

## Appendix E: Visually Confusable Glyphs

The Latin GP is clear that identification of Confusable Glyphs is not part of Panel’s mandate. However, in the course of evaluating potential variants the Latin GP identified a number of cases which did not rise to the threshold (See Section 6.2) to be designated as variants, but some panel members found certain glyphs’ visually similar with others. These glyphs could potentially cause confusion for some users, especially as, unlike in the GP’s evaluation process, users will not have the alternative glyphs side-by-side for comparison. It seems wrong to simply discard this data. Accordingly, it is included here for the use of the Similarity Review Panel or any other group which may find it of interest.

The panel has taken a relatively broad view of visually confusable glyphs. Basically, if one of the GP members found them to be visually confusable, the pair has been included. GP thought that it is better to include something that might or might not be problematic, which the reader is free to ignore, than to omit something which turns out to be problematic. Note however that this list is neither comprehensive nor definitive.

### E.1 Latin – Armenian Confusable Glyphs

Unicode name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter A with Breve	0103	ă	Ɑ	0571	Armenian Small Letter Ja
Latin Small Letter B with Hook	0253	ḃ	Ḅ	0573	Armenian Small Letter Cheh
Latin Small Letter D	0064	d	ḏ	056A	Armenian Small Letter Zhe
Latin Small Letter D with Hook	0257	ḏ	ḏ	056A	Armenian Small Letter Zhe
Latin Small Letter D with Stroke	0111	ḑ	ḏ	056A	Armenian Small Letter Zhe
Latin Small Letter Eng	014B	ɱ	ɱ	0564	Armenian Small Letter Da
Latin Small Letter Eng	014B	ɱ	ɱ	0572	Armenian Small Letter Ghad
Latin Small Letter Eth	00F0	ð	Ḑ	056E	Armenian Small Letter Ca
Latin Small Letter H	0068	h	ḥ	056B	Armenian Small Letter Ini

Latin Small Letter H + Latin Small Letter U	0068 + 0075	hu	հւ	056D	Armenian Small Letter Xeh
Latin Small Letter H + Latin Small Letter U with Grave	0068 + 00F9	hù	հւ	056D	Armenian Small Letter Xeh
Latin Small Letter H + Latin Small Letter U with Ogonek	0068 + 0173	hų	հւ	056D	Armenian Small Letter Xeh
Latin Small Letter H + Latin Small Letter V with Hook	0068 + 028B	hʋ	հւ	056D	Armenian Small Letter Xeh
Latin Small Letter I + Combining Macron Below	0069 + 0331	ì	լ	056C	Armenian Small Letter Liwn
Latin Small Letter Iota + Latin Small Letter H	0269 + 0068	th	փ	0583	Armenian Small Letter Piwr
Latin Small Letter J	006A	j	յ	0575	Armenian Small Letter Yi
Latin Small Letter L	006C	l	լ	056C	Armenian Small Letter Liwn
Latin Small Letter N with Left Hook	0272	ɲ	ը	0568	Armenian Small Letter Et
Latin Small Letter N with Left Hook	0272	ɲ	ր	0580	Armenian Small Letter Reh
Latin Small Letter O with Dot Below with Combining Grave Accent	1ECD + 0300	ò	ծ	056E	Armenian Small Letter Ca
Latin Small Letter O with Dot Below with Combining Grave Accent	1ECD + 0300	ò	ձ	0571	Armenian Small Letter Ja
Latin Small Letter P	0070	p	բ	0562	Armenian Small Letter Ben
Latin Small Letter P	0070	p	թ	0569	Armenian Small Letter To

Latin Small Letter T	0074	t	Է	0567	Armenian Small Letter Eh
Latin Small Letter T + Latin Small Letter Dotless I	0074 + 0131	ti	Է	0565	Armenian Small Letter Ech
Latin Small Letter T + Latin Small Letter Iota	0074 + 0269	tu	Է	0565	Armenian Small Letter Ech
Latin Small Letter Thorn	00FE	þ	Ի	056B	Armenian Small Letter Ini
Latin Small Letter P with Hook	01A5	ƀ	Ի	056B	Armenian Small Letter Ini
Latin Small Letter Thorn + Latin Small Letter U	00FE + 0075	þu	Իւ	056D	Armenian Small Letter Xeh
Latin Small Letter Thorn + Latin Small Letter U with Grave	00FE + 00F9	þù	Իւ	056D	Armenian Small Letter Xeh
Latin Small Letter U + Latin Small Letter N	0075 + 006E	un	ւո	057F	Armenian Small Letter Tiwn
Latin Small Letter U with Horn	01B0	ƚ	ւ	0574	Armenian Small Letter Men
Latin Small Letter U with Ogonek	0173	ų	կ	056F	Armenian Small Letter Ken

In addition, we have this pair:

Latin Small Letter Q	0071	q	գ	0563	Armenian Small Letter Gim
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There is substantial opinion within the Latin GP that these two *should* be considered variants. However, we have already identified the Armenian small letter Za (0566) as a variant of the Latin small letter Q. If we were to designate this pair as variants, transitivity would impose an in-script variant on Armenian,

one which was not identified by the Armenian GP. Since the Armenian GP is no longer available to negotiate the issue, we restrict ourselves to including this pair among the Confusables.

## E.2 Latin - Cyrillic Confusable Glyphs

Unicode name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter B	0062	b	ь	044C	Cyrillic Small Letter Soft Sign
Latin Small Letter B + Latin Small Letter L	0062 + 006C	bl	ы	044B	Cyrillic Small Letter Yeru
Latin Small Letter B with Hook	0253	ḃ	҃	0495	Cyrillic Small Letter Ghe with Middle Hook
Latin Small Letter E	0065	e	е	04BD	Cyrillic Small Letter Abkhasian Che
Latin Small Letter E with Dot Below	1EB9	ẹ	҇	04BF	Cyrillic Small Letter Abkhasian Che with Descender
Latin Small Letter E with Dot Below + Combining Grave Accent	1EB9 + 0300	ẹ̀	҇	04BF	Cyrillic Small Letter Abkhasian Che with Descender
Latin Small Letter H with Stroke	0127	ħ	ҥ	0452	Cyrillic Small Letter Dje
Latin Small Letter Iota	0269	ι	і	04CF	Cyrillic Small Letter Palochka
Latin Small Letter N	006E	n	ң	0525	Cyrillic Small Letter Pe with Descender
Latin Small Letter Open E	025B	ε	є	0454	Cyrillic Small Letter Ukrainian Ie
Latin Small Letter U with Ogonek	0173	ų	ч	0447	Cyrillic Small Letter Che
Latin Small Letter X	0078	x	х	04B3	Cyrillic Small Letter Ha with Descender
Latin Small Letter Y with Tilde	1EF9	ÿ	Ѹ	04EF	Cyrillic Small Letter U with Macron
Latin Small Letter Y with Tilde	1EF9	ÿ	ÿ	04F1	Cyrillic Small Letter U with Diaeresis

Latin Small Letter Y with Tilde	1EF9	ÿ	Ў	04F3	Cyrillic Small Letter U with Double Acute
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In addition, we have these pairs where the Cyrillic lower case looks like the Latin upper case.

Unicode name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter B	0062	b (B)	В	0432	Cyrillic Small Letter Ve
Latin Small Letter H	0068	h (H)	Н	043D	Cyrillic Small Letter En
Latin Small Letter K	006B	k (K)	К	043A	Cyrillic Small Letter Ka
Latin Small Letter M	006D	m (M)	М	043C	Cyrillic Small Letter Em
Latin Small Letter T	0074	t (T)	Т	0442	Cyrillic Small Letter Te

While domain name labels are, by definition, strictly lower case, general Internet users (with the exception of the technical community) have decades of experience that teaches them that Latin upper and lower case are interchangeable.

The potential for substantial confusion is obvious. For example, a user encountering a Cyrillic TLD of .com for the first time would naturally assume that what he was seeing was the .com TLD, merely rendered in upper case as .COM. Accordingly it seems appropriate to treat these glyphs as confusable.

### E.3 Latin - Greek Confusable Glyphs

Table E.4. Latin – Greek Confusables

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter C with Cedilla	00E7	ç	ς	03C2	Greek Small Letter Final Sigma
Latin Small Letter C with Hook	0188	ç	ς	03C2	Greek Small Letter Final Sigma

Latin Small Letter Eng	014B	η	η	03B7	Greek Small Letter Eta
Latin Small Letter Eth	00F0	ð	δ	03B4	Greek Small Letter Delta
Latin Small Letter I with Diaeresis	00EF	ï	ϊ	0390	Greek Small Letter Iota with Dialytika and Tonos
Latin Small Letter L	006C	l	λ	03B9	Greek Small Letter Iota
Latin Small Letter L with Acute	013A	í	ι	03AF	Greek Small Letter Iota with Tonos
Latin Small Letter N with Acute	0144	ń	ή	03AE	Greek Small Letter Iota with Tonos
Latin Small Letter Open E	025B	ε	έ	03AD	Greek Small Letter Epsilon with Tonos
Latin Small Letter T	0074	t	τ	03C4	Greek Small Letter Tau
Latin Small Letter T + Latin Small Letter T	0074 + 0074	tt	π	03C0	Greek Small Letter Pi
Latin Small Letter U	0075	u	μ	03BC	Greek Small Letter Mu
Latin Small Letter U with Acute	00FA	ú	ύ	03CD	Greek Small Letter Upsilon with Tonos
Latin Small Letter U with Horn	01B0	Ƶ	υ	03C5	Greek Small Letter Upsilon
Latin Small Letter U with Diaeresis	00FC	ü	ϋ	03CB	Greek Small Letter Upsilon with Dialytika
Latin Small Letter U with Diaeresis	00FC	ü	ϋ	03B0	Greek Small Letter Upsilon with Dialytika and Tonos
Latin Small Letter V with Hook + Latin Small Letter V with Hook	028B + 028B	υυ	ω	03C9	Greek Small Letter Omega

Latin Small Letter W	0077	w	ω	03C9	Greek Small Letter Omega
Latin Small Letter X	0078	x	χ	03C7	Greek Small Letter Chi
Latin Small Letter Y with Hook	01B4	Ƴ	ϳ	03B3	Greek Small Letter Gamma

As with Cyrillic, we have cases where the Greek lower case looks like a Latin upper case:

Latin Small Letter K	006B	k (K)	κ	03BA	Greek Small Letter Kappa
Latin Small Letter K with Hook	0199	ƀ (K)	κ	03BA	Greek Small Letter Kappa

#### E.4 Generic Symbol Confusable Glyphs

In addition to the variants identified in Section 6.5.3, the following are confusable:

##### E.4.1 Vertical Line

Some of these are combining forms (indicated by a dotted circle). They are included only if there is another generic glyph from the same script with which it can be combined.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter L	006C	l	l	0627	Arabic Letter Alef
Latin Small Letter L	006C	l	l	4E28	(CJK Unified Ideograph)
Latin Small Letter Dotless I	0131	ı	◌ı	0B3E	Oriya Vowel Sign Aa
Latin Small Letter Dotless I	0131	ı	◌ı	1062	Myanmar Vowel Sign Sgaw Karen Eu

##### E.4.2 Circle

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter O	006F	o	o	0B20	Oriya Letter Ttha
Latin Small Letter O	006F	o	o	12D0	Ethiopic Syllable Pharyngeal A

##### E.4.3 Crescent (Open Right)

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter C	0053	c	Ꞩ	0EC0	Lao Vowel Sign E

#### E.4.4 Crescent (Open Left)

Some of these are combining forms (indicated by a dotted circle). They are included only if there is another generic glyph from the same script with which it can be combined.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter Open O	0254	o	◌◌	0EA7	Lao Letter Wo
Latin Small Letter Open O	0254	o	◌◌◌◌	0D3E	Malaylam Vowel Sign Aa
Latin Small Letter Open O	0254	o	◌◌◌◌◌◌	102C	Myanmar Vowel Sign Aa

#### E.5 Latin In-Script Confusable Glyphs

##### E.5.1 Dot Above vs Acute

(See also Section 6.5.4. While the Panel determined these diacritics to be variants when used with consonants, we find them merely confusable when used with vowels.)

However, the Greek GP determined that a tonus (acute) and a dot above are not distinguishable. Therefore, the Latin Small Letter I and Latin Small Letter I with Acute are variants, leaving only the case for the Letter E (which has no Greek equivalent). For this case, the Latin GP decided that “following our process is more important than consistency in this case.”

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter E with Dot Above	0117	è	é	00E9	Latin Small Letter E with Acute

##### E.5.2 Dieresis (Double Dot Above) vs Double Acute

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter O with Diaresis	00F6	ö	ó	0151	Latin Small Letter O with Double Acute
Latin Small Letter U with Diaresis	00FC	ü	ú	0171	Latin Small Letter U with Double Acute

##### E.5.3 Dot Above vs Grave

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter E with Dot Above	0117	è	è	00E8	Latin Small Letter E with Grave
Latin Small Letter I	0069	i	ì	00ED	Latin Small Letter I with Grave

##### E.5.4 Acute vs Hook Above



Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter A with Acute	00E1	á	à	1EA3	Latin Small Letter A with Hook Above
Latin Small Letter E with Acute	00E9	é	è	0117	Latin Small Letter A with Hook Above
Latin Small Letter O with Acute	00F3	ó	ò	1ECF	Latin Small Letter O with Hook Above
Latin Small Letter U with Acute	00FA	ú	ù	1EE7	Latin Small Letter U with Hook Above

### E.5.5 Grave vs Hook Above

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter E with Grave	00E8	è	é	1EBB	Latin Small Letter E with Hook Above
Latin Small Letter I with Grave	00EC	ì	í	1EC9	Latin Small Letter I with Hook Above

Note that four out of seven GP members found that these pairs homoglyphs or nearly identical. The Panel did find that Grave and Hook Above give variants when they occur with Latin Letters A, O, and U.

### E.5.6 Grave and Acute

We recognize that those familiar with a language (e.g. French) which uses both of these diacritics will have little trouble distinguishing them. But for the other users, who are familiar with only one, or perhaps neither, these two diacritics might be confusing.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter A with Grave	00E0	à	á	00E1	Latin Small Letter A with Acute
Latin Small Letter E with Grave	00E8	è	é	00E9	Latin Small Letter E with Acute
Latin Small Letter E with Grave and Dot Below	1EB9 + 0300	è	é	1EB9 + 0301	Latin Small Letter E with Acute and Dot Below
Latin Small Letter I with Grave	00EC	ì	í	00ED	Latin Small Letter I with Acute
Latin Small Letter O with Grave	00F2	ò	ó	00F3	Latin Small Letter O with Acute
Latin Small Letter U with Grave	00F9	ù	ú	00FA	Latin Small Letter U with Acute

### E.5.7 Letter and Letter with Stroke

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter D	0064	d	đ	0111	Latin Small Letter D with Stroke
Latin Small Letter H	0068	h	ħ	0127	Latin Small Letter H with Stroke
Latin Small Letter I	0069	i	ï	0268	Latin Small Letter I with Stroke
Latin Small Letter I with Tilde	0129	ĩ	ƶ	0268 + 0303	Latin Small Letter I with Stroke + Combining Tilde
Latin Small Letter L	006C	l	ł	0142	Latin Small Letter L with Stroke
Latin Small Letter T	0074	t	ţ	0142	Latin Small Letter L with Stroke
Latin Small Letter O	006F	o	ø	00F8	Latin Small Letter O with Stroke [Str]
Latin Small Letter R	0072	r	ŗ	024D	Latin Small Letter R with Stroke
Latin Small Letter T	0074	t	ţ	0167	Latin Small Letter T with Stroke

[Str] Because of the resemblance of the ASCII Letter O and the ASCII Digit Zero, the longstanding convention in the IT community is to “Slash [Letter] Ohs”. Users would accordingly consider Letter O and Letter O with Stroke to be interchangeable, even though they are readily distinguishable. Being distinguishable (from zero) was rather the point.

### E.5.8 Letter and Letter with Hook

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter B	0062	b	ḃ	0253	Latin Small Letter B with Hook
Latin Small Letter P	0062	p	ḅ	01A5	Latin Small Letter P with Hook
Latin Small Letter C	0063	c	ċ	0188	Latin Small Letter C with Hook
Latin Small Letter F	0066	f	ƒ	01AD	Latin Small Letter T with Hook
Latin Small Letter G	0067	g	ġ	0260	Latin Small Letter G with Hook
Latin Small Letter K	006B	k	ķ	0199	Latin Small Letter K with Hook
Latin Small Letter T	0074	t	ţ	01AD	Latin Small Letter T with Hook
Latin Small Letter V	0076	v	ṽ	028B	Latin Small Letter V with Hook
Latin Small Letter Y	0079	y	ÿ	01B4	Latin Small Letter y with Hook
Latin Small Letter Thorn	00FE	þ	Ṗ	01A5	Latin Small Letter P with Hook

### E.5.9 Ring Above and Hook Above

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter A with Ring Above	00E5	å	Ḃ	1EA3	Latin Small Letter A with Hook Above
Latin Small Letter U with Ring Above	016F	ů	Ḅ	1EE7	Latin Small Letter U with Hook Above

Note that four out of seven GP members found that 016F and 1EE7 are homoglyphs or nearly identical.

### E.5.10 Dot Above and Hook Above

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter E with Dot Above	0117	è	ě	1EBB	Latin Small Letter E with Hook Above
Latin Small Letter I	0069	i	ï	1EC9	Latin Small Letter I with Hook Above

#### E.5.11 Ligatures

The Latin Small Letter A can have two very different forms, depending on the font used. In some fonts, it appears as **a**; in others it appears as **ɑ**. This becomes important when considering the two ligatures (note that, in the case of Ae it is formally called a letter, rather than a ligature) that appear in the Latin repertoire. **æ** and **œ** being basically indistinguishable.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter Ae	00E6	æ	œ	0153	Latin Small Ligature Oe

#### E.5.10 Misc.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter D with Caron	010F	ď	đ	0257	Latin Small Letter D with Hook
Latin Small Letter D	0064	d	ð	00F0	Latin Small Letter Eth
Latin Small Letter D with Stroke	0111	đ	ð	00F0	Latin Small Letter Eth
Latin Small Letter J	006A	j	ĵ	0135	Latin Small Letter J with Circumflex
Latin Small Letter K	006B	k	ķ	01E9	Latin Small Letter K with Caron
Latin Small Letter L	006C	l	ĺ	013A	Latin Small Letter L with Acute
Latin Small Letter R with Caron	0159	ř	ř	0072 + 0303	Latin Small Letter R with Combining Tilde
Latin Small Letter T	0074	t	ţ	01AD	Latin Small Letter T with Hook
Latin Small Letter F	0066	f	ƒ	01AD	Latin Small Letter T with Hook

Note that four out of seven GP members found that 0066, 0074, 01AD are nearly identical to each other.

#### E.5.11 Underlining

As noted above in Section 6.6.1, the Latin GP considered the issue of underlining at some length. We finally decided that the couple of blank pixels on either side of the below-the-line diacritics (in most browsers and some word processors) was sufficient to allow the “reasonably careful user” to perceive

the diacritic. But it cannot be denied that those unfamiliar with the entire idea of below the line diacritics are unlikely to even look. Also, there are significant numbers of word processors still in use which do not break the underline for diacritics. Thus, for example,

xaxaxaxaxbxbpxcxçdxđxdxexexexexixixixjxkxkxyxyyx

vs

xaxaxaxaxbxbpxcxçdxđxdxexexexexixixixjxkxkxyxyyx

Note that both cases are viewed Chrome running on Windows 10 and looking at documents on OneDrive. Just documents originally created by different users.

Accordingly, they are listed here as Confusable Glyphs.

Unicode Name	Unicode	Glyph	Glyph	Unicode	Unicode Name
Latin Small Letter A	0061	a	ā	0061 + 0331	Latin Small Letter A + Combining Macron Below
Latin Small Letter A	0061	a	ä	1EA1	Latin Small Letter A with Dot Below
Latin Small Letter A	0061	a	ą	0105	Latin Small Letter A with Ogonek
Latin Small Letter A with Breve	0103	ă	ặ	1EA7	Latin Small Letter A with Breve and Dot Below
Latin Small Letter A with Circumflex	00E2	â	ậ	1EAD	Latin Small Letter A with Circumflex and Dot Below
Latin Small Letter B	0062	b	þ	00FE	Latin Small Letter Thorn
Latin Small Letter C	0063	c	ç	00E7	Latin Small Letter C with Cedilla
Latin Small Letter D	0064	d	đ	0256	Latin Small Letter D with Tail
Latin Small Letter D	0064	d	ď	1E13	Latin Small Letter D with Circumflex Below
Latin Small Letter E	0065	e	ē	0065 + 0331	Latin Small Letter E + Combining Macron Below
Latin Small Letter E	0065	e	ę	0119	Latin Small Letter E with Ogonek
Latin Small Letter E	0065	e	ẹ̄	1EB9	Latin Small Letter E with Dot Below
Latin Small Letter E with Acute	00E9	é	ẹ́	1EB9 + 0301	Latin Small Letter E with Dot Below + Combining Acute Accent
Latin Small Letter E with Grave	00E8	è	ẹ̀	1EB9 + 0300	Latin Small Letter E with Dot Below + Combining Grave Accent
Latin Small Letter E with Circumflex	00EA	ê	ệ	1EC7	Latin Small Letter E with Circumflex and Dot Below
Latin Small Letter Open E	025B	ε	ε̣	025B + 0331	Latin Small Letter Open E + Combining Macron Below
Latin Small Letter Open E + Combining Diaresis	025B + 0308	ë	ẹ̈	025B + 0331 + 0308	Latin Small Letter Open E + Combining Macron Below + Combining Diaresis
Latin Small Letter I	0069	i	ī	0069 + 0331	Latin Small Letter I + Combining Macron Below
Latin Small Letter I	0069	i	ï	1ECB	Latin Small Letter I with Dot Below

Latin Small Letter I	0069	i	ı	012F	Latin Small Letter I with Ogonek
Latin Small Letter J	006A	j	ĵ	012F	Latin Small Letter I with Ogonek
Latin Small Letter K	006B	k	ķ	0137	Latin Small Letter K with Cedilla
Latin Small Letter L	006C	l	ł	013C	Latin Small Letter L with Cedilla
Latin Small Letter L	006C	l	ł̂	1E3D	Latin Small Letter L with Circumflex Below
Latin Small Letter L	006C	l	ł̣	1E37	Latin Small Letter L with Dot Below
Latin Small Letter L with Cedilla	013C	ł̣	ł̂	1E3D	Latin Small Letter L with Circumflex Below
Latin Small Letter M	006D	m	ɱ	006D + 0327	Latin Small Letter M + Combining Cedilla
Latin Small Letter M	006D	m	ɱ̣	1E43	Latin Small Letter M with Dot Below
Latin Small Letter N	006E	n	ņ	0146	Latin Small Letter N with Cedilla
Latin Small Letter N	006E	n	ņ̣	1E47	Latin Small Letter N with Dot Below
Latin Small Letter N	006E	n	ņ̂	1E4B	Latin Small Letter N with Circumflex Below
Latin Small Letter N	006E	n	ñ	1E49	Latin Small Letter N with Line Below
Latin Small Letter N	006E	n	ŋ	014B	Latin Small Letter Eng
Latin Small Letter N with Cedilla	0146	ņ̂	ņ̣	1E4B	Latin Small Letter N with Circumflex Below
Latin Small Letter O	006F	o	ɔ	006F + 0327	Latin Small Letter O + Combining Cedilla
Latin Small Letter O	006F	o	ɔ̣	1ECD	Latin Small Letter O with Dot Below
Latin Small Letter O	006F	o	ọ	006F + 0331	Latin Small Letter O + Combining Macron Below
Latin Small Letter O with Acute	00F3	ó	ọ́	1ECD + 0301	Latin Small Letter O with Dot Below + Combining Acute Accent
Latin Small Letter O with Grave	99F2	ò	ọ̀	1ECD + 0300	Latin Small Letter O with Dot Below + Combining Grave Accent
Latin Small Letter O with Circumflex	00F4	ô	ộ	1ED9	Latin Small Letter O with Circumflex and Dot Below
Latin Small Letter O with Horn	01A1	ơ	ợ	1EE3	Latin Small Letter O with Horn and Dot Below
Latin Small Letter Open O	0254	ɔ̥	ɔ̥̣	0254 + 0331	Latin Small Letter Open O + Combining Macron Below
Latin Small Letter S	0073	s	ş	015F	Latin Small Letter S with Cedilla
Latin Small Letter S	0073	s	ş̣	1E63	Latin Small Letter S with Dot Below
Latin Small Letter S	0073	s	ş̣̣	0219	Latin Small Letter S with Comma Below

Latin Small Letter S with Cedilla	015F	ş	ş	0219	Latin Small Letter S with Comma Below
Latin Small Letter T	0074	t	ţ	021B	Latin Small Letter T with Comma Below
Latin Small Letter T	0074	t	ţ	1E6D	Latin Small Letter T with Dot Below
Latin Small Letter T	0074	t	ț	1E71	Latin Small Letter T with Circumflex Below
Latin Small Letter T with Comma Below	021B	ţ	ț	1E71	Latin Small Letter T with Circumflex Below
Latin Small Letter U	0075	u	ұ	1EE5	Latin Small Letter U with Dot Below
Latin Small Letter U	0075	u	ư	0173	Latin Small Letter U with Ogonek
Latin Small Letter U with Horn	01B0	ư	ự	1EF1	Latin Small Letter U with Horn and Dot Below
Latin Small Letter Y	0079	y	ÿ	0263	Latin Small Letter Gamma
Latin Small Letter Y	0079	y	ÿ	1EF5	Latin Small Letter Y with Dot Below

#### E.5.12 Vietnamese

The Latin GP identified a substantial number of variants among letters with two diacritics above. (In essence, those who do not speak Vietnamese tend to see “letter with ‘stuff’ above it.”) However, we note that all of these are from a single language: Vietnamese. The Latin GP made the assumption that any TLD which includes one of these glyphs will be for a domain name use exclusively by speakers of Vietnamese . . . who may be expected to be attuned to seeing the differences. Accordingly, these were determined not to be variants. However, there remains the possibility that a Vietnamese organization with such a domain name might eventually become an international one, and thus acquire non-Vietnamese users. Accordingly, these are included as Confusable Glyphs

Unicode Name	Unicode	Glyph	Note
Latin Small Letter A with Circumflex and Acute	1EA5	ắ	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter A with Circumflex and Grave	1EA7	ằ	
Latin Small Letter A with Circumflex and Hook Above	1EA9	ẵ	
Latin Small Letter A with Circumflex and Tilde	1EAB	ẵ	
Latin Small Letter A with Breve and Acute	1EAF	ắ	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter A with Breve and Grave	1EB1	ằ	
Latin Small Letter A with Breve and Hook Above	1EB3	ẵ	

Latin Small Letter A with Breve and Tilde	1EB5	ǎ	
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Unicode Name	Unicode	Glyph	Note
Latin Small Letter E with Circumflex and Acute	1EBF	ě	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter E with Circumflex and Grave	1EC1	è	
Latin Small Letter E with Circumflex and Hook Above	1EC3	ě̇	
Latin Small Letter E with Circumflex and Tilde	1EC5	ě̃	

Unicode Name	Unicode	Glyph	Note
Latin Small Letter O with Circumflex and Acute	1ED1	ó	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter O with Circumflex and Grave	1ED3	ò	
Latin Small Letter O with Circumflex and Hook Above	1ED5	ó̇	
Latin Small Letter O with Circumflex and Tilde	1ED7	ó̃	
Latin Small Letter O with Horn and Acute	1EDB	ọ́	
Latin Small Letter O with Horn and Grave	1EDD	ọ̀	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter O with Horn and Hook Above	1EDF	ọ́̇	
Latin Small Letter O with Horn and Tilde	1EE1	ọ́̃	

Unicode Name	Unicode	Glyph	Note
Latin Small Letter U with Horn and Acute	1EE9	ụ́	
Latin Small Letter U with Horn and Grave	1EEB	ụ̀	Four out of seven GP members found that these are homoglyphs or nearly identical to each other.
Latin Small Letter U with Horn and Hook Above	1EED	ụ́̇	

### E.5.13 ASCII

By rule, two ASCII glyphs (the 26 letters, A to Z, used in English plus the 10 digits 0 to 9) cannot be variants of each other. Nonetheless, there a couple of cases where confusion is very possible.

#### **Latin Small Letter G vs Latin Small Letter Q**

The Latin Small Letter G can have two very different forms, depending on the font used. In some fonts, it appears as g, in others it appears as q. When the latter form occurs, and underlining (as generally happens with domain names) occurs, the underlining obscures the difference. Consider, for example, .gov vs .qov. When rendered in the san serif fonts they can appear as .gov vs .qov. While, by rule, two ASCII letters cannot be variants, the potential for confusion is plausible.

#### **Latin Small Letter I vs Latin Small Letter L**

Browsers are routinely coded so as to convert upper case letters into lower case before sending domain names to DNS. The Latin Capital Letter I is a homoglyph (in the san serif fonts) of the Latin Small Letter L. Thus, for example, a possible TLD of .mii would work equally well if manipulated with the second I capitalized: .mil . . . which is indistinguishable from the long established TLD .mil.

#### **Latin Small Letter I vs Latin Small Letter J**

In 2019 there was a series of frauds perpetrated against would-be customers of EasyJet, Inc. (domain name [www.easyjet.com](http://www.easyjet.com)) using the domain name [www.easyiet.com](http://www.easyiet.com). We thus have a real-world example of just how easily the Latin Small Letter I and the Latin Small Letter J can be confused.

### E.5.14 Sequences

In the san-serif fonts, the Latin Small Letter M ( m ) and the sequence of Latin Small Letter R and Latin Small Letter N ( rn ) are readily confused. If, for example, the Association of Maize Producers wants a TLD of .CORN, a user who is expecting .com will be unlikely to notice that what is actually there is .corn.

In the san serif fonts, the Latin Small Letter N ( n ) and the sequence of Latin Small Letter R and Latin Small Letter Dotless I ( rı ) are similarly readily confused.