

C0 Controls and Basic Latin

Range: 0000–007F

This file contains an excerpt from the character code tables and list of character names for *The Unicode Standard, Version 10.0*

This file may be changed at any time without notice to reflect errata or other updates to the Unicode Standard. See <http://www.unicode.org/errata/> for an up-to-date list of errata.

See <http://www.unicode.org/charts/> for access to a complete list of the latest character code charts.
See <http://www.unicode.org/charts/PDF/Unicode-10.0/> for charts showing only the characters added in Unicode 10.0.
See <http://www.unicode.org/Public/10.0.0/charts/> for a complete archived file of character code charts for Unicode 10.0.

Disclaimer

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 10.0 but do not provide all the information needed to fully support individual scripts using the Unicode Standard. For a complete understanding of the use of the characters contained in this file, please consult the appropriate sections of The Unicode Standard, Version 10.0, online at <http://www.unicode.org/versions/Unicode10.0.0/>, as well as Unicode Standard Annexes #9, #11, #14, #15, #24, #29, #31, #34, #38, #41, #42, #44, and #45, the other Unicode Technical Reports and Standards, and the Unicode Character Database, which are available online.

See <http://www.unicode.org/ucd/> and <http://www.unicode.org/reports/>

A thorough understanding of the information contained in these additional sources is required for a successful implementation.

Fonts

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See <http://www.unicode.org/charts/fonts.html> for a list.

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







































See <http://www.unicode.org/pending/pending.html> and <http://www.unicode.org/alloc/Pipeline.html>.

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| | 000 | 001 | 002 | 003 | 004 | 005 | 006 | 007 |
|---|-------------|-------------|------------|-----------|-----------|-----------|-----------|-------------|
| 0 | NUL 0000 | DLE 0010 | SP 0020 | 0 0030 | @ 0040 | P 0050 | ` 0060 | p 0070 |
| 1 | SOH 0001 | DC1 0011 | ! 0021 | 1 0031 | A 0041 | Q 0051 | a 0061 | q 0071 |
| 2 | STX 0002 | DC2 0012 | " 0022 | 2 0032 | B 0042 | R 0052 | b 0062 | r 0072 |
| 3 | ETX 0003 | DC3 0013 | # 0023 | 3 0033 | C 0043 | S 0053 | c 0063 | s 0073 |
| 4 | EOT 0004 | DC4 0014 | \$ 0024 | 4 0034 | D 0044 | T 0054 | d 0064 | t 0074 |
| 5 | ENQ 0005 | NAK 0015 | % 0025 | 5 0035 | E 0045 | U 0055 | e 0065 | u 0075 |
| 6 | ACK 0006 | SYN 0016 | & 0026 | 6 0036 | F 0046 | V 0056 | f 0066 | v 0076 |
| 7 | BEL 0007 | ETB 0017 | ' 0027 | 7 0037 | G 0047 | W 0057 | g 0067 | w 0077 |
| 8 | BS 0008 | CAN 0018 | (0028 | 8 0038 | H 0048 | X 0058 | h 0068 | x 0078 |
| 9 | HT 0009 | EM 0019 |) 0029 | 9 0039 | I 0049 | Y 0059 | i 0069 | y 0079 |
| A | LF 000A | SUB 001A | * 002A | : 003A | J 004A | Z 005A | j 006A | z 007A |
| B | VT 000B | ESC 001B | + 002B | ; 003B | K 004B | [005B | k 006B | { 007B |
| C | FF 000C | FS 001C | , 002C | < 003C | L 004C | \ 005C | l 006C | 007C |
| D | CR 000D | GS 001D | - 002D | = 003D | M 004D |] 005D | m 006D | } 007D |
| E | SO 000E | RS 001E | . 002E | > 003E | N 004E | ^ 005E | n 006E | ~ 007E |
| F | SI 000F | US 001F | / 002F | ? 003F | O 004F | _ 005F | o 006F | DEL 007F |

C0 controls

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

| | | | | | |
|------|---|--|--|---|--|
| 0000 |  | <control> = NULL | 001B |  | <control> = ESCAPE |
| 0001 |  | <control> = START OF HEADING | 001C |  | <control> = INFORMATION SEPARATOR FOUR = file separator (FS) |
| 0002 |  | <control> = START OF TEXT | 001D |  | <control> = INFORMATION SEPARATOR THREE = group separator (GS) |
| 0003 |  | <control> = END OF TEXT | 001E |  | <control> = INFORMATION SEPARATOR TWO = record separator (RS) |
| 0004 |  | <control> = END OF TRANSMISSION | 001F |  | <control> = INFORMATION SEPARATOR ONE = unit separator (US) |
| 0005 |  | <control> = ENQUIRY | ASCII punctuation and symbols | | |
| 0006 |  | <control> = ACKNOWLEDGE | <i>Based on ISO/IEC 646.</i> | | |
| 0007 |  | <control> = BELL | 0020 |  | SPACE |
| 0008 |  | <control> = BACKSPACE | <ul style="list-style-type: none"> • sometimes considered a control code • other space characters: 2000  – 200A  | | |
| 0009 |  | <control> = CHARACTER TABULATION = horizontal tabulation (HT), tab | <ul style="list-style-type: none"> → 00A0  no-break space → 200B  zero width space → 2060  word joiner → 3000  ideographic space → FEFF  zero width no-break space | | |
| 000A |  | <control> = LINE FEED (LF) = new line (NL), end of line (EOL) | 0021 | ! | EXCLAMATION MARK |
| 000B |  | <control> = LINE TABULATION = vertical tabulation (VT) | <ul style="list-style-type: none"> = factorial = bang → 00A1 ¡ inverted exclamation mark → 01C3 ! latin letter retroflex click → 203C !! double exclamation mark → 203D ? interrobang → 2762 ❶ heavy exclamation mark ornament | | |
| 000C |  | <control> = FORM FEED (FF) | 0022 | " | QUOTATION MARK |
| 000D |  | <control> = CARRIAGE RETURN (CR) | <ul style="list-style-type: none"> • neutral (vertical), used as opening or closing quotation mark • preferred characters in English for paired quotation marks are 201C “ & 201D ” • 05F4 ״ is preferred for gershayim when writing Hebrew → 02BA ״ modifier letter double prime → 030B ͂ combining double acute accent → 030E ̓ combining double vertical line above → 05F4 ״ hebrew punctuation gershayim → 2033 ′ double prime → 3003 ″ ditto mark | | |
| 000E |  | <control> = SHIFT OUT | 0023 | # | NUMBER SIGN |
| 000F |  | <control> = SHIFT IN | <ul style="list-style-type: none"> = pound sign, hash, crosshatch, octothorpe → 2114 ₣ l b bar symbol → 2317 𐄆 viewdata square → 266F ♯ music sharp sign | | |
| 0010 |  | <control> = DATA LINK ESCAPE | 0024 | \$ | DOLLAR SIGN |
| 0011 |  | <control> = DEVICE CONTROL ONE | <ul style="list-style-type: none"> = milréis, escudo • used for many peso currencies in Latin America and elsewhere • glyph may have one or two vertical bars • other currency symbol characters start at 20A0 ₵ → 00A4 ₪ currency sign → 20B1 ₱ peso sign → 1F4B2 \$ heavy dollar sign | | |
| 0012 |  | <control> = DEVICE CONTROL TWO | | | |
| 0013 |  | <control> = DEVICE CONTROL THREE | | | |
| 0014 |  | <control> = DEVICE CONTROL FOUR | | | |
| 0015 |  | <control> = NEGATIVE ACKNOWLEDGE | | | |
| 0016 |  | <control> = SYNCHRONOUS IDLE | | | |
| 0017 |  | <control> = END OF TRANSMISSION BLOCK | | | |
| 0018 |  | <control> = CANCEL | | | |
| 0019 |  | <control> = END OF MEDIUM | | | |
| 001A |  | <control> = SUBSTITUTE → FFFD 𐀀 replacement character | | | |

| | | |
|------|---|---|
| 0025 | % | PERCENT SIGN → 066A ٪ arabic percent sign → 2030 ‰ per mille sign → 2031 ‰ per ten thousand sign → 2052 ƒ commercial minus sign |
| 0026 | & | AMPERSAND → 204A ɀ tironian sign et → 214B ⁂ turned ampersand → 1F674 ⁂ heavy ampersand ornament |
| 0027 | ' | APOSTROPHE = apostrophe-quote (1.0) = APL quote • neutral (vertical) glyph with mixed usage • 2019 ’ is preferred for apostrophe • preferred characters in English for paired quotation marks are 2018 ‘ & 2019 ’ • 05F3 ʹ is preferred for geresh when writing Hebrew → 02B9 ʹ modifier letter prime → 02BC ʹ modifier letter apostrophe → 02C8 ʹ modifier letter vertical line → 0301 ˆ combining acute accent → 05F3 ʹ hebrew punctuation geresh → 2032 ʹ prime → A78C ˆ latin small letter saltillo |
| 0028 | (| LEFT PARENTHESIS = opening parenthesis (1.0) |
| 0029 |) | RIGHT PARENTHESIS = closing parenthesis (1.0) • 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 → 26B9 * sextile → 2731 * heavy asterisk |
| 002B | + | PLUS SIGN → 2795 ⁞ heavy plus sign |
| 002C | , | COMMA = decimal separator → 060C ٫ arabic comma → 201A ٫ single low-9 quotation mark → 2E41 ٫ reversed comma → 3001 ٫ ideographic comma |
| 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 → 2043 ▪ hyphen bullet → 2212 − minus sign → 10191 − roman uncia sign |
| 002E | . | FULL STOP = period, dot, decimal point • may be rendered as a raised decimal point in old style numbers → 06D4 ٫ arabic full stop → 2E3C ٫ stenographic full stop → 3002 ٫ ideographic full stop |

| | | |
|------|---|---|
| 002F | / | SOLIDUS = slash, virgule → 01C0 ǀ latin letter dental click → 0338 ⁄ combining long solidus overlay → 2044 ⁄ fraction slash → 2215 ⁄ division slash |
|------|---|---|

ASCII digits

| | | |
|------|---|---|
| 0030 | 0 | DIGIT ZERO ~ 0030 FE00 0 short diagonal stroke form |
| 0031 | 1 | DIGIT ONE |
| 0032 | 2 | DIGIT TWO |
| 0033 | 3 | DIGIT THREE |
| 0034 | 4 | DIGIT FOUR |
| 0035 | 5 | DIGIT FIVE |
| 0036 | 6 | DIGIT SIX |
| 0037 | 7 | DIGIT SEVEN |
| 0038 | 8 | DIGIT EIGHT |
| 0039 | 9 | DIGIT NINE |

ASCII punctuation and symbols

| | | |
|------|---|--|
| 003A | : | COLON • also used to denote division or scale; for that mathematical use 2236 : is preferred → 0589 ։ armenian full stop → 05C3 ։ hebrew punctuation sof pasuq → 2236 : ratio → A789 ։ modifier letter colon |
| 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 |
| 003D | = | EQUALS SIGN • other related characters: 2241 ≈ –2263 ≡ → 2260 ≠ not equal to → 2261 ≡ identical to → A78A = modifier letter short equals sign → 10190 = roman sextans sign |
| 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 |
| 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 |
| 0040 | @ | COMMERCIAL AT = at sign |

Uppercase Latin alphabet

| | | |
|------|---|-------------------------------|
| 0041 | A | LATIN CAPITAL LETTER A |
|------|---|-------------------------------|

| | | | |
|------|---|------------------------|---|
| 0042 | B | LATIN CAPITAL LETTER B | → 212C <i>B</i> script capital b |
| 0043 | C | LATIN CAPITAL LETTER C | → 2102 <i>C</i> double-struck capital c → 212D <i>C</i> black-letter capital c |
| 0044 | D | LATIN CAPITAL LETTER D | |
| 0045 | E | LATIN CAPITAL LETTER E | → 2107 <i>E</i> euler constant → 2130 <i>E</i> script capital e |
| 0046 | F | LATIN CAPITAL LETTER F | → 2131 <i>F</i> script capital f → 2132 <i>F</i> turned capital f |
| 0047 | G | LATIN CAPITAL LETTER G | |
| 0048 | H | LATIN CAPITAL LETTER H | → 210B <i>H</i> script capital h → 210C <i>H</i> black-letter capital h → 210D <i>H</i> double-struck capital 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 И cyrillic letter palochka → 2110 <i>I</i> script capital i → 2111 <i>I</i> black-letter capital i → 2160 I roman numeral one |
| 004A | J | LATIN CAPITAL LETTER J | |
| 004B | K | LATIN CAPITAL LETTER K | → 212A K kelvin sign |
| 004C | L | LATIN CAPITAL LETTER L | → 2112 <i>L</i> script capital l |
| 004D | M | LATIN CAPITAL LETTER M | → 2133 <i>M</i> script capital m |
| 004E | N | LATIN CAPITAL LETTER N | → 2115 <i>N</i> double-struck capital n |
| 004F | O | LATIN CAPITAL LETTER O | |
| 0050 | P | LATIN CAPITAL LETTER P | → 2119 <i>P</i> double-struck capital p |
| 0051 | Q | LATIN CAPITAL LETTER Q | → 211A <i>Q</i> double-struck capital q |
| 0052 | R | LATIN CAPITAL LETTER R | → 211B <i>R</i> script capital r → 211C <i>R</i> black-letter capital r → 211D <i>R</i> double-struck capital r |
| 0053 | S | LATIN CAPITAL LETTER S | |
| 0054 | T | LATIN CAPITAL LETTER T | |
| 0055 | U | LATIN CAPITAL LETTER U | |
| 0056 | V | LATIN CAPITAL LETTER V | → 2164 V roman numeral five |
| 0057 | W | LATIN CAPITAL LETTER W | |
| 0058 | X | LATIN CAPITAL LETTER X | |
| 0059 | Y | LATIN CAPITAL LETTER Y | |
| 005A | Z | LATIN CAPITAL LETTER Z | → 2124 <i>Z</i> double-struck capital z → 2128 <i>Z</i> black-letter capital z |

ASCII punctuation and symbols

| | | | |
|------|---|---------------------|--|
| 005B | [| LEFT SQUARE BRACKET | = opening square bracket (1.0) • other bracket characters: 27E6 [(−27EB] , 2983 [(−2998] , 3008 < (−301B]) |
|------|---|---------------------|--|

| | | | |
|------|---|----------------------|--|
| 005C | \ | REVERSE SOLIDUS | = backslash → 20E5 \ combining reverse solidus overlay → 2216 \ set minus |
| 005D |] | RIGHT SQUARE BRACKET | = closing square bracket (1.0) |
| 005E | ^ | CIRCUMFLEX ACCENT | • this is a spacing character → 02C4 ^ modifier letter up arrowhead → 02C6 ^ modifier letter circumflex accent → 0302 ô combining circumflex accent → 2038 ^ caret → 2303 ^ up arrowhead |
| 005F | _ | LOW LINE | = spacing underscore (1.0) • this is a spacing character → 02CD _ 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 ` modifier letter grave accent → 0300 ̀ combining grave accent → 2035 ` reversed prime |

Lowercase Latin alphabet

| | | | |
|------|---|----------------------|---|
| 0061 | a | LATIN SMALL LETTER A | |
| 0062 | b | LATIN SMALL LETTER B | |
| 0063 | c | LATIN SMALL LETTER C | |
| 0064 | d | LATIN SMALL LETTER D | |
| 0065 | e | LATIN SMALL LETTER E | → 212E <i>e</i> estimated symbol → 212F <i>e</i> script small e |
| 0066 | f | LATIN SMALL LETTER F | |
| 0067 | g | LATIN SMALL LETTER G | → 0261 <i>g</i> latin small letter script g → 210A <i>g</i> script small g |
| 0068 | h | LATIN SMALL LETTER H | → 04BB h cyrillic small letter shha → 210E <i>h</i> planck constant |
| 0069 | i | LATIN SMALL LETTER I | • Turkish and Azerbaijani use 0130 ı for uppercase → 0131 ı latin small letter dotless i → 1D6A4 <i>i</i> mathematical italic small dotless i |
| 006A | j | LATIN SMALL LETTER J | → 0237 j latin small letter dotless j → 1D6A5 <i>j</i> mathematical italic small dotless j |
| 006B | k | LATIN SMALL LETTER K | |
| 006C | l | LATIN SMALL LETTER L | → 2113 <i>l</i> script small l → 1D4C1 <i>l</i> mathematical script small l |
| 006D | m | LATIN SMALL LETTER M | |
| 006E | n | LATIN SMALL LETTER N | → 207F ⁿ superscript latin small letter n |
| 006F | o | LATIN SMALL LETTER O | → 2134 <i>o</i> script small o |
| 0070 | p | LATIN SMALL LETTER P | |
| 0071 | q | LATIN SMALL LETTER Q | |
| 0072 | r | LATIN SMALL LETTER R | |
| 0073 | s | LATIN SMALL LETTER S | |
| 0074 | t | LATIN SMALL LETTER T | |

0075 u LATIN SMALL LETTER U
 0076 v LATIN SMALL LETTER V
 0077 w LATIN SMALL LETTER W
 0078 x LATIN SMALL LETTER X
 0079 y LATIN SMALL LETTER Y
 007A z LATIN SMALL LETTER Z
 → 01B6 z̄ latin small letter z with stroke

ASCII punctuation and symbols

007B { LEFT CURLY BRACKET
 = opening curly bracket (1.0)
 = left brace

007C | VERTICAL LINE
 = vertical bar

- used in pairs to indicate absolute value

 → 01C0 | latin letter dental click
 → 05C0| hebrew punctuation paseq
 → 2223 | divides
 → 2758 | light vertical bar


007D } RIGHT CURLY BRACKET
 = closing curly bracket (1.0)
 = right brace

007E ~ TILDE

- this is a spacing character

 → 02DC ~ small tilde
 → 0303 ¸ combining tilde
 → 2053 ~ swung dash
 → 223C ~ tilde operator
 → FF5E ~ fullwidth tilde

Control character

007F  <control>
 = DELETE