



IDNA2008 and Homoglyph bundling  
*technical information and character tables*

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## Colophon

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## Introduction

- Following the introduction of the **Homoglyph bundling** mechanism, any domain name into the .eu registration system will go through a number of tests. These tests will check if a domain name might be visually similar (or homoglyphic) to other ones.
- This document details technical rules taken from the [IDNA2008 protocol](#) and also coming from the [Homoglyph bundling mechanism](#).
- The following technical topics will be discussed:
  - [Allowed characters](#);
  - [Case folding](#);
  - [Normalisation](#);
  - [Homoglyph bundling mechanism](#).
  - [Character tables](#) provides the comprehensive and detailed lists of characters for each script.



Allowed characters, Case folding and Normalisation topics are linked to the [IDNA2008 protocol](#).

## IDNA2008 protocol

- IDNA means Internationalized Domain Names for Applications.
- IDNA is a set of standards that allow client applications like Internet browsers to convert strings expressed in Unicode to an encoding form that is compatible with ASCII.
- IDNA allows EURid to offer Internationalized Domain Names (IDNs) for registration. IDNs allow to register domain names in local languages and scripts.
- The IDNA2008 protocol supplemented the previously deployed IDNA2003 protocol. Consequently, new characters were supported when registering a .eu domain name while others were phased out. This document mentions the characters that the IDNA2008 protocol supports.

## Allowed characters

- A domain name is considered as valid if it contains exclusively characters from one of the following scripts:
  - Latin for .eu domain names;

- Cyrillic for .eu domain names;
- Greek for .eu domain names.
- Mixing characters from two or more scripts in one domain name is not allowed. The exceptions to this rule are the following characters, which are considered as generic:
  - digits [0-9];
  - hyphen.



Digits and hyphen can be freely used in any Latin, Cyrillic or Greek domain name. EURid implemented this rule as of December 2009 when Internationalized Domain Names (IDNs) were launched.



Tables for [Allowed characters](#) can be found here.

## Case folding

- The term **Case folding** has to be understood as an operation converting characters from uppercase to lowercase.
- To avoid inconsistencies due to local or cultural aspects in language, the IDNA2008 protocol does not allow uppercase characters when registering a domain name. It leaves the management of uppercase characters to client software like Internet browsers.
- Until 2015, the .eu registration system was based on the IDNA2003 protocol; this standard did allow to use uppercase characters when registering domain names. Furthermore, it defined case folding tables. Hence, EURid allowed to input uppercase characters when registering a domain name under IDNA2003 rules.
- To keep backwards compatibility with IDNA2003 rules, the IDNA2008 .eu registration system will still allow uppercase characters as input. However, IDNA2008 rules do not provide for case folding tables. Accordingly, the registration system implements its own case folding tables as part of the registration process.



Tables for [Case folding](#) can be found here.

## Normalisation

- IDNA2003 allows certain characters as input. However, it will map them to other ones. The mapping operation is named normalisation.

### Example 1. Normalisation

- The Latin Small Letter L with Middle Dot (U+0140) is allowed as input. However, this character is replaced by the two characters Latin Small Letter L (U+006C) and Middle Dot (U+00B7).
- On the other hand, IDNA2008 rules do not allow these characters as input; they only allow characters that IDNA2003 maps into.
- To ensure backward compatibility, the .eu IDNA2008 registration system does allow these characters as input. However, the registration system will perform a similar mapping as IDNA2003.
- This operation is called **normalisation**.



- Domain names expressed in Cyrillic script are no longer concerned by normalisation.
- The normalisation tables of Latin and Greek scripts are available under the section [Normalisation](#). The tables contain characters that are normalised at present.

- The domain name currently registered is the one that is the result of the normalisation.

## Homoglyph bundling mechanism

- In order to determine if two .eu domain names might be visually similar (homoglyphic), tables are used to list all visually similar characters. All domain names of a homoglyph bundle are homoglyphic to each other. The general rule specifies that domain names can only be in a homoglyph bundle if they are built from different scripts.



Some exceptions to this rule exist. They are mentioned in the [Intra Script homoglyph bundling tables](#).

- Each table defines the characters in one script that have a visually similar character in another script. In order, for example, to determine if a domain name written in Latin script is in the same homoglyph bundle as a domain name written in Greek script, all characters in the Latin

script domain name are translated into their Greek equivalents. The [Latin to Greek bundling - Single mappings](#) will be used in this case. All characters of the domain name need to appear in the bundling table for domain names to be in the same homoglyph bundle.

- The bundling tables will show lowercase characters only, although the actual visual similarity might be valid for the uppercase characters.

#### Example 2. a with Alpha

- The Latin small letter a (U+0061) is bundled with the Greek small letter α (Alpha U+03B1).
- The visual similarity is also applicable to the uppercase version of both characters.

- As digits and the hyphen can be freely used in any of the three scripts (Latin, Greek, Cyrillic), they can appear in domain names in different scripts, but can be considered to be homoglyph. See [Allowed generic characters](#) to obtain the list of digits and hyphen characters.

#### Example 3. Sequence of two characters in Latin and Greek scripts that are considered as homoglyph

Let us consider the following string of two characters:

Table 1. a and Alpha one

String	Meaning	Unicode code points
<b>a1</b>	the Latin small letter a + 1	U+0061 and U+0031
<b>α1</b>	the Greek small letter Alpha + 1	U+03B1 and U+0031

- These two strings are considered as homoglyph of each other.



- Inter script homoglyph bundling tables are available here: [Inter Script homoglyph bundling tables](#). These tables list characters considered as homoglyph for each combination of the Latin and Greek scripts.
- Domain names expressed in Cyrillic script are no longer concerned by the homoglyph bundling mechanism. This statement is applicable as of October 2019.
- Intra script homoglyph bundling tables are available here: [Intra Script homoglyph bundling tables](#). These tables contain characters that are considered as homoglyph within the same script (Latin or Greek).

## Character tables

### Allowed characters



- The first column mentions the character in the actual representation;
- the second column gives the official Unicode code point;
- the third column lists the official Unicode character description.

Table 2. Allowed generic characters

Character	Unicode	Description
-	U+002D	HYPHEN-MINUS
0	U+0030	DIGIT ZERO
1	U+0031	DIGIT ONE
2	U+0032	DIGIT TWO
3	U+0033	DIGIT THREE
4	U+0034	DIGIT FOUR
5	U+0035	DIGIT FIVE
6	U+0036	DIGIT SIX
7	U+0037	DIGIT SEVEN
8	U+0038	DIGIT EIGHT
9	U+0039	DIGIT NINE

Table 3. Allowed characters of the Latin script

Character	Unicode	Description
A	U+0041	LATIN CAPITAL LETTER A
B	U+0042	LATIN CAPITAL LETTER B
C	U+0043	LATIN CAPITAL LETTER C
D	U+0044	LATIN CAPITAL LETTER D
E	U+0045	LATIN CAPITAL LETTER E
F	U+0046	LATIN CAPITAL LETTER F
G	U+0047	LATIN CAPITAL LETTER G
H	U+0048	LATIN CAPITAL LETTER H
I	U+0049	LATIN CAPITAL LETTER I
J	U+004A	LATIN CAPITAL LETTER J
K	U+004B	LATIN CAPITAL LETTER K
L	U+004C	LATIN CAPITAL LETTER L
M	U+004D	LATIN CAPITAL LETTER M



<b>Character</b>	<b>Unicode</b>	<b>Description</b>
N	U+004E	LATIN CAPITAL LETTER N
O	U+004F	LATIN CAPITAL LETTER O
P	U+0050	LATIN CAPITAL LETTER P
Q	U+0051	LATIN CAPITAL LETTER Q
R	U+0052	LATIN CAPITAL LETTER R
S	U+0053	LATIN CAPITAL LETTER S
T	U+0054	LATIN CAPITAL LETTER T
U	U+0055	LATIN CAPITAL LETTER U
V	U+0056	LATIN CAPITAL LETTER V
W	U+0057	LATIN CAPITAL LETTER W
X	U+0058	LATIN CAPITAL LETTER X
Y	U+0059	LATIN CAPITAL LETTER Y
Z	U+005A	LATIN CAPITAL LETTER Z
a	U+0061	LATIN SMALL LETTER A
b	U+0062	LATIN SMALL LETTER B
c	U+0063	LATIN SMALL LETTER C
d	U+0064	LATIN SMALL LETTER D
e	U+0065	LATIN SMALL LETTER E
f	U+0066	LATIN SMALL LETTER F
g	U+0067	LATIN SMALL LETTER G
h	U+0068	LATIN SMALL LETTER H
i	U+0069	LATIN SMALL LETTER I
j	U+006A	LATIN SMALL LETTER J
k	U+006B	LATIN SMALL LETTER K
l	U+006C	LATIN SMALL LETTER L
m	U+006D	LATIN SMALL LETTER M
n	U+006E	LATIN SMALL LETTER N
o	U+006F	LATIN SMALL LETTER O
p	U+0070	LATIN SMALL LETTER P
q	U+0071	LATIN SMALL LETTER Q
r	U+0072	LATIN SMALL LETTER R
s	U+0073	LATIN SMALL LETTER S
t	U+0074	LATIN SMALL LETTER T
u	U+0075	LATIN SMALL LETTER U
v	U+0076	LATIN SMALL LETTER V
w	U+0077	LATIN SMALL LETTER W

<b>Character</b>	<b>Unicode</b>	<b>Description</b>
x	U+0078	LATIN SMALL LETTER X
y	U+0079	LATIN SMALL LETTER Y
z	U+007A	LATIN SMALL LETTER Z
À	U+00C0	LATIN CAPITAL LETTER A WITH GRAVE
Á	U+00C1	LATIN CAPITAL LETTER A WITH ACUTE
Â	U+00C2	LATIN CAPITAL LETTER A WITH CIRCUMFLEX
Ã	U+00C3	LATIN CAPITAL LETTER A WITH TILDE
Ä	U+00C4	LATIN CAPITAL LETTER A WITH DIAERESIS
Å	U+00C5	LATIN CAPITAL LETTER A WITH RING ABOVE
Æ	U+00C6	LATIN CAPITAL LETTER AE
Ç	U+00C7	LATIN CAPITAL LETTER C WITH CEDILLA
È	U+00C8	LATIN CAPITAL LETTER E WITH GRAVE
É	U+00C9	LATIN CAPITAL LETTER E WITH ACUTE
Ê	U+00CA	LATIN CAPITAL LETTER E WITH CIRCUMFLEX
Ë	U+00CB	LATIN CAPITAL LETTER E WITH DIAERESIS
Ì	U+00CC	LATIN CAPITAL LETTER I WITH GRAVE
Í	U+00CD	LATIN CAPITAL LETTER I WITH ACUTE
Î	U+00CE	LATIN CAPITAL LETTER I WITH CIRCUMFLEX
Ï	U+00CF	LATIN CAPITAL LETTER I WITH DIAERESIS
Ð	U+00D0	LATIN CAPITAL LETTER ETH
Ñ	U+00D1	LATIN CAPITAL LETTER N WITH TILDE
Ò	U+00D2	LATIN CAPITAL LETTER O WITH GRAVE
Ó	U+00D3	LATIN CAPITAL LETTER O WITH ACUTE
Ô	U+00D4	LATIN CAPITAL LETTER O WITH CIRCUMFLEX
Õ	U+00D5	LATIN CAPITAL LETTER O WITH TILDE
Ö	U+00D6	LATIN CAPITAL LETTER O WITH DIAERESIS
Ø	U+00D8	LATIN CAPITAL LETTER O WITH STROKE
Ù	U+00D9	LATIN CAPITAL LETTER U WITH GRAVE
Ú	U+00DA	LATIN CAPITAL LETTER U WITH ACUTE
Û	U+00DB	LATIN CAPITAL LETTER U WITH CIRCUMFLEX
Ü	U+00DC	LATIN CAPITAL LETTER U WITH DIAERESIS
Ý	U+00DD	LATIN CAPITAL LETTER Y WITH ACUTE
Þ	U+00DE	LATIN CAPITAL LETTER THORN
ß	U+00DF	LATIN SMALL LETTER SHARP S
à	U+00E0	LATIN SMALL LETTER A WITH GRAVE
á	U+00E1	LATIN SMALL LETTER A WITH ACUTE

Character	Unicode	Description
â	U+00E2	LATIN SMALL LETTER A WITH CIRCUMFLEX
ã	U+00E3	LATIN SMALL LETTER A WITH TILDE
ä	U+00E4	LATIN SMALL LETTER A WITH DIAERESIS
å	U+00E5	LATIN SMALL LETTER A WITH RING ABOVE
æ	U+00E6	LATIN SMALL LETTER AE
ç	U+00E7	LATIN SMALL LETTER C WITH CEDILLA
è	U+00E8	LATIN SMALL LETTER E WITH GRAVE
é	U+00E9	LATIN SMALL LETTER E WITH ACUTE
ê	U+00EA	LATIN SMALL LETTER E WITH CIRCUMFLEX
ë	U+00EB	LATIN SMALL LETTER E WITH DIAERESIS
ì	U+00EC	LATIN SMALL LETTER I WITH GRAVE
í	U+00ED	LATIN SMALL LETTER I WITH ACUTE
î	U+00EE	LATIN SMALL LETTER I WITH CIRCUMFLEX
ï	U+00EF	LATIN SMALL LETTER I WITH DIAERESIS
ð	U+00F0	LATIN SMALL LETTER ETH
ñ	U+00F1	LATIN SMALL LETTER N WITH TILDE
ò	U+00F2	LATIN SMALL LETTER O WITH GRAVE
ó	U+00F3	LATIN SMALL LETTER O WITH ACUTE
ô	U+00F4	LATIN SMALL LETTER O WITH CIRCUMFLEX
õ	U+00F5	LATIN SMALL LETTER O WITH TILDE
ö	U+00F6	LATIN SMALL LETTER O WITH DIAERESIS
ø	U+00F8	LATIN SMALL LETTER O WITH STROKE
ù	U+00F9	LATIN SMALL LETTER U WITH GRAVE
ú	U+00FA	LATIN SMALL LETTER U WITH ACUTE
û	U+00FB	LATIN SMALL LETTER U WITH CIRCUMFLEX
ü	U+00FC	LATIN SMALL LETTER U WITH DIAERESIS
ý	U+00FD	LATIN SMALL LETTER Y WITH ACUTE
þ	U+00FE	LATIN SMALL LETTER THORN
ÿ	U+00FF	LATIN SMALL LETTER Y WITH DIAERESIS
Ā	U+0100	LATIN CAPITAL LETTER A WITH MACRON
ā	U+0101	LATIN SMALL LETTER A WITH MACRON
Ă	U+0102	LATIN CAPITAL LETTER A WITH BREVE
ă	U+0103	LATIN SMALL LETTER A WITH BREVE
Ą	U+0104	LATIN CAPITAL LETTER A WITH OGONEK
ą	U+0105	LATIN SMALL LETTER A WITH OGONEK
Ć	U+0106	LATIN CAPITAL LETTER C WITH ACUTE

<b>Character</b>	<b>Unicode</b>	<b>Description</b>
ć	U+0107	LATIN SMALL LETTER C WITH ACUTE
Ĉ	U+0108	LATIN CAPITAL LETTER C WITH CIRCUMFLEX
ĉ	U+0109	LATIN SMALL LETTER C WITH CIRCUMFLEX
Č	U+010A	LATIN CAPITAL LETTER C WITH DOT ABOVE
č	U+010B	LATIN SMALL LETTER C WITH DOT ABOVE
Ā	U+010C	LATIN CAPITAL LETTER C WITH CARON
č	U+010D	LATIN SMALL LETTER C WITH CARON
Ď	U+010E	LATIN CAPITAL LETTER D WITH CARON
ď	U+010F	LATIN SMALL LETTER D WITH CARON
Đ	U+0110	LATIN CAPITAL LETTER D WITH STROKE
đ	U+0111	LATIN SMALL LETTER D WITH STROKE
Ē	U+0112	LATIN CAPITAL LETTER E WITH MACRON
ē	U+0113	LATIN SMALL LETTER E WITH MACRON
Ě	U+0114	LATIN CAPITAL LETTER E WITH BREVE
ě	U+0115	LATIN SMALL LETTER E WITH BREVE
Ĕ	U+0116	LATIN CAPITAL LETTER E WITH DOT ABOVE
ė	U+0117	LATIN SMALL LETTER E WITH DOT ABOVE
Ę	U+0118	LATIN CAPITAL LETTER E WITH OGONEK
ę	U+0119	LATIN SMALL LETTER E WITH OGONEK
Ě	U+011A	LATIN CAPITAL LETTER E WITH CARON
ě	U+011B	LATIN SMALL LETTER E WITH CARON
Ĝ	U+011C	LATIN CAPITAL LETTER G WITH CIRCUMFLEX
ĝ	U+011D	LATIN SMALL LETTER G WITH CIRCUMFLEX
Ğ	U+011E	LATIN CAPITAL LETTER G WITH BREVE
ğ	U+011F	LATIN SMALL LETTER G WITH BREVE
Ġ	U+0120	LATIN CAPITAL LETTER G WITH DOT ABOVE
ġ	U+0121	LATIN SMALL LETTER G WITH DOT ABOVE
Ģ	U+0122	LATIN CAPITAL LETTER G WITH CEDILLA
ģ	U+0123	LATIN SMALL LETTER G WITH CEDILLA
Ĥ	U+0124	LATIN CAPITAL LETTER H WITH CIRCUMFLEX
ĥ	U+0125	LATIN SMALL LETTER H WITH CIRCUMFLEX
Ħ	U+0126	LATIN CAPITAL LETTER H WITH STROKE
ħ	U+0127	LATIN SMALL LETTER H WITH STROKE
Ĩ	U+0128	LATIN CAPITAL LETTER I WITH TILDE
ĩ	U+0129	LATIN SMALL LETTER I WITH TILDE
Ī	U+012A	LATIN CAPITAL LETTER I WITH MACRON

Character	Unicode	Description
ī	U+012B	LATIN SMALL LETTER I WITH MACRON
Ī	U+012C	LATIN CAPITAL LETTER I WITH BREVE
ĩ	U+012D	LATIN SMALL LETTER I WITH BREVE
Ĳ	U+012E	LATIN CAPITAL LETTER I WITH OGONEK
į	U+012F	LATIN SMALL LETTER I WITH OGONEK
Ĵ	U+0134	LATIN CAPITAL LETTER J WITH CIRCUMFLEX
ĵ	U+0135	LATIN SMALL LETTER J WITH CIRCUMFLEX
Ķ	U+0136	LATIN CAPITAL LETTER K WITH CEDILLA
ķ	U+0137	LATIN SMALL LETTER K WITH CEDILLA
Ĺ	U+0139	LATIN CAPITAL LETTER L WITH ACUTE
ĺ	U+013A	LATIN SMALL LETTER L WITH ACUTE
Ľ	U+013B	LATIN CAPITAL LETTER L WITH CEDILLA
ļ	U+013C	LATIN SMALL LETTER L WITH CEDILLA
Ļ	U+013D	LATIN CAPITAL LETTER L WITH CARON
ļ	U+013E	LATIN SMALL LETTER L WITH CARON
Ł	U+013F	LATIN CAPITAL LETTER L WITH MIDDLE DOT
ł	U+0140	LATIN SMALL LETTER L WITH MIDDLE DOT
Ł	U+0141	LATIN CAPITAL LETTER L WITH STROKE
ł	U+0142	LATIN SMALL LETTER L WITH STROKE
Ń	U+0143	LATIN CAPITAL LETTER N WITH ACUTE
ń	U+0144	LATIN SMALL LETTER N WITH ACUTE
Ñ	U+0145	LATIN CAPITAL LETTER N WITH CEDILLA
ñ	U+0146	LATIN SMALL LETTER N WITH CEDILLA
Ň	U+0147	LATIN CAPITAL LETTER N WITH CARON
ň	U+0148	LATIN SMALL LETTER N WITH CARON
ƚ	U+0149	LATIN SMALL LETTER N PRECEDED BY APOSTROPHE
Ŋ	U+014A	LATIN CAPITAL LETTER ENG
ŋ	U+014B	LATIN SMALL LETTER ENG
Ō	U+014C	LATIN CAPITAL LETTER O WITH MACRON
ō	U+014D	LATIN SMALL LETTER O WITH MACRON
Ö	U+014E	LATIN CAPITAL LETTER O WITH BREVE
ö	U+014F	LATIN SMALL LETTER O WITH BREVE
Ő	U+0150	LATIN CAPITAL LETTER O WITH DOUBLE ACUTE
ő	U+0151	LATIN SMALL LETTER O WITH DOUBLE ACUTE
Œ	U+0152	LATIN CAPITAL LIGATURE OE
œ	U+0153	LATIN SMALL LIGATURE OE

<b>Character</b>	<b>Unicode</b>	<b>Description</b>
Ŕ	U+0154	LATIN CAPITAL LETTER R WITH ACUTE
ŕ	U+0155	LATIN SMALL LETTER R WITH ACUTE
Ŗ	U+0156	LATIN CAPITAL LETTER R WITH CEDILLA
ŗ	U+0157	LATIN SMALL LETTER R WITH CEDILLA
Ř	U+0158	LATIN CAPITAL LETTER R WITH CARON
ř	U+0159	LATIN SMALL LETTER R WITH CARON
Ś	U+015A	LATIN CAPITAL LETTER S WITH ACUTE
ś	U+015B	LATIN SMALL LETTER S WITH ACUTE
Ŝ	U+015C	LATIN CAPITAL LETTER S WITH CIRCUMFLEX
ŝ	U+015D	LATIN SMALL LETTER S WITH CIRCUMFLEX
Š	U+0160	LATIN CAPITAL LETTER S WITH CARON
š	U+0161	LATIN SMALL LETTER S WITH CARON
Ť	U+0164	LATIN CAPITAL LETTER T WITH CARON
ť	U+0165	LATIN SMALL LETTER T WITH CARON
Ṭ	U+0166	LATIN CAPITAL LETTER T WITH STROKE
ṭ	U+0167	LATIN SMALL LETTER T WITH STROKE
Ŭ	U+0168	LATIN CAPITAL LETTER U WITH TILDE
ŭ	U+0169	LATIN SMALL LETTER U WITH TILDE
Ū	U+016A	LATIN CAPITAL LETTER U WITH MACRON
ū	U+016B	LATIN SMALL LETTER U WITH MACRON
Ů	U+016C	LATIN CAPITAL LETTER U WITH BREVE
ů	U+016D	LATIN SMALL LETTER U WITH BREVE
Ű	U+016E	LATIN CAPITAL LETTER U WITH RING ABOVE
ű	U+016F	LATIN SMALL LETTER U WITH RING ABOVE
Ŭ	U+0170	LATIN CAPITAL LETTER U WITH DOUBLE ACUTE
ű	U+0171	LATIN SMALL LETTER U WITH DOUBLE ACUTE
Ų	U+0172	LATIN CAPITAL LETTER U WITH OGONEK
ų	U+0173	LATIN SMALL LETTER U WITH OGONEK
Ŵ	U+0174	LATIN CAPITAL LETTER W WITH CIRCUMFLEX
ŵ	U+0175	LATIN SMALL LETTER W WITH CIRCUMFLEX
Ŷ	U+0176	LATIN CAPITAL LETTER Y WITH CIRCUMFLEX
ŷ	U+0177	LATIN SMALL LETTER Y WITH CIRCUMFLEX
ÿ	U+0178	LATIN CAPITAL LETTER Y WITH DIAERESIS
Ž	U+0179	LATIN CAPITAL LETTER Z WITH ACUTE
ž	U+017A	LATIN SMALL LETTER Z WITH ACUTE
Ż	U+017B	LATIN CAPITAL LETTER Z WITH DOT ABOVE

Character	Unicode	Description
ž	U+017C	LATIN SMALL LETTER Z WITH DOT ABOVE
Ž	U+017D	LATIN CAPITAL LETTER Z WITH CARON
ž	U+017E	LATIN SMALL LETTER Z WITH CARON
Ș	U+0218	LATIN CAPITAL LETTER S WITH COMMA BELOW
ș	U+0219	LATIN SMALL LETTER S WITH COMMA BELOW
Ț	U+021A	LATIN CAPITAL LETTER T WITH COMMA BELOW
ț	U+021B	LATIN SMALL LETTER T WITH COMMA BELOW
ß	U+1E9E	LATIN CAPITAL LETTER SHARP S
·	U+00B7	MIDDLE DOT
'	U+02BC	MODIFIER LETTER APOSTROPHE

Table 4. Allowed Latin characters for which a restriction on use applies

Character	Unicode	Description	Restriction on use
ı	U+0131	LATIN SMALL LETTER DOTLESS I	Only allowed for existing domain names, not allowed in newly to be registered domain names
Ł	U+013F	LATIN CAPITAL LETTER L WITH MIDDLE DOT	Only allowed if immediately followed by the Latin Letter L (U+006C)
ł	U+0140	LATIN SMALL LETTER L WITH MIDDLE DOT	Only allowed if immediately followed by the Latin Letter L (U+006C)
·	U+00B7	MIDDLE DOT	Only allowed if immediately followed by the Latin Letter L (U+006C)
'	U+02BC	MODIFIER LETTER APOSTROPHE	Only allowed if immediately followed by the Latin Letter N (U+006E)

Table 5. Allowed characters of the Greek script

Character	Unicode	Description
Α	U+0386	GREEK CAPITAL LETTER ALPHA WITH TONOS
Ε	U+0388	GREEK CAPITAL LETTER EPSILON WITH TONOS
Η	U+0389	GREEK CAPITAL LETTER ETA WITH TONOS
Ι	U+038A	GREEK CAPITAL LETTER IOTA WITH TONOS
Ο	U+038C	GREEK CAPITAL LETTER OMICRON WITH TONOS
Υ	U+038E	GREEK CAPITAL LETTER UPSILON WITH TONOS
Ω	U+038F	GREEK CAPITAL LETTER OMEGA WITH TONOS
ι	U+0390	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS

Character	Unicode	Description
Α	U+0391	GREEK CAPITAL LETTER ALPHA
Β	U+0392	GREEK CAPITAL LETTER BETA
Γ	U+0393	GREEK CAPITAL LETTER GAMMA
Δ	U+0394	GREEK CAPITAL LETTER DELTA
Ε	U+0395	GREEK CAPITAL LETTER EPSILON
Ζ	U+0396	GREEK CAPITAL LETTER ZETA
Η	U+0397	GREEK CAPITAL LETTER ETA
Θ	U+0398	GREEK CAPITAL LETTER THETA
Ι	U+0399	GREEK CAPITAL LETTER IOTA
Κ	U+039A	GREEK CAPITAL LETTER KAPPA
Λ	U+039B	GREEK CAPITAL LETTER LAMDA
Μ	U+039C	GREEK CAPITAL LETTER MU
Ν	U+039D	GREEK CAPITAL LETTER NU
Ξ	U+039E	GREEK CAPITAL LETTER XI
Ο	U+039F	GREEK CAPITAL LETTER OMICRON
Π	U+03A0	GREEK CAPITAL LETTER PI
Ρ	U+03A1	GREEK CAPITAL LETTER RHO
Σ	U+03A3	GREEK CAPITAL LETTER SIGMA
Τ	U+03A4	GREEK CAPITAL LETTER TAU
Υ	U+03A5	GREEK CAPITAL LETTER UPSILON
Φ	U+03A6	GREEK CAPITAL LETTER PHI
Χ	U+03A7	GREEK CAPITAL LETTER CHI
Ψ	U+03A8	GREEK CAPITAL LETTER PSI
Ω	U+03A9	GREEK CAPITAL LETTER OMEGA
ϊ	U+03AA	GREEK CAPITAL LETTER IOTA WITH DIALYTIKA
ϋ	U+03AB	GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA
ά	U+03AC	GREEK SMALL LETTER ALPHA WITH TONOS
έ	U+03AD	GREEK SMALL LETTER EPSILON WITH TONOS
ή	U+03AE	GREEK SMALL LETTER ETA WITH TONOS
ί	U+03AF	GREEK SMALL LETTER IOTA WITH TONOS
ύ	U+03B0	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS
α	U+03B1	GREEK SMALL LETTER ALPHA
β	U+03B2	GREEK SMALL LETTER BETA
γ	U+03B3	GREEK SMALL LETTER GAMMA
δ	U+03B4	GREEK SMALL LETTER DELTA



<b>Character</b>	<b>Unicode</b>	<b>Description</b>
ε	U+03B5	GREEK SMALL LETTER EPSILON
ζ	U+03B6	GREEK SMALL LETTER ZETA
η	U+03B7	GREEK SMALL LETTER ETA
θ	U+03B8	GREEK SMALL LETTER THETA
ι	U+03B9	GREEK SMALL LETTER IOTA
κ	U+03BA	GREEK SMALL LETTER KAPPA
λ	U+03BB	GREEK SMALL LETTER LAMDA
μ	U+03BC	GREEK SMALL LETTER MU
ν	U+03BD	GREEK SMALL LETTER NU
ξ	U+03BE	GREEK SMALL LETTER XI
ο	U+03BF	GREEK SMALL LETTER OMICRON
π	U+03C0	GREEK SMALL LETTER PI
ρ	U+03C1	GREEK SMALL LETTER RHO
ς	U+03C2	GREEK SMALL LETTER FINAL SIGMA
σ	U+03C3	GREEK SMALL LETTER SIGMA
τ	U+03C4	GREEK SMALL LETTER TAU
υ	U+03C5	GREEK SMALL LETTER UPSILON
φ	U+03C6	GREEK SMALL LETTER PHI
χ	U+03C7	GREEK SMALL LETTER CHI
ψ	U+03C8	GREEK SMALL LETTER PSI
ω	U+03C9	GREEK SMALL LETTER OMEGA
ϊ	U+03CA	GREEK SMALL LETTER IOTA WITH DIALYTIKA
ϋ	U+03CB	GREEK SMALL LETTER UPSILON WITH DIALYTIKA
ό	U+03CC	GREEK SMALL LETTER OMICRON WITH TONOS
ύ	U+03CD	GREEK SMALL LETTER UPSILON WITH TONOS
ώ	U+03CE	GREEK SMALL LETTER OMEGA WITH TONOS
ᾀ	U+1F00	GREEK SMALL LETTER ALPHA WITH PSILI
ᾁ	U+1F01	GREEK SMALL LETTER ALPHA WITH DASIA
ᾂ	U+1F02	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA
ᾃ	U+1F03	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA
ᾄ	U+1F04	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA
ᾅ	U+1F05	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA
ᾆ	U+1F06	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI

Character	Unicode	Description
ᾀ	U+1F07	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI
Ἀ	U+1F08	GREEK CAPITAL LETTER ALPHA WITH PSILI
Ἄ	U+1F09	GREEK CAPITAL LETTER ALPHA WITH DASIA
ἐ	U+1F0A	GREEK CAPITAL LETTER ALPHA WITH PSILI AND VARIA
ἐ	U+1F0B	GREEK CAPITAL LETTER ALPHA WITH DASIA AND VARIA
ἐ	U+1F0C	GREEK CAPITAL LETTER ALPHA WITH PSILI AND OXIA
ἐ	U+1F0D	GREEK CAPITAL LETTER ALPHA WITH DASIA AND OXIA
ἐ	U+1F0E	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PERISPOMENI
ἐ	U+1F0F	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PERISPOMENI
ἔ	U+1F10	GREEK SMALL LETTER EPSILON WITH PSILI
Ἐ	U+1F11	GREEK SMALL LETTER EPSILON WITH DASIA
ἔ	U+1F12	GREEK SMALL LETTER EPSILON WITH PSILI AND VARIA
ἔ	U+1F13	GREEK SMALL LETTER EPSILON WITH DASIA AND VARIA
ἔ	U+1F14	GREEK SMALL LETTER EPSILON WITH PSILI AND OXIA
ἔ	U+1F15	GREEK SMALL LETTER EPSILON WITH DASIA AND OXIA
Ἐ	U+1F18	GREEK CAPITAL LETTER EPSILON WITH PSILI
Ἐ	U+1F19	GREEK CAPITAL LETTER EPSILON WITH DASIA
ἐ	U+1F1A	GREEK CAPITAL LETTER EPSILON WITH PSILI AND VARIA
ἐ	U+1F1B	GREEK CAPITAL LETTER EPSILON WITH DASIA AND VARIA
ἐ	U+1F1C	GREEK CAPITAL LETTER EPSILON WITH PSILI AND OXIA
ἐ	U+1F1D	GREEK CAPITAL LETTER EPSILON WITH DASIA AND OXIA
ἠ	U+1F20	GREEK SMALL LETTER ETA WITH PSILI
ἠ	U+1F21	GREEK SMALL LETTER ETA WITH DASIA
ἠ	U+1F22	GREEK SMALL LETTER ETA WITH PSILI AND VARIA
ἠ	U+1F23	GREEK SMALL LETTER ETA WITH DASIA AND VARIA

<b>Character</b>	<b>Unicode</b>	<b>Description</b>
ή	U+1F24	GREEK SMALL LETTER ETA WITH PSILI AND OXIA
ῆ	U+1F25	GREEK SMALL LETTER ETA WITH DASIA AND OXIA
ῆ̂	U+1F26	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI
ῆ̃	U+1F27	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI
Ἠ	U+1F28	GREEK CAPITAL LETTER ETA WITH PSILI
Ἠ	U+1F29	GREEK CAPITAL LETTER ETA WITH DASIA
Ἠ̂	U+1F2A	GREEK CAPITAL LETTER ETA WITH PSILI AND VARIA
Ἠ̃	U+1F2B	GREEK CAPITAL LETTER ETA WITH DASIA AND VARIA
Ἠ̂	U+1F2C	GREEK CAPITAL LETTER ETA WITH PSILI AND OXIA
Ἠ̃	U+1F2D	GREEK CAPITAL LETTER ETA WITH DASIA AND OXIA
Ἠ̂̂	U+1F2E	GREEK CAPITAL LETTER ETA WITH PSILI AND PERISPOMENI
Ἠ̂̃	U+1F2F	GREEK CAPITAL LETTER ETA WITH DASIA AND PERISPOMENI
ι	U+1F30	GREEK SMALL LETTER IOTA WITH PSILI
ῖ	U+1F31	GREEK SMALL LETTER IOTA WITH DASIA
ῖ̂	U+1F32	GREEK SMALL LETTER IOTA WITH PSILI AND VARIA
ῖ̃	U+1F33	GREEK SMALL LETTER IOTA WITH DASIA AND VARIA
ῖ̂	U+1F34	GREEK SMALL LETTER IOTA WITH PSILI AND OXIA
ῖ̃	U+1F35	GREEK SMALL LETTER IOTA WITH DASIA AND OXIA
ῖ̂̂	U+1F36	GREEK SMALL LETTER IOTA WITH PSILI AND PERISPOMENI
ῖ̂̃	U+1F37	GREEK SMALL LETTER IOTA WITH DASIA AND PERISPOMENI
Ἰ	U+1F38	GREEK CAPITAL LETTER IOTA WITH PSILI
Ἰ	U+1F39	GREEK CAPITAL LETTER IOTA WITH DASIA
Ἰ̂	U+1F3A	GREEK CAPITAL LETTER IOTA WITH PSILI AND VARIA
Ἰ̃	U+1F3B	GREEK CAPITAL LETTER IOTA WITH DASIA AND VARIA

Character	Unicode	Description
ἶ	U+1F3C	GREEK CAPITAL LETTER IOTA WITH PSILI AND OXIA
ἷ	U+1F3D	GREEK CAPITAL LETTER IOTA WITH DASIA AND OXIA
ἶ̂	U+1F3E	GREEK CAPITAL LETTER IOTA WITH PSILI AND PERISPOMENI
ἷ̂	U+1F3F	GREEK CAPITAL LETTER IOTA WITH DASIA AND PERISPOMENI
ὀ	U+1F40	GREEK SMALL LETTER OMICRON WITH PSILI
ὁ	U+1F41	GREEK SMALL LETTER OMICRON WITH DASIA
ὀ̂	U+1F42	GREEK SMALL LETTER OMICRON WITH PSILI AND VARIA
ὁ̂	U+1F43	GREEK SMALL LETTER OMICRON WITH DASIA AND VARIA
ὀ̃	U+1F44	GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA
ὁ̃	U+1F45	GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA
Ὀ	U+1F48	GREEK CAPITAL LETTER OMICRON WITH PSILI
Ὁ	U+1F49	GREEK CAPITAL LETTER OMICRON WITH DASIA
Ὀ̂	U+1F4A	GREEK CAPITAL LETTER OMICRON WITH PSILI AND VARIA
Ὁ̂	U+1F4B	GREEK CAPITAL LETTER OMICRON WITH DASIA AND VARIA
Ὀ̃	U+1F4C	GREEK CAPITAL LETTER OMICRON WITH PSILI AND OXIA
Ὁ̃	U+1F4D	GREEK CAPITAL LETTER OMICRON WITH DASIA AND OXIA
ὐ	U+1F50	GREEK SMALL LETTER UPSILON WITH PSILI
ὑ	U+1F51	GREEK SMALL LETTER UPSILON WITH DASIA
ὐ̂	U+1F52	GREEK SMALL LETTER UPSILON WITH PSILI AND VARIA
ὑ̂	U+1F53	GREEK SMALL LETTER UPSILON WITH DASIA AND VARIA
ὐ̃	U+1F54	GREEK SMALL LETTER UPSILON WITH PSILI AND OXIA
ὑ̃	U+1F55	GREEK SMALL LETTER UPSILON WITH DASIA AND OXIA
ὐ̂̃	U+1F56	GREEK SMALL LETTER UPSILON WITH PSILI AND PERISPOMENI
ὑ̂̃	U+1F57	GREEK SMALL LETTER UPSILON WITH DASIA AND PERISPOMENI

Character	Unicode	Description
Υ	U+1F59	GREEK CAPITAL LETTER UPSILON WITH DASIA
ΰ	U+1F5B	GREEK CAPITAL LETTER UPSILON WITH DASIA AND VARIA
ΰ	U+1F5D	GREEK CAPITAL LETTER UPSILON WITH DASIA AND OXIA
ΰ	U+1F5F	GREEK CAPITAL LETTER UPSILON WITH DASIA AND PERISPOMENI
ω	U+1F60	GREEK SMALL LETTER OMEGA WITH PSILI
ώ	U+1F61	GREEK SMALL LETTER OMEGA WITH DASIA
ώ	U+1F62	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA
ώ	U+1F63	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA
ώ	U+1F64	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA
ώ	U+1F65	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA
ώ	U+1F66	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI
ώ	U+1F67	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI
Ω	U+1F68	GREEK CAPITAL LETTER OMEGA WITH PSILI
Ω	U+1F69	GREEK CAPITAL LETTER OMEGA WITH DASIA
Ω	U+1F6A	GREEK CAPITAL LETTER OMEGA WITH PSILI AND VARIA
Ω	U+1F6B	GREEK CAPITAL LETTER OMEGA WITH DASIA AND VARIA
Ω	U+1F6C	GREEK CAPITAL LETTER OMEGA WITH PSILI AND OXIA
Ω	U+1F6D	GREEK CAPITAL LETTER OMEGA WITH DASIA AND OXIA
Ω	U+1F6E	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PERISPOMENI
Ω	U+1F6F	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PERISPOMENI
α	U+1F70	GREEK SMALL LETTER ALPHA WITH VARIA
ά	U+1F71	GREEK SMALL LETTER ALPHA WITH OXIA
ε	U+1F72	GREEK SMALL LETTER EPSILON WITH VARIA
έ	U+1F73	GREEK SMALL LETTER EPSILON WITH OXIA
η	U+1F74	GREEK SMALL LETTER ETA WITH VARIA
ή	U+1F75	GREEK SMALL LETTER ETA WITH OXIA

Character	Unicode	Description
ι	U+1F76	GREEK SMALL LETTER IOTA WITH VARIA
ί	U+1F77	GREEK SMALL LETTER IOTA WITH OXIA
ο	U+1F78	GREEK SMALL LETTER OMICRON WITH VARIA
ό	U+1F79	GREEK SMALL LETTER OMICRON WITH OXIA
υ	U+1F7A	GREEK SMALL LETTER UPSILON WITH VARIA
ύ	U+1F7B	GREEK SMALL LETTER UPSILON WITH OXIA
ω	U+1F7C	GREEK SMALL LETTER OMEGA WITH VARIA
ώ	U+1F7D	GREEK SMALL LETTER OMEGA WITH OXIA
α̣	U+1F80	GREEK SMALL LETTER ALPHA WITH PSILI AND YPOGEGRAMMENI
α̅	U+1F81	GREEK SMALL LETTER ALPHA WITH DASIA AND YPOGEGRAMMENI
α̇	U+1F82	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA AND YPOGEGRAMMENI
α̈	U+1F83	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA AND YPOGEGRAMMENI
α̉	U+1F84	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA AND YPOGEGRAMMENI
α̊	U+1F85	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA AND YPOGEGRAMMENI
α̋	U+1F86	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
α̌	U+1F87	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Α̣	U+1F88	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PROSGEGRAMMENI
Α̅	U+1F89	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PROSGEGRAMMENI
Α̇	U+1F8A	GREEK CAPITAL LETTER ALPHA WITH PSILI AND VARIA AND PROSGEGRAMMENI
Α̈	U+1F8B	GREEK CAPITAL LETTER ALPHA WITH DASIA AND VARIA AND PROSGEGRAMMENI
Α̉	U+1F8C	GREEK CAPITAL LETTER ALPHA WITH PSILI AND OXIA AND PROSGEGRAMMENI
Α̊	U+1F8D	GREEK CAPITAL LETTER ALPHA WITH DASIA AND OXIA AND PROSGEGRAMMENI
Α̋	U+1F8E	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI
Α̌	U+1F8F	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI
η̣	U+1F90	GREEK SMALL LETTER ETA WITH PSILI AND YPOGEGRAMMENI

Character	Unicode	Description
ή	U+1F91	GREEK SMALL LETTER ETA WITH DASIA AND YPOGEGRAMMENI
ἥ	U+1F92	GREEK SMALL LETTER ETA WITH PSILI AND VARIA AND YPOGEGRAMMENI
ἦ	U+1F93	GREEK SMALL LETTER ETA WITH DASIA AND VARIA AND YPOGEGRAMMENI
ῆ	U+1F94	GREEK SMALL LETTER ETA WITH PSILI AND OXIA AND YPOGEGRAMMENI
ῆ	U+1F95	GREEK SMALL LETTER ETA WITH DASIA AND OXIA AND YPOGEGRAMMENI
ῆ̂	U+1F96	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
ῆ̃	U+1F97	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Ἠ	U+1F98	GREEK CAPITAL LETTER ETA WITH PSILI AND PROSGEGRAMMENI
Ἡ	U+1F99	GREEK CAPITAL LETTER ETA WITH DASIA AND PROSGEGRAMMENI
Ἠ̂	U+1F9A	GREEK CAPITAL LETTER ETA WITH PSILI AND VARIA AND PROSGEGRAMMENI
Ἡ̂	U+1F9B	GREEK CAPITAL LETTER ETA WITH DASIA AND VARIA AND PROSGEGRAMMENI
Ἠ̃	U+1F9C	GREEK CAPITAL LETTER ETA WITH PSILI AND OXIA AND PROSGEGRAMMENI
Ἡ̃	U+1F9D	GREEK CAPITAL LETTER ETA WITH DASIA AND OXIA AND PROSGEGRAMMENI
Ἠ̂̃	U+1F9E	GREEK CAPITAL LETTER ETA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI
Ἡ̂̃	U+1F9F	GREEK CAPITAL LETTER ETA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI
ώ	U+1FA0	GREEK SMALL LETTER OMEGA WITH PSILI AND YPOGEGRAMMENI
ὠ	U+1FA1	GREEK SMALL LETTER OMEGA WITH DASIA AND YPOGEGRAMMENI
ώ̂	U+1FA2	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA AND YPOGEGRAMMENI
ώ̃	U+1FA3	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA AND YPOGEGRAMMENI
ώ̂̃	U+1FA4	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA AND YPOGEGRAMMENI
ώ̃	U+1FA5	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA AND YPOGEGRAMMENI
ώ̂̃	U+1FA6	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI

Character	Unicode	Description
Ϝ	U+1FA7	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Ω	U+1FA8	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PROSGEGRAMMENI
Ω	U+1FA9	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PROSGEGRAMMENI
Ω	U+1FAA	GREEK CAPITAL LETTER OMEGA WITH PSILI AND VARIA AND PROSGEGRAMMENI
Ω	U+1FAB	GREEK CAPITAL LETTER OMEGA WITH DASIA AND VARIA AND PROSGEGRAMMENI
Ω	U+1FAC	GREEK CAPITAL LETTER OMEGA WITH PSILI AND OXIA AND PROSGEGRAMMENI
Ω	U+1FAD	GREEK CAPITAL LETTER OMEGA WITH DASIA AND OXIA AND PROSGEGRAMMENI
Ω	U+1FAE	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI
Ω	U+1FAF	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI
ᾰ	U+1FB0	GREEK SMALL LETTER ALPHA WITH VRACHY
ᾱ	U+1FB1	GREEK SMALL LETTER ALPHA WITH MACRON
ᾲ	U+1FB2	GREEK SMALL LETTER ALPHA WITH VARIA AND YPOGEGRAMMENI
ᾳ	U+1FB3	GREEK SMALL LETTER ALPHA WITH YPOGEGRAMMENI
ᾴ	U+1FB4	GREEK SMALL LETTER ALPHA WITH OXIA AND YPOGEGRAMMENI
ᾶ	U+1FB6	GREEK SMALL LETTER ALPHA WITH PERISPOMENI
ᾷ	U+1FB7	GREEK SMALL LETTER ALPHA WITH PERISPOMENI AND YPOGEGRAMMENI
Ᾱ	U+1FB8	GREEK CAPITAL LETTER ALPHA WITH VRACHY
Ὰ	U+1FB9	GREEK CAPITAL LETTER ALPHA WITH MACRON
Ά	U+1FBA	GREEK CAPITAL LETTER ALPHA WITH VARIA
ᾼ	U+1FBB	GREEK CAPITAL LETTER ALPHA WITH OXIA
᾽	U+1FBC	GREEK CAPITAL LETTER ALPHA WITH PROSGEGRAMMENI
ῆ	U+1FC2	GREEK SMALL LETTER ETA WITH VARIA AND YPOGEGRAMMENI
ῇ	U+1FC3	GREEK SMALL LETTER ETA WITH YPOGEGRAMMENI
ῆ	U+1FC4	GREEK SMALL LETTER ETA WITH OXIA AND YPOGEGRAMMENI



Character	Unicode	Description
ἥ	U+1FC6	GREEK SMALL LETTER ETA WITH PERISPOMENI
ῆ	U+1FC7	GREEK SMALL LETTER ETA WITH PERISPOMENI AND YPOGEGRAMMENI
Έ	U+1FC8	GREEK CAPITAL LETTER EPSILON WITH VARIA
Ἐ	U+1FC9	GREEK CAPITAL LETTER EPSILON WITH OXIA
Ἠ	U+1FCA	GREEK CAPITAL LETTER ETA WITH VARIA
Ἠ	U+1FCB	GREEK CAPITAL LETTER ETA WITH OXIA
Ἡ	U+1FCC	GREEK CAPITAL LETTER ETA WITH PROSGEGRAMMENI
ϊ	U+1FD0	GREEK SMALL LETTER IOTA WITH VRACHY
ῖ	U+1FD1	GREEK SMALL LETTER IOTA WITH MACRON
ῖ	U+1FD2	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND VARIA
ῖ	U+1FD3	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND OXIA
ῖ	U+1FD6	GREEK SMALL LETTER IOTA WITH PERISPOMENI
ῖ	U+1FD7	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND PERISPOMENI
Ἰ	U+1FD8	GREEK CAPITAL LETTER IOTA WITH VRACHY
Ἰ	U+1FD9	GREEK CAPITAL LETTER IOTA WITH MACRON
Ἰ	U+1FDA	GREEK CAPITAL LETTER IOTA WITH VARIA
Ἰ	U+1FDB	GREEK CAPITAL LETTER IOTA WITH OXIA
Ϸ	U+1FE0	GREEK SMALL LETTER UPSILON WITH VRACHY
ῦ	U+1FE1	GREEK SMALL LETTER UPSILON WITH MACRON
ῦ	U+1FE2	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND VARIA
ῦ	U+1FE3	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND OXIA
ρ̣	U+1FE4	GREEK SMALL LETTER RHO WITH PSILI
ρ̣	U+1FE5	GREEK SMALL LETTER RHO WITH DASIA
Ϸ	U+1FE6	GREEK SMALL LETTER UPSILON WITH PERISPOMENI
Ϸ	U+1FE7	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND PERISPOMENI
Υ̣	U+1FE8	GREEK CAPITAL LETTER UPSILON WITH VRACHY
Υ̣	U+1FE9	GREEK CAPITAL LETTER UPSILON WITH MACRON
Υ	U+1FEA	GREEK CAPITAL LETTER UPSILON WITH VARIA
Υ	U+1FEB	GREEK CAPITAL LETTER UPSILON WITH OXIA
Ρ̣	U+1FEC	GREEK CAPITAL LETTER RHO WITH DASIA

Character	Unicode	Description
Ϝ	U+1FF2	GREEK SMALL LETTER OMEGA WITH VARIA AND YPOGEGRAMMENI
ϝ	U+1FF3	GREEK SMALL LETTER OMEGA WITH YPOGEGRAMMENI
Ϟ	U+1FF4	GREEK SMALL LETTER OMEGA WITH OXIA AND YPOGEGRAMMENI
ϟ	U+1FF6	GREEK SMALL LETTER OMEGA WITH PERISPOMENI
Ϡ	U+1FF7	GREEK SMALL LETTER OMEGA WITH PERISPOMENI AND YPOGEGRAMMENI
Ϣ	U+1FF8	GREEK CAPITAL LETTER OMICRON WITH VARIA
ϣ	U+1FF9	GREEK CAPITAL LETTER OMICRON WITH OXIA
Ϥ	U+1FFA	GREEK CAPITAL LETTER OMEGA WITH VARIA
ϥ	U+1FFB	GREEK CAPITAL LETTER OMEGA WITH OXIA
Ϧ	U+1FFC	GREEK CAPITAL LETTER OMEGA WITH PROSGEGRAMMENI

Table 6. Allowed characters of the Cyrillic script

Character	Unicode	Description
А	U+0410	CYRILLIC CAPITAL LETTER A
Б	U+0411	CYRILLIC CAPITAL LETTER BE
В	U+0412	CYRILLIC CAPITAL LETTER VE
Г	U+0413	CYRILLIC CAPITAL LETTER GHE
Д	U+0414	CYRILLIC CAPITAL LETTER DE
Е	U+0415	CYRILLIC CAPITAL LETTER IE
Ж	U+0416	CYRILLIC CAPITAL LETTER ZHE
З	U+0417	CYRILLIC CAPITAL LETTER ZE
И	U+0418	CYRILLIC CAPITAL LETTER I
Й	U+0419	CYRILLIC CAPITAL LETTER SHORT I
К	U+041A	CYRILLIC CAPITAL LETTER KA
Л	U+041B	CYRILLIC CAPITAL LETTER EL
М	U+041C	CYRILLIC CAPITAL LETTER EM
Н	U+041D	CYRILLIC CAPITAL LETTER EN
О	U+041E	CYRILLIC CAPITAL LETTER O
П	U+041F	CYRILLIC CAPITAL LETTER PE
Р	U+0420	CYRILLIC CAPITAL LETTER ER
С	U+0421	CYRILLIC CAPITAL LETTER ES
Т	U+0422	CYRILLIC CAPITAL LETTER TE

Character	Unicode	Description
У	U+0423	CYRILLIC CAPITAL LETTER U
Ф	U+0424	CYRILLIC CAPITAL LETTER EF
Х	U+0425	CYRILLIC CAPITAL LETTER HA
Ц	U+0426	CYRILLIC CAPITAL LETTER TSE
Ч	U+0427	CYRILLIC CAPITAL LETTER CHE
Ш	U+0428	CYRILLIC CAPITAL LETTER SHA
Щ	U+0429	CYRILLIC CAPITAL LETTER SHCHA
Ъ	U+042A	CYRILLIC CAPITAL LETTER HARD SIGN
Ы	U+042B	CYRILLIC CAPITAL LETTER YERU
Ь	U+042C	CYRILLIC CAPITAL LETTER SOFT SIGN
Э	U+042D	CYRILLIC CAPITAL LETTER E
Ю	U+042E	CYRILLIC CAPITAL LETTER YU
Я	U+042F	CYRILLIC CAPITAL LETTER YA
а	U+0430	CYRILLIC SMALL LETTER A
б	U+0431	CYRILLIC SMALL LETTER BE
в	U+0432	CYRILLIC SMALL LETTER VE
г	U+0433	CYRILLIC SMALL LETTER GHE
д	U+0434	CYRILLIC SMALL LETTER DE
е	U+0435	CYRILLIC SMALL LETTER IE
ж	U+0436	CYRILLIC SMALL LETTER ZHE
з	U+0437	CYRILLIC SMALL LETTER ZE
и	U+0438	CYRILLIC SMALL LETTER I
й	U+0439	CYRILLIC SMALL LETTER SHORT I
к	U+043A	CYRILLIC SMALL LETTER KA
л	U+043B	CYRILLIC SMALL LETTER EL
м	U+043C	CYRILLIC SMALL LETTER EM
н	U+043D	CYRILLIC SMALL LETTER EN
о	U+043E	CYRILLIC SMALL LETTER O
п	U+043F	CYRILLIC SMALL LETTER PE
р	U+0440	CYRILLIC SMALL LETTER ER
с	U+0441	CYRILLIC SMALL LETTER ES
т	U+0442	CYRILLIC SMALL LETTER TE
у	U+0443	CYRILLIC SMALL LETTER U
ф	U+0444	CYRILLIC SMALL LETTER EF
х	U+0445	CYRILLIC SMALL LETTER HA
ц	U+0446	CYRILLIC SMALL LETTER TSE

Character	Unicode	Description
ч	U+0447	CYRILLIC SMALL LETTER CHE
ш	U+0448	CYRILLIC SMALL LETTER SHA
щ	U+0449	CYRILLIC SMALL LETTER SHCHA
ъ	U+044A	CYRILLIC SMALL LETTER HARD SIGN
ы	U+044B	CYRILLIC SMALL LETTER YERU
ь	U+044C	CYRILLIC SMALL LETTER SOFT SIGN
э	U+044D	CYRILLIC SMALL LETTER E
ю	U+044E	CYRILLIC SMALL LETTER YU
я	U+044F	CYRILLIC SMALL LETTER YA

## Case folding

Table 7. Latin script case folding table

Character	Unicode	Description	Character	Unicode	Description
A	U+0041	LATIN CAPITAL LETTER A	a	U+0061	LATIN SMALL LETTER A
B	U+0042	LATIN CAPITAL LETTER B	b	U+0062	LATIN SMALL LETTER B
C	U+0043	LATIN CAPITAL LETTER C	c	U+0063	LATIN SMALL LETTER C
D	U+0044	LATIN CAPITAL LETTER D	d	U+0064	LATIN SMALL LETTER D
E	U+0045	LATIN CAPITAL LETTER E	e	U+0065	LATIN SMALL LETTER E
F	U+0046	LATIN CAPITAL LETTER F	f	U+0066	LATIN SMALL LETTER F
G	U+0047	LATIN CAPITAL LETTER G	g	U+0067	LATIN SMALL LETTER G
H	U+0048	LATIN CAPITAL LETTER H	h	U+0068	LATIN SMALL LETTER H
I	U+0049	LATIN CAPITAL LETTER I	i	U+0069	LATIN SMALL LETTER I
J	U+004A	LATIN CAPITAL LETTER J	j	U+006A	LATIN SMALL LETTER J
K	U+004B	LATIN CAPITAL LETTER K	k	U+006B	LATIN SMALL LETTER K
L	U+004C	LATIN CAPITAL LETTER L	l	U+006C	LATIN SMALL LETTER L
M	U+004D	LATIN CAPITAL LETTER M	m	U+006D	LATIN SMALL LETTER M
N	U+004E	LATIN CAPITAL LETTER N	n	U+006E	LATIN SMALL LETTER N

Character	Unicode	Description	Character	Unicode	Description
O	U+004F	LATIN CAPITAL LETTER O	o	U+006F	LATIN SMALL LETTER O
P	U+0050	LATIN CAPITAL LETTER P	p	U+0070	LATIN SMALL LETTER P
Q	U+0051	LATIN CAPITAL LETTER Q	q	U+0071	LATIN SMALL LETTER Q
R	U+0052	LATIN CAPITAL LETTER R	r	U+0072	LATIN SMALL LETTER R
S	U+0053	LATIN CAPITAL LETTER S	s	U+0073	LATIN SMALL LETTER S
T	U+0054	LATIN CAPITAL LETTER T	t	U+0074	LATIN SMALL LETTER T
U	U+0055	LATIN CAPITAL LETTER U	u	U+0075	LATIN SMALL LETTER U
V	U+0056	LATIN CAPITAL LETTER V	v	U+0076	LATIN SMALL LETTER V
W	U+0057	LATIN CAPITAL LETTER W	w	U+0077	LATIN SMALL LETTER W
X	U+0058	LATIN CAPITAL LETTER X	x	U+0078	LATIN SMALL LETTER X
Y	U+0059	LATIN CAPITAL LETTER Y	y	U+0079	LATIN SMALL LETTER Y
Z	U+005A	LATIN CAPITAL LETTER Z	z	U+007A	LATIN SMALL LETTER Z
À	U+00C0	LATIN CAPITAL LETTER A WITH GRAVE	à	U+00E0	LATIN SMALL LETTER A WITH GRAVE
Á	U+00C1	LATIN CAPITAL LETTER A WITH ACUTE	á	U+00E1	LATIN SMALL LETTER A WITH ACUTE
Â	U+00C2	LATIN CAPITAL LETTER A WITH CIRCUMFLEX	â	U+00E2	LATIN SMALL LETTER A WITH CIRCUMFLEX
Ã	U+00C3	LATIN CAPITAL LETTER A WITH TILDE	ã	U+00E3	LATIN SMALL LETTER A WITH TILDE
Ä	U+00C4	LATIN CAPITAL LETTER A WITH DIAERESIS	ä	U+00E4	LATIN SMALL LETTER A WITH DIAERESIS
Å	U+00C5	LATIN CAPITAL LETTER A WITH RING ABOVE	å	U+00E5	LATIN SMALL LETTER A WITH RING ABOVE
Æ	U+00C6	LATIN CAPITAL LETTER AE	æ	U+00E6	LATIN SMALL LETTER AE
Ç	U+00C7	LATIN CAPITAL LETTER C WITH CEDILLA	ç	U+00E7	LATIN SMALL LETTER C WITH CEDILLA
È	U+00C8	LATIN CAPITAL LETTER E WITH GRAVE	è	U+00E8	LATIN SMALL LETTER E WITH GRAVE
É	U+00C9	LATIN CAPITAL LETTER E WITH ACUTE	é	U+00E9	LATIN SMALL LETTER E WITH ACUTE

Character	Unicode	Description	Character	Unicode	Description
Ê	U+00CA	LATIN CAPITAL LETTER E WITH CIRCUMFLEX	ê	U+00EA	LATIN SMALL LETTER E WITH CIRCUMFLEX
Ë	U+00CB	LATIN CAPITAL LETTER E WITH DIAERESIS	ë	U+00EB	LATIN SMALL LETTER E WITH DIAERESIS
Ì	U+00CC	LATIN CAPITAL LETTER I WITH GRAVE	ì	U+00EC	LATIN SMALL LETTER I WITH GRAVE
Í	U+00CD	LATIN CAPITAL LETTER I WITH ACUTE	í	U+00ED	LATIN SMALL LETTER I WITH ACUTE
Î	U+00CE	LATIN CAPITAL LETTER I WITH CIRCUMFLEX	î	U+00EE	LATIN SMALL LETTER I WITH CIRCUMFLEX
Ï	U+00CF	LATIN CAPITAL LETTER I WITH DIAERESIS	ï	U+00EF	LATIN SMALL LETTER I WITH DIAERESIS
Ð	U+00D0	LATIN CAPITAL LETTER ETH	ð	U+00F0	LATIN SMALL LETTER ETH
Ñ	U+00D1	LATIN CAPITAL LETTER N WITH TILDE	ñ	U+00F1	LATIN SMALL LETTER N WITH TILDE
Ò	U+00D2	LATIN CAPITAL LETTER O WITH GRAVE	ò	U+00F2	LATIN SMALL LETTER O WITH GRAVE
Ó	U+00D3	LATIN CAPITAL LETTER O WITH ACUTE	ó	U+00F3	LATIN SMALL LETTER O WITH ACUTE
Ô	U+00D4	LATIN CAPITAL LETTER O WITH CIRCUMFLEX	ô	U+00F4	LATIN SMALL LETTER O WITH CIRCUMFLEX
Õ	U+00D5	LATIN CAPITAL LETTER O WITH TILDE	õ	U+00F5	LATIN SMALL LETTER O WITH TILDE
Ö	U+00D6	LATIN CAPITAL LETTER O WITH DIAERESIS	ö	U+00F6	LATIN SMALL LETTER O WITH DIAERESIS
Ø	U+00D8	LATIN CAPITAL LETTER O WITH STROKE	ø	U+00F8	LATIN SMALL LETTER O WITH STROKE
Ù	U+00D9	LATIN CAPITAL LETTER U WITH GRAVE	ù	U+00F9	LATIN SMALL LETTER U WITH GRAVE
Ú	U+00DA	LATIN CAPITAL LETTER U WITH ACUTE	ú	U+00FA	LATIN SMALL LETTER U WITH ACUTE
Û	U+00DB	LATIN CAPITAL LETTER U WITH CIRCUMFLEX	û	U+00FB	LATIN SMALL LETTER U WITH CIRCUMFLEX
Ü	U+00DC	LATIN CAPITAL LETTER U WITH DIAERESIS	ü	U+00FC	LATIN SMALL LETTER U WITH DIAERESIS
Ý	U+00DD	LATIN CAPITAL LETTER Y WITH ACUTE	ý	U+00FD	LATIN SMALL LETTER Y WITH ACUTE
Þ	U+00DE	LATIN CAPITAL LETTER THORN	þ	U+00FE	LATIN SMALL LETTER THORN
Ā	U+0100	LATIN CAPITAL LETTER A WITH MACRON	ā	U+0101	LATIN SMALL LETTER A WITH MACRON
Ă	U+0102	LATIN CAPITAL LETTER A WITH BREVE	ă	U+0103	LATIN SMALL LETTER A WITH BREVE

Character	Unicode	Description	Character	Unicode	Description
Ą	U+0104	LATIN CAPITAL LETTER A WITH OGONEK	ą	U+0105	LATIN SMALL LETTER A WITH OGONEK
Ć	U+0106	LATIN CAPITAL LETTER C WITH ACUTE	ć	U+0107	LATIN SMALL LETTER C WITH ACUTE
Ĉ	U+0108	LATIN CAPITAL LETTER C WITH CIRCUMFLEX	ĉ	U+0109	LATIN SMALL LETTER C WITH CIRCUMFLEX
Č	U+010A	LATIN CAPITAL LETTER C WITH DOT ABOVE	č	U+010B	LATIN SMALL LETTER C WITH DOT ABOVE
Ď	U+010C	LATIN CAPITAL LETTER C WITH CARON	ď	U+010D	LATIN SMALL LETTER C WITH CARON
Ď	U+010E	LATIN CAPITAL LETTER D WITH CARON	ď	U+010F	LATIN SMALL LETTER D WITH CARON
Đ	U+0110	LATIN CAPITAL LETTER D WITH STROKE	đ	U+0111	LATIN SMALL LETTER D WITH STROKE
Ē	U+0112	LATIN CAPITAL LETTER E WITH MACRON	ē	U+0113	LATIN SMALL LETTER E WITH MACRON
Ĕ	U+0114	LATIN CAPITAL LETTER E WITH BREVE	ĕ	U+0115	LATIN SMALL LETTER E WITH BREVE
Ė	U+0116	LATIN CAPITAL LETTER E WITH DOT ABOVE	ė	U+0117	LATIN SMALL LETTER E WITH DOT ABOVE
Ę	U+0118	LATIN CAPITAL LETTER E WITH OGONEK	ę	U+0119	LATIN SMALL LETTER E WITH OGONEK
Ě	U+011A	LATIN CAPITAL LETTER E WITH CARON	ě	U+011B	LATIN SMALL LETTER E WITH CARON
Ĝ	U+011C	LATIN CAPITAL LETTER G WITH CIRCUMFLEX	ĝ	U+011D	LATIN SMALL LETTER G WITH CIRCUMFLEX
Ğ	U+011E	LATIN CAPITAL LETTER G WITH BREVE	ğ	U+011F	LATIN SMALL LETTER G WITH BREVE
Ġ	U+0120	LATIN CAPITAL LETTER G WITH DOT ABOVE	ġ	U+0121	LATIN SMALL LETTER G WITH DOT ABOVE
Ģ	U+0122	LATIN CAPITAL LETTER G WITH CEDILLA	ģ	U+0123	LATIN SMALL LETTER G WITH CEDILLA
Ĥ	U+0124	LATIN CAPITAL LETTER H WITH CIRCUMFLEX	ĥ	U+0125	LATIN SMALL LETTER H WITH CIRCUMFLEX
Ħ	U+0126	LATIN CAPITAL LETTER H WITH STROKE	ħ	U+0127	LATIN SMALL LETTER H WITH STROKE
Ĩ	U+0128	LATIN CAPITAL LETTER I WITH TILDE	ĩ	U+0129	LATIN SMALL LETTER I WITH TILDE
Ī	U+012A	LATIN CAPITAL LETTER I WITH MACRON	ī	U+012B	LATIN SMALL LETTER I WITH MACRON
Ĭ	U+012C	LATIN CAPITAL LETTER I WITH BREVE	ĭ	U+012D	LATIN SMALL LETTER I WITH BREVE
Į	U+012E	LATIN CAPITAL LETTER I WITH OGONEK	į	U+012F	LATIN SMALL LETTER I WITH OGONEK

Character	Unicode	Description	Character	Unicode	Description
Ĵ	U+0134	LATIN CAPITAL LETTER J WITH CIRCUMFLEX	ĵ	U+0135	LATIN SMALL LETTER J WITH CIRCUMFLEX
Ķ	U+0136	LATIN CAPITAL LETTER K WITH CEDILLA	ķ	U+0137	LATIN SMALL LETTER K WITH CEDILLA
Ĺ	U+0139	LATIN CAPITAL LETTER L WITH ACUTE	ĺ	U+013A	LATIN SMALL LETTER L WITH ACUTE
Ľ	U+013B	LATIN CAPITAL LETTER L WITH CEDILLA	ļ	U+013C	LATIN SMALL LETTER L WITH CEDILLA
Ļ	U+013D	LATIN CAPITAL LETTER L WITH CARON	ļ	U+013E	LATIN SMALL LETTER L WITH CARON
Ł	U+013F	LATIN CAPITAL LETTER L WITH MIDDLE DOT	ł	U+0140	LATIN SMALL LETTER L WITH MIDDLE DOT
Ł	U+0141	LATIN CAPITAL LETTER L WITH STROKE	ł	U+0142	LATIN SMALL LETTER L WITH STROKE
Ń	U+0143	LATIN CAPITAL LETTER N WITH ACUTE	ń	U+0144	LATIN SMALL LETTER N WITH ACUTE
Ņ	U+0145	LATIN CAPITAL LETTER N WITH CEDILLA	ņ	U+0146	LATIN SMALL LETTER N WITH CEDILLA
Ň	U+0147	LATIN CAPITAL LETTER N WITH CARON	ň	U+0148	LATIN SMALL LETTER N WITH CARON
Ŋ	U+014A	LATIN CAPITAL LETTER ENG	ŋ	U+014B	LATIN SMALL LETTER ENG
Ō	U+014C	LATIN CAPITAL LETTER O WITH MACRON	ō	U+014D	LATIN SMALL LETTER O WITH MACRON
Ö	U+014E	LATIN CAPITAL LETTER O WITH BREVE	ö	U+014F	LATIN SMALL LETTER O WITH BREVE
Ő	U+0150	LATIN CAPITAL LETTER O WITH DOUBLE ACUTE	ő	U+0151	LATIN SMALL LETTER O WITH DOUBLE ACUTE
Œ	U+0152	LATIN CAPITAL LIGATURE OE	œ	U+0153	LATIN SMALL LIGATURE OE
Ŕ	U+0154	LATIN CAPITAL LETTER R WITH ACUTE	ŕ	U+0155	LATIN SMALL LETTER R WITH ACUTE
Ŗ	U+0156	LATIN CAPITAL LETTER R WITH CEDILLA	ŗ	U+0157	LATIN SMALL LETTER R WITH CEDILLA
Ř	U+0158	LATIN CAPITAL LETTER R WITH CARON	ř	U+0159	LATIN SMALL LETTER R WITH CARON
Ś	U+015A	LATIN CAPITAL LETTER S WITH ACUTE	ś	U+015B	LATIN SMALL LETTER S WITH ACUTE
Ŝ	U+015C	LATIN CAPITAL LETTER S WITH CIRCUMFLEX	ŝ	U+015D	LATIN SMALL LETTER S WITH CIRCUMFLEX
Š	U+0160	LATIN CAPITAL LETTER S WITH CARON	š	U+0161	LATIN SMALL LETTER S WITH CARON
Ť	U+0164	LATIN CAPITAL LETTER T WITH CARON	ť	U+0165	LATIN SMALL LETTER T WITH CARON



Character	Unicode	Description	Character	Unicode	Description
Ʀ	U+0166	LATIN CAPITAL LETTER T WITH STROKE	ƥ	U+0167	LATIN SMALL LETTER T WITH STROKE
Ũ	U+0168	LATIN CAPITAL LETTER U WITH TILDE	ũ	U+0169	LATIN SMALL LETTER U WITH TILDE
Ū	U+016A	LATIN CAPITAL LETTER U WITH MACRON	ū	U+016B	LATIN SMALL LETTER U WITH MACRON
Ŭ	U+016C	LATIN CAPITAL LETTER U WITH BREVE	ŭ	U+016D	LATIN SMALL LETTER U WITH BREVE
Ů	U+016E	LATIN CAPITAL LETTER U WITH RING ABOVE	ů	U+016F	LATIN SMALL LETTER U WITH RING ABOVE
Ű	U+0170	LATIN CAPITAL LETTER U WITH DOUBLE ACUTE	ű	U+0171	LATIN SMALL LETTER U WITH DOUBLE ACUTE
Ų	U+0172	LATIN CAPITAL LETTER U WITH OGONEK	ų	U+0173	LATIN SMALL LETTER U WITH OGONEK
Ŵ	U+0174	LATIN CAPITAL LETTER W WITH CIRCUMFLEX	ŵ	U+0175	LATIN SMALL LETTER W WITH CIRCUMFLEX
Ŷ	U+0176	LATIN CAPITAL LETTER Y WITH CIRCUMFLEX	ŷ	U+0177	LATIN SMALL LETTER Y WITH CIRCUMFLEX
ÿ	U+0178	LATIN CAPITAL LETTER Y WITH DIAERESIS	ÿ	U+00FF	LATIN SMALL LETTER Y WITH DIAERESIS
Ž	U+0179	LATIN CAPITAL LETTER Z WITH ACUTE	ž	U+017A	LATIN SMALL LETTER Z WITH ACUTE
Ž	U+017B	LATIN CAPITAL LETTER Z WITH DOT ABOVE	ž	U+017C	LATIN SMALL LETTER Z WITH DOT ABOVE
Ž	U+017D	LATIN CAPITAL LETTER Z WITH CARON	ž	U+017E	LATIN SMALL LETTER Z WITH CARON
Ș	U+0218	LATIN CAPITAL LETTER S WITH COMMA BELOW	ș	U+0219	LATIN SMALL LETTER S WITH COMMA BELOW
Ț	U+021A	LATIN CAPITAL LETTER T WITH COMMA BELOW	ț	U+021B	LATIN SMALL LETTER T WITH COMMA BELOW
ß	U+1E9E	LATIN CAPITAL LETTER SHARP S	ß	U+00DF	LATIN SMALL LETTER SHARP S

Table 8. Greek script case folding table

Character	Unicode	Description	Character	Unicode	Description
Ά	U+0386	GREEK CAPITAL LETTER ALPHA WITH TONOS	ά	U+03AC	GREEK SMALL LETTER ALPHA WITH TONOS
Έ	U+0388	GREEK CAPITAL LETTER EPSILON WITH TONOS	έ	U+03AD	GREEK SMALL LETTER EPSILON WITH TONOS
Ή	U+0389	GREEK CAPITAL LETTER ETA WITH TONOS	ή	U+03AE	GREEK SMALL LETTER ETA WITH TONOS
Ί	U+038A	GREEK CAPITAL LETTER IOTA WITH TONOS	ί	U+03AF	GREEK SMALL LETTER IOTA WITH TONOS

Character	Unicode	Description	Character	Unicode	Description
Ο	U+038C	GREEK CAPITAL LETTER OMICRON WITH TONOS	ό	U+03CC	GREEK SMALL LETTER OMICRON WITH TONOS
Υ	U+038E	GREEK CAPITAL LETTER UPSILON WITH TONOS	ύ	U+03CD	GREEK SMALL LETTER UPSILON WITH TONOS
Ω	U+038F	GREEK CAPITAL LETTER OMEGA WITH TONOS	ώ	U+03CE	GREEK SMALL LETTER OMEGA WITH TONOS
Α	U+0391	GREEK CAPITAL LETTER ALPHA	α	U+03B1	GREEK SMALL LETTER ALPHA
Β	U+0392	GREEK CAPITAL LETTER BETA	β	U+03B2	GREEK SMALL LETTER BETA
Γ	U+0393	GREEK CAPITAL LETTER GAMMA	γ	U+03B3	GREEK SMALL LETTER GAMMA
Δ	U+0394	GREEK CAPITAL LETTER DELTA	δ	U+03B4	GREEK SMALL LETTER DELTA
Ε	U+0395	GREEK CAPITAL LETTER EPSILON	ε	U+03B5	GREEK SMALL LETTER EPSILON
Ζ	U+0396	GREEK CAPITAL LETTER ZETA	ζ	U+03B6	GREEK SMALL LETTER ZETA
Η	U+0397	GREEK CAPITAL LETTER ETA	η	U+03B7	GREEK SMALL LETTER ETA
Θ	U+0398	GREEK CAPITAL LETTER THETA	θ	U+03B8	GREEK SMALL LETTER THETA
Ι	U+0399	GREEK CAPITAL LETTER IOTA	ι	U+03B9	GREEK SMALL LETTER IOTA
Κ	U+039A	GREEK CAPITAL LETTER KAPPA	κ	U+03BA	GREEK SMALL LETTER KAPPA
Λ	U+039B	GREEK CAPITAL LETTER LAMDA	λ	U+03BB	GREEK SMALL LETTER LAMDA
Μ	U+039C	GREEK CAPITAL LETTER MU	μ	U+03BC	GREEK SMALL LETTER MU
Ν	U+039D	GREEK CAPITAL LETTER NU	ν	U+03BD	GREEK SMALL LETTER NU
Ξ	U+039E	GREEK CAPITAL LETTER XI	ξ	U+03BE	GREEK SMALL LETTER XI
Ο	U+039F	GREEK CAPITAL LETTER OMICRON	ο	U+03BF	GREEK SMALL LETTER OMICRON
Π	U+03A0	GREEK CAPITAL LETTER PI	π	U+03C0	GREEK SMALL LETTER PI
Ρ	U+03A1	GREEK CAPITAL LETTER RHO	ρ	U+03C1	GREEK SMALL LETTER RHO
Σ	U+03A3	GREEK CAPITAL LETTER SIGMA	σ	U+03C3	GREEK SMALL LETTER SIGMA
Τ	U+03A4	GREEK CAPITAL LETTER TAU	τ	U+03C4	GREEK SMALL LETTER TAU

Character	Unicode	Description	Character	Unicode	Description
Υ	U+03A5	GREEK CAPITAL LETTER UPSILON	υ	U+03C5	GREEK SMALL LETTER UPSILON
Φ	U+03A6	GREEK CAPITAL LETTER PHI	φ	U+03C6	GREEK SMALL LETTER PHI
Χ	U+03A7	GREEK CAPITAL LETTER CHI	χ	U+03C7	GREEK SMALL LETTER CHI
Ψ	U+03A8	GREEK CAPITAL LETTER PSI	ψ	U+03C8	GREEK SMALL LETTER PSI
Ω	U+03A9	GREEK CAPITAL LETTER OMEGA	ω	U+03C9	GREEK SMALL LETTER OMEGA
ϊ	U+03AA	GREEK CAPITAL LETTER IOTA WITH DIALYTIKA	ϊ	U+03CA	GREEK SMALL LETTER IOTA WITH DIALYTIKA
Ϸ	U+03AB	GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA	Ϸ	U+03CB	GREEK SMALL LETTER UPSILON WITH DIALYTIKA
Ά	U+1F08	GREEK CAPITAL LETTER ALPHA WITH PSILI	ά	U+1F00	GREEK SMALL LETTER ALPHA WITH PSILI
Ἀ	U+1F09	GREEK CAPITAL LETTER ALPHA WITH DASIA	ἄ	U+1F01	GREEK SMALL LETTER ALPHA WITH DASIA
Ἐ	U+1F0A	GREEK CAPITAL LETTER ALPHA WITH PSILI AND VARIA	ἔ	U+1F02	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA
Ἐ	U+1F0B	GREEK CAPITAL LETTER ALPHA WITH DASIA AND VARIA	ἔ	U+1F03	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA
Ἐ	U+1F0C	GREEK CAPITAL LETTER ALPHA WITH PSILI AND OXIA	ἔ	U+1F04	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA
Ἐ	U+1F0D	GREEK CAPITAL LETTER ALPHA WITH DASIA AND OXIA	ἔ	U+1F05	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA
Ἐ	U+1F0E	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PERISPOMENI	ἔ	U+1F06	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI
Ἐ	U+1F0F	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PERISPOMENI	ἔ	U+1F07	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI
Έ	U+1F18	GREEK CAPITAL LETTER EPSILON WITH PSILI	έ	U+1F10	GREEK SMALL LETTER EPSILON WITH PSILI
Ἐ	U+1F19	GREEK CAPITAL LETTER EPSILON WITH DASIA	έ	U+1F11	GREEK SMALL LETTER EPSILON WITH DASIA
Ἐ	U+1F1A	GREEK CAPITAL LETTER EPSILON WITH PSILI AND VARIA	έ	U+1F12	GREEK SMALL LETTER EPSILON WITH PSILI AND VARIA

Character	Unicode	Description	Character	Unicode	Description
Έ	U+1F1B	GREEK CAPITAL LETTER EPSILON WITH DASIA AND VARIA	ἐ	U+1F13	GREEK SMALL LETTER EPSILON WITH DASIA AND VARIA
Ή	U+1F1C	GREEK CAPITAL LETTER EPSILON WITH PSILI AND OXIA	ἧ	U+1F14	GREEK SMALL LETTER EPSILON WITH PSILI AND OXIA
Ἐ	U+1F1D	GREEK CAPITAL LETTER EPSILON WITH DASIA AND OXIA	Ἐ	U+1F15	GREEK SMALL LETTER EPSILON WITH DASIA AND OXIA
Ἠ	U+1F28	GREEK CAPITAL LETTER ETA WITH PSILI	Ἠ	U+1F20	GREEK SMALL LETTER ETA WITH PSILI
Ἡ	U+1F29	GREEK CAPITAL LETTER ETA WITH DASIA	Ἡ	U+1F21	GREEK SMALL LETTER ETA WITH DASIA
Ἠ	U+1F2A	GREEK CAPITAL LETTER ETA WITH PSILI AND VARIA	Ἠ	U+1F22	GREEK SMALL LETTER ETA WITH PSILI AND VARIA
Ἠ	U+1F2B	GREEK CAPITAL LETTER ETA WITH DASIA AND VARIA	Ἠ	U+1F23	GREEK SMALL LETTER ETA WITH DASIA AND VARIA
Ἠ	U+1F2C	GREEK CAPITAL LETTER ETA WITH PSILI AND OXIA	Ἠ	U+1F24	GREEK SMALL LETTER ETA WITH PSILI AND OXIA
Ἠ	U+1F2D	GREEK CAPITAL LETTER ETA WITH DASIA AND OXIA	Ἠ	U+1F25	GREEK SMALL LETTER ETA WITH DASIA AND OXIA
Ἠ	U+1F2E	GREEK CAPITAL LETTER ETA WITH PSILI AND PERISPOMENI	Ἠ	U+1F26	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI
Ἠ	U+1F2F	GREEK CAPITAL LETTER ETA WITH DASIA AND PERISPOMENI	Ἠ	U+1F27	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI
Ί	U+1F38	GREEK CAPITAL LETTER IOTA WITH PSILI	ἰ	U+1F30	GREEK SMALL LETTER IOTA WITH PSILI
Ί	U+1F39	GREEK CAPITAL LETTER IOTA WITH DASIA	ἰ	U+1F31	GREEK SMALL LETTER IOTA WITH DASIA
Ί	U+1F3A	GREEK CAPITAL LETTER IOTA WITH PSILI AND VARIA	ἰ	U+1F32	GREEK SMALL LETTER IOTA WITH PSILI AND VARIA
Ί	U+1F3B	GREEK CAPITAL LETTER IOTA WITH DASIA AND VARIA	ἰ	U+1F33	GREEK SMALL LETTER IOTA WITH DASIA AND VARIA
Ί	U+1F3C	GREEK CAPITAL LETTER IOTA WITH PSILI AND OXIA	ἰ	U+1F34	GREEK SMALL LETTER IOTA WITH PSILI AND OXIA

Character	Unicode	Description	Character	Unicode	Description
Ͱ	U+1F3D	GREEK CAPITAL LETTER IOTA WITH DASIA AND OXIA	ͱ	U+1F35	GREEK SMALL LETTER IOTA WITH DASIA AND OXIA
Ͳ	U+1F3E	GREEK CAPITAL LETTER IOTA WITH PSILI AND PERISPOMENI	ͳ	U+1F36	GREEK SMALL LETTER IOTA WITH PSILI AND PERISPOMENI
ʹ	U+1F3F	GREEK CAPITAL LETTER IOTA WITH DASIA AND PERISPOMENI	͵	U+1F37	GREEK SMALL LETTER IOTA WITH DASIA AND PERISPOMENI
Ͷ	U+1F48	GREEK CAPITAL LETTER OMICRON WITH PSILI	ͷ	U+1F40	GREEK SMALL LETTER OMICRON WITH PSILI
͸	U+1F49	GREEK CAPITAL LETTER OMICRON WITH DASIA	͹	U+1F41	GREEK SMALL LETTER OMICRON WITH DASIA
ͺ	U+1F4A	GREEK CAPITAL LETTER OMICRON WITH PSILI AND VARIA	ͻ	U+1F42	GREEK SMALL LETTER OMICRON WITH PSILI AND VARIA
ͼ	U+1F4B	GREEK CAPITAL LETTER OMICRON WITH DASIA AND VARIA	ͽ	U+1F43	GREEK SMALL LETTER OMICRON WITH DASIA AND VARIA
Ϳ	U+1F4C	GREEK CAPITAL LETTER OMICRON WITH PSILI AND OXIA	̀	U+1F44	GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA
́	U+1F4D	GREEK CAPITAL LETTER OMICRON WITH DASIA AND OXIA	͂	U+1F45	GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA
̓	U+1F59	GREEK CAPITAL LETTER UPSILON WITH DASIA	̈́	U+1F51	GREEK SMALL LETTER UPSILON WITH DASIA
ͅ	U+1F5B	GREEK CAPITAL LETTER UPSILON WITH DASIA AND VARIA	͆	U+1F53	GREEK SMALL LETTER UPSILON WITH DASIA AND VARIA
͇	U+1F5D	GREEK CAPITAL LETTER UPSILON WITH DASIA AND OXIA	͈	U+1F55	GREEK SMALL LETTER UPSILON WITH DASIA AND OXIA
͉	U+1F5F	GREEK CAPITAL LETTER UPSILON WITH DASIA AND PERISPOMENI	͊	U+1F57	GREEK SMALL LETTER UPSILON WITH DASIA AND PERISPOMENI
͋	U+1F68	GREEK CAPITAL LETTER OMEGA WITH PSILI	͌	U+1F60	GREEK SMALL LETTER OMEGA WITH PSILI
͍	U+1F69	GREEK CAPITAL LETTER OMEGA WITH DASIA	͎	U+1F61	GREEK SMALL LETTER OMEGA WITH DASIA
͏	U+1F6A	GREEK CAPITAL LETTER OMEGA WITH PSILI AND VARIA	͐	U+1F62	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA
͑	U+1F6B	GREEK CAPITAL LETTER OMEGA WITH DASIA AND VARIA	͒	U+1F63	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA

Character	Unicode	Description	Character	Unicode	Description
Ω̣	U+1F6C	GREEK CAPITAL LETTER OMEGA WITH PSILI AND OXIA	ω̣	U+1F64	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA
Ω̣̂	U+1F6D	GREEK CAPITAL LETTER OMEGA WITH DASIA AND OXIA	ω̣̂	U+1F65	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA
Ω̣̃	U+1F6E	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PERISPOMENI	ω̣̃	U+1F66	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI
Ω̣̂̃	U+1F6F	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PERISPOMENI	ω̣̂̃	U+1F67	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI
Α̣	U+1F88	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PROSGEGRAMMENI	α̣	U+1F80	GREEK SMALL LETTER ALPHA WITH PSILI AND YPOGEGRAMMENI
Α̣̂	U+1F89	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PROSGEGRAMMENI	α̣̂	U+1F81	GREEK SMALL LETTER ALPHA WITH DASIA AND YPOGEGRAMMENI
Α̣̃	U+1F8A	GREEK CAPITAL LETTER ALPHA WITH PSILI AND VARIA AND PROSGEGRAMMENI	α̣̃	U+1F82	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA AND YPOGEGRAMMENI
Α̣̂̃	U+1F8B	GREEK CAPITAL LETTER ALPHA WITH DASIA AND VARIA AND PROSGEGRAMMENI	α̣̂̃	U+1F83	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA AND YPOGEGRAMMENI
Α̣̃̂	U+1F8C	GREEK CAPITAL LETTER ALPHA WITH PSILI AND OXIA AND PROSGEGRAMMENI	α̣̃̂	U+1F84	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA AND YPOGEGRAMMENI
Α̣̂̃̂	U+1F8D	GREEK CAPITAL LETTER ALPHA WITH DASIA AND OXIA AND PROSGEGRAMMENI	α̣̂̃̂	U+1F85	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA AND YPOGEGRAMMENI
Α̣̃̂̃	U+1F8E	GREEK CAPITAL LETTER ALPHA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI	α̣̃̂̃	U+1F86	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
Α̣̂̃̂̃	U+1F8F	GREEK CAPITAL LETTER ALPHA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI	α̣̂̃̂̃	U+1F87	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Η̣	U+1F98	GREEK CAPITAL LETTER ETA WITH PSILI AND PROSGEGRAMMENI	η̣	U+1F90	GREEK SMALL LETTER ETA WITH PSILI AND YPOGEGRAMMENI

Character	Unicode	Description	Character	Unicode	Description
Ἠ	U+1F99	GREEK CAPITAL LETTER ETA WITH DASIA AND PROSGEGRAMMENI	ή	U+1F91	GREEK SMALL LETTER ETA WITH DASIA AND YPOGEGRAMMENI
Ἠ̂	U+1F9A	GREEK CAPITAL LETTER ETA WITH PSILI AND VARIA AND PROSGEGRAMMENI	ή̂	U+1F92	GREEK SMALL LETTER ETA WITH PSILI AND VARIA AND YPOGEGRAMMENI
Ἠ̃	U+1F9B	GREEK CAPITAL LETTER ETA WITH DASIA AND VARIA AND PROSGEGRAMMENI	ή̃	U+1F93	GREEK SMALL LETTER ETA WITH DASIA AND VARIA AND YPOGEGRAMMENI
Ἠ̄	U+1F9C	GREEK CAPITAL LETTER ETA WITH PSILI AND OXIA AND PROSGEGRAMMENI	ή̄	U+1F94	GREEK SMALL LETTER ETA WITH PSILI AND OXIA AND YPOGEGRAMMENI
Ἠ̅	U+1F9D	GREEK CAPITAL LETTER ETA WITH DASIA AND OXIA AND PROSGEGRAMMENI	ή̅	U+1F95	GREEK SMALL LETTER ETA WITH DASIA AND OXIA AND YPOGEGRAMMENI
Ἠ̆	U+1F9E	GREEK CAPITAL LETTER ETA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI	ή̆	U+1F96	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
Ἠ̇	U+1F9F	GREEK CAPITAL LETTER ETA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI	ή̇	U+1F97	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Ω	U+1FA8	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PROSGEGRAMMENI	ώ	U+1FA0	GREEK SMALL LETTER OMEGA WITH PSILI AND YPOGEGRAMMENI
Ω	U+1FA9	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PROSGEGRAMMENI	ώ	U+1FA1	GREEK SMALL LETTER OMEGA WITH DASIA AND YPOGEGRAMMENI
Ω̂	U+1FAA	GREEK CAPITAL LETTER OMEGA WITH PSILI AND VARIA AND PROSGEGRAMMENI	ώ̂	U+1FA2	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA AND YPOGEGRAMMENI
Ω̃	U+1FAB	GREEK CAPITAL LETTER OMEGA WITH DASIA AND VARIA AND PROSGEGRAMMENI	ώ̃	U+1FA3	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA AND YPOGEGRAMMENI
Ω̄	U+1FAC	GREEK CAPITAL LETTER OMEGA WITH PSILI AND OXIA AND PROSGEGRAMMENI	ώ̄	U+1FA4	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA AND YPOGEGRAMMENI

Character	Unicode	Description	Character	Unicode	Description
Ω̂	U+1FAD	GREEK CAPITAL LETTER OMEGA WITH DASIA AND OXIA AND PROSGEGRAMMENI	ω̂	U+1FA5	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA AND YPOGEGRAMMENI
Ω̃	U+1FAE	GREEK CAPITAL LETTER OMEGA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI	ω̃	U+1FA6	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
Ω̄	U+1FAF	GREEK CAPITAL LETTER OMEGA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI	ω̄	U+1FA7	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
Α̂	U+1FB8	GREEK CAPITAL LETTER ALPHA WITH VRACHY	α̂	U+1FB0	GREEK SMALL LETTER ALPHA WITH VRACHY
Α̃	U+1FB9	GREEK CAPITAL LETTER ALPHA WITH MACRON	α̃	U+1FB1	GREEK SMALL LETTER ALPHA WITH MACRON
Ᾱ	U+1FBA	GREEK CAPITAL LETTER ALPHA WITH VARIA	ᾱ	U+1F70	GREEK SMALL LETTER ALPHA WITH VARIA
Α̅	U+1FBB	GREEK CAPITAL LETTER ALPHA WITH OXIA	α̅	U+1F71	GREEK SMALL LETTER ALPHA WITH OXIA
Ᾰ	U+1FBC	GREEK CAPITAL LETTER ALPHA WITH PROSGEGRAMMENI	ᾰ	U+1FB3	GREEK SMALL LETTER ALPHA WITH YPOGEGRAMMENI
Ε̂	U+1FC8	GREEK CAPITAL LETTER EPSILON WITH VARIA	ε̂	U+1F72	GREEK SMALL LETTER EPSILON WITH VARIA
Ε̃	U+1FC9	GREEK CAPITAL LETTER EPSILON WITH OXIA	ε̃	U+1F73	GREEK SMALL LETTER EPSILON WITH OXIA
Η̂	U+1FCA	GREEK CAPITAL LETTER ETA WITH VARIA	η̂	U+1F74	GREEK SMALL LETTER ETA WITH VARIA
Η̃	U+1FCB	GREEK CAPITAL LETTER ETA WITH OXIA	η̃	U+1F75	GREEK SMALL LETTER ETA WITH OXIA
Η̄	U+1FCC	GREEK CAPITAL LETTER ETA WITH PROSGEGRAMMENI	η̄	U+1FC3	GREEK SMALL LETTER ETA WITH YPOGEGRAMMENI
Ι̂	U+1FD8	GREEK CAPITAL LETTER IOTA WITH VRACHY	ι̂	U+1FD0	GREEK SMALL LETTER IOTA WITH VRACHY
Ι̃	U+1FD9	GREEK CAPITAL LETTER IOTA WITH MACRON	ι̃	U+1FD1	GREEK SMALL LETTER IOTA WITH MACRON
Ῑ	U+1FDA	GREEK CAPITAL LETTER IOTA WITH VARIA	ῑ	U+1F76	GREEK SMALL LETTER IOTA WITH VARIA
Ι̅	U+1FDB	GREEK CAPITAL LETTER IOTA WITH OXIA	ι̅	U+1F77	GREEK SMALL LETTER IOTA WITH OXIA
Υ̂	U+1FE8	GREEK CAPITAL LETTER UPSILON WITH VRACHY	υ̂	U+1FE0	GREEK SMALL LETTER UPSILON WITH VRACHY



Character	Unicode	Description	Character	Unicode	Description
Ŷ	U+1FE9	GREEK CAPITAL LETTER UPSILON WITH MACRON	Ϸ	U+1FE1	GREEK SMALL LETTER UPSILON WITH MACRON
Ÿ	U+1FEA	GREEK CAPITAL LETTER UPSILON WITH VARIA	ϸ	U+1F7A	GREEK SMALL LETTER UPSILON WITH VARIA
Ϸ	U+1FEB	GREEK CAPITAL LETTER UPSILON WITH OXIA	Ϲ	U+1F7B	GREEK SMALL LETTER UPSILON WITH OXIA
ϸ	U+1FEC	GREEK CAPITAL LETTER RHO WITH DASIA	Ϻ	U+1FE5	GREEK SMALL LETTER RHO WITH DASIA
Ϲ	U+1FF8	GREEK CAPITAL LETTER OMICRON WITH VARIA	ϻ	U+1F78	GREEK SMALL LETTER OMICRON WITH VARIA
Ϻ	U+1FF9	GREEK CAPITAL LETTER OMICRON WITH OXIA	ϼ	U+1F79	GREEK SMALL LETTER OMICRON WITH OXIA
ϻ	U+1FFA	GREEK CAPITAL LETTER OMEGA WITH VARIA	Ͻ	U+1F7C	GREEK SMALL LETTER OMEGA WITH VARIA
ϼ	U+1FFB	GREEK CAPITAL LETTER OMEGA WITH OXIA	Ͽ	U+1F7D	GREEK SMALL LETTER OMEGA WITH OXIA
Ͻ	U+1FFC	GREEK CAPITAL LETTER OMEGA WITH PROSGEGRAMMENI	Ͽ	U+1FF3	GREEK SMALL LETTER OMEGA WITH YPOGEGRAMMENI

Table 9. Cyrillic script case folding table

Character	Unicode	Description	Character	Unicode	Description
А	U+0410	CYRILLIC CAPITAL LETTER A	а	U+0430	CYRILLIC SMALL LETTER A
Б	U+0411	CYRILLIC CAPITAL LETTER BE	б	U+0431	CYRILLIC SMALL LETTER BE
В	U+0412	CYRILLIC CAPITAL LETTER VE	в	U+0432	CYRILLIC SMALL LETTER VE
Г	U+0413	CYRILLIC CAPITAL LETTER GHE	г	U+0433	CYRILLIC SMALL LETTER GHE
Д	U+0414	CYRILLIC CAPITAL LETTER DE	д	U+0434	CYRILLIC SMALL LETTER DE
Е	U+0415	CYRILLIC CAPITAL LETTER IE	е	U+0435	CYRILLIC SMALL LETTER IE
Ж	U+0416	CYRILLIC CAPITAL LETTER ZHE	ж	U+0436	CYRILLIC SMALL LETTER ZHE
З	U+0417	CYRILLIC CAPITAL LETTER ZE	з	U+0437	CYRILLIC SMALL LETTER ZE
И	U+0418	CYRILLIC CAPITAL LETTER I	и	U+0438	CYRILLIC SMALL LETTER I
Й	U+0419	CYRILLIC CAPITAL LETTER SHORT I	й	U+0439	CYRILLIC SMALL LETTER SHORT I

Character	Unicode	Description	Character	Unicode	Description
К	U+041A	CYRILLIC CAPITAL LETTER KA	к	U+043A	CYRILLIC SMALL LETTER KA
Л	U+041B	CYRILLIC CAPITAL LETTER EL	л	U+043B	CYRILLIC SMALL LETTER EL
М	U+041C	CYRILLIC CAPITAL LETTER EM	м	U+043C	CYRILLIC SMALL LETTER EM
Н	U+041D	CYRILLIC CAPITAL LETTER EN	н	U+043D	CYRILLIC SMALL LETTER EN
О	U+041E	CYRILLIC CAPITAL LETTER O	о	U+043E	CYRILLIC SMALL LETTER O
П	U+041F	CYRILLIC CAPITAL LETTER PE	п	U+043F	CYRILLIC SMALL LETTER PE
Р	U+0420	CYRILLIC CAPITAL LETTER ER	р	U+0440	CYRILLIC SMALL LETTER ER
С	U+0421	CYRILLIC CAPITAL LETTER ES	с	U+0441	CYRILLIC SMALL LETTER ES
Т	U+0422	CYRILLIC CAPITAL LETTER TE	т	U+0442	CYRILLIC SMALL LETTER TE
У	U+0423	CYRILLIC CAPITAL LETTER U	у	U+0443	CYRILLIC SMALL LETTER U
Ф	U+0424	CYRILLIC CAPITAL LETTER EF	ф	U+0444	CYRILLIC SMALL LETTER EF
Х	U+0425	CYRILLIC CAPITAL LETTER HA	х	U+0445	CYRILLIC SMALL LETTER HA
Ц	U+0426	CYRILLIC CAPITAL LETTER TSE	ц	U+0446	CYRILLIC SMALL LETTER TSE
Ч	U+0427	CYRILLIC CAPITAL LETTER CHE	ч	U+0447	CYRILLIC SMALL LETTER CHE
Ш	U+0428	CYRILLIC CAPITAL LETTER SHA	ш	U+0448	CYRILLIC SMALL LETTER SHA
Щ	U+0429	CYRILLIC CAPITAL LETTER SHCHA	щ	U+0449	CYRILLIC SMALL LETTER SHCHA
Ъ	U+042A	CYRILLIC CAPITAL LETTER HARD SIGN	ъ	U+044A	CYRILLIC SMALL LETTER HARD SIGN
Ы	U+042B	CYRILLIC CAPITAL LETTER YERU	ы	U+044B	CYRILLIC SMALL LETTER YERU
Ь	U+042C	CYRILLIC CAPITAL LETTER SOFT SIGN	ь	U+044C	CYRILLIC SMALL LETTER SOFT SIGN
Э	U+042D	CYRILLIC CAPITAL LETTER E	э	U+044D	CYRILLIC SMALL LETTER E
Ю	U+042E	CYRILLIC CAPITAL LETTER YU	ю	U+044E	CYRILLIC SMALL LETTER YU
Я	U+042F	CYRILLIC CAPITAL LETTER YA	я	U+044F	CYRILLIC SMALL LETTER YA

## Normalisation

Table 10. Latin script normalisation

Input character	UTF	Description	Mapped character	UTF	Description
ł	U+0140	LATIN SMALL LETTER L WITH MIDDLE DOT	l·	U+006C U+00B7	LATIN SMALL LETTER L + MIDDLE DOT
ñ	U+0149	LATIN SMALL LETTER N PRECEDED BY APOSTROPHE	'n	U+02BC U+006E	MODIFIER LETTER APOSTROPHE + LATIN SMALL LETTER N



The Latin script normalisation table is taken from the IDNA mapping table referenced by the [Unicode Technical Standard #46: Unicode IDNA Compatibility Processing](#).

Table 11. Greek script normalisation

Input character	UTF	Description	Mapped character	UTF	Description
ά	U+1F71	GREEK SMALL LETTER ALPHA WITH OXIA	ά	U+03AC	GREEK SMALL LETTER ALPHA WITH TONOS
έ	U+1F73	GREEK SMALL LETTER EPSILON WITH OXIA	έ	U+03AD	GREEK SMALL LETTER EPSILON WITH TONOS
ή	U+1F75	GREEK SMALL LETTER ETA WITH OXIA	ή	U+03AE	GREEK SMALL LETTER ETA WITH TONOS
ί	U+1F77	GREEK SMALL LETTER IOTA WITH OXIA	ί	U+03AF	GREEK SMALL LETTER IOTA WITH TONOS
ό	U+1F79	GREEK SMALL LETTER OMICRON WITH OXIA	ό	U+03CC	GREEK SMALL LETTER OMICRON WITH TONOS
ύ	U+1F7B	GREEK SMALL LETTER UPSILON WITH OXIA	ύ	U+03CD	GREEK SMALL LETTER UPSILON WITH TONOS
ώ	U+1F7D	GREEK SMALL LETTER OMEGA WITH OXIA	ώ	U+03CE	GREEK SMALL LETTER OMEGA WITH TONOS
α̣	U+1F80	GREEK SMALL LETTER ALPHA WITH PSILI AND YPOGEGRAMMENI	α̣ι	U+1F00 U+03B9	GREEK SMALL LETTER ALPHA WITH PSILI + GREEK SMALL LETTER IOTA
α̣	U+1F81	GREEK SMALL LETTER ALPHA WITH DASIA AND YPOGEGRAMMENI	α̣ι	U+1F01 U+03B9	GREEK SMALL LETTER ALPHA WITH DASIA + GREEK SMALL LETTER IOTA
α̣	U+1F82	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA AND YPOGEGRAMMENI	α̣ι	U+1F02 U+03B9	GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA + GREEK SMALL LETTER IOTA

Input character	UTF	Description	Mapped character	UTF	Description
ἄ	U+1F83	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA AND YPOGEGRAMMENI	ἄι	U+1F03 U+03B9	GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA + GREEK SMALL LETTER IOTA
ἄ̂	U+1F84	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA AND YPOGEGRAMMENI	ἄ̂ι	U+1F04 U+03B9	GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA + GREEK SMALL LETTER IOTA
ἄ̃	U+1F85	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA AND YPOGEGRAMMENI	ἄ̃ι	U+1F05 U+03B9	GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA + GREEK SMALL LETTER IOTA
ἄ̄	U+1F86	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI	ἄ̄ι	U+1F06 U+03B9	GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI + GREEK SMALL LETTER IOTA
ἄ̅	U+1F87	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI	ἄ̅ι	U+1F07 U+03B9	GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI + GREEK SMALL LETTER IOTA
ἦ	U+1F90	GREEK SMALL LETTER ETA WITH PSILI AND YPOGEGRAMMENI	ἦι	U+1F20 U+03B9	GREEK SMALL LETTER ETA WITH PSILI + GREEK SMALL LETTER IOTA
ἦ̂	U+1F91	GREEK SMALL LETTER ETA WITH DASIA AND YPOGEGRAMMENI	ἦ̂ι	U+1F21 U+03B9	GREEK SMALL LETTER ETA WITH DASIA + GREEK SMALL LETTER IOTA
ἦ̃	U+1F92	GREEK SMALL LETTER ETA WITH PSILI AND VARIA AND YPOGEGRAMMENI	ἦ̃ι	U+1F22 U+03B9	GREEK SMALL LETTER ETA WITH PSILI AND VARIA + GREEK SMALL LETTER IOTA
ἦ̄	U+1F93	GREEK SMALL LETTER ETA WITH DASIA AND VARIA AND YPOGEGRAMMENI	ἦ̄ι	U+1F23 U+03B9	GREEK SMALL LETTER ETA WITH DASIA AND VARIA + GREEK SMALL LETTER IOTA
ἦ̅	U+1F94	GREEK SMALL LETTER ETA WITH PSILI AND OXIA AND YPOGEGRAMMENI	ἦ̅ι	U+1F24 U+03B9	GREEK SMALL LETTER ETA WITH PSILI AND OXIA + GREEK SMALL LETTER IOTA
ἦ̆	U+1F95	GREEK SMALL LETTER ETA WITH DASIA AND OXIA AND YPOGEGRAMMENI	ἦ̆ι	U+1F25 U+03B9	GREEK SMALL LETTER ETA WITH DASIA AND OXIA + GREEK SMALL LETTER IOTA

Input character	UTF	Description	Mapped character	UTF	Description
ἥ̃	U+1F96	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI	ἥ̣̂	U+1F26 U+03B9	GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI + GREEK SMALL LETTER IOTA
ἥ̄	U+1F97	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI	ἥ̣̂	U+1F27 U+03B9	GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI + GREEK SMALL LETTER IOTA
ὦ̃	U+1FA0	GREEK SMALL LETTER OMEGA WITH PSILI AND YPOGEGRAMMENI	ὦ̣̂	U+1F60 U+03B9	GREEK SMALL LETTER OMEGA WITH PSILI + GREEK SMALL LETTER IOTA
ὦ̄	U+1FA1	GREEK SMALL LETTER OMEGA WITH DASIA AND YPOGEGRAMMENI	ὦ̣̂	U+1F61 U+03B9	GREEK SMALL LETTER OMEGA WITH DASIA + GREEK SMALL LETTER IOTA
ὦ̅	U+1FA2	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA AND YPOGEGRAMMENI	ὦ̣̂	U+1F62 U+03B9	GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA + GREEK SMALL LETTER IOTA
ὦ̆	U+1FA3	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA AND YPOGEGRAMMENI	ὦ̣̂	U+1F63 U+03B9	GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA + GREEK SMALL LETTER IOTA
ὦ̇	U+1FA4	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA AND YPOGEGRAMMENI	ὦ̣̂	U+1F64 U+03B9	GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA + GREEK SMALL LETTER IOTA
ὦ̈	U+1FA5	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA AND YPOGEGRAMMENI	ὦ̣̂	U+1F65 U+03B9	GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA + GREEK SMALL LETTER IOTA
ὦ̉	U+1FA6	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI	ὦ̣̂	U+1F66 U+03B9	GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI + GREEK SMALL LETTER IOTA
ὦ̊	U+1FA7	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI	ὦ̣̂	U+1F67 U+03B9	GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI + GREEK SMALL LETTER IOTA
ἄ̅	U+1FB2	GREEK SMALL LETTER ALPHA WITH VARIA AND YPOGEGRAMMENI	ἄ̣̂	U+1F70 U+03B9	GREEK SMALL LETTER ALPHA WITH VARIA + GREEK SMALL LETTER IOTA
ἄ	U+1FB3	GREEK SMALL LETTER ALPHA WITH YPOGEGRAMMENI	ἄ̣̂	U+03B1 U+03B9	GREEK SMALL LETTER ALPHA + GREEK SMALL LETTER IOTA

<b>Input character</b>	<b>UTF</b>	<b>Description</b>	<b>Mapped character</b>	<b>UTF</b>	<b>Description</b>
ᾀ	U+1FB4	GREEK SMALL LETTER ALPHA WITH OXIA AND YPOGEGRAMMENI	ᾀι	U+03AC U+03B9	GREEK SMALL LETTER ALPHA WITH TONOS + GREEK SMALL LETTER IOTA
ᾁ	U+1FB7	GREEK SMALL LETTER ALPHA WITH PERISPOMENI AND YPOGEGRAMMENI	ᾁι	U+1FB6 U+03B9	GREEK SMALL LETTER ALPHA WITH PERISPOMENI + GREEK SMALL LETTER IOTA
ῆ	U+1FC2	GREEK SMALL LETTER ETA WITH VARIA AND YPOGEGRAMMENI	ῆι	U+1F74 U+03B9	GREEK SMALL LETTER ETA WITH VARIA + GREEK SMALL LETTER IOTA
ῇ	U+1FC3	GREEK SMALL LETTER ETA WITH YPOGEGRAMMENI	ῇι	U+03B7 U+03B9	GREEK SMALL LETTER ETA + GREEK SMALL LETTER IOTA
ῆ̂	U+1FC4	GREEK SMALL LETTER ETA WITH OXIA AND YPOGEGRAMMENI	ῆ̂ι	U+03AE U+03B9	GREEK SMALL LETTER ETA WITH TONOS + GREEK SMALL LETTER IOTA
ῆ̃	U+1FC7	GREEK SMALL LETTER ETA WITH PERISPOMENI AND YPOGEGRAMMENI	ῆ̃ι	U+1FC6 U+03B9	GREEK SMALL LETTER ETA WITH PERISPOMENI + GREEK SMALL LETTER IOTA
ῑ̂	U+1FD3	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND OXIA	ῑ̂	U+0390	GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS
ῑ̃	U+1FE3	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND OXIA	ῑ̃	U+03B0	GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS
ῶ	U+1FF2	GREEK SMALL LETTER OMEGA WITH VARIA AND YPOGEGRAMMENI	ῶι	U+1F7C U+03B9	GREEK SMALL LETTER OMEGA WITH VARIA + GREEK SMALL LETTER IOTA
ῷ	U+1FF3	GREEK SMALL LETTER OMEGA WITH YPOGEGRAMMENI	ῷι	U+03C9 U+03B9	GREEK SMALL LETTER OMEGA + GREEK SMALL LETTER IOTA
ῶ̂	U+1FF4	GREEK SMALL LETTER OMEGA WITH OXIA AND YPOGEGRAMMENI	ῶ̂ι	U+03CE U+03B9	GREEK SMALL LETTER OMEGA WITH TONOS + GREEK SMALL LETTER IOTA
ῶ̃	U+1FF7	GREEK SMALL LETTER OMEGA WITH PERISPOMENI AND YPOGEGRAMMENI	ῶ̃ι	U+1FF6 U+03B9	GREEK SMALL LETTER OMEGA WITH PERISPOMENI + GREEK SMALL LETTER IOTA



The Greek script normalisation table is taken from the IDNA mapping table referenced by the [Unicode Technical Standard #46: Unicode IDNA Compatibility Processing](#).

## Inter Script homoglyph bundling tables

The following table provides homoglyph bundling tables for each combination of each combination of the Latin and Greek scripts:

- the single mappings table lists the characters for which there is exactly one character in the other script that is visually similar;
- the multi mappings table lists the characters that have more than one similar character with the other script;
- the special cases table mentions exceptions.

Table 12. Latin to Greek bundling - Single mappings

From Latin	To Greek
a LATIN SMALL LETTER A (U+0061)	α GREEK SMALL LETTER ALPHA (U+03B1)
b LATIN SMALL LETTER B (U+0062)	β GREEK SMALL LETTER BETA (U+03B2)
e LATIN SMALL LETTER E (U+0065)	ε GREEK SMALL LETTER EPSILON (U+03B5)
h LATIN SMALL LETTER H (U+0068)	η GREEK SMALL LETTER ETA (U+03B7)
i LATIN SMALL LETTER I (U+0069)	ι GREEK SMALL LETTER IOTA (U+03B9)
k LATIN SMALL LETTER K (U+006B)	κ GREEK SMALL LETTER KAPPA (U+03BA)
m LATIN SMALL LETTER M (U+006D)	μ GREEK SMALL LETTER MU (U+03BC)
o LATIN SMALL LETTER O (U+006F)	ο GREEK SMALL LETTER OMICRON (U+03BF)
p LATIN SMALL LETTER P (U+0070)	ρ GREEK SMALL LETTER RHO (U+03C1)
t LATIN SMALL LETTER T (U+0074)	τ GREEK SMALL LETTER TAU (U+03C4)
u LATIN SMALL LETTER U (U+0075)	υ GREEK SMALL LETTER UPSILON (U+03C5)
v LATIN SMALL LETTER V (U+0076)	ν GREEK SMALL LETTER NU (U+03BD)
w LATIN SMALL LETTER W (U+0077)	ω GREEK SMALL LETTER OMEGA (U+03C9)
x LATIN SMALL LETTER X (U+0078)	χ GREEK SMALL LETTER CHI (U+03C7)
z LATIN SMALL LETTER Z (U+007A)	ζ GREEK SMALL LETTER ZETA (U+03B6)
ß LATIN SMALL LETTER SHARP S (U+00DF)	β GREEK SMALL LETTER BETA (U+03B2)
à LATIN SMALL LETTER A WITH GRAVE (U+00E0)	ᾶ GREEK SMALL LETTER ALPHA WITH VARIA (U+1F70)
á LATIN SMALL LETTER A WITH ACUTE (U+00E1)	ᾷ GREEK SMALL LETTER ALPHA WITH TONOS (U+03AC)

From Latin	To Greek
ã LATIN SMALL LETTER A WITH TILDE (U+00E3)	ᾀ GREEK SMALL LETTER ALPHA WITH PERISPOMENI (U+1FB6)
è LATIN SMALL LETTER E WITH GRAVE (U+00E8)	Ἔ GREEK SMALL LETTER EPSILON WITH VARIA (U+1F72)
é LATIN SMALL LETTER E WITH ACUTE (U+00E9)	Έ GREEK SMALL LETTER EPSILON WITH TONOS (U+03AD)
ì LATIN SMALL LETTER I WITH GRAVE (U+00EC)	Ἠ GREEK SMALL LETTER IOTA WITH VARIA (U+1F76)
í LATIN SMALL LETTER I WITH ACUTE (U+00ED)	Ϊ GREEK SMALL LETTER IOTA WITH TONOS (U+03AF)
ï LATIN SMALL LETTER I WITH DIAERESIS (U+00EF)	Ϊ GREEK SMALL LETTER IOTA WITH DIALYTIKA (U+03CA)
ð LATIN SMALL LETTER ETH (U+00F0)	Δ GREEK SMALL LETTER DELTA (U+03B4)
ñ LATIN SMALL LETTER N WITH TILDE (U+00F1)	Ἠ GREEK SMALL LETTER ETA WITH PERISPOMENI (U+1FC6)
ò LATIN SMALL LETTER O WITH GRAVE (U+00F2)	Ὀ GREEK SMALL LETTER OMICROM WITH VARIA (U+1F78)
ó LATIN SMALL LETTER O WITH ACUTE (U+00F3)	Ό GREEK SMALL LETTER OMICRON WITH TONOS (U+03CC)
ù LATIN SMALL LETTER U WITH GRAVE (U+00F9)	Ὠ GREEK SMALL LETTER UPSILON WITH VARIA (U+1F7A)
ú LATIN SMALL LETTER U WITH ACUTE (U+00FA)	Ό GREEK SMALL LETTER UPSILON WITH TONOS (U+03CD)
ü LATIN SMALL LETTER U WITH DIAERESIS (U+00FC)	Ὠ GREEK SMALL LETTER UPSILON WITH DIALYTIKA (U+03CB)
ý LATIN SMALL LETTER Y WITH ACUTE (U+00FD)	Ό GREEK SMALL LETTER UPSILON WITH TONOS (U+03CD)
ÿ LATIN SMALL LETTER Y WITH DIAERESIS (U+00FF)	Ὠ GREEK SMALL LETTER UPSILON WITH DIALYTIKA (U+03CB)
ā LATIN SMALL LETTER A WITH MACRON (U+0101)	ᾀ GREEK SMALL LETTER ALPHA WITH MACRON (U+1FB1)
ă LATIN SMALL LETTER A WITH BREVE (U+0103)	ᾀ GREEK SMALL LETTER ALPHA WITH VRACHY (U+1FB0)
ĩ LATIN SMALL LETTER I WITH TILDE (U+0129)	Ἠ GREEK SMALL LETTER IOTA WITH PERISPOMENI (U+1FD6)
ī LATIN SMALL LETTER I WITH MACRON (U+012B)	Ἠ GREEK SMALL LETTER IOTA WITH MACRON (U+1FD1)
ĭ LATIN SMALL LETTER I WITH BREVE (U+012D)	Ἠ GREEK SMALL LETTER IOTA WITH VRACHY (U+1FD0)
ń LATIN SMALL LETTER N WITH ACUTE (U+0144)	Ή GREEK SMALL LETTER ETA WITH TONOS (U+03AE)
ŋ LATIN SMALL LETTER ENG (U+014B)	Ἠ GREEK SMALL LETTER ETA (U+03B7)



From Latin	To Greek
ũ LATIN SMALL LETTER U WITH TILDE (U+0169)	Ϝ GREEK SMALL LETTER UPSILON WITH PERISPOMENI (U+1FE6)
ū LATIN SMALL LETTER U WITH MACRON (U+016B)	ū GREEK SMALL LETTER UPSILON WITH MACRON (U+1FE1)
Û LATIN SMALL LETTER U WITH BREVE (U+016D)	ϛ GREEK SMALL LETTER UPSILON WITH VRACHY (U+1FE0)

Table 13. Latin to Greek bundling - Multi mappings

From Latin	To Greek
n LATIN SMALL LETTER N (U+006E)	η GREEK SMALL LETTER ETA (U+03B7)
	ν GREEK SMALL LETTER NU (U+03BD)
y LATIN SMALL LETTER Y (U+0079)	γ GREEK SMALL LETTER GAMMA (U+03B3)
	υ GREEK SMALL LETTER UPSILON (U+03C5)
ő LATIN SMALL LETTER O WITH DOUBLE ACUTE (U+0151)	ὀ GREEK SMALL LETTER OMICRON WITH PSILI AND VARIA (U+1F42)
	ὂ GREEK SMALL LETTER OMICRON WITH DASIA AND VARIA (U+1F43)
	ὄ GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA (U+1F44)
	὆ GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA (U+1F45)
ű LATIN SMALL LETTER U WITH DOUBLE ACUTE (U+0171)	ϛ GREEK SMALL LETTER UPSILON WITH PSILI AND VARIA (U+1F52)
	ϝ GREEK SMALL LETTER UPSILON WITH DASIA AND VARIA (U+1F53)
	ϟ GREEK SMALL LETTER UPSILON WITH PSILI AND OXIA (U+1F54)
	ϡ GREEK SMALL LETTER UPSILON WITH DASIA AND OXIA (U+1F55)

Table 14. Latin to Greek bundling - Special case

From Latin	To Greek
ss String of two LATIN SMALL LETTER S (U+0073)	β GREEK SMALL LETTER BETA (U+03B2)



- The two-letter string consisting of two Latin small letter S (U+0073) is visually not similar to the Greek small letter Beta (U+03B2).
- However, the letter combination ss is bundled with the Latin small Sharp S ß (U+00DF) and the Latin Sharp S is bundled with the Greek small letter Beta (U+03B2).

Table 15. Greek to Latin bundling - Single mappings

From Greek	To Latin
ά GREEK SMALL LETTER ALPHA WITH TONOS (U+03AC)	á LATIN SMALL LETTER A WITH ACUTE (U+00E1)
έ GREEK SMALL LETTER EPSILON WITH TONOS (U+03AD)	é LATIN SMALL LETTER E WITH ACUTE (U+00E9)
ή GREEK SMALL LETTER ETA WITH TONOS (U+03AE)	ñ LATIN SMALL LETTER N WITH ACUTE (U+0144)
ί GREEK SMALL LETTER IOTA WITH TONOS (U+03AF)	í LATIN SMALL LETTER I WITH ACUTE (U+00ED)
α GREEK SMALL LETTER ALPHA (U+03B1)	a LATIN SMALL LETTER A (U+0061)
γ GREEK SMALL LETTER GAMMA (U+03B3)	y LATIN SMALL LETTER Y (U+0079)
δ GREEK SMALL LETTER DELTA (U+03B4)	ð LATIN SMALL LETTER ETH (U+00F0)
ε GREEK SMALL LETTER EPSILON (U+03B5)	e LATIN SMALL LETTER E (U+0065)
ζ GREEK SMALL LETTER ZETA (U+03B6)	z LATIN SMALL LETTER Z (U+007A)
κ GREEK SMALL LETTER KAPPA (U+03BA)	k LATIN SMALL LETTER K (U+006B)
μ GREEK SMALL LETTER MU (U+03BC)	m LATIN SMALL LETTER M (U+006D)
ο GREEK SMALL LETTER OMICRON (U+03BF)	o LATIN SMALL LETTER O (U+006F)
ρ GREEK SMALL LETTER RHO (U+03C1)	p LATIN SMALL LETTER P (U+0070)
τ GREEK SMALL LETTER TAU (U+03C4)	t LATIN SMALL LETTER T (U+0074)
χ GREEK SMALL LETTER CHI (U+03C7)	x LATIN SMALL LETTER X (U+0078)
ω GREEK SMALL LETTER OMEGA (U+03C9)	w LATIN SMALL LETTER W (U+0077)
ϊ GREEK SMALL LETTER IOTA WITH DIALYTIKA (U+03CA)	ï LATIN SMALL LETTER I WITH DIAERESIS (U+00EF)
ό GREEK SMALL LETTER OMICRON WITH TONOS (U+03CC)	ó LATIN SMALL LETTER O WITH ACUTE (U+00F3)
ὀ GREEK SMALL LETTER OMICRON WITH PSILI AND VARIA (U+1F42)	ô LATIN SMALL LETTER O WITH DOUBLE ACUTE (U+0151)
ὂ GREEK SMALL LETTER OMICRON WITH DASIA AND VARIA (U+1F43)	ô LATIN SMALL LETTER O WITH DOUBLE ACUTE (U+0151)
ὄ GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA (U+1F44)	ô LATIN SMALL LETTER O WITH DOUBLE ACUTE (U+0151)
὆ GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA (U+1F45)	ô LATIN SMALL LETTER O WITH DOUBLE ACUTE (U+0151)
ϋ GREEK SMALL LETTER UPSILON WITH PSILI AND VARIA (U+1F52)	û LATIN SMALL LETTER U WITH DOUBLE ACUTE (U+0171)
ϛ GREEK SMALL LETTER UPSILON WITH DASIA AND VARIA (U+1F53)	û LATIN SMALL LETTER U WITH DOUBLE ACUTE (U+0171)
ϝ GREEK SMALL LETTER UPSILON WITH PSILI AND OXIA (U+1F54)	û LATIN SMALL LETTER U WITH DOUBLE ACUTE (U+0171)
ϟ GREEK SMALL LETTER UPSILON WITH DASIA AND OXIA (U+1F55)	û LATIN SMALL LETTER U WITH DOUBLE ACUTE (U+0171)

From Greek	To Latin
ἄ GREEK SMALL LETTER ALPHA WITH VARIA (U+1F70)	à LATIN SMALL LETTER A WITH GRAVE (U+00E0)
ἔ GREEK SMALL LETTER EPSILON WITH VARIA (U+1F72)	è LATIN SMALL LETTER E WITH GRAVE (U+00E8)
ἶ GREEK SMALL LETTER IOTA WITH VARIA (U+1F76)	ì LATIN SMALL LETTER I WITH GRAVE (U+00EC)
ὀ GREEK SMALL LETTER OMICRON WITH VARIA (U+1F78)	ò LATIN SMALL LETTER O WITH GRAVE (U+00F2)
ὐ GREEK SMALL LETTER UPSILON WITH VARIA (U+1F7A)	ù LATIN SMALL LETTER U WITH GRAVE (U+00F9)
ἄ̃ GREEK SMALL LETTER ALPHA WITH VRACHY (U+1FB0)	ă LATIN SMALL LETTER A WITH BREVE (U+0103)
ἄ̄ GREEK SMALL LETTER ALPHA WITH MACRON (U+1FB1)	ā LATIN SMALL LETTER A WITH MACRON (U+0101)
ἄ̇ GREEK SMALL LETTER ALPHA WITH PERISPOMENI (U+1FB6)	ã LATIN SMALL LETTER A WITH TILDE (U+00E3)
ἥ̇ GREEK SMALL LETTER ETA WITH PERISPOMENI (U+1FC6)	ñ LATIN SMALL LETTER N WITH TILDE (U+00F1)
ἴ̃ GREEK SMALL LETTER IOTA WITH VRACHY (U+1FD0)	ï LATIN SMALL LETTER I WITH BREVE (U+012D)
ἴ̄ GREEK SMALL LETTER IOTA WITH MACRON (U+1FD1)	ī LATIN SMALL LETTER I WITH MACRON (U+012B)
ἴ̇ GREEK SMALL LETTER IOTA WITH PERISPOMENI (U+1FD6)	ĩ LATIN SMALL LETTER I WITH TILDE (U+0129)
ὕ̃ GREEK SMALL LETTER UPSILON WITH VRACHY (U+1FE0)	ű LATIN SMALL LETTER U WITH BREVE (U+016D)
ὕ̄ GREEK SMALL LETTER UPSILON WITH MACRON (U+1FE1)	ū LATIN SMALL LETTER U WITH MACRON (U+016B)
ὕ̇ GREEK SMALL LETTER UPSILON WITH PERISPOMENI (U+1FE6)	ũ LATIN SMALL LETTER U WITH TILDE (U+0169)

Table 16. Greek to Latin bundling - Multi mappings

From Greek	To Latin
η GREEK SMALL LETTER ETA (U+03B7)	h LATIN SMALL LETTER H (U+0068)
	n LATIN SMALL LETTER N (U+006E)
	η LATIN SMALL LETTER ENG (U+014B)
ι GREEK SMALL LETTER IOTA (U+03B9)	i LATIN SMALL LETTER I (U+0069)
	n LATIN SMALL LETTER N (U+006E)
ν GREEK SMALL LETTER NU (U+03BD)	v LATIN SMALL LETTER V (U+0076)
	u LATIN SMALL LETTER U (U+0075)
υ GREEK SMALL LETTER UPSILON (U+03C5)	y LATIN SMALL LETTER Y (U+0079)

From Greek	To Latin
ϋ GREEK SMALL LETTER UPSILON WITH DIALYTIKA (U+03CB)	ü LATIN SMALL LETTER U WITH DIAERESIS (U+00FC)
	ÿ LATIN SMALL LETTER Y WITH DIAERESIS (U+00FF)
ύ GREEK SMALL LETTER UPSILON WITH TONOS (U+03CD)	ú LATIN SMALL LETTER U WITH ACUTE (U+00FA)
	ý LATIN SMALL LETTER Y WITH ACUTE (U+00FD)

Table 17. Greek to Latin bundling - Special cases

From Greek	To Latin
β GREEK SMALL LETTER BETA (U+03B2)	b LATIN SMALL LETTER B (U+0062)
	ss String of two LATIN SMALL LETTER S

## Intra Script homoglyph bundling tables

Intra script homoglyph bundling tables shows bundling tables within the same script.

Table 18. Intra script Latin bundling

From Latin	To Latin
ss String of two LATIN SMALL LETTER S (U+0073)	ß LATIN SMALL LETTER SHARP S (U+00DF)
· MIDDLE DOT (U+00B7)	- HYPHEN-MINUS (U+002D)

### Detailed information about the Latin S

- Although visually not similar, the string of two Latin small letters S (U+0073) is bundled with the Latin small letter Sharp S (U+00DF).
- This is due to the different processing of the character U+0073 between rules IDNA2003 and IDNA2008.
- In IDNA2003, the character U+0073 was replaced by a string of two Latin letters S. In IDNA2008, the character U+00DF is considered as acceptable. Accordingly, this character is no longer converted into the string of two Latin letters S.
- Considering the fact that Internet browsers (and other client software) currently implement IDNA2003, users might be lead to the wrong website. This is even applicable if the vendor adapted their software to support IDNA2008; it depended on the end user whether the client software was upgraded or not.
- By bundling these two representations, the scenario where two domain names are registered that only differ in this respect, is prevented.

Table 19. Intra script Greek extended Greek accent bundling

From Greek	To Greek
ἄ GREEK SMALL LETTER ALPHA WITH PSILI (U+1F00)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ GREEK SMALL LETTER ALPHA WITH DASIA (U+1F01)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἶ GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA (U+1F02)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἶ GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA (U+1F03)	α GREEK SMALL LETTER ALPHA (U+03B1)
Ἱ GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA (U+1F04)	α GREEK SMALL LETTER ALPHA (U+03B1)
Ἱ GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA (U+1F05)	α GREEK SMALL LETTER ALPHA (U+03B1)
Ἳ GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI (U+1F06)	α GREEK SMALL LETTER ALPHA (U+03B1)
Ἳ GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI (U+1F07)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἥ GREEK SMALL LETTER EPSILON WITH PSILI (U+1F10)	ε GREEK SMALL LETTER EPSILON (U+03B5)
ἥ GREEK SMALL LETTER EPSILON WITH DASIA (U+1F11)	ε GREEK SMALL LETTER EPSILON (U+03B5)

<b>From Greek</b>	<b>To Greek</b>
͵ GREEK SMALL LETTER EPSILON WITH PSILI AND VARIA (U+1F12)	ε GREEK SMALL LETTER EPSILON (U+03B5)
Ͷ GREEK SMALL LETTER EPSILON WITH DASIA AND VARIA (U+1F13)	ε GREEK SMALL LETTER EPSILON (U+03B5)
ͷ GREEK SMALL LETTER EPSILON WITH PSILI AND OXIA (U+1F14)	ε GREEK SMALL LETTER EPSILON (U+03B5)
͸ GREEK SMALL LETTER EPSILON WITH DASIA AND OXIA (U+1F15)	ε GREEK SMALL LETTER EPSILON (U+03B5)
͹ GREEK SMALL LETTER ETA WITH PSILI (U+1F20)	η GREEK SMALL LETTER ETA (U+03B7)
ͺ GREEK SMALL LETTER ETA WITH DASIA (U+1F21)	η GREEK SMALL LETTER ETA (U+03B7)
ͻ GREEK SMALL LETTER ETA WITH PSILI AND VARIA (U+1F22)	η GREEK SMALL LETTER ETA (U+03B7)
ͼ GREEK SMALL LETTER ETA WITH DASIA AND VARIA (U+1F23)	η GREEK SMALL LETTER ETA (U+03B7)
ͽ GREEK SMALL LETTER ETA WITH PSILI AND OXIA (U+1F24)	η GREEK SMALL LETTER ETA (U+03B7)
Ϳ GREEK SMALL LETTER ETA WITH DASIA AND OXIA (U+1F25)	η GREEK SMALL LETTER ETA (U+03B7)
Ϳ̂ GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI (U+1F26)	η GREEK SMALL LETTER ETA (U+03B7)
Ϳ̃ GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI (U+1F27)	η GREEK SMALL LETTER ETA (U+03B7)
Ϳ̄ GREEK SMALL LETTER IOTA WITH PSILI (U+1F30)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̅ GREEK SMALL LETTER IOTA WITH DASIA (U+1F31)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̆ GREEK SMALL LETTER IOTA WITH PSILI AND VARIA (U+1F32)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̇ GREEK SMALL LETTER IOTA WITH DASIA AND VARIA (U+1F33)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̈ GREEK SMALL LETTER IOTA WITH PSILI AND OXIA (U+1F34)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̉ GREEK SMALL LETTER IOTA WITH DASIA AND OXIA (U+1F35)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̊ GREEK SMALL LETTER IOTA WITH PSILI AND PERISPOMENI (U+1F36)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̋ GREEK SMALL LETTER IOTA WITH DASIA AND PERISPOMENI (U+1F37)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϳ̌ GREEK SMALL LETTER OMICRON WITH PSILI (U+1F40)	ο GREEK SMALL LETTER OMICRON (U+03BF)
Ϳ̍ GREEK SMALL LETTER OMICRON WITH DASIA (U+1F41)	ο GREEK SMALL LETTER OMICRON (U+03BF)

From Greek	To Greek
ὀ GREEK SMALL LETTER OMICRON WITH PSILI AND VARIA (U+1F42)	ο GREEK SMALL LETTER OMICRON (U+03BF)
ὀ GREEK SMALL LETTER OMICRON WITH DASIA AND VARIA (U+1F43)	ο GREEK SMALL LETTER OMICRON (U+03BF)
ὄ GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA (U+1F44)	ο GREEK SMALL LETTER OMICRON (U+03BF)
ὄ GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA (U+1F45)	ο GREEK SMALL LETTER OMICRON (U+03BF)
ὐ GREEK SMALL LETTER UPSILON WITH PSILI (U+1F50)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὐ GREEK SMALL LETTER UPSILON WITH DASIA (U+1F51)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὕ GREEK SMALL LETTER UPSILON WITH PSILI AND VARIA (U+1F52)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὕ GREEK SMALL LETTER UPSILON WITH DASIA AND VARIA (U+1F53)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὖ GREEK SMALL LETTER UPSILON WITH PSILI AND OXIA (U+1F54)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὖ GREEK SMALL LETTER UPSILON WITH DASIA AND OXIA (U+1F55)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὗ GREEK SMALL LETTER UPSILON WITH PSILI AND PERISPOMENI (U+1F56)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὗ GREEK SMALL LETTER UPSILON WITH DASIA AND PERISPOMENI (U+1F57)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὠ GREEK SMALL LETTER OMEGA WITH PSILI (U+1F60)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὠ GREEK SMALL LETTER OMEGA WITH DASIA (U+1F61)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὡ GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA (U+1F62)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὡ GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA (U+1F63)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὢ GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA (U+1F64)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὢ GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA (U+1F65)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὣ GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI (U+1F66)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὣ GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI (U+1F67)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ἄ GREEK SMALL LETTER ALPHA WITH VARIA (U+1F70)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἐ GREEK SMALL LETTER EPSILON WITH VARIA (U+1F72)	ε GREEK SMALL LETTER EPSILON (U+03B5)

From Greek	To Greek
ἥ GREEK SMALL LETTER ETA WITH VARIA (U+1F74)	η GREEK SMALL LETTER ETA (U+03B7)
ἰ GREEK SMALL LETTER IOTA WITH VARIA (U+1F76)	ι GREEK SMALL LETTER IOTA (U+03B9)
ὀ GREEK SMALL LETTER OMICROM WITH VARIA (U+1F78)	ο GREEK SMALL LETTER OMICRON (U+03BF)
ὐ GREEK SMALL LETTER UPSILON WITH VARIA (U+1F7A)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ὦ GREEK SMALL LETTER OMEGA WITH VARIA (U+1F7C)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ἄ GREEK SMALL LETTER ALPHA WITH PSILI AND YPOGEGRAMMENI (U+1F80) → ἁ GREEK SMALL LETTER ALPHA WITH PSILI (U+1F00) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ GREEK SMALL LETTER ALPHA WITH DASIA AND YPOGEGRAMMENI (U+1F81) → ἁ GREEK SMALL LETTER ALPHA WITH DASIA (U+1F01) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̂ GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA AND YPOGEGRAMMENI (U+1F82) → ἁ̂ GREEK SMALL LETTER ALPHA WITH PSILI AND VARIA (U+1F02) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̃ GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA AND YPOGEGRAMMENI (U+1F83) → ἁ̃ GREEK SMALL LETTER ALPHA WITH DASIA AND VARIA (U+1F03) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̄ GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA AND YPOGEGRAMMENI (U+1F84) → ἁ̄ GREEK SMALL LETTER ALPHA WITH PSILI AND OXIA (U+1F04) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̅ GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA AND YPOGEGRAMMENI (U+1F85) → ἁ̅ GREEK SMALL LETTER ALPHA WITH DASIA AND OXIA (U+1F05) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̆ GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI (U+1F86) → ἁ̆ GREEK SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI (U+1F06) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ἄ̇ GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI (U+1F87) → ἁ̇ GREEK SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI (U+1F07) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)



From Greek	To Greek
ἥ GREEK SMALL LETTER ETA WITH PSILI AND YPOGEGRAMMENI (U+1F90) → ῆ GREEK SMALL LETTER ETA WITH PSILI (U+1F20) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ἥ GREEK SMALL LETTER ETA WITH DASIA AND YPOGEGRAMMENI (U+1F91) → ῆ GREEK SMALL LETTER ETA WITH DASIA (U+1F21) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH PSILI AND VARIA AND YPOGEGRAMMENI (U+1F92) → ῆ GREEK SMALL LETTER ETA WITH PSILI AND VARIA (U+1F22) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH DASIA AND VARIA AND YPOGEGRAMMENI (U+1F93) → ῆ GREEK SMALL LETTER ETA WITH DASIA AND VARIA (U+1F23) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH PSILI AND OXIA AND YPOGEGRAMMENI (U+1F94) → ῆ GREEK SMALL LETTER ETA WITH PSILI AND OXIA (U+1F24) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH DASIA AND OXIA AND YPOGEGRAMMENI (U+1F95) → ῆ GREEK SMALL LETTER ETA WITH DASIA AND OXIA (U+1F25) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI (U+1F96) → ῆ GREEK SMALL LETTER ETA WITH PSILI AND PERISPOMENI (U+1F26) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI (U+1F97) → ῆ GREEK SMALL LETTER ETA WITH DASIA AND PERISPOMENI (U+1F27) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ὦ GREEK SMALL LETTER OMEGA WITH PSILI AND YPOGEGRAMMENI (U+1FA0) → ὶ GREEK SMALL LETTER OMEGA WITH PSILI (U+1F60) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ὦ GREEK SMALL LETTER OMEGA WITH DASIA AND YPOGEGRAMMENI (U+1FA1) → ὶ GREEK SMALL LETTER OMEGA WITH DASIA (U+1F61) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)

From Greek	To Greek
Ϝ̣ GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA AND YPOGEGRAMMENI (U+1FA2) → Ϝ̣ GREEK SMALL LETTER OMEGA WITH PSILI AND VARIA (U+1F62) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ̣̂ GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA AND YPOGEGRAMMENI (U+1FA3) → Ϝ̣̂ GREEK SMALL LETTER OMEGA WITH DASIA AND VARIA (U+1F63) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ̣̇ GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA AND YPOGEGRAMMENI (U+1FA4) → Ϝ̣̇ GREEK SMALL LETTER OMEGA WITH PSILI AND OXIA (U+1F64) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ̣̈ GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA AND YPOGEGRAMMENI (U+1FA5) → Ϝ̣̈ GREEK SMALL LETTER OMEGA WITH DASIA AND OXIA (U+1F65) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ̣̊ GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI (U+1FA6) → Ϝ̣̊ GREEK SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI (U+1F66) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ̣̋ GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI (U+1FA7) → Ϝ̣̋ GREEK SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI (U+1F67) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)
ᾀ GREEK SMALL LETTER ALPHA WITH VRACHY (U+1FB0)	α GREEK SMALL LETTER ALPHA (U+03B1)
ᾁ GREEK SMALL LETTER ALPHA WITH MACRON (U+1FB1)	α GREEK SMALL LETTER ALPHA (U+03B1)
ᾂ GREEK SMALL LETTER ALPHA WITH VARIA AND YPOGEGRAMMENI (U+1FB2) → ᾂ GREEK SMALL LETTER ALPHA WITH VARIA (U+1F70) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ᾃ GREEK SMALL LETTER ALPHA WITH YPOGEGRAMMENI (U+1FB3) → α GREEK SMALL LETTER ALPHA (U+03B1) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)
ᾄ GREEK SMALL LETTER ALPHA WITH PERISPOMENI (U+1FB6)	α GREEK SMALL LETTER ALPHA (U+03B1)
ᾅ GREEK SMALL LETTER ALPHA WITH PERISPOMENI AND YPOGEGRAMMENI (U+1FB7) → ᾅ GREEK SMALL LETTER ALPHA WITH PERISPOMENI (U+1FB6) and ι GREEK SMALL LETTER IOTA (U+03B9)	α GREEK SMALL LETTER ALPHA (U+03B1)

From Greek	To Greek
ἥ GREEK SMALL LETTER ETA WITH VARIA AND YPOGEGRAMMENI (U+1FC2) → ἥ GREEK SMALL LETTER ETA WITH VARIA (U+1F74) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ἦ GREEK SMALL LETTER ETA WITH YPOGEGRAMMENI (U+1FC3) → η GREEK SMALL LETTER ETA (U+03B7) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ GREEK SMALL LETTER ETA WITH PERISPOMENI (U+1FC6)	η GREEK SMALL LETTER ETA (U+03B7)
ῆ̂ GREEK SMALL LETTER ETA WITH PERISPOMENI AND YPOGEGRAMMENI (U+1FC7) → ῆ GREEK SMALL LETTER ETA WITH PERISPOMENI (U+1FC6) and ι GREEK SMALL LETTER IOTA (U+03B9)	η GREEK SMALL LETTER ETA (U+03B7)
ϊ̂ GREEK SMALL LETTER IOTA WITH VRACHY (U+1FD0)	ι GREEK SMALL LETTER IOTA (U+03B9)
ῖ̄ GREEK SMALL LETTER IOTA WITH MACRON (U+1FD1)	ι GREEK SMALL LETTER IOTA (U+03B9)
ῖ̇ GREEK SMALL LETTER IOTA WITH DIALYTIKA AND VARIA (U+1FD2)	ι GREEK SMALL LETTER IOTA (U+03B9)
ῖ̂ GREEK SMALL LETTER IOTA WITH PERISPOMENI (U+1FD6)	ι GREEK SMALL LETTER IOTA (U+03B9)
ῖ̇̂ GREEK SMALL LETTER IOTA WITH DIALYTIKA AND PERISPOMENI (U+1FD7)	ι GREEK SMALL LETTER IOTA (U+03B9)
Ϸ̂ GREEK SMALL LETTER UPSILON WITH VRACHY (U+1FE0)	υ GREEK SMALL LETTER UPSILON (U+03C5)
Ϸ̄ GREEK SMALL LETTER UPSILON WITH MACRON (U+1FE1)	υ GREEK SMALL LETTER UPSILON (U+03C5)
Ϸ̇ GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND VARIA (U+1FE2)	υ GREEK SMALL LETTER UPSILON (U+03C5)
ρ̂ GREEK SMALL LETTER RHO WITH PSILI (U+1FE4)	ρ GREEK SMALL LETTER RHO (U+03C1)
ρ̄ GREEK SMALL LETTER RHO WITH DASIA (U+1FE5)	ρ GREEK SMALL LETTER RHO (U+03C1)
Ϸ̂̂ GREEK SMALL LETTER UPSILON WITH PERISPOMENI (U+1FE6)	υ GREEK SMALL LETTER UPSILON (U+03C5)
Ϸ̂̇̂ GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND PERISPOMENI (U+1FE7)	υ GREEK SMALL LETTER UPSILON (U+03C5)
Ϸ̂̇ GREEK SMALL LETTER OMEGA WITH VARIA AND YPOGEGRAMMENI (U+1FF2)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϸ̂̇̂ GREEK SMALL LETTER OMEGA WITH YPOGEGRAMMENI (U+1FF3) → ω GREEK SMALL LETTER OMEGA (U+03C9) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)

From Greek	To Greek
ὦ GREEK SMALL LETTER OMEGA WITH PERISPOMENI (U+1FF6)	ω GREEK SMALL LETTER OMEGA (U+03C9)
Ϝ GREEK SMALL LETTER OMEGA WITH PERISPOMENI AND YPOGEGRAMMENI (U+1FF7) → ὦ GREEK SMALL LETTER OMEGA WITH PERISPOMENI (U+1FF6) and ι GREEK SMALL LETTER IOTA (U+03B9)	ω GREEK SMALL LETTER OMEGA (U+03C9)



About the Greek extended character set, characters with accent (like Psili, Dasia and Varia) are considered to be visually similar to the corresponding character without the accent.

## Detailed information about Greek characters

- As can be seen in the normalisation tables, Greek characters with Oxia are mapped into the equivalent Greek characters with Tonos. As Greek characters with Tonos are from the base Greek character set and not the extended character set, they are not bundled with the characters without the accent.
- The IDNA2008 protocol does not allow extended Greek characters with Ypogegrammeni. IDNA2003 does allow them. However, IDNA2003 converts these characters into the equivalent characters without the Ypogegrammeni part. It also adds an extra separate Greek letter Iota after the character.
- To ensure backwards compatibility, the .eu registration system does allow these characters as input. However, the system converts them as described above. As a net result, no domain name could exist under IDNA2003 rules in the registration system that contains a character with Ypogegrammeni. This situation is kept under IDNA2008 rules. Therefore, an end user seeing a domain name mentioned somewhere containing a character with Ypogegrammeni, may type it in with the equivalent character without the Ypogegrammeni.
- In order to avoid confusion and abuse, the character with Ypogegrammeni, which will be transformed by the registration system into the equivalent character followed by a Greek letter Iota, will be bundled with the equivalent character without the Ypogegrammeni.

### Example 4. Greek bundle

- The domain name **ααα.ευ** is converted via normalisation tables into **ααααα.ευ**.
- It will be bundled with all the following domain names:
  - ααα.ευ;
  - αααα.ευ;
  - ααααα.ευ;
  - ααααα.ευ.
- Not all possible combinations are listed.
- The table contains both the character with Ypogegrammeni as well as the mapped version (as per the normalisation tables described above).

Table 20. Intra Greek script Sigma bundling

Character	Character
ς GREEK SMALL LETTER FINAL SIGMA (U+03C2)	σ GREEK SMALL LETTER SIGMA (U+03C3)

### Detailed information about Greek small letters Sigma

- The IDNA2003 protocol maps the Greek small letter final Sigma (U+03C2) to the Greek small letter Sigma (U+03C3). IDNA2003 rules considered the Greek small letter final Sigma (U+03C2) as an invalid character.
- Since the implementation of IDNA2008 rules, the Greek small letter final Sigma (U+03C2) is considered as a valid input. To avoid confusion and abuse, especially in light of Internet browsers still using IDNA2003 algorithms, the characters U+03C2 and U+03C3 are bundled. It means that no two domain names can be registered together where the only difference is the exchange of a character U+03C3 by a U+03C2, or vice versa.
- Furthermore, both characters U+03C3 and U+03C2 will display the same representation if they are converted to uppercase characters.