Sample code chart with extra information.

C0 controls

Alias names are those for ISO/IEC 6429:1992. Commonly used alternative aliases are also shown.

0000 NUL *<Control>*
 = *Null*
0001 SOH *<Control>*
 = *Start Of Heading*
0002 STX *<Control>*
 = *Start Of Text*
0003 ETX *<Control>*
 = *End Of Text*
0004 EOT *<Control>*
 = *End Of Transmission*
0005 ENQ *<Control>*
 = *Enquiry*
0006 ACK *<Control>*
 = *Acknowledge*
0007 BEL *<Control>*
 = *Bell*
0008 BS *<Control>*
 = *Backspace*
0009 HT *<Control>*
 = *Character Tabulation*
 = horizontal tabulation (HT), tab
000A LF *<Control>*
 = *Line Feed (Lf)*
 = new line (NL), end of line (EOL)
000B VT *<Control>*
 = *Line Tabulation*
 = vertical tabulation (VT)
000C FF *<Control>*
 = *Form Feed (Ff)*
000D CR *<Control>*
 = *Carriage Return (Cr)*
000E SO *<Control>*
 = *Shift Out*
000F SI *<Control>*
 = *Shift In*
0010 DLE *<Control>*
 = *Data Link Escape*
0011 DC1 *<Control>*
 = *Device Control One*
0012 DC2 *<Control>*
 = *Device Control Two*
0013 DC3 *<Control>*
 = *Device Control Three*
0014 DC4 *<Control>*
 = *Device Control Four*
0015 NAK *<Control>*
 = *Negative Acknowledge*
0016 SYN *<Control>*
 = *Synchronous Idle*
0017 ETB *<Control>*
 = *End Of Transmission Block*
0018 CAN *<Control>*
 = *Cancel*

0019 EM *<Control>*
 = *End Of Medium*
001A SUB *<Control>*
 = *Substitute*
 → FFFD � replacement character
001B ESC *<Control>*
 = *Escape*
001C FS *<Control>*
 = *Information Separator Four*
 = file separator (FS)
001D GS *<Control>*
 = *Information Separator Three*
 = group separator (GS)
001E RS *<Control>*
 = *Information Separator Two*
 = record separator (RS)
001F US *<Control>*
 = *Information Separator One*
 = unit separator (US)

ASCII punctuation and symbols

Based on ISO/IEC 646 from here.

0020 SP *Space*
 • sometimes considered a control code
 • other space characters: 2000 ▮-200A ▮
 → 00A0 ▮ no-break space
 → 200B ▮ zero width space
 → 2060 ▮ word joiner
 → 3000 ▮ ideographic space
 → FEFF ▮ zero width no-break space
0021 ! *Exclamation Mark*
 = factorial
 = bang
 → 00A1 ¡ inverted exclamation mark
 → 01C3 ǃ latin letter retroflex click
 → 203C ‼ double exclamation mark
 → 203D ‽ interrobang
 → 2762 ❢ heavy exclamation mark ornament
 ➥ 01C3 ǃ latin letter retroflex click
0022 " *Quotation Mark*
 • neutral (vertical), used as opening or closing quotation mark
 • preferred characters in English for paired quotation marks are 201C " & 201D "
 → 02BA ʺ modifier letter double prime
 → 030B ̋ combining double acute accent
 → 030E ̎ combining double vertical line above
 → 2033 ″ double prime
 → 3003 〃 ditto mark
 ➥ 0020 SP + 059C ◌֜ + 0020 SP + 059C ◌֜ space + hebrew accent geresh + space + hebrew accent geresh
 ➥ 2032 ′ + 2032 ′ prime + prime
 ➥ 3003 〃 ditto mark
 ➥ 05F4 ״ hebrew punctuation gershayim
 ➥ 02BA ʺ modifier letter double prime
0023 # *Number Sign*
 = pound sign, hash, crosshatch, octothorpe
 → 2114 ℔ l b bar symbol
 → 266F ♯ music sharp sign

0024 $ *Dollar Sign*
= milreis, escudo
• glyph may have one or two vertical bars
• other currency symbol characters: 20A0 ₠-
20AF ₯
→ 00A4 ¤ currency sign

0025 % *Percent Sign*
→ 066A ٪ arabic percent sign
→ 2030 ‰ per mille sign
→ 2031 ‱ per ten thousand sign
→ 2052 ⁒ commercial minus sign

0026 & *Ampersand*

0027 ' *Apostrophe*
= Apostrophe-Quote
= APL quote
• neutral (vertical) glyph with mixed usage
• 2019 ' is preferred for apostrophe
• preferred characters in English for paired
quotation marks are 2018 ' & 2019 '
→ 02B9 ʹ modifier letter prime
→ 02BC ʼ modifier letter apostrophe
→ 02C8 ˈ modifier letter vertical line
→ 0301 ́ combining acute accent
→ 2032 ′ prime

➡ 0020 SP + 059C ◌֜ space + hebrew accent geresh
➡ 0020 SP + 0301 ◌́ space + combining acute accent
➡ 2032 ′ prime
➡ 05F3 ׳ hebrew punctuation geresh
➡ 02B9 ʹ modifier letter prime
➡ 02CA ˊ modifier letter acute accent

0028 (*Left Parenthesis*
= Opening Parenthesis

0029) *Right Parenthesis*
= Closing Parenthesis
• see discussion on semantics of paired bracketing
characters

002A * *Asterisk*
= star (on phone keypads)
→ 066D ٭ arabic five pointed star
→ 204E ⁎ low asterisk
→ 2217 ∗ asterisk operator
→ 2731 ✱ heavy asterisk

002B + *Plus Sign*

002C , *Comma*
= decimal separator
→ 060C ، arabic comma
→ 201A ‚ single low-9 quotation mark
→ 3001 、 ideographic comma
➡ 201A ‚ single low-9 quotation mark

002D - *Hyphen-Minus*
= hyphen or minus sign
• used for either hyphen or minus sign
→ 2010 ‐ hyphen
→ 2011 - non-breaking hyphen
→ 2012 ‒ figure dash
→ 2013 – en dash
→ 2212 − minus sign
➡ 2010 ‐ hyphen
➡ 2012 ‒ figure dash
➡ 2013 – en dash
➡ 2014 — em dash

002E . *Full Stop*
= Period
= dot, decimal point

• may be rendered as a raised decimal point in old
style numbers
→ 06D4 ۔ arabic full stop
→ 3002 。 ideographic full stop
➡ 0702 ܂ syriac sublinear full stop

002F / *Solidus*
= Slash
= virgule
→ 01C0 ǀ latin letter dental click
→ 0338 ̸ combining long solidus overlay
→ 2044 ⁄ fraction slash
→ 2215 ∕ division slash
➡ 2044 ⁄ fraction slash
➡ 2215 ∕ division slash

ASCII digits

0030 0 *Digit Zero*
➡ 09E6 ০ bengali digit zero
➡ 0B66 ୦ oriya digit zero
➡ 0BE6 ௦ tamil digit zero
➡ 1810 ᠐ mongolian digit zero
➡ 3007 〇 ideographic number zero
➡ 004F O latin capital letter o
➡ 039F Ο greek capital letter omicron
➡ 041E О cyrillic capital letter o
➡ 0555 Օ armenian capital letter oh
➡ 2D54 ⵔ tifinagh letter yar
➡ 0D20 ഠ malayalam letter ttha

0031 1 *Digit One*
➡ 0049 I latin capital letter i
➡ 0196 Ɩ latin capital letter iota
➡ 006C l latin small letter l
➡ 0399 Ι greek capital letter iota
➡ 0406 І cyrillic capital letter byelorussian-ukrainian i
➡ 04C0 Ӏ cyrillic letter palochka

0032 2 *Digit Two*
➡ 14BF ᒿ canadian syllabics sayisi m

0033 3 *Digit Three*
➡ 0417 З cyrillic capital letter ze
➡ 0545 Յ armenian capital letter yi

0034 4 *Digit Four*
➡ 13CE Ꮞ cherokee letter se

0035 5 *Digit Five*
➡ 01BC Ƽ latin capital letter tone five

0036 6 *Digit Six*
➡ 0431 б cyrillic small letter be

0037 7 *Digit Seven*

0038 8 *Digit Eight*
➡ 0B03 ଃ oriya sign visarga
➡ 09EA ৪ bengali digit four
➡ 0A6A ੪ gurmukhi digit four
➡ 0223 ȣ latin small letter ou
➡ 0222 Ȣ latin capital letter ou

0039 9 *Digit Nine*
➡ 0A67 ੧ gurmukhi digit one
➡ 0B68 ୨ oriya digit two
➡ 09ED ৭ bengali digit seven

ASCII punctuation and symbols

003A : *Colon*
  → 0589 ։ armenian full stop
  → 05C3 ׃ hebrew punctuation sof pasuq
  → 2236 ∶ ratio
  ➡ 0589 ։ armenian full stop
  ➡ 002E . + 002E . full stop + full stop
  ➡ 05C3 ׃ hebrew punctuation sof pasuq

003B ; *Semicolon*
  • this, and not 037E ;, is the preferred character for 'Greek question mark'
  → 037E ; greek question mark
  → 061B ؛ arabic semicolon
  → 204F ⁏ reversed semicolon

003C < *Less-Than Sign*
  → 2039 ‹ single left-pointing angle quotation mark
  → 2329 〈 left-pointing angle bracket
  → 27E8 ⟨ mathematical left angle bracket
  → 3008 〈 left angle bracket
  ➡ 2039 ‹ single left-pointing angle quotation mark

003D = *Equals Sign*
  • other related characters: 2241 ≁-2263 ≣
  → 2260 ≠ not equal to
  → 2261 ≡ identical to

003E > *Greater-Than Sign*
  → 203A › single right-pointing angle quotation mark
  → 232A 〉 right-pointing angle bracket
  → 27E9 ⟩ mathematical right angle bracket
  → 3009 〉 right angle bracket
  ➡ 203A › single right-pointing angle quotation mark

003F ? *Question Mark*
  → 00BF ¿ inverted question mark
  → 037E ; greek question mark
  → 061F ؟ arabic question mark
  → 203D ‽ interrobang
  → 2048 ⁈ question exclamation mark
  → 2049 ⁉ exclamation question mark
  ➡ 0294 ʔ latin letter glottal stop

0040 @ *Commercial At*
  = at sign

Uppercase Latin alphabet

0041 A *Latin Capital Letter A*
  ↓ 0061 a latin small letter a
  ➡ 0391 A greek capital letter alpha
  ➡ 0410 A cyrillic capital letter a
  ➡ 13AA A cherokee letter go
  ➡ 15C5 A canadian syllabics carrier gho

0042 B *Latin Capital Letter B*
  → 212C ℬ script capital b
  ↓ 0062 b latin small letter b
  ➡ 0392 B greek capital letter beta
  ➡ 0412 B cyrillic capital letter ve
  ➡ 13F4 B cherokee letter yv
  ➡ 15F7 B canadian syllabics carrier khe

0043 C *Latin Capital Letter C*
  → 2102 ℂ double-struck capital c
  → 212D ℭ black-letter capital c
  ↓ 0063 c latin small letter c
  ➡ 03A3 Σ greek capital letter sigma

  ➡ 0421 C cyrillic capital letter es
  ➡ 13DF Ꮯ cherokee letter tli

0044 D *Latin Capital Letter D*
  ↓ 0064 d latin small letter d
  ➡ 15DE D canadian syllabics carrier the
  ➡ 15EA D canadian syllabics carrier pe

0045 E *Latin Capital Letter E*
  → 2107 Ɛ euler constant
  → 2130 ℰ script capital e
  ↓ 0065 e latin small letter e
  ➡ 22FF ⋿ z notation bag membership
  ➡ 0395 Ε greek capital letter epsilon
  ➡ 0415 Е cyrillic capital letter ie
  ➡ 2D39 ⴹ tifinagh letter yadd
  ➡ 13AC Ꮛ cherokee letter gv

0046 F *Latin Capital Letter F*
  → 2131 ℱ script capital f
  → 2132 Ⅎ turned capital f
  ↓ 0066 f latin small letter f
  ➡ 03DC Ϝ greek letter digamma
  ➡ 15B4 ᖴ canadian syllabics blackfoot we

0047 G *Latin Capital Letter G*
  • invented circa 300 BCE by Spurius Carvilius Ruga, who added a stroke to the letter C
  ↓ 0067 g latin small letter g
  ➡ 050C Ԍ cyrillic capital letter komi sje
  ➡ 13C0 Ꮐ cherokee letter nah
  ➡ 13F3 Ᏻ cherokee letter yu

0048 H *Latin Capital Letter H*
  → 210B ℋ script capital h
  → 210C ℌ black-letter capital h
  → 210D ℍ double-struck capital h
  ↓ 0068 h latin small letter h
  ➡ 0397 Η greek capital letter eta
  ➡ 041D Н cyrillic capital letter en
  ➡ 13BB Ꮋ cherokee letter mi
  ➡ 157C ᕼ canadian syllabics nunavut h

0049 I *Latin Capital Letter I*
  • Turkish and Azerbaijani use 0131 ı for lowercase
  → 0130 İ latin capital letter i with dot above
  → 0406 І cyrillic capital letter byelorussian-ukrainian i
  → 04C0 Ӏ cyrillic letter palochka
  → 2110 ℐ script capital i
  → 2111 ℑ black-letter capital i
  → 2160 Ⅰ roman numeral one
  ↓ 0069 i latin small letter i
  ➡ 0031 1 digit one
  ➡ 0196 Ɩ latin capital letter iota
  ➡ 006C l latin small letter l
  ➡ 0399 Ι greek capital letter iota
  ➡ 0406 І cyrillic capital letter byelorussian-ukrainian i
  ➡ 04C0 Ӏ cyrillic letter palochka

004A J *Latin Capital Letter J*
  ↓ 006A j latin small letter j
  ➡ 0408 Ј cyrillic capital letter je
  ➡ 13AB Ꭻ cherokee letter gu
  ➡ 13E7 Ꮷ cherokee letter tsu
  ➡ 148D ᒍ canadian syllabics co

004B K *Latin Capital Letter K*

→ 212A K kelvin sign
↓ 006B k latin small letter k
➡ 039A K greek capital letter kappa
➡ 041A K cyrillic capital letter ka
➡ 13E6 Ꮶ cherokee letter tso
004C L *Latin Capital Letter L*
→ 2112 ℒ script capital l
↓ 006C l latin small letter l
➡ 13DE Ꮮ cherokee letter tle
004D M *Latin Capital Letter M*
→ 2133 ℳ script capital m
↓ 006D m latin small letter m
➡ 039C M greek capital letter mu
➡ 041C М cyrillic capital letter em
➡ 13B7 Ꮇ cherokee letter lu
004E N *Latin Capital Letter N*
→ 2115 ℕ double-struck capital n
↓ 006E n latin small letter n
➡ 039D N greek capital letter nu
004F O *Latin Capital Letter O*
↓ 006F o latin small letter o
➡ 0030 0 digit zero
➡ 09E6 ০ bengali digit zero
➡ 0B66 ୦ oriya digit zero
➡ 0BE6 ௦ tamil digit zero
➡ 1810 ᠐ mongolian digit zero
➡ 3007 〇 ideographic number zero
➡ 039F O greek capital letter omicron
➡ 041E О cyrillic capital letter o
➡ 0555 Օ armenian capital letter oh
➡ 2D54 ⵔ tifinagh letter yar
➡ 0D20 ഠ malayalam letter ttha
0050 P *Latin Capital Letter P*
→ 2119 ℙ double-struck capital p
↓ 0070 p latin small letter p
➡ 03A1 Ρ greek capital letter rho
➡ 0420 Р cyrillic capital letter er
➡ 13E2 Ꮲ cherokee letter tlv
➡ 146D ᑭ canadian syllabics ki
0051 Q *Latin Capital Letter Q*
→ 211A ℚ double-struck capital q
↓ 0071 q latin small letter q
0052 R *Latin Capital Letter R*
→ 211B ℛ script capital r
→ 211C ℜ black-letter capital r
→ 211D ℝ double-struck capital r
↓ 0072 r latin small letter r
➡ 01A6 Ʀ latin letter yr
➡ 1587 ᖇ canadian syllabics tlhi
0053 S *Latin Capital Letter S*
↓ 0073 s latin small letter s
➡ 0405 Ѕ cyrillic capital letter dze
➡ 13D5 Ꮥ cherokee letter de
➡ 13DA Ꮪ cherokee letter du
0054 T *Latin Capital Letter T*
↓ 0074 t latin small letter t
➡ 03A4 Τ greek capital letter tau
➡ 0422 Т cyrillic capital letter te
0055 U *Latin Capital Letter U*
↓ 0075 u latin small letter u
0056 V *Latin Capital Letter V*
↓ 0076 v latin small letter v

➡ 0474 Ѵ cyrillic capital letter izhitsa
➡ 13D9 Ᏼ cherokee letter do
➡ 142F ᐯ canadian syllabics pe
0057 W *Latin Capital Letter W*
↓ 0077 w latin small letter w
0058 X *Latin Capital Letter X*
↓ 0078 x latin small letter x
➡ 166D ᙭ canadian syllabics chi sign
➡ 03A7 Χ greek capital letter chi
➡ 0425 Х cyrillic capital letter ha
0059 Y *Latin Capital Letter Y*
↓ 0079 y latin small letter y
➡ 03A5 Υ greek capital letter upsilon
➡ 04AE Ү cyrillic capital letter straight u
005A Z *Latin Capital Letter Z*
→ 2124 ℤ double-struck capital z
→ 2128 ℨ black-letter capital z
↓ 007A z latin small letter z
➡ 0396 Ζ greek capital letter zeta
➡ 13C3 Ꮓ cherokee letter no

ASCII punctuation and symbols

005B [*Left Square Bracket*
= *Opening Square Bracket*
• other bracket characters: 3008 〈–301B 〛
➡ 3014 〔 left tortoise shell bracket
005C \ *Reverse Solidus*
= *Backslash*
→ 20E5 ⃥ combining reverse solidus overlay
→ 2216 ∖ set minus
➡ 2216 ∖ set minus
005D] *Right Square Bracket*
= *Closing Square Bracket*
➡ 3015 〕 right tortoise shell bracket
005E ^ *Circumflex Accent*
• this is a spacing character
→ 02C4 ˄ modifier letter up arrowhead
→ 02C6 ˆ modifier letter circumflex accent
→ 0302 ̂ combining circumflex accent
→ 2303 ⌃ up arrowhead
➡ 3008 〈 left angle bracket
005F _ *Low Line*
= *Spacing Underscore*
• this is a spacing character
→ 02CD ˍ modifier letter low macron
→ 0331 ̱ combining macron below
→ 0332 ̲ combining low line
→ 2017 ‗ double low line
0060 ` *Grave Accent*
• this is a spacing character
→ 02CB ˋ modifier letter grave accent
→ 0300 ̀ combining grave accent
→ 2035 ‵ reversed prime

Lowercase Latin alphabet

0061 a *Latin Small Letter A*
↑ 0041 A latin capital letter a
➡ 0430 а cyrillic small letter a
0062 b *Latin Small Letter B*
↑ 0042 B latin capital letter b

➡ 0184 Ƅ latin capital letter tone six
➡ 13CF Ᏺ cherokee letter si
➡ 15AF ᖯ canadian syllabics aivilik b

0063 c *Latin Small Letter C*
　↑ 0043 C latin capital letter c
　➡ 03C2 ς greek small letter final sigma
　➡ 0441 с cyrillic small letter es

0064 d *Latin Small Letter D*
　↑ 0044 D latin capital letter d
　➡ 0501 ԁ cyrillic small letter komi de
　➡ 146F ᑯ canadian syllabics ko

0065 e *Latin Small Letter E*
　→ 212E ℮ estimated symbol
　→ 212F ℯ script small e
　↑ 0045 E latin capital letter e
　➡ 0435 е cyrillic small letter ie

0066 f *Latin Small Letter F*
　↑ 0046 F latin capital letter f
　➡ 0584 ք armenian small letter keh

0067 g *Latin Small Letter G*
　→ 0261 ɡ latin small letter script g
　→ 210A ℊ script small g
　↑ 0047 G latin capital letter g
　➡ 0261 ɡ latin small letter script g
　➡ 0581 ց armenian small letter co

0068 h *Latin Small Letter H*
　→ 04BB һ cyrillic small letter shha
　→ 210E ℎ planck constant
　↑ 0048 H latin capital letter h
　➡ 04BB һ cyrillic small letter shha
　➡ 0570 հ armenian small letter ho
　➡ 13C2 Ꮒ cherokee letter ni

0069 i *Latin Small Letter I*
　• Turkish and Azerbaijani use 0130 İ for uppercase
　→ 0131 ı latin small letter dotless i
　↑ 0049 I latin capital letter i
　➡ 2373 ⍳ apl functional symbol iota
　➡ 0131 ı latin small letter dotless i
　➡ 0269 ɩ latin small letter iota
　➡ 03B9 ι greek small letter iota
　➡ 0456 і cyrillic small letter byelorussian-ukrainian i
　➡ 13A5 Ꭵ cherokee letter v

006A j *Latin Small Letter J*
　↑ 004A J latin capital letter j
　➡ 03F3 ϳ greek letter yot
　➡ 0458 ј cyrillic small letter je
　➡ 0575 յ armenian small letter yi

006B k *Latin Small Letter K*
　↑ 004B K latin capital letter k

006C l *Latin Small Letter L*
　→ 2113 ℓ script small l
　↑ 004C L latin capital letter l
　➡ 0031 1 digit one
　➡ 0049 I latin capital letter i
　➡ 0196 Ɩ latin capital letter iota
　➡ 0399 Ι greek capital letter iota
　➡ 0406 І cyrillic capital letter byelorussian-ukrainian i
　➡ 04C0 Ӏ cyrillic letter palochka

006D m *Latin Small Letter M*
　↑ 004D M latin capital letter m

➡ 15F0 ᗰ canadian syllabics carrier go

006E n *Latin Small Letter N*
　→ 207F ⁿ superscript latin small letter n
　↑ 004E N latin capital letter n
　➡ 0578 ո armenian small letter vo
　➡ 057C ռ armenian small letter ra

006F o *Latin Small Letter O*
　→ 2134 ℴ script small o
　↑ 004F O latin capital letter o
　➡ 0C02 ఒ telugu sign anusvara
　➡ 0C82 ಂ kannada sign anusvara
　➡ 0D02 ം malayalam sign anusvara
　➡ 0966 ० devanagari digit zero
　➡ 0A66 ੦ gurmukhi digit zero
　➡ 0AE6 ૦ gujarati digit zero
　➡ 0C66 ౦ telugu digit zero
　➡ 0CE6 ೦ kannada digit zero
　➡ 0E50 ๐ thai digit zero
　➡ 0ED0 ໐ lao digit zero
　➡ 1040 ၀ myanmar digit zero
　➡ 1D0F ᴏ latin letter small capital o
　➡ 03BF ο greek small letter omicron
　➡ 043E о cyrillic small letter o
　➡ 0585 օ armenian small letter oh
　➡ 101D ဝ myanmar letter wa

0070 p *Latin Small Letter P*
　↑ 0050 P latin capital letter p
　➡ 2374 ⍴ apl functional symbol rho
　➡ 03C1 ρ greek small letter rho
　➡ 0440 р cyrillic small letter er

0071 q *Latin Small Letter Q*
　↑ 0051 Q latin capital letter q
　➡ 0563 գ armenian small letter gim
　➡ 0533 Գ armenian capital letter gim
　➡ 0566 զ armenian small letter za

0072 r *Latin Small Letter R*
　↑ 0052 R latin capital letter r
　➡ 1D26 ᴦ greek letter small capital gamma
　➡ 0433 г cyrillic small letter ghe

0073 s *Latin Small Letter S*
　↑ 0053 S latin capital letter s
　➡ 01BD ƽ latin small letter tone five
　➡ 0455 ѕ cyrillic small letter dze

0074 t *Latin Small Letter T*
　↑ 0054 T latin capital letter t

0075 u *Latin Small Letter U*
　↑ 0055 U latin capital letter u
　➡ 028A ʊ latin small letter upsilon
　➡ 028B ʋ latin small letter v with hook
　➡ 03C5 υ greek small letter upsilon
　➡ 057D ս armenian small letter seh

0076 v *Latin Small Letter V*
　↑ 0056 V latin capital letter v
　➡ 03BD ν greek small letter nu
　➡ 0475 ѵ cyrillic small letter izhitsa

0077 w *Latin Small Letter W*
　↑ 0057 W latin capital letter w
　➡ 026F ɯ latin small letter turned m
　➡ 13B3 Ꮃ cherokee letter la

➡ 13D4 Ꮤ cherokee letter ta
➡ 15EF ᗯ canadian syllabics carrier gu

0078 x *Latin Small Letter X*

↑ 0058 X latin capital letter x
➡ 166E ᙮ canadian syllabics full stop
➡ 0445 х cyrillic small letter ha
➡ 1541 ᕁ canadian syllabics sayisi yi
➡ 157D ᕽ canadian syllabics hk

0079 y *Latin Small Letter Y*

↑ 0059 Y latin capital letter y
➡ 0443 у cyrillic small letter u
➡ 04AF ү cyrillic small letter straight u
➡ 10E7 ყ georgian letter qar
➡ 13A9 Ᏹ cherokee letter gi
➡ 13BD Ჽ cherokee letter mu

007A z *Latin Small Letter Z*

→ 01B6 ƶ latin small letter z with stroke
↑ 005A Z latin capital letter z

ASCII punctuation and symbols

007B { *Left Curly Bracket*
= *Opening Curly Bracket*
= opening brace
007C | *Vertical Line*
= *Vertical Bar*
• used in pairs to indicate absolute value

→ 01C0 ǀ latin letter dental click
→ 05C0 ׀ hebrew punctuation paseq
→ 2223 ∣ divides
→ 2758 ❘ light vertical bar
➡ 2223 ∣ divides
➡ 01C0 ǀ latin letter dental click
➡ 1175 ᅵ hangul jungseong i
➡ 4E28 丨 cjk unified ideograph-4e28

007D } *Right Curly Bracket*
= *Closing Curly Bracket*
= closing brace
007E ~ *Tilde*
• this is a spacing character
→ 02DC ˜ small tilde
→ 0303 ◌̃ combining tilde
→ 2053 ⁓ swung dash
→ 223C ∼ tilde operator
→ FF5E ～ fullwidth tilde
➡ 301C 〜 wave dash

Control character

007F DEL *<Control>*
= *Delete*

6/10

IPA extensions

IPA includes basic Latin letters and a number of Latin or Greek letters from other blocks.

→ 00E6 æ latin small letter ae
→ 00E7 ç latin small letter c with cedilla
→ 00F0 ð latin small letter eth
→ 00F8 ø latin small letter o with stroke
→ 0127 ħ latin small letter h with stroke
→ 014B ŋ latin small letter eng
→ 0153 œ latin small ligature oe
→ 03B2 β greek small letter beta
→ 03B8 θ greek small letter theta
→ 03BB λ greek small letter lamda
→ 03C7 χ greek small letter chi

0250 ɐ *Latin Small Letter Turned A*
• low central unrounded vowel

0251 ɑ *Latin Small Letter Alpha*
= *Latin Small Letter Script A*
• low back unrounded vowel
→ 03B1 α greek small letter alpha

➡ 237A α apl functional symbol alpha
➡ 03B1 α greek small letter alpha

0252 ɒ *Latin Small Letter Turned Alpha*
• low back rounded vowel

0253 ɓ *Latin Small Letter B With Hook*
• implosive bilabial stop
• Pan-Nigerian alphabet
→ 0181 Ɓ latin capital letter b with hook

↑ 0181 Ɓ latin capital letter b with hook
➡ 0062 b + 0314 ◌̔ latin small letter b + combining reversed comma above

0254 ɔ *Latin Small Letter Open O*
• typographically a turned c
• lower-mid back rounded vowel
→ 0186 Ɔ latin capital letter open o

↑ 0186 Ɔ latin capital letter open o

0255 ɕ *Latin Small Letter C With Curl*
• voiceless alveolo-palatal laminal fricative
• used in transcription of Mandarin Chinese
• sound spelled with 015B ś in Polish

0256 ɖ *Latin Small Letter D With Tail*
= *Latin Small Letter D Retroflex Hook*
• voiced retroflex stop
→ 0189 Ð latin capital letter african d

↑ 0189 Ð latin capital letter african d
➡ 0064 d + 0322 ◌̢ latin small letter d + combining retroflex hook below

0257 ɗ *Latin Small Letter D With Hook*
• implosive dental or alveolar stop
• Ewe, Pan-Nigerian alphabet
→ 018A Ɗ latin capital letter d with hook

↑ 018A Ɗ latin capital letter d with hook
➡ 0064 d + 0314 ◌̔ latin small letter d + combining reversed comma above

0258 ɘ *Latin Small Letter Reversed E*
• upper-mid central unrounded vowel

0259 ə *Latin Small Letter Schwa*
• mid-central unrounded vowel
• variant uppercase form 018E Ǝ is associated with

01DD ə
→ 018F Ə latin capital letter schwa
→ 01DD ə latin small letter turned e
→ 04D9 ә cyrillic small letter schwa

↑ 018F Ə latin capital letter schwa
➡ 01DD ə latin small letter turned e
➡ 04D9 ә cyrillic small letter schwa

025A ɚ *Latin Small Letter Schwa With Hook*
• rhotacized schwa
➡ 0259 ə + 02DE latin small letter schwa + modifier letter rhotic hook

025B ɛ *Latin Small Letter Open E*
= *Latin Small Letter Epsilon*
• lower-mid front unrounded vowel
→ 0190 Ɛ latin capital letter open e
→ 03B5 ε greek small letter epsilon

↑ 0190 Ɛ latin capital letter open e
➡ 22F4 small element of with vertical bar at end of horizontal stroke
➡ 03B5 ε greek small letter epsilon
➡ 0454 є cyrillic small letter ukrainian ie

025C ɜ *Latin Small Letter Reversed Open E*
• lower-mid central unrounded vowel
➡ 0437 з cyrillic small letter ze

025D ɝ *Latin Small Letter Reversed Open E With Hook*
• rhotacized lower-mid central vowel

025E ɞ *Latin Small Letter Closed Reversed Open E*
= *Latin Small Letter Closed Reversed Epsilon*
• lower-mid central rounded vowel

025F ɟ *Latin Small Letter Dotless J With Stroke*
• voiced palatal stop
• typographically a turned f, but better thought of as a form of j
• "gy" in Hungarian orthography
• also archaic phonetic for palatoalveolar affricate
02A4 ʤ

0260 ɠ *Latin Small Letter G With Hook*
• implosive velar stop
→ 0193 Ɠ latin capital letter g with hook

↑ 0193 Ɠ latin capital letter g with hook
➡ 0067 g + 0314 ◌̔ latin small letter g + combining reversed comma above

0261 ɡ *Latin Small Letter Script G*
• voiced velar stop
→ 0067 g latin small letter g

➡ 0067 g latin small letter g
➡ 0581 g armenian small letter co

0262 ɢ *Latin Letter Small Capital G*
• voiced uvular stop
➡ 050D cyrillic small letter komi sje

0263 ɣ *Latin Small Letter Gamma*
• voiced velar fricative
→ 0194 Ɣ latin capital letter gamma
→ 03B3 γ greek small letter gamma

↑ 0194 Ɣ latin capital letter gamma

0264 ɤ *Latin Small Letter Rams Horn*
= *Latin Small Letter Baby Gamma*
• upper-mid back unrounded vowel

0265 ɥ *Latin Small Letter Turned H*
• voiced rounded palatal approximant

0266 ɦ *Latin Small Letter H With Hook*
• breathy-voiced glottal fricative
→ 02B1 ʱ modifier letter small h with hook

➙ 0068 h + 0314 ̔ latin small letter h + combining reversed comma above
➙ 13F2 ꭲ cherokee letter yo

0267 ɧ *Latin Small Letter Heng With Hook*
  • voiceless coarticulated velar and palatoalveolar fricative
  • "tj" or "kj" or "sj" in some Swedish dialects

0268 ɨ *Latin Small Letter I With Stroke*
  = barred i, i bar
  • high central unrounded vowel
  • ISO 6438 捺 gives lowercase of 0197 Ɨ as 026A ɪ, not 0268 i
  ↑ 0197 Ɨ latin capital letter i with stroke
  ➙ 0131 ı + 0335 ̵ latin small letter dotless i + combining short stroke overlay

0269 ɩ *Latin Small Letter Iota*
  • semi-high front unrounded vowel
  ↑ 0196 Ɩ latin capital letter iota
  ➙ 2373 ⍳ apl functional symbol iota
  ➙ 0069 i latin small letter i
  ➙ 0131 ı latin small letter dotless i
  ➙ 03B9 ι greek small letter iota
  ➙ 0456 і cyrillic small letter byelorussian-ukrainian i
  ➙ 13A5 Ꭵ cherokee letter v

* obsoleted by IPA in 1989

  • preferred use is 026A ɪ LATIN LETTER SMALL CAPITAL I
  → 0196 Ɩ latin capital letter iota
  → 03B9 ι greek small letter iota

026A ɪ *Latin Letter Small Capital I*
  • semi-high front unrounded vowel
  • preferred IPA alternate for 0269 ɩ
  → 0197 Ɨ latin capital letter i with stroke

026B ɫ *Latin Small Letter L With Middle Tilde*
  • velarized voiced alveolar lateral approximant
  ↑ 2C62 latin capital letter l with middle tilde
  ➙ 006C l + 0334 ̴ latin small letter l + combining tilde overlay

026C ɬ *Latin Small Letter L With Belt*
  • voiceless alveolar lateral fricative

026D ɭ *Latin Small Letter L With Retroflex Hook*
  • voiced retroflex lateral
  ➙ 0031 1 + 0328 ̨ digit one + combining ogonek

026E ɮ *Latin Small Letter Lezh*
  • voiced lateral fricative
  • "dhl" in Zulu orthography

026F ɯ *Latin Small Letter Turned M*
  • high back unrounded vowel
  → 019C Ɯ latin capital letter turned m
  ↑ 019C Ɯ latin capital letter turned m
  ➙ 0077 w latin small letter w
  ➙ 13B3 Ꮃ cherokee letter la
  ➙ 13D4 Ꮤ cherokee letter ta
  ➙ 15EF ᗯ canadian syllabics carrier gu

0270 ɰ *Latin Small Letter Turned M With Long Leg*
  • voiced velar approximant

0271 ɱ *Latin Small Letter M With Hook*
  • voiced labiodental nasal

➙ 15F0 ᗰ + 0326 ̦ canadian syllabics carrier go + combining comma below

0272 ɲ *Latin Small Letter N With Left Hook*
  • voiced palatal nasal
  → 019D Ɲ latin capital letter n with left hook
  ↑ 019D Ɲ latin capital letter n with left hook
  ➙ 006E n + 0327 ̧ latin small letter n + combining cedilla

0273 ɳ *Latin Small Letter N With Retroflex Hook*
  • voiced retroflex nasal
  ➙ 006E n + 0322 ̢ latin small letter n + combining retroflex hook below

0274 ɴ *Latin Letter Small Capital N*
  • voiced uvular nasal

0275 ɵ *Latin Small Letter Barred O*
  = o bar
  • rounded mid-central vowel, i.e. rounded schwa
  • uppercase is 019F Ɵ
  → 03B8 θ greek small letter theta
  → 0473 ѳ cyrillic small letter fita
  → 04E9 ө cyrillic small letter barred o
  ↑ 019F Ɵ latin capital letter o with middle tilde
  ➙ 04E9 ө cyrillic small letter barred o
  ➙ 0473 ѳ cyrillic small letter fita
  ➙ 101D ဝ + 0335 ̵ myanmar letter wa + combining short stroke overlay

0276 ɶ *Latin Letter Small Capital Oe*
  • low front rounded vowel
  → 0153 œ latin small ligature oe

0277 ɷ *Latin Small Letter Closed Omega*
  • semi-high back rounded vowel

* obsoleted by IPA in 1989

  • preferred use is 028A ʊ latin small letter upsilon

0278 ɸ *Latin Small Letter Phi*
  • voiceless bilabial fricative
  → 03C6 φ greek small letter phi
  ➙ 03C6 φ greek small letter phi
  ➙ 0444 ф cyrillic small letter ef

0279 ɹ *Latin Small Letter Turned R*
  • voiced alveolar approximant
  → 02B4 ʴ modifier letter small turned r

027A ɺ *Latin Small Letter Turned R With Long Leg*
  • voiced lateral flap

027B ɻ *Latin Small Letter Turned R With Hook*
  • voiced retroflex approximant
  → 02B5 ʵ modifier letter small turned r with hook

027C ɼ *Latin Small Letter R With Long Leg*
  • voiced strident apico-alveolar trill
  ➙ 0072 r + 0329 ̩ latin small letter r + combining vertical line below

* obsoleted by IPA in 1989

  • sound spelled with 0159 ř in Czech
  • preferred phonetic representation for Czech is 0072 r 031D ̝
  • in current use in Gaelic types (as glyph variant of 0072 r)

027D ɽ *Latin Small Letter R With Tail*
  • voiced retroflex flap

↑ 2C64   latin capital letter r with tail
➡ 0072 r + 0328 ◌̨ latin small letter r + combining ogonek

027E ɾ *Latin Small Letter R With Fishhook*
• voiced alveolar flap or tap

027F ɿ *Latin Small Letter Reversed R With Fishhook*
= long leg turned iota (a misnomer)
• apical dental vowel
• used by linguists working on Chinese and other Sino-Tibetan languages
• IPA spelling - 007A z 0329 ◌̩

0280 ʀ *Latin Letter Small Capital R* *
• voiced uvular trill
• Germanic, Old Norse
• uppercase is 01A6 Ʀ
↑ 01A6 Ʀ latin letter yr

0281 ʁ *Latin Letter Small Capital Inverted R*
• voiced uvular fricative or approximant
→ 02B6 ʶ modifier letter small capital inverted r

0282 ʂ *Latin Small Letter S With Hook*
• voiceless retroflex fricative
➡ 01BD ƽ + 0328 ◌̨ latin small letter tone five + combining ogonek

0283 ʃ *Latin Small Letter Esh*
• voiceless postalveolar fricative
→ 01A9 Σ latin capital letter esh
→ 222B ∫ integral
↑ 01A9 Σ latin capital letter esh
➡ 222B ∫ integral

0284 ʄ *Latin Small Letter Dotless J With Stroke And Hook*
• implosive palatal stop
• typographically based on 025F ɟ, not on 0283 ʃ

0285 ʅ *Latin Small Letter Squat Reversed Esh*
• apical retroflex vowel
• used by linguists working on Chinese and other Sino-Tibetan languages
• IPA spelling - 0290 ʐ 0329 ◌̩
• in origin 027F ɿ plus the retroflex hook 0322 ◌̢ despite its name

0286 ʆ *Latin Small Letter Esh With Curl*
• palatalized voiceless postalveolar fricative
• suggested spelling - 0283 ʃ 02B2 ʲ

0287 ʇ *Latin Small Letter Turned T*
• dental click (sound of "tsk tsk")
→ 01C0 ǀ latin letter dental click

0288 ʈ *Latin Small Letter T With Retroflex Hook*
• voiceless retroflex stop
→ 01AE Ʈ latin capital letter t with retroflex hook
↑ 01AE Ʈ latin capital letter t with retroflex hook

0289 ʉ *Latin Small Letter U Bar*
• high central rounded vowel
• uppercase is 0244
↑ 0244   latin capital letter u bar

028A ʊ *Latin Small Letter Upsilon*
• semi-high back rounded vowel
• preferred IPA alternate to 0277 ɷ
→ 01B1 Ʊ latin capital letter upsilon
→ 03C5 υ greek small letter upsilon
↑ 01B1 Ʊ latin capital letter upsilon
➡ 0075 u latin small letter u
➡ 028B ʋ latin small letter v with hook
➡ 03C5 υ greek small letter upsilon

➡ 057D u armenian small letter seh

028B ʋ *Latin Small Letter V With Hook*
= *Latin Small Letter Script V*
• voiced labiodental approximant
→ 01B2 Ʋ latin capital letter v with hook
→ 03C5 υ greek small letter upsilon
↑ 01B2 Ʋ latin capital letter v with hook
➡ 0075 u latin small letter u
➡ 028A ʊ latin small letter upsilon
➡ 03C5 υ greek small letter upsilon
➡ 057D u armenian small letter seh

028C ʌ *Latin Small Letter Turned V*
= caret, wedge
• lower-mid back unrounded vowel
• uppercase is 0245
→ 039B Λ greek capital letter lamda
→ 2038 ‸ caret
→ 2227 ∧ logical and
↑ 0245   latin capital letter turned v

028D ʍ *Latin Small Letter Turned W*
• voiceless rounded labiovelar approximant

028E ʎ *Latin Small Letter Turned Y*
• voiced lateral approximant

028F ʏ *Latin Letter Small Capital Y*
• semi-high front rounded vowel

0290 ʐ *Latin Small Letter Z With Retroflex Hook*
• voiced retroflex fricative
➡ 007A z + 0322 ◌̢ latin small letter z + combining retroflex hook below

0291 ʑ *Latin Small Letter Z With Curl*
• voiced alveolo-palatal laminal fricative
• sound spelled with 017A ź in Polish

0292 ʒ *Latin Small Letter Ezh*
= dram
• voiced postalveolar fricative
• mistakenly named yogh in Unicode 1.0
• uppercase is 01B7 Ʒ
• Skolt Sami
→ 021D ȝ latin small letter yogh
→ 04E1 ӡ cyrillic small letter abkhasian dze
→ 2125 ℥ ounce sign
↑ 01B7 Ʒ latin capital letter ezh
➡ 021D ȝ latin small letter yogh
➡ 04E1 ӡ cyrillic small letter abkhasian dze
➡ 10F3 ჳ georgian letter we

0293 ʓ *Latin Small Letter Ezh With Curl*
• palatalized voiced postalveolar fricative

0294 ʔ *Latin Letter Glottal Stop*
• this is a caseless letter
• used in IPA, other phonetic notations, and those orthographies which use a caseless glottal stop
→ 0241   latin capital letter glottal stop
→ 02C0 ˀ modifier letter glottal stop
➡ 003F ? question mark

0295 ʕ *Latin Letter Pharyngeal Voiced Fricative*
= *Latin Letter Reversed Glottal Stop*
• voiced pharyngeal fricative
• ain
→ 01B9 ƹ latin small letter ezh reversed
→ 02C1 ˁ modifier letter reversed glottal stop

0296 ʖ *Latin Letter Inverted Glottal Stop*
• lateral click
→ 01C1 ǁ latin letter lateral click

0297 ʗ *Latin Letter Stretched C*

• palatal (or alveolar) click

→ 01C3 ! latin letter retroflex click

→ 2201 ∁ complement

0298 ʘ *Latin Letter Bilabial Click*

= *Latin Letter Bullseye*

→ 2299 ⊙ circled dot operator

0299 ʙ *Latin Letter Small Capital B*

• bilabial trill

➡ 0432 в cyrillic small letter ve

029A ɞ *Latin Small Letter Closed Open E*

= *Latin Small Letter Closed Epsilon*

• lower-mid front rounded vowel

• non-IPA alternate for the preferred 0153 œ

029B ɢ *Latin Letter Small Capital G With Hook*

• voiced uvular implosive

029C ʜ *Latin Letter Small Capital H*

• voiceless epiglottal fricative

➡ 043D н cyrillic small letter en

029D ʝ *Latin Small Letter J With Crossed-Tail*

• voiced palatal fricative

029E ʞ *Latin Small Letter Turned K*

• proposed for velar click

* withdrawn by IPA in 1970

029F ʟ *Latin Letter Small Capital L*

• velar lateral approximant

02A0 ʠ *Latin Small Letter Q With Hook*

• voiceless uvular implosive

➡ 0071 q + 0314 ̔ latin small letter q + combining reversed comma above

02A1 ʡ *Latin Letter Glottal Stop With Stroke*

• voiced epiglottal stop

02A2 ʢ *Latin Letter Reversed Glottal Stop With Stroke*

• voiced epiglottal fricative

02A3 ʣ *Latin Small Letter Dz Digraph*

• voiced dental affricate

02A4 ʤ *Latin Small Letter Dezh Digraph*

• voiced postalveolar affricate

02A5 ʥ *Latin Small Letter Dz Digraph With Curl*

• voiced alveolo-palatal affricate

02A6 ʦ *Latin Small Letter Ts Digraph*

• voiceless dental affricate

02A7 ʧ *Latin Small Letter Tesh Digraph*

• voiceless postalveolar affricate

02A8 ʨ *Latin Small Letter Tc Digraph With Curl*

• voiceless alveolo-palatal affricate

IPA characters for disordered speech

02A9 ʩ *Latin Small Letter Feng Digraph*

• velopharyngeal fricative

02AA ʪ *Latin Small Letter Ls Digraph*

• lateral alveolar fricative (lisp)

02AB ʫ *Latin Small Letter Lz Digraph*

• voiced lateral alveolar fricative

02AC ʬ *Latin Letter Bilabial Percussive*

• audible lip smack

02AD ʭ *Latin Letter Bidental Percussive*

• audible teeth gnashing

Additions for Sinology

02AE   *Latin Small Letter Turned H With Fishhook*

02AF   *Latin Small Letter Turned H With Fishhook And Tail*