and  
hee according to the fertilnes of the Italian wit, did not onely affoord us the  
demonſtration of his practiſe, but ſought to enrich our mindes with the con-  
templations therein, which he thought moſt precious. But with none I re-  
member mine eares were at any time more loaden, then when (either an-  
gred with ſlow payment, or mooved with our learnerlike admiration) hee  
exerciſed his ſpeech in the praiſe of his facultie.*

## 2.7. Latin (Italic + cv38[2])

*Humanaſ laudeſ et mortalium inſulaſ uidimus aut ére inciſo conſcriptaſ. aut auro radiantib: litteriſ. ad poſteritatiſ memoriam cōmendataſ. Et iſta attendenteſ miror quare non erubeſcim⁹ militum xpi uictoriaſ ſilentio tégere & ñ ad laudem imperatoriſ eoꝝ qualiū pugnauerint contra hoſteſ & uicerint. ſeduliſ ſaltim uilibuſ tradere & ad incitandoaſ animoſ bellatoꝝ diligentiuſ explicare. Multa bona taliū narrationū ſcripta conuertant; Lauſ dei eſt cum iſta leguntur. memoria ſcōꝝ excolitur: aedificacio m̃tib: traditur. honor martiribuſ exhibetur.*

## 2.8. Old Icelandic (Medium Italic)

*Þá mælti Hárr: Þá er þeir gengu með sævarströndu Borssynir, fundu þeir tré tvau ok tóku upp trén ok sköpuðu af menn. Gafinn fyrsti qnd ok líf, annarr vit ok bræring, þriði ásjónu, mál ok beyrn ok sjón, gáfu þeim klæði ok ngfn. Hét karlmaðrinn Askr, en konan Embla, ok ólst þaðan af mannkindin, sú er byggðin var gefinn undir Miðgarði. Þar næst gerðu þeir sér borg í miðjum heimi, er kölluð er Ásgarðr. Þat köllum vér Trója. iocoi oicio*

## 2.9. Gothic (Medium Italic + Slant=◌)

*Warp þan in dagans jainans, urrann gagrefts fram kaisara Agustau, gameljan allana midjungard. soh þan gilstrameleins frumista warp at wisandin kindina Swriais raginondin Saurim Kweinaiau. jah idjedun allai, ei melidai weseina, harjizuh in seinai baurg. Urrann þan jah Iosefus Galeilaia, us baurg Nazaraip, in Iudaian, in baurg Daweidis sei baitada Beplaihaim, dupe ei was us garda fadreinais Daweidis, anameljan mip Mariin sei in fragiftim was imma qeins, wisandein inkilpon.*



## 2.10. Vietnamese (Regular + ss09)

Ban đầu Đức Chúa Trời dựng nên trời và đất. Thuở ấy đất hoang vắng và trống không. Bóng tối bao phủ trên mặt vực thẳm. Thần[a] của Đức Chúa Trời vận hành trên mặt nước. Đức Chúa Trời phán, “Phải có ánh sáng,” thì có ánh sáng. Đức Chúa Trời thấy ánh sáng là tốt đẹp. Đức Chúa Trời phân rẽ giữa ánh sáng và bóng tối. Đức Chúa Trời gọi ánh sáng là ngày và bóng tối là đêm. Vậy có hoàng hôn và bình minh – ngày thứ nhất.

## 2.11. French (Medium + Spacing=1, ss08, ss18)

Grandgoufier était bon raillard en son temps, aimant à boire net autant qu’homme qui pour lors fût au monde, et mangeait volontiers fâlé. A cette fin, avait ordinairement bonne munition de jambons de Mayence et de Bayonne, force langues de bœuf fumées, abondance d’andouilles en la faifon et bœuf fâlé à la moutarde, renfort de boutargues, provifion de fauciffes, non de Bologne, car il craignait li boucon de Lombard, mais de Bigorre, de Longaunay, de la Brenne et de Rouergue. En son âge virile, époufa Gargamelle, fille du roi des Parpaillos, belle gouge» et de bonne trogne, et faifaient eux deux fouvent ensemble la bête à deux dos, joyeusement se frottants leur lard, tant qu’elle engrossa d’un beau fils, et le porta jusques à l’onzième mois.

## 3. OpenType features

OpenType is the format employed by most modern fonts. It enables such technical wizardry as ligatures, kerning, and several kinds of variation. OpenType features, when they can be controlled by users, can be selected via four-character tags. Some applications offer more access to these features than others. The major web browsers support all of Elstob’s features, and so do LibreOffice, Affinity Publisher, XeTeX and LuaTeX. The Adobe Creative Suite supports a generous selection of them. Microsoft Word, unfortunately, supports only a few OpenType features.

Elstob’s OpenType features are for the most part a subset of those of Junicode. It will be noted below when the two fonts differ. Features are presented in alphabetical order, but this is not the order in which they are executed when more than one feature has been applied.

Different applications provide different ways of accessing OpenType features. Those that are available in Microsoft Word can be accessed in the “Advanced” tab of the “Font” dialog. In the Adobe apps those features that are available can be accessed via the “Character” dialog, and in InDesign via the “O” icon that appears when text is selected (InDesign users should select the “World-Ready Paragraph Composer” when using this font). For variable font handling in LuaTeX, see the source for this document.

### 3.1. aalt (Access All Alternates)

Provides access to all variants in the font. Applications that use this feature usually do so via an element of the user interface.

### 3.2. c2sc (Small Capitals From Capitals)

Converts capitals to small caps. Every capital in the font has a corresponding small capital. ABCDPÐÆ → ABCDPÐÆ.

### 3.3. calt (Contextual Alternates)

In most applications this feature is on by default. Provides many alternate characters that vary automatically by context.

### 3.4. case (Case-Sensitive Forms)

Mostly provides alternate diacritics for capitals, e.g. ÂÄÊËÏÖÕÛŪ. Also converts old-style to lining figures to harmonize with capitals. Some applications turn this feature on automatically in the vicinity of capitals.

### 3.5. ccmp (Glyph Composition/Decomposition)

In most applications this feature is on by default and cannot be turned off. In Elstob it performs (1.) removal of dot from i and j when followed by combining marks; and (2.) substituting ligatures for certain vowel + rhotic hook (U+02DE) combinations.

### 3.6. cvo7 (Variants of D)

Provides insular D (Ŏ).

### 3.7. cvo8 (Variants of d)

Provides two shapes of insular d: 1. ð; 2. ɖ.

### 3.8. cvii (Variants of F)

Provides insular F (ƒ).

### 3.9. cvi2 (Variants of f)

Provides: 1. ƒ (insular f); 2. f (narrow f).

### 3.10. cvi3 (Variants of G)

Provides: 1. Ꝣ (insular G); 2. Ꝣ (Orm’s hard G).

### 3.11. cvi4 (Variants of g)

Provides: 1. Ꝣ (insular g); 2. Ꝣ (Orm’s hard g); 3. g (script g)

### 3.12. cvi8 (Variants of i)

Provides dotless i (ı).

### 3.13. cv35 (Variants of R)

Provides insular R (ŕ).

### 3.14. cv36 (Variants of r)

Provides: 1. ʀ (insular r); 2. ʀ (r rotunda).

### 3.15. cv37 (Variants of S)

Provides insular S (ſ).

### 3.16. cv38 (Variants of s)

Provides: 1. ʃ (insular s); 2. f (long s); 3. f (narrow long s). Instances of **f** provided by this feature are not subject to the contextual rules followed when **ss08** is turned on. Use **cv38[1]** for **f** everywhere in the text, or enter **U+017F** directly for fine control over the distribution of **f**. Use **cv38[2]** to avoid collisions that Elstob's contextual rules have not anticipated.

### 3.17. cv39 (Variants of T)

Provides insular T (Ț).

### 3.18. cv40 (Variants of t)

Provides insular t (τ).

### 3.19. cv57 (Variants of æ)

Italic face only. Provides an alternative (and in some contexts less ambiguous) *æ* (æ). This feature also affects **U+01E3** (ǣ) and **U+01FD** (ǣ).

### 3.20. cv69 (Variants of Tironian et sign ȷ)

Provides two variants of **U+204A**: 1. ȷ; 2. ȷ.

### 3.21. cv76 (Variants of ?)

Provides the *punctus interrogativus* (ʔ).

### 3.22. cv8o (variants of bracket characters)

In the italic face, provides upright variants of the most common bracket characters: `()[]{}<>`.

### 3.23. dlig (Discretionary Ligatures)

Provides `ct` and `st` ligatures, and in italic only, *as*, *is*, *us*.

### 3.24. frac (Fractions)

Elstob includes only three fractions:  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ . Type as number + slash + number.

### 3.25. hlig (Historical Ligatures)

Provides several ligatures used in Orm's orthography: `þ þ h þ` for `þþ pp hh pp`. The first two of these correspond to Unicode `U+A7D3` and `U+A7D5`, but using the ligatures provides an intelligible fallback when a font with these rare Unicode characters is not available.

### 3.26. liga (Standard Ligatures)

Most of this font's ligatures are Contextual Alternates (`calt`), but a few are provided by this feature, which should always be on.

### 3.27. locl (Localized Forms)

In most applications this feature is on by default and cannot be turned off. It provides the English forms of thorn and eth (`þ þ ð`) when English is the active language.

### 3.28. `ordn` (Ordinals)

Provides superscript forms of **a** and **o** when preceded by a figure: 1<sup>a</sup>, 2<sup>o</sup>.

### 3.29. `smcp` (Small Capitals)

Converts lowercase letters to small capitals. abcdeþðæ → ABCDEþÐÆ.

### 3.30. `sso1` (Alternate Thorn and Eth)

Overrides any language setting to provide alternate shapes of the letters thorn and eth: Nordic shapes when the language is English, and English shapes otherwise.

### 3.31. `sso2` (Insular Letter-Shapes)

Transliterates from modern to insular (Old English, Old Irish) letter-shapes: dfgirstw → ðƿȝıƿƿ. Note that `calt` later changes the sequence **ƿt** to **ft**. You can override this behavior by placing `U+200C ZERO-WIDTH NON-JOINER` or any invisible formatting mark between the **s** and the **t**.

### 3.32. `sso4` (IPA Letter-Shapes)

Changes **g** to **ɡ** and (in italic only) **a** to **Ɑ**. This feature has no counterpart in Junicode.

### 3.33. `sso8` (Contextual Long s)

In English, French, Italian, and Spanish text, and in combination with `calt`, distributes **s** and **f** according to rules commonly employed by early printers in each language. For all other languages, **s** and **f** are distributed according to the following rules: **s** in word-final position and immediately before or after **f**; **f** everywhere else.

To suppress any instance of **f**, place **U+200C** ZERO-WIDTH NON-JOINER immediately after.

### 3.34. **ss09** (Language-specific variants)

This feature is reserved for stylistic variants that occur in particular language systems. At present only two languages are supported here: in English the feature selects an alternative form of **insular d**, and in Vietnamese it selects forms of accented **i** that retain the dot.

### 3.35. **ss12** (Early English Futhorc)

Transliterates Latin script to runic with characters from the Early English futhorc. **futhorc** → **ƿŋþƿŕh**.

### 3.36. **ss13** (Elder Futhark)

Transliterates Latin script to runic with characters from the Elder futhark. **fupark** → **ƿŋþƿŕ<**.

### 3.37. **ss14** (Younger Futhark)

Transliterates Latin script to runic with characters from the Younger futhark. **fupark** → **ƿŋþƿŕʝ**.

### 3.38. **ss15** (Long Branch to Short Twig)

Use with **ss14**. Converts the default (Long Branch) version of the Younger futhark to the Short Twig version. **fupark** → **ƿŋþƿŕʝ**.



### 3.39. ss16 (Contextual r Rotunda)

Together with **calt**, distributes **r** and **ʀ** in accordance with the rules most often employed in medieval manuscripts and early printed books: form woʀkrooms pʀiest pʀayer.

### 3.40. ss18 (Old-style punctuation spacing)

Adds extra space inside paired quotation marks and before semicolons, colons, question marks and exclamation marks. The width of a space between a sentence-ending sequence (e.g. period, period + quotation mark, question mark) and a capital letter is increased. The amount of space added in these environments is governed by the Spacing (SPAC) axis, which runs from 0 (the default) to 1. When Spacing is set to 1, the spacing between words and sentences and around punctuation marks is a good match for most books printed in the late eighteenth century.

This feature will produce too much space in certain sequences that can be mistaken for the end of a sentence (like “Ofc. Smith”—though a number honorifics in various languages are accounted for in the rules. To solve this problem, place a ZERO-WIDTH NON-JOINER (**U+200C**) anywhere between the period and the capital or replace the space with the non-breaking space (**U+00A0**) or thin space (**U+2009**) (“Ofc. Smith,” “Ofc. Smith”). If the rules produce a narrow space between sentences where you want a wide one, place a ZERO-WIDTH NON-JOINER before the period (“Main St. And”). You can also override the effect of this feature by using the font’s alternative spaces : em space (**U+2003**), en space (**U+2002**), hair space (**U+200A**), thin space (**U+2009**), or three-per-em space (**U+2004**). Find rules for using these spaces in handbooks for compositors from the era of metal type.

**ss18** and the Spacing axis will fail in a few OpenType-aware applications (including Safari) that handle spaces in a non-standard way. In these applications some spaces that should be increased will remain unchanged.

### 3.41. subs (Subscripts)

Subscript numbers, both lining and old style.  $01234 \rightarrow {}_{01234}$ ;  $01234 \rightarrow {}_{01234}$ .

### 3.42. sups (Superscripts)

Superscript numbers, both lining and old style.  $56789 \rightarrow {}^{56789}$ ;  $56789 \rightarrow {}^{56789}$ .

### 3.43. swsh (Swash)

Italic only. Provides swash forms of certain capitals (*ADFPRT*) plus *z* and *k*.

### 3.44. tnum (Tabular Figures), onum (Old-Style Figures), pnum (Proportional Figures), lnum (Lining Figures)

In various combinations, provides figures in four styles: tabular lining (the default), tabular old-style, proportional lining, proportional old-style. The font contains variants of its mathematical operators to harmonize with the old-style figures.

### 3.45. zero (Slashed Zero)

Provides slashed zero ( $\emptyset$ ) in all figure styles.

## 4. Unicode character list

This is a list of characters with Unicode encodings in Elstob. In addition, the font contains more than 300 unencoded characters, including small caps, ligatures, and symbols, accessible via OpenType features (listed above).

Œ	a7co	LATIN CAPITAL LETTER OLD POLISH O
Ɔ	a7do	LATIN CAPITAL LETTER CLOSED INSULAR G
Ȧ	oo41	LATIN CAPITAL LETTER A
ȦȦ	a732	LATIN CAPITAL LETTER AA
Ȧ	a73a	LATIN CAPITAL LETTER AV WITH HORIZONTAL BAR
ȦȦ	a73c	LATIN CAPITAL LETTER AY
Ȧ	ooc1	LATIN CAPITAL LETTER A WITH ACUTE
Ȧ	oio2	LATIN CAPITAL LETTER A WITH BREVE
Ȧ	ieae	LATIN CAPITAL LETTER A WITH BREVE AND ACUTE
Ȧ	ieb6	LATIN CAPITAL LETTER A WITH BREVE AND DOT BELOW
Ȧ	iebo	LATIN CAPITAL LETTER A WITH BREVE AND GRAVE
Ȧ	ieb2	LATIN CAPITAL LETTER A WITH BREVE AND HOOK ABOVE
Ȧ	ieb4	LATIN CAPITAL LETTER A WITH BREVE AND TILDE
Ȧ	ooc2	LATIN CAPITAL LETTER A WITH CIRCUMFLEX
Ȧ	iea4	LATIN CAPITAL LETTER A WITH CIRCUMFLEX AND ACUTE
Ȧ	ieac	LATIN CAPITAL LETTER A WITH CIRCUMFLEX AND DOT BELOW
Ȧ	iea6	LATIN CAPITAL LETTER A WITH CIRCUMFLEX AND GRAVE
Ȧ	iea8	LATIN CAPITAL LETTER A WITH CIRCUMFLEX AND HOOK ABOVE
Ȧ	ieaa	LATIN CAPITAL LETTER A WITH CIRCUMFLEX AND TILDE

## 20 UNICODE CHARACTER LIST

Ä	00c4	LATIN CAPITAL LETTER A WITH DIAERESIS
Ạ	1ea0	LATIN CAPITAL LETTER A WITH DOT BELOW
À	00c0	LATIN CAPITAL LETTER A WITH GRAVE
Ả	1ea2	LATIN CAPITAL LETTER A WITH HOOK ABOVE
Ā	0100	LATIN CAPITAL LETTER A WITH MACRON
Ā	a734	LATIN CAPITAL LETTER AO
Ą	0104	LATIN CAPITAL LETTER A WITH OGONEK
Å	00c5	LATIN CAPITAL LETTER A WITH RING ABOVE
Ǻ	01fa	LATIN CAPITAL LETTER A WITH RING ABOVE AND ACUTE
Ã	00c3	LATIN CAPITAL LETTER A WITH TILDE
Ā	a736	LATIN CAPITAL LETTER AU
Ā	a738	LATIN CAPITAL LETTER AV
Æ	00c6	LATIN CAPITAL LETTER AE
Ǽ	01fc	LATIN CAPITAL LETTER AE WITH ACUTE
Ē	01e2	LATIN CAPITAL LETTER AE WITH MACRON
B	0042	LATIN CAPITAL LETTER B
C	0043	LATIN CAPITAL LETTER C
Ć	0106	LATIN CAPITAL LETTER C WITH ACUTE
Č	010c	LATIN CAPITAL LETTER C WITH CARON
Ç	00c7	LATIN CAPITAL LETTER C WITH CEDILLA
Ĉ	010a	LATIN CAPITAL LETTER C WITH DOT ABOVE
D	0044	LATIN CAPITAL LETTER D
Ð	00d0	LATIN CAPITAL LETTER ETH
Ď	010e	LATIN CAPITAL LETTER D WITH CARON
Đ	0110	LATIN CAPITAL LETTER D WITH STROKE
Ɔ	a779	LATIN CAPITAL LETTER INSULAR D
E	0045	LATIN CAPITAL LETTER E
É	00c9	LATIN CAPITAL LETTER E WITH ACUTE
Ě	0114	LATIN CAPITAL LETTER E WITH BREVE
Ě	011a	LATIN CAPITAL LETTER E WITH CARON

Ê	ooça	LATIN CAPITAL LETTER E WITH CIRCUMFLEX
É	iebe	LATIN CAPITAL LETTER E WITH CIRCUMFLEX AND ACUTE
Ė	iec6	LATIN CAPITAL LETTER E WITH CIRCUMFLEX AND DOT BELOW
È	ieco	LATIN CAPITAL LETTER E WITH CIRCUMFLEX AND GRAVE
Ě	iec2	LATIN CAPITAL LETTER E WITH CIRCUMFLEX AND HOOK ABOVE
Ẽ	iec4	LATIN CAPITAL LETTER E WITH CIRCUMFLEX AND TILDE
Ë	oocb	LATIN CAPITAL LETTER E WITH DIAERESIS
Ė	oi16	LATIN CAPITAL LETTER E WITH DOT ABOVE
Ẹ	ieb8	LATIN CAPITAL LETTER E WITH DOT BELOW
È	ooc8	LATIN CAPITAL LETTER E WITH GRAVE
Ě	ieba	LATIN CAPITAL LETTER E WITH HOOK ABOVE
Ē	oi12	LATIN CAPITAL LETTER E WITH MACRON
Ę	oi18	LATIN CAPITAL LETTER E WITH OGONEK
Ê	iebc	LATIN CAPITAL LETTER E WITH TILDE
F	oo46	LATIN CAPITAL LETTER F
ƒ	a77b	LATIN CAPITAL LETTER INSULAR F
G	oo47	LATIN CAPITAL LETTER G
Ç	oi22	LATIN CAPITAL LETTER G WITH CEDILLA
Ġ	oi20	LATIN CAPITAL LETTER G WITH DOT ABOVE
Ǧ	a77d	LATIN CAPITAL LETTER INSULAR G
Ȝ	o21c	LATIN CAPITAL LETTER YOGH
H	oo48	LATIN CAPITAL LETTER H
Ĥ	oi26	LATIN CAPITAL LETTER H WITH STROKE
Ħ	oif6	LATIN CAPITAL LETTER HWAIR
I	oo49	LATIN CAPITAL LETTER I
IJ	oi32	LATIN CAPITAL LIGATURE IJ
Í	oocd	LATIN CAPITAL LETTER I WITH ACUTE
İ	oi2c	LATIN CAPITAL LETTER I WITH BREVE
Î	ooce	LATIN CAPITAL LETTER I WITH CIRCUMFLEX
Ï	oocf	LATIN CAPITAL LETTER I WITH DIAERESIS

## 22 UNICODE CHARACTER LIST

İ	0130	LATIN CAPITAL LETTER I WITH DOT ABOVE
Ț	1eca	LATIN CAPITAL LETTER I WITH DOT BELOW
Ì	00cc	LATIN CAPITAL LETTER I WITH GRAVE
Ț	1ec8	LATIN CAPITAL LETTER I WITH HOOK ABOVE
Ī	012a	LATIN CAPITAL LETTER I WITH MACRON
Ț	012e	LATIN CAPITAL LETTER I WITH OGONEK
Ĭ	0128	LATIN CAPITAL LETTER I WITH TILDE
J	004a	LATIN CAPITAL LETTER J
K	004b	LATIN CAPITAL LETTER K
Ɔ	0136	LATIN CAPITAL LETTER K WITH CEDILLA
L	004c	LATIN CAPITAL LETTER L
Ĺ	0139	LATIN CAPITAL LETTER L WITH ACUTE
Ł	023d	LATIN CAPITAL LETTER L WITH BAR
Ľ	013d	LATIN CAPITAL LETTER L WITH CARON
Ŀ	013b	LATIN CAPITAL LETTER L WITH CEDILLA
Ļ	a748	LATIN CAPITAL LETTER L WITH HIGH STROKE
Ł	2c62	LATIN CAPITAL LETTER L WITH MIDDLE TILDE
Ł	0141	LATIN CAPITAL LETTER L WITH STROKE
M	004d	LATIN CAPITAL LETTER M
N	004e	LATIN CAPITAL LETTER N
Ñ	0143	LATIN CAPITAL LETTER N WITH ACUTE
Ñ	0147	LATIN CAPITAL LETTER N WITH CARON
Ɔ	0145	LATIN CAPITAL LETTER N WITH CEDILLA
Ñ	00d1	LATIN CAPITAL LETTER N WITH TILDE
Ŋ	014a	LATIN CAPITAL LETTER ENG
O	004f	LATIN CAPITAL LETTER O
Ō	a74e	LATIN CAPITAL LETTER OO
Ó	00d3	LATIN CAPITAL LETTER O WITH ACUTE
Ö	014e	LATIN CAPITAL LETTER O WITH BREVE
Ô	00d4	LATIN CAPITAL LETTER O WITH CIRCUMFLEX

Õ	red0	LATIN CAPITAL LETTER O WITH CIRCUMFLEX AND ACUTE
Ô	red8	LATIN CAPITAL LETTER O WITH CIRCUMFLEX AND DOT BELOW
Ö	red2	LATIN CAPITAL LETTER O WITH CIRCUMFLEX AND GRAVE
Ǫ	red4	LATIN CAPITAL LETTER O WITH CIRCUMFLEX AND HOOK ABOVE
Ȫ	red6	LATIN CAPITAL LETTER O WITH CIRCUMFLEX AND TILDE
Ö	ood6	LATIN CAPITAL LETTER O WITH DIAERESIS
Ơ	iecc	LATIN CAPITAL LETTER O WITH DOT BELOW
Ò	ood2	LATIN CAPITAL LETTER O WITH GRAVE
Ỏ	iece	LATIN CAPITAL LETTER O WITH HOOK ABOVE
Ȯ	oia0	LATIN CAPITAL LETTER O WITH HORN
Ȯ	reda	LATIN CAPITAL LETTER O WITH HORN AND ACUTE
Ȯ	iee2	LATIN CAPITAL LETTER O WITH HORN AND DOT BELOW
Ȯ	redc	LATIN CAPITAL LETTER O WITH HORN AND GRAVE
Ȯ	iede	LATIN CAPITAL LETTER O WITH HORN AND HOOK ABOVE
Ȯ	ieeo	LATIN CAPITAL LETTER O WITH HORN AND TILDE
Ȯ	o150	LATIN CAPITAL LETTER O WITH DOUBLE ACUTE
Θ	a74a	LATIN CAPITAL LETTER O WITH LONG STROKE OVERLAY
Ō	o14c	LATIN CAPITAL LETTER O WITH MACRON
Q	o1ea	LATIN CAPITAL LETTER O WITH OGONEK
Ø	ood8	LATIN CAPITAL LETTER O WITH STROKE
Ø	o1fe	LATIN CAPITAL LETTER O WITH STROKE AND ACUTE
Õ	ood5	LATIN CAPITAL LETTER O WITH TILDE
Œ	o152	LATIN CAPITAL LIGATURE OE
P	oo50	LATIN CAPITAL LETTER P
Þ	oode	LATIN CAPITAL LETTER THORN
Q	oo51	LATIN CAPITAL LETTER Q
Q̸	a758	LATIN CAPITAL LETTER Q WITH DIAGONAL STROKE
R	oo52	LATIN CAPITAL LETTER R
Ŕ	o154	LATIN CAPITAL LETTER R WITH ACUTE
Ř	o158	LATIN CAPITAL LETTER R WITH CARON

## 24 UNICODE CHARACTER LIST

Ŕ	0156	LATIN CAPITAL LETTER R WITH CEDILLA
Ŗ	a782	LATIN CAPITAL LETTER INSULAR R
Ŝ	0053	LATIN CAPITAL LETTER S
Š	015a	LATIN CAPITAL LETTER S WITH ACUTE
Ṣ̌	0160	LATIN CAPITAL LETTER S WITH CARON
Ș	015e	LATIN CAPITAL LETTER S WITH CEDILLA
ß	1e9e	LATIN CAPITAL LETTER SHARP S
Ţ	a784	LATIN CAPITAL LETTER INSULAR S
Ť	0054	LATIN CAPITAL LETTER T
Ŧ	0166	LATIN CAPITAL LETTER T WITH STROKE
Ṭ̌	0164	LATIN CAPITAL LETTER T WITH CARON
Ŧ̣	0162	LATIN CAPITAL LETTER T WITH CEDILLA
Ț	a786	LATIN CAPITAL LETTER INSULAR T
Ũ	0055	LATIN CAPITAL LETTER U
Ú	00da	LATIN CAPITAL LETTER U WITH ACUTE
Û	016c	LATIN CAPITAL LETTER U WITH BREVE
Û̂	oodb	LATIN CAPITAL LETTER U WITH CIRCUMFLEX
Û̈	oodc	LATIN CAPITAL LETTER U WITH DIAERESIS
Ŭ	1ee4	LATIN CAPITAL LETTER U WITH DOT BELOW
Ù	ood9	LATIN CAPITAL LETTER U WITH GRAVE
Ů	1ee6	LATIN CAPITAL LETTER U WITH HOOK ABOVE
Ũ̂	01af	LATIN CAPITAL LETTER U WITH HORN
Ú̂	1ee8	LATIN CAPITAL LETTER U WITH HORN AND ACUTE
Ŭ̂	1ef0	LATIN CAPITAL LETTER U WITH HORN AND DOT BELOW
Û̂	1eea	LATIN CAPITAL LETTER U WITH HORN AND GRAVE
Ů̂	1eec	LATIN CAPITAL LETTER U WITH HORN AND HOOK ABOVE
Ũ̂̃	1eee	LATIN CAPITAL LETTER U WITH HORN AND TILDE
Û̂̃̃	0170	LATIN CAPITAL LETTER U WITH DOUBLE ACUTE
Ū	016a	LATIN CAPITAL LETTER U WITH MACRON
Ů̃	0172	LATIN CAPITAL LETTER U WITH OGONEK



Ů	016e	LATIN CAPITAL LETTER U WITH RING ABOVE
Ũ	0168	LATIN CAPITAL LETTER U WITH TILDE
V	0056	LATIN CAPITAL LETTER V
W	0057	LATIN CAPITAL LETTER W
Ŵ	a760	LATIN CAPITAL LETTER VY
Ŷ	1e82	LATIN CAPITAL LETTER W WITH ACUTE
ŷ	0174	LATIN CAPITAL LETTER W WITH CIRCUMFLEX
Ẁ	1e84	LATIN CAPITAL LETTER W WITH DIAERESIS
ẁ	1e80	LATIN CAPITAL LETTER W WITH GRAVE
Ƶ	01f7	LATIN CAPITAL LETTER WYNN
X	0058	LATIN CAPITAL LETTER X
Y	0059	LATIN CAPITAL LETTER Y
Ý	00dd	LATIN CAPITAL LETTER Y WITH ACUTE
Ÿ	0176	LATIN CAPITAL LETTER Y WITH CIRCUMFLEX
Ỳ	0178	LATIN CAPITAL LETTER Y WITH DIAERESIS
Ỳ	1e8e	LATIN CAPITAL LETTER Y WITH DOT ABOVE
Ỳ	1ef4	LATIN CAPITAL LETTER Y WITH DOT BELOW
Ỳ	1ef2	LATIN CAPITAL LETTER Y WITH GRAVE
Ỳ	1ef6	LATIN CAPITAL LETTER Y WITH HOOK ABOVE
Ȳ	0232	LATIN CAPITAL LETTER Y WITH MACRON
Ỹ	1ef8	LATIN CAPITAL LETTER Y WITH TILDE
Z	005a	LATIN CAPITAL LETTER Z
Ž	0179	LATIN CAPITAL LETTER Z WITH ACUTE
Ž	017d	LATIN CAPITAL LETTER Z WITH CARON
Ž	017b	LATIN CAPITAL LETTER Z WITH DOT ABOVE
Z	01b5	LATIN CAPITAL LETTER Z WITH STROKE
o	a7c1	LATIN SMALL LETTER OLD POLISH O
g	a7d1	LATIN SMALL LETTER CLOSED INSULAR G
þ	a7d3	LATIN SMALL LETTER DOUBLE THORN data
þ	a7d5	LATIN SMALL LETTER DOUBLE WYNN

## 26 UNICODE CHARACTER LIST

B	0299	LATIN LETTER SMALL CAPITAL B
G	0262	LATIN LETTER SMALL CAPITAL G
Ġ	029b	LATIN LETTER SMALL CAPITAL G WITH HOOK
H	029c	LATIN LETTER SMALL CAPITAL H
I	026a	LATIN LETTER SMALL CAPITAL I
L	029f	LATIN LETTER SMALL CAPITAL L
N	0274	LATIN LETTER SMALL CAPITAL N
Œ	0276	LATIN LETTER SMALL CAPITAL OE
R	0280	LATIN LETTER SMALL CAPITAL R
ʀ	0281	LATIN LETTER SMALL CAPITAL INVERTED R
Y	028f	LATIN LETTER SMALL CAPITAL Y
a	0061	LATIN SMALL LETTER A
æ	a733	LATIN SMALL LETTER AA
á	00e1	LATIN SMALL LETTER A WITH ACUTE
ă	0103	LATIN SMALL LETTER A WITH BREVE
ǎ	1eaf	LATIN SMALL LETTER A WITH BREVE AND ACUTE
ȁ	1eb7	LATIN SMALL LETTER A WITH BREVE AND DOT BELOW
Ǻ	1eb1	LATIN SMALL LETTER A WITH BREVE AND GRAVE
ǻ	1eb3	LATIN SMALL LETTER A WITH BREVE AND HOOK ABOVE
Ǽ	1eb5	LATIN SMALL LETTER A WITH BREVE AND TILDE
â	00e2	LATIN SMALL LETTER A WITH CIRCUMFLEX
ǣ	1ea5	LATIN SMALL LETTER A WITH CIRCUMFLEX AND ACUTE
Ȃ	1ead	LATIN SMALL LETTER A WITH CIRCUMFLEX AND DOT BELOW
à	1ea7	LATIN SMALL LETTER A WITH CIRCUMFLEX AND GRAVE
ǿ	1ea9	LATIN SMALL LETTER A WITH CIRCUMFLEX AND HOOK ABOVE
ã	1eab	LATIN SMALL LETTER A WITH CIRCUMFLEX AND TILDE
ä	00e4	LATIN SMALL LETTER A WITH DIAERESIS
ạ	1ea1	LATIN SMALL LETTER A WITH DOT BELOW
à	00e0	LATIN SMALL LETTER A WITH GRAVE
ǻ	1ea3	LATIN SMALL LETTER A WITH HOOK ABOVE

ɑ	0251	LATIN SMALL LETTER ALPHA
ɒ	0252	LATIN SMALL LETTER TURNED ALPHA
ā	0101	LATIN SMALL LETTER A WITH MACRON
æ	a735	LATIN SMALL LETTER AO
ą	0105	LATIN SMALL LETTER A WITH OGONEK
å	00e5	LATIN SMALL LETTER A WITH RING ABOVE
Ǻ	01fb	LATIN SMALL LETTER A WITH RING ABOVE AND ACUTE
ã	00e3	LATIN SMALL LETTER A WITH TILDE
ɐ	0250	LATIN SMALL LETTER TURNED A
au	a737	LATIN SMALL LETTER AU
av	a739	LATIN SMALL LETTER AV
æ̃	a73b	LATIN SMALL LETTER AV WITH HORIZONTAL BAR
ay	a73d	LATIN SMALL LETTER AY
æ	00e6	LATIN SMALL LETTER AE
ǣ	01fd	LATIN SMALL LETTER AE WITH ACUTE
ǣ̃	01e3	LATIN SMALL LETTER AE WITH MACRON
b	0062	LATIN SMALL LETTER B
ḃ	0253	LATIN SMALL LETTER B WITH HOOK
ɸ	02ad	LATIN LETTER BIDENTAL PERCUSSIVE
ɔ̥	0298	LATIN LETTER BILABIAL CLICK
ɸ̥	02ac	LATIN LETTER BILABIAL PERCUSSIVE
Ḅ	0180	LATIN SMALL LETTER B WITH STROKE
c	0063	LATIN SMALL LETTER C
ć	0107	LATIN SMALL LETTER C WITH ACUTE
č	010d	LATIN SMALL LETTER C WITH CARON
ç	00e7	LATIN SMALL LETTER C WITH CEDILLA
Ḟ	0255	LATIN SMALL LETTER C WITH CURL
ċ	010b	LATIN SMALL LETTER C WITH DOT ABOVE
9	a76f	LATIN SMALL LETTER CON
Ĉ	0297	LATIN LETTER STRETCHED C

## 28 UNICODE CHARACTER LIST

d	0064	LATIN SMALL LETTER D
ð	00fo	LATIN SMALL LETTER ETH
ď	010f	LATIN SMALL LETTER D WITH CARON
đ	0111	LATIN SMALL LETTER D WITH STROKE
ǵ	02a4	LATIN SMALL LETTER DEZH DIGRAPH
ḏ	0257	LATIN SMALL LETTER D WITH HOOK
Ḑ	a77a	LATIN SMALL LETTER INSULAR D
ɖ	0256	LATIN SMALL LETTER D WITH TAIL
ǯ	02a3	LATIN SMALL LETTER DZ DIGRAPH
ǰ	02a5	LATIN SMALL LETTER DZ DIGRAPH WITH CURL
e	0065	LATIN SMALL LETTER E
é	00e9	LATIN SMALL LETTER E WITH ACUTE
ě	0115	LATIN SMALL LETTER E WITH BREVE
ě	011b	LATIN SMALL LETTER E WITH CARON
ê	00ea	LATIN SMALL LETTER E WITH CIRCUMFLEX
ě	1ebf	LATIN SMALL LETTER E WITH CIRCUMFLEX AND ACUTE
ĕ	1ec7	LATIN SMALL LETTER E WITH CIRCUMFLEX AND DOT BELOW
è	1ec1	LATIN SMALL LETTER E WITH CIRCUMFLEX AND GRAVE
ẽ	1ec3	LATIN SMALL LETTER E WITH CIRCUMFLEX AND HOOK ABOVE
ē	1ec5	LATIN SMALL LETTER E WITH CIRCUMFLEX AND TILDE
ë	00eb	LATIN SMALL LETTER E WITH DIAERESIS
é	0117	LATIN SMALL LETTER E WITH DOT ABOVE
ẹ	1eb9	LATIN SMALL LETTER E WITH DOT BELOW
è	00e8	LATIN SMALL LETTER E WITH GRAVE
ẻ	1ebb	LATIN SMALL LETTER E WITH HOOK ABOVE
ē	0113	LATIN SMALL LETTER E WITH MACRON
ę	0119	LATIN SMALL LETTER E WITH OGONEK
ε	025b	LATIN SMALL LETTER OPEN E
ɜ	025c	LATIN SMALL LETTER REVERSED OPEN E
ɞ	025e	LATIN SMALL LETTER CLOSED REVERSED OPEN E

ɜ̥	025d	LATIN SMALL LETTER REVERSED OPEN E WITH HOOK
ɜ̥	0258	LATIN SMALL LETTER REVERSED E
ʃ	0283	LATIN SMALL LETTER ESH
ʃ̣	0286	LATIN SMALL LETTER ESH WITH CURL
ɺ	0285	LATIN SMALL LETTER SQUAT REVERSED ESH
ɜ̥	a76b	LATIN SMALL LETTER ET
ē	iebd	LATIN SMALL LETTER E WITH TILDE
ə	0259	LATIN SMALL LETTER SCHWA
ə̥	025a	LATIN SMALL LETTER SCHWA WITH HOOK
ɜ̥	0292	LATIN SMALL LETTER EZH
ɜ̥̣	0293	LATIN SMALL LETTER EZH WITH CURL
f	0066	LATIN SMALL LETTER F
fɿ	02a9	LATIN SMALL LETTER FENG DIGRAPH
ƒ	a77c	LATIN SMALL LETTER INSULAR F
g	0067	LATIN SMALL LETTER G
ɣ	0263	LATIN SMALL LETTER GAMMA
ġ	0123	LATIN SMALL LETTER G WITH CEDILLA
ḡ	0121	LATIN SMALL LETTER G WITH DOT ABOVE
ḡ	0260	LATIN SMALL LETTER G WITH HOOK
ɢ	1d79	LATIN SMALL LETTER INSULAR G
ʔ	0294	LATIN LETTER GLOTTAL STOP
ɰ	0296	LATIN LETTER INVERTED GLOTTAL STOP
ʕ	0295	LATIN LETTER PHARYNGEAL VOICED FRICATIVE
ʔ̣	02a1	LATIN LETTER GLOTTAL STOP WITH STROKE
ʔ̥	02a2	LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE
ɡ	0261	LATIN SMALL LETTER SCRIPT G
ȝ	021d	LATIN SMALL LETTER YOGH
h	0068	LATIN SMALL LETTER H
ħ	0127	LATIN SMALL LETTER H WITH STROKE
ɦ	0267	LATIN SMALL LETTER HENG WITH HOOK

### 30 UNICODE CHARACTER LIST

ĥ	0266	LATIN SMALL LETTER H WITH HOOK
ȝ	0265	LATIN SMALL LETTER TURNED H
Ƨ	02ae	LATIN SMALL LETTER TURNED H WITH FISHHOOK
Ƨ	02af	LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL
h̥	0195	LATIN SMALL LETTER HV
i	0069	LATIN SMALL LETTER I
ı	0131	LATIN SMALL LETTER DOTLESS I
í	00ed	LATIN SMALL LETTER I WITH ACUTE
ï	012d	LATIN SMALL LETTER I WITH BREVE
î	00ee	LATIN SMALL LETTER I WITH CIRCUMFLEX
ï	00ef	LATIN SMALL LETTER I WITH DIAERESIS
ï̇	1ecb	LATIN SMALL LETTER I WITH DOT BELOW
ì	00ec	LATIN SMALL LETTER I WITH GRAVE
ï̂	1ec9	LATIN SMALL LETTER I WITH HOOK ABOVE
ij	0133	LATIN SMALL LIGATURE IJ
ī	012b	LATIN SMALL LETTER I WITH MACRON
ĩ	012f	LATIN SMALL LETTER I WITH OGONEK
ƶ	a76d	LATIN SMALL LETTER IS
ı̇	0268	LATIN SMALL LETTER I WITH STROKE
ĩ	0129	LATIN SMALL LETTER I WITH TILDE
j	006a	LATIN SMALL LETTER J
ȝ	0237	LATIN SMALL LETTER DOTLESS J
ȝ	029d	LATIN SMALL LETTER J WITH CROSSED-TAIL
ȝ	025f	LATIN SMALL LETTER DOTLESS J WITH STROKE
ƶ	0284	LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK
k	006b	LATIN SMALL LETTER K
ķ	0137	LATIN SMALL LETTER K WITH CEDILLA
ķ	a741	LATIN SMALL LETTER K WITH STROKE
l	006c	LATIN SMALL LETTER L
ĺ	013a	LATIN SMALL LETTER L WITH ACUTE

ł	019a	LATIN SMALL LETTER L WITH BAR
ł̣	026c	LATIN SMALL LETTER L WITH BELT
l̃	013e	LATIN SMALL LETTER L WITH CARON
l̂	013c	LATIN SMALL LETTER L WITH CEDILLA
ł̧	026e	LATIN SMALL LETTER LEZH
l̸	a749	LATIN SMALL LETTER L WITH HIGH STROKE
ḷ	026d	LATIN SMALL LETTER L WITH RETROFLEX HOOK
l̇	026b	LATIN SMALL LETTER L WITH MIDDLE TILDE
f	1e9c	LATIN SMALL LETTER LONG S WITH DIAGONAL STROKE
ls	02aa	LATIN SMALL LETTER LS DIGRAPH
ḷ	0142	LATIN SMALL LETTER L WITH STROKE
lz	02ab	LATIN SMALL LETTER LZ DIGRAPH
m	006d	LATIN SMALL LETTER M
ṃ	0271	LATIN SMALL LETTER M WITH HOOK
uꞥ	0270	LATIN SMALL LETTER TURNED M WITH LONG LEG
uꞥ	026f	LATIN SMALL LETTER TURNED M
n	006e	LATIN SMALL LETTER N
ñ	0144	LATIN SMALL LETTER N WITH ACUTE
ñ̃	0148	LATIN SMALL LETTER N WITH CARON
ñ̂	0146	LATIN SMALL LETTER N WITH CEDILLA
ɲ	0272	LATIN SMALL LETTER N WITH LEFT HOOK
ɳ	0273	LATIN SMALL LETTER N WITH RETROFLEX HOOK
ñ̇	00fi	LATIN SMALL LETTER N WITH TILDE
ŋ	014b	LATIN SMALL LETTER ENG
o	006f	LATIN SMALL LETTER O
ó	00f3	LATIN SMALL LETTER O WITH ACUTE
ø	0275	LATIN SMALL LETTER BARRED O
ö	014f	LATIN SMALL LETTER O WITH BREVE
ô	00f4	LATIN SMALL LETTER O WITH CIRCUMFLEX
õ	1ed1	LATIN SMALL LETTER O WITH CIRCUMFLEX AND ACUTE

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ô	ied9	LATIN SMALL LETTER O WITH CIRCUMFLEX AND DOT BELOW
ò	ied3	LATIN SMALL LETTER O WITH CIRCUMFLEX AND GRAVE
ố	ied5	LATIN SMALL LETTER O WITH CIRCUMFLEX AND HOOK ABOVE
õ	ied7	LATIN SMALL LETTER O WITH CIRCUMFLEX AND TILDE
ö	oof6	LATIN SMALL LETTER O WITH DIAERESIS
ơ	iecd	LATIN SMALL LETTER O WITH DOT BELOW
ò	oof2	LATIN SMALL LETTER O WITH GRAVE
ỏ	iecf	LATIN SMALL LETTER O WITH HOOK ABOVE
ơ	oia1	LATIN SMALL LETTER O WITH HORN
ó	iedb	LATIN SMALL LETTER O WITH HORN AND ACUTE
ợ	iee3	LATIN SMALL LETTER O WITH HORN AND DOT BELOW
ờ	iedd	LATIN SMALL LETTER O WITH HORN AND GRAVE
ở	iedf	LATIN SMALL LETTER O WITH HORN AND HOOK ABOVE
õ	iee1	LATIN SMALL LETTER O WITH HORN AND TILDE
ố	o151	LATIN SMALL LETTER O WITH DOUBLE ACUTE
ø	a74b	LATIN SMALL LETTER O WITH LONG STROKE OVERLAY
ō	o14d	LATIN SMALL LETTER O WITH MACRON
ω	a74f	LATIN SMALL LETTER OO
q	oieb	LATIN SMALL LETTER O WITH OGONEK
ɔ	o254	LATIN SMALL LETTER OPEN O
ø	oof8	LATIN SMALL LETTER O WITH STROKE
ó	o1ff	LATIN SMALL LETTER O WITH STROKE AND ACUTE
õ	oof5	LATIN SMALL LETTER O WITH TILDE
œ	o153	LATIN SMALL LIGATURE OE
p	o070	LATIN SMALL LETTER P
Ɔ	a753	LATIN SMALL LETTER P WITH FLOURISH
ϕ	o278	LATIN SMALL LETTER PHI
þ	oofe	LATIN SMALL LETTER THORN
p	a751	LATIN SMALL LETTER P WITH STROKE THROUGH DESCENDER
q	o071	LATIN SMALL LETTER Q



q̇	a759	LATIN SMALL LETTER Q WITH DIAGONAL STROKE
q̣	o2a0	LATIN SMALL LETTER Q WITH HOOK
q̣	a757	LATIN SMALL LETTER Q WITH STROKE THROUGH DESCENDER
r	o072	LATIN SMALL LETTER R
ṛ	o155	LATIN SMALL LETTER R WITH ACUTE
ṛ	o264	LATIN SMALL LETTER RAMS HORN
ř	o159	LATIN SMALL LETTER R WITH CARON
ŗ	o157	LATIN SMALL LETTER R WITH CEDILLA
ɾ	o27e	LATIN SMALL LETTER R WITH FISHHOOK
ɿ	o27f	LATIN SMALL LETTER REVERSED R WITH FISHHOOK
ɿ	o27b	LATIN SMALL LETTER TURNED R WITH HOOK
ɿ	a783	LATIN SMALL LETTER INSULAR R
ɿ	o27a	LATIN SMALL LETTER TURNED R WITH LONG LEG
ɿ	a75b	LATIN SMALL LETTER R ROTUNDA
ɿ	o27d	LATIN SMALL LETTER R WITH TAIL
ɿ	o279	LATIN SMALL LETTER TURNED R
ɿ	a75d	LATIN SMALL LETTER RUM ROTUNDA
s	o073	LATIN SMALL LETTER S
ś	o15b	LATIN SMALL LETTER S WITH ACUTE
š	o16i	LATIN SMALL LETTER S WITH CARON
ș	o15f	LATIN SMALL LETTER S WITH CEDILLA
ß	o0df	LATIN SMALL LETTER SHARP S
ſ	o282	LATIN SMALL LETTER S WITH HOOK
ɿ	a785	LATIN SMALL LETTER INSULAR S
f	o17f	LATIN SMALL LETTER LONG S
t	o074	LATIN SMALL LETTER T
ṫ	o167	LATIN SMALL LETTER T WITH STROKE
ṭ	o165	LATIN SMALL LETTER T WITH CARON
tc	o2a8	LATIN SMALL LETTER TC DIGRAPH WITH CURL
ṭ	o163	LATIN SMALL LETTER T WITH CEDILLA

### 34 UNICODE CHARACTER LIST

ŧ	02a7	LATIN SMALL LETTER TESH DIGRAPH
þ	a765	LATIN SMALL LETTER THORN WITH STROKE
ƚ	a787	LATIN SMALL LETTER INSULAR T
ƚ	0288	LATIN SMALL LETTER T WITH RETROFLEX HOOK
ts	02a6	LATIN SMALL LETTER TS DIGRAPH
ƚ	0287	LATIN SMALL LETTER TURNED T
u	0075	LATIN SMALL LETTER U
ú	00fa	LATIN SMALL LETTER U WITH ACUTE
u	0289	LATIN SMALL LETTER U BAR
ũ	016d	LATIN SMALL LETTER U WITH BREVE
û	00fb	LATIN SMALL LETTER U WITH CIRCUMFLEX
ü	00fc	LATIN SMALL LETTER U WITH DIAERESIS
ụ	1ee5	LATIN SMALL LETTER U WITH DOT BELOW
ù	00f9	LATIN SMALL LETTER U WITH GRAVE
ů	1ee7	LATIN SMALL LETTER U WITH HOOK ABOVE
u	01b0	LATIN SMALL LETTER U WITH HORN
ú	1ee9	LATIN SMALL LETTER U WITH HORN AND ACUTE
ụ	1ef1	LATIN SMALL LETTER U WITH HORN AND DOT BELOW
ù	1eeb	LATIN SMALL LETTER U WITH HORN AND GRAVE
ů	1eed	LATIN SMALL LETTER U WITH HORN AND HOOK ABOVE
ũ	1eef	LATIN SMALL LETTER U WITH HORN AND TILDE
ű	0171	LATIN SMALL LETTER U WITH DOUBLE ACUTE
ū	016b	LATIN SMALL LETTER U WITH MACRON
u	0173	LATIN SMALL LETTER U WITH OGONEK
υ	028a	LATIN SMALL LETTER UPSILON
ũ	016f	LATIN SMALL LETTER U WITH RING ABOVE
ũ	0169	LATIN SMALL LETTER U WITH TILDE
v	0076	LATIN SMALL LETTER V
v	028b	LATIN SMALL LETTER V WITH HOOK
v	2c71	LATIN SMALL LETTER V WITH RIGHT HOOK

ʌ	028c	LATIN SMALL LETTER TURNED V
w	0077	LATIN SMALL LETTER W
ŵ	1e83	LATIN SMALL LETTER W WITH ACUTE
ŵ	0175	LATIN SMALL LETTER W WITH CIRCUMFLEX
Ẃ	1e85	LATIN SMALL LETTER W WITH DIAERESIS
Ẅ	1e81	LATIN SMALL LETTER W WITH GRAVE
ʍ	028d	LATIN SMALL LETTER TURNED W
vy	a761	LATIN SMALL LETTER VY
p	01bf	LATIN LETTER WYNN
x	0078	LATIN SMALL LETTER X
y	0079	LATIN SMALL LETTER Y
ý	00fd	LATIN SMALL LETTER Y WITH ACUTE
ÿ	0177	LATIN SMALL LETTER Y WITH CIRCUMFLEX
ÿ	00ff	LATIN SMALL LETTER Y WITH DIAERESIS
ÿ	1e8f	LATIN SMALL LETTER Y WITH DOT ABOVE
ȳ	1ef5	LATIN SMALL LETTER Y WITH DOT BELOW
ÿ	1ef3	LATIN SMALL LETTER Y WITH GRAVE
ÿ	1ef7	LATIN SMALL LETTER Y WITH HOOK ABOVE
ȳ	0233	LATIN SMALL LETTER Y WITH MACRON
ȳ	1ef9	LATIN SMALL LETTER Y WITH TILDE
ʏ	028e	LATIN SMALL LETTER TURNED Y
z	007a	LATIN SMALL LETTER Z
ẏ	017a	LATIN SMALL LETTER Z WITH ACUTE
ž	017e	LATIN SMALL LETTER Z WITH CARON
ʐ	0291	LATIN SMALL LETTER Z WITH CURL
ẑ	017c	LATIN SMALL LETTER Z WITH DOT ABOVE
ƶ	0290	LATIN SMALL LETTER Z WITH RETROFLEX HOOK
z	01b6	LATIN SMALL LETTER Z WITH STROKE
ff	fb00	LATIN SMALL LIGATURE FF
ffl	fb04	LATIN SMALL LIGATURE FFL

### 36 UNICODE CHARACTER LIST

fi	fb01	LATIN SMALL LIGATURE FI
fl	fb02	LATIN SMALL LIGATURE FL
ft	fb05	LATIN SMALL LIGATURE LONG S T
st	fb06	LATIN SMALL LIGATURE ST
h̃	o2b1	MODIFIER LETTER SMALL H WITH HOOK
ḥ	o2b0	MODIFIER LETTER SMALL H
j̣	o2b2	MODIFIER LETTER SMALL J
ḷ	o2e1	MODIFIER LETTER SMALL L
ⁿ	207f	SUPERSCRIPT LATIN SMALL LETTER N
ẉ	o2b7	MODIFIER LETTER SMALL W
ɸ	01c2	LATIN LETTER ALVEOLAR CLICK
ɬ	01c0	LATIN LETTER DENTAL CLICK
ɮ	01c1	LATIN LETTER LATERAL CLICK
ª	00aa	FEMININE ORDINAL INDICATOR
º	00ba	MASCULINE ORDINAL INDICATOR
β	03b2	GREEK SMALL LETTER BETA
θ	03b8	GREEK SMALL LETTER THETA
π	03c0	GREEK SMALL LETTER PI
χ	03c7	GREEK SMALL LETTER CHI
Ϣ	037c	GREEK SMALL DOTTED LUNATE SIGMA SYMBOL
ƿ	16a0	RUNIC LETTER FEHU FEOH FE F
ƿ	16a1	RUNIC LETTER V
ᚱ	16a2	RUNIC LETTER URUZ UR U
ᚲ	16a3	RUNIC LETTER YR
ᚳ	16a4	RUNIC LETTER Y
ᚴ	16a5	RUNIC LETTER W
ᚸ	16a6	RUNIC LETTER THURISAZ THURS THORN
ᚹ	16a7	RUNIC LETTER ETH
ᚺ	16a8	RUNIC LETTER ANSUZ A
ᚻ	16a9	RUNIC LETTER OS O

ᚠ	16aa	RUNIC LETTER AC A
ᚡ	16ab	RUNIC LETTER AESC
ᚢ	16ac	RUNIC LETTER LONG-BRANCH-OSS O
ᚣ	16ad	RUNIC LETTER SHORT-TWIG-OSS O
ᚤ	16ae	RUNIC LETTER O
ᚥ	16af	RUNIC LETTER OE
ᚦ	16bo	RUNIC LETTER ON
ᚧ	16b1	RUNIC LETTER RAIDO RAD REID R
ᚨ	16b2	RUNIC LETTER KAUNA
ᚩ	16b3	RUNIC LETTER CEN
ᚪ	16b4	RUNIC LETTER KAUN K
ᚫ	16b5	RUNIC LETTER G
ᚬ	16b6	RUNIC LETTER ENG
ᚭ	16b7	RUNIC LETTER GEBO GYFU G
ᚮ	16b8	RUNIC LETTER GAR
ᚯ	16b9	RUNIC LETTER WUNJO WYNN W
ᚰ	16ba	RUNIC LETTER HAGLAZ H
ᚱ	16bb	RUNIC LETTER HAEG L H
ᚲ	16bc	RUNIC LETTER LONG-BRANCH-HAGALL H
ᚳ	16bd	RUNIC LETTER SHORT-TWIG-HAGALL H
ᚴ	16be	RUNIC LETTER NAUDIZ NYD NAUD N
ᚵ	16bf	RUNIC LETTER SHORT-TWIG-NAUD N
ᚶ	16co	RUNIC LETTER DOTTED-N
ᚷ	16c1	RUNIC LETTER ISAZ IS ISS I
ᚸ	16c2	RUNIC LETTER E
ᚹ	16c3	RUNIC LETTER JERAN J
ᚺ	16c4	RUNIC LETTER GER
ᚻ	16c5	RUNIC LETTER LONG-BRANCH-AR AE
ᚼ	16c6	RUNIC LETTER SHORT-TWIG-AR A
ᚽ	16c7	RUNIC LETTER IWAZ EOH

### 38 UNICODE CHARACTER LIST

ƿ	16c8	RUNIC LETTER PERTHO PEORTH P
ʁ	16c9	RUNIC LETTER ALGIZ EOLHX
ᚋ	16ca	RUNIC LETTER SOWILO S
ᚕ	16cb	RUNIC LETTER SIGEL LONG-BRANCH-SOL S
ᚖ	16cc	RUNIC LETTER SHORT-TWIG-SOL S
ᚗ	16cd	RUNIC LETTER C
ᚘ	16ce	RUNIC LETTER Z
ᚙ	16cf	RUNIC LETTER TIWAZ TIR TYR T
᚛	16d0	RUNIC LETTER SHORT-TWIG-TYR T
ᚠ	16d1	RUNIC LETTER D
ᚡ	16d2	RUNIC LETTER BERKANAN BEORC BJARKAN B
ᚢ	16d3	RUNIC LETTER SHORT-TWIG-BJARKAN B
ᚣ	16d4	RUNIC LETTER DOTTED-P
ᚤ	16d5	RUNIC LETTER OPEN-P
ᚥ	16d6	RUNIC LETTER EHWAZ EH E
ᚦ	16d7	RUNIC LETTER MANNAZ MAN M
ᚧ	16d8	RUNIC LETTER LONG-BRANCH-MADR M
ᚨ	16d9	RUNIC LETTER SHORT-TWIG-MADR M
ᚩ	16da	RUNIC LETTER LAUKAZ LAGU LOGR L
ᚪ	16db	RUNIC LETTER DOTTED-L
ᚫ	16dc	RUNIC LETTER INGWAZ
ᚬ	16dd	RUNIC LETTER ING
ᚭ	16de	RUNIC LETTER DAGAZ DAEG D
ᚮ	16df	RUNIC LETTER OTHALAN ETHEL O
ᚯ	16e0	RUNIC LETTER EAR
ᚰ	16e1	RUNIC LETTER IOR
ᚱ	16e2	RUNIC LETTER CWEORTH
ᚲ	16e3	RUNIC LETTER CALC
ᚳ	16e4	RUNIC LETTER CEALC
ᚴ	16e5	RUNIC LETTER STAN

ᚦ	16e6	RUNIC LETTER LONG-BRANCH-YR
ᚱ	16e7	RUNIC LETTER SHORT-TWIG-YR
ᚷ	16e8	RUNIC LETTER ICELANDIC-YR
ᚹ	16e9	RUNIC LETTER Q
ᚻ	16ea	RUNIC LETTER X
ʹ	a770	MODIFIER LETTER US
0	0030	DIGIT ZERO
1	0031	DIGIT ONE
2	0032	DIGIT TWO
3	0033	DIGIT THREE
4	0034	DIGIT FOUR
5	0035	DIGIT FIVE
6	0036	DIGIT SIX
7	0037	DIGIT SEVEN
8	0038	DIGIT EIGHT
9	0039	DIGIT NINE
/	2044	FRACTION SLASH
½	00bd	VULGAR FRACTION ONE HALF
¼	00bc	VULGAR FRACTION ONE QUARTER
¾	00be	VULGAR FRACTION THREE QUARTERS
₀	2080	SUBSCRIPT ZERO
₁	2081	SUBSCRIPT ONE
₂	2082	SUBSCRIPT TWO
₃	2083	SUBSCRIPT THREE
₄	2084	SUBSCRIPT FOUR
₅	2085	SUBSCRIPT FIVE
₆	2086	SUBSCRIPT SIX
₇	2087	SUBSCRIPT SEVEN
₈	2088	SUBSCRIPT EIGHT
₉	2089	SUBSCRIPT NINE

## 40 UNICODE CHARACTER LIST

°	2070	SUPERSCRIP <sup>T</sup> ZERO
<sup>1</sup>	00b9	SUPERSCRIP <sup>T</sup> ONE
<sup>2</sup>	00b2	SUPERSCRIP <sup>T</sup> TWO
<sup>3</sup>	00b3	SUPERSCRIP <sup>T</sup> THREE
<sup>4</sup>	2074	SUPERSCRIP <sup>T</sup> FOUR
<sup>5</sup>	2075	SUPERSCRIP <sup>T</sup> FIVE
<sup>6</sup>	2076	SUPERSCRIP <sup>T</sup> SIX
<sup>7</sup>	2077	SUPERSCRIP <sup>T</sup> SEVEN
<sup>8</sup>	2078	SUPERSCRIP <sup>T</sup> EIGHT
<sup>9</sup>	2079	SUPERSCRIP <sup>T</sup> NINE
	2060	WORD JOINER
	200c	ZERO WIDTH NON-JOINER
	000d	<Carriage Return> (CR)
	2001	EM QUAD
	2003	EM SPACE
	2000	EN QUAD
	2002	EN SPACE
	2007	FIGURE SPACE
	2005	FOUR-PER-EM SPACE
	200a	HAIR SPACE
	202f	NARROW NO-BREAK SPACE
	2008	PUNCTUATION SPACE
	2006	SIX-PER-EM SPACE
	0020	SPACE
	00a0	NO-BREAK SPACE
	2009	THIN SPACE
	2004	THREE-PER-EM SPACE
	200b	ZERO WIDTH SPACE
/	2e4a	DOTTED SOLIDUS
:	2e4c	MEDIEVAL COMMA



¶	2e4d	PARAGRAPHUS MARK
˙	2e4e	PUNCTUS ELEVATUS MARK
⟨	27e8	MATHEMATICAL LEFT ANGLE BRACKET
⟩	27e9	MATHEMATICAL RIGHT ANGLE BRACKET
·	16eb	RUNIC SINGLE PUNCTUATION
:	16ec	RUNIC MULTIPLE PUNCTUATION
+	16ed	RUNIC CROSS PUNCTUATION
.	002e	FULL STOP
,	002c	COMMA
:	003a	COLON
;	003b	SEMICOLON
...	2026	HORIZONTAL ELLIPSIS
!	0021	EXCLAMATION MARK
¡	00a1	INVERTED EXCLAMATION MARK
?	003f	QUESTION MARK
¿	00bf	INVERTED QUESTION MARK
·	00b7	MIDDLE DOT
•	2022	BULLET
*	002a	ASTERISK
	2016	DOUBLE VERTICAL LINE
] ]	204a	TIRONIAN SIGN ET
#	0023	NUMBER SIGN
/	002f	SOLIDUS
	005c	REVERSE SOLIDUS
-	002d	HYPHEN-MINUS
	00ad	SOFT HYPHEN
–	2013	EN DASH
—	2014	EM DASH
—	2012	FIGURE DASH
—	2015	HORIZONTAL BAR

## 4.2 UNICODE CHARACTER LIST

-	2010	HYPHEN
-	2011	NON-BREAKING HYPHEN
—	005f	LOW LINE
==	2017	DOUBLE LOW LINE
(	0028	LEFT PARENTHESIS
)	0029	RIGHT PARENTHESIS
{	007b	LEFT CURLY BRACKET
}	007d	RIGHT CURLY BRACKET
[	005b	LEFT SQUARE BRACKET
]	005d	RIGHT SQUARE BRACKET
<	2329	LEFT-POINTING ANGLE BRACKET
>	232a	RIGHT-POINTING ANGLE BRACKET
,	201a	SINGLE LOW-9 QUOTATION MARK
„	201e	DOUBLE LOW-9 QUOTATION MARK
“	201c	LEFT DOUBLE QUOTATION MARK
”	201d	RIGHT DOUBLE QUOTATION MARK
‘	2018	LEFT SINGLE QUOTATION MARK
’	2019	RIGHT SINGLE QUOTATION MARK
‘	201b	SINGLE HIGH-REVERSED-9 QUOTATION MARK
“	201f	DOUBLE HIGH-REVERSED-9 QUOTATION MARK
«	00ab	LEFT-POINTING DOUBLE ANGLE QUOTATION MARK
»	00bb	RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK
<	2039	SINGLE LEFT-POINTING ANGLE QUOTATION MARK
>	203a	SINGLE RIGHT-POINTING ANGLE QUOTATION MARK
”	0022	QUOTATION MARK
’	0027	APOSTROPHE
¥	02e0	MODIFIER LETTER SMALL GAMMA
ᚠ	16ee	RUNIC ARLAUG SYMBOL
ᚷ	16ef	RUNIC TVIMADUR SYMBOL
ᚫ	16fo	RUNIC BELGTHOR SYMBOL

˘	02f7	MODIFIER LETTER LOW TILDE
ǀ	02e5	MODIFIER LETTER EXTRA-HIGH TONE BAR
ǂ	02e9	MODIFIER LETTER EXTRA-LOW TONE BAR
ǃ	02e6	MODIFIER LETTER HIGH TONE BAR
Ǆ	02e8	MODIFIER LETTER LOW TONE BAR
ǅ	02e7	MODIFIER LETTER MID TONE BAR
ˆ	02de	MODIFIER LETTER RHOTIC HOOK
@	0040	COMMERCIAL AT
&	0026	AMPERSAND
¶	00b6	PILCROW SIGN
§	00a7	SECTION SIGN
©	00a9	COPYRIGHT SIGN
®	00ae	REGISTERED SIGN
™	2122	TRADE MARK SIGN
°	00b0	DEGREE SIGN
'	2032	PRIME
''	2033	DOUBLE PRIME
	007c	VERTICAL LINE
¡	00a6	BROKEN BAR
†	2020	DAGGER
‡	2021	DOUBLE DAGGER
℞	211f	RESPONSE
‡	2123	VERSICLE
€	20ac	EURO SIGN
¢	00a2	CENT SIGN
¤	00a4	CURRENCY SIGN
\$	0024	DOLLAR SIGN
£	00a3	POUND SIGN
¥	00a5	YEN SIGN
/	2215	DIVISION SLASH

## 44 UNICODE CHARACTER LIST

+	002b	PLUS SIGN
-	2212	MINUS SIGN
×	00d7	MULTIPLICATION SIGN
÷	00f7	DIVISION SIGN
=	003d	EQUALS SIGN
≠	2260	NOT EQUAL TO
>	003e	GREATER-THAN SIGN
<	003c	LESS-THAN SIGN
≥	2265	GREATER-THAN OR EQUAL TO
≤	2264	LESS-THAN OR EQUAL TO
±	00b1	PLUS-MINUS SIGN
≈	2248	ALMOST EQUAL TO
˜	007e	TILDE
¬	00ac	NOT SIGN
ˆ	005e	CIRCUMFLEX ACCENT
∞	221e	INFINITY
∅	2205	EMPTY SET
∫	222b	INTEGRAL
Ω	2126	OHM SIGN
Δ	2206	INCREMENT
Π	220f	N-ARY PRODUCT
Σ	2211	N-ARY SUMMATION
√	221a	SQUARE ROOT
μ	00b5	MICRO SIGN
∂	2202	PARTIAL DIFFERENTIAL
<sup>+</sup>	207a	SUPERSCRIP <sup>T</sup> PLUS SIGN
∴	2234	THEREFORE
→	2192	RIGHTWARDS ARROW
←	2190	LEFTWARDS ARROW
∘	25cc	DOTTED CIRCLE

◊	25ca	LOZENGE
◌̇	o363	COMBINING LATIN SMALL LETTER A
◌̈	idd4	COMBINING LATIN SMALL LETTER AE
◌̉	idd5	COMBINING LATIN SMALL LETTER AO
◌̊	idd6	COMBINING LATIN SMALL LETTER AV
◌̋	idd7	COMBINING LATIN SMALL LETTER C CEDILLA
◌̌	o368	COMBINING LATIN SMALL LETTER C
◌̍	o369	COMBINING LATIN SMALL LETTER D
◌̎	o364	COMBINING LATIN SMALL LETTER E
◌̏	idd9	COMBINING LATIN SMALL LETTER ETH
◌̐	idd3	COMBINING LATIN SMALL LETTER FLATTENED OPEN A ABOVE
◌̑	idda	COMBINING LATIN SMALL LETTER G
◌̒	o36a	COMBINING LATIN SMALL LETTER H
◌̓	o365	COMBINING LATIN SMALL LETTER I
◌̔	idd8	COMBINING LATIN SMALL LETTER INSULAR D
◌̕	iddc	COMBINING LATIN SMALL LETTER K
◌̖	iddd	COMBINING LATIN SMALL LETTER L
◌̗	ide5	COMBINING LATIN SMALL LETTER LONG S
◌̘	o36b	COMBINING LATIN SMALL LETTER M
◌̙	ideo	COMBINING LATIN SMALL LETTER N
◌̚	o366	COMBINING LATIN SMALL LETTER O
◌̛	o36c	COMBINING LATIN SMALL LETTER R
◌̜	ide3	COMBINING LATIN SMALL LETTER R ROTUNDA
◌̝	ide4	COMBINING LATIN SMALL LETTER S
◌̞	o36d	COMBINING LATIN SMALL LETTER T
◌̟	o367	COMBINING LATIN SMALL LETTER U
◌̠	racd	COMBINING LATIN SMALL LETTER INSULAR R
◌̡	o36e	COMBINING LATIN SMALL LETTER V
◌̢	o36f	COMBINING LATIN SMALL LETTER X
◌̣	ide6	COMBINING LATIN SMALL LETTER Z

ö	0308	COMBINING DIAERESIS
ó	0307	COMBINING DOT ABOVE
ò	0300	COMBINING GRAVE ACCENT
acute	0301	COMBINING ACUTE ACCENT
ö	030b	COMBINING DOUBLE ACUTE ACCENT
ô	0302	COMBINING CIRCUMFLEX ACCENT
ř	030c	COMBINING CARON
ö	0306	COMBINING BREVE
ring	030a	COMBINING RING ABOVE
tilde	0303	COMBINING TILDE
macron	0304	COMBINING MACRON
overline	0305	COMBINING OVERLINE
hook	0309	COMBINING HOOK ABOVE
turned comma	0312	COMBINING TURNED COMMA ABOVE
comma right	0315	COMBINING COMMA ABOVE RIGHT
tack left	0318	COMBINING LEFT TACK BELOW
tack right	0319	COMBINING RIGHT TACK BELOW
angle left	031a	COMBINING LEFT ANGLE ABOVE
half ring left	031c	COMBINING LEFT HALF RING BELOW
tack up	031d	COMBINING UP TACK BELOW
tack down	031e	COMBINING DOWN TACK BELOW
plus sign	031f	COMBINING PLUS SIGN BELOW
minus sign	0320	COMBINING MINUS SIGN BELOW
dot below	0323	COMBINING DOT BELOW
diaeresis below	0324	COMBINING DIAERESIS BELOW
ring below	0325	COMBINING RING BELOW
comma below	0326	COMBINING COMMA BELOW
cedilla	0327	COMBINING CEDILLA
ogonek	0328	COMBINING OGONEK
vertical line	0329	COMBINING VERTICAL LINE BELOW

◌̣	032a	COMBINING BRIDGE BELOW
◌̥	032c	COMBINING CARON BELOW
◌̦	032f	COMBINING INVERTED BREVE BELOW
◌̧	0330	COMBINING TILDE BELOW
◌̨	0334	COMBINING TILDE OVERLAY
◌̩	0335	COMBINING SHORT STROKE OVERLAY
◌̪	0337	COMBINING SHORT SOLIDUS OVERLAY
◌̫	0338	COMBINING LONG SOLIDUS OVERLAY
◌̬	0339	COMBINING RIGHT HALF RING BELOW
◌̭	033a	COMBINING INVERTED BRIDGE BELOW
◌̮	033b	COMBINING SQUARE BELOW
◌̯	033c	COMBINING SEAGULL BELOW
◌̰	033d	COMBINING X ABOVE
◌̱	034f	COMBINING GRAPHEME JOINER
◌̲	035b	COMBINING ZIGZAG ABOVE
◌̳	035c	COMBINING DOUBLE BREVE BELOW
◌̴	035e	COMBINING DOUBLE MACRON
◌̵	0361	COMBINING DOUBLE INVERTED BREVE
◌̶	1dce	COMBINING OGONEK ABOVE
◌̷	1acb	COMBINING TRIPLE ACUTE ACCENT
◌̸	1acc	COMBINING LATIN SMALL LETTER INSULAR G
◌̹	1ace	COMBINING LATIN SMALL LETTER INSULAR T
◌̺	1dd1	COMBINING UR ABOVE
◌̻	1dd2	COMBINING US ABOVE
◌̼	1dcf	COMBINING ZIGZAG BELOW
◌̽	00a8	DIAERESIS
◌̾	02d9	DOT ABOVE
◌̿	0060	GRAVE ACCENT
◌̽	00b4	ACUTE ACCENT
◌̽	02c6	MODIFIER LETTER CIRCUMFLEX ACCENT

## 48 UNICODE CHARACTER LIST

ˇ	o2c7	CARON
˘	o2d8	BREVE
°	o2da	RING ABOVE
˜	o2dc	SMALL TILDE
ˉ	ooaf	MACRON
¸	oob8	CEDILLA
˛	o2db	OGONEK
’	o2bc	MODIFIER LETTER APOSTROPHE
‘	o2bd	MODIFIER LETTER REVERSED COMMA
⋔	o2d1	MODIFIER LETTER HALF TRIANGULAR COLON
⋮	o2do	MODIFIER LETTER TRIANGULAR COLON
ʀ	o2c1	MODIFIER LETTER REVERSED GLOTTAL STOP
ǀ	o2cc	MODIFIER LETTER LOW VERTICAL LINE
ǁ	o2c8	MODIFIER LETTER VERTICAL LINE