

## **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 11.0*

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-11.0/> for charts showing only the characters added in Unicode 11.0.  
See <http://www.unicode.org/Public/11.0.0/charts/> for a complete archived file of character code charts for Unicode 11.0.

### **Disclaimer**

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 11.0 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 11.0, online at <http://www.unicode.org/versions/Unicode11.0.0/>, as well as Unicode Standard Annexes #9, #11, #14, #15, #24, #29, #31, #34, #38, #41, #42, #44, #45, and #50, 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	<b>ASCII punctuation and symbols</b>		
0006		<control> = ACKNOWLEDGE	<i>Based on ISO/IEC 646.</i>		
0007		<control> = BELL	0020		SPACE
0008		<control> = BACKSPACE	<ul style="list-style-type: none"> <li>• sometimes considered a control code</li> <li>• other space characters: 2000  –200A </li> </ul>		
0009		<control> = CHARACTER TABULATION = horizontal tabulation (HT), tab	<ul style="list-style-type: none"> <li>→ 00A0  no-break space</li> <li>→ 200B  zero width space</li> <li>→ 2060  word joiner</li> <li>→ 3000  ideographic space</li> <li>→ FEFF  zero width no-break space</li> </ul>		
000A		<control> = LINE FEED (LF) = new line (NL), end of line (EOL)	0021		<b>EXCLAMATION MARK</b>
000B		<control> = LINE TABULATION = vertical tabulation (VT)	<ul style="list-style-type: none"> <li>= factorial</li> <li>= bang</li> <li>→ 00A1 ¡ inverted exclamation mark</li> <li>→ 01C3 ! latin letter retroflex click</li> <li>→ 203C !! double exclamation mark</li> <li>→ 203D ? interrobang</li> <li>→ 2762 ❶ heavy exclamation mark ornament</li> </ul>		
000C		<control> = FORM FEED (FF)	0022		<b>QUOTATION MARK</b>
000D		<control> = CARRIAGE RETURN (CR)	<ul style="list-style-type: none"> <li>• neutral (vertical), used as opening or closing quotation mark</li> <li>• preferred characters in English for paired quotation marks are 201C “ &amp; 201D ”</li> <li>• 05F4 ” is preferred for gershayim when writing Hebrew</li> <li>→ 02BA ” modifier letter double prime</li> <li>→ 030B ͂ combining double acute accent</li> <li>→ 030E ͆ combining double vertical line above</li> <li>→ 05F4 ” hebrew punctuation gershayim</li> <li>→ 2033 ” double prime</li> <li>→ 3003 ” ditto mark</li> </ul>		
000E		<control> = SHIFT OUT	<ul style="list-style-type: none"> <li>• known as LOCKING-SHIFT ONE in 8-bit environments</li> </ul>		
000F		<control> = SHIFT IN	0023		<b>NUMBER SIGN</b>
0010		<control> = DATA LINK ESCAPE	<ul style="list-style-type: none"> <li>= pound sign, hash, crosshatch, octothorpe</li> <li>→ 2114 ₣ l b bar symbol</li> <li>→ 2317 𐄀 viewdata square</li> <li>→ 266F ♯ music sharp sign</li> </ul>		
0011		<control> = DEVICE CONTROL ONE	0024		<b>DOLLAR SIGN</b>
0012		<control> = DEVICE CONTROL TWO	<ul style="list-style-type: none"> <li>= milréis, escudo</li> <li>• used for many peso currencies in Latin America and elsewhere</li> <li>• glyph may have one or two vertical bars</li> <li>• other currency symbol characters start at 20A0 €</li> <li>→ 00A4 ₪ currency sign</li> <li>→ 20B1 ₱ peso sign</li> <li>→ 1F4B2 \$ heavy dollar sign</li> </ul>		
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	%	<b>PERCENT SIGN</b> → 066A ٪ arabic percent sign → 2030 ‰ per mille sign → 2031 ‰ per ten thousand sign → 2052 ƒ commercial minus sign
0026	&	<b>AMPERSAND</b> → 204A ¶ tironian sign et → 214B ⁂ turned ampersand → 1F674 ⁂ heavy ampersand ornament
0027	'	<b>APOSTROPHE</b> = 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 ׳ is preferred for geresh when writing Hebrew → 02B9 ʹ modifier letter prime → 02BC ʻ modifier letter apostrophe → 02C8 ʼ modifier letter vertical line → 0301 ˆ combining acute accent → 05F3 ׳ hebrew punctuation geresh → 2032 ʹ prime → A78C ˆ latin small letter saltillo
0028	(	<b>LEFT PARENTHESIS</b> = opening parenthesis (1.0)
0029	)	<b>RIGHT PARENTHESIS</b> = closing parenthesis (1.0) • see discussion on semantics of paired bracketing characters
002A	*	<b>ASTERISK</b> = star (on phone keypads) → 066D * arabic five pointed star → 204E * low asterisk → 2217 * asterisk operator → 26B9 * sextile → 2731 * heavy asterisk
002B	+	<b>PLUS SIGN</b> → 2795 ⁞ heavy plus sign
002C	,	<b>COMMA</b> = decimal separator → 060C ٫ arabic comma → 201A ٫ single low-9 quotation mark → 2E41 ٫ reversed comma → 2E42 ٫ medieval comma → 3001 ٫ ideographic comma
002D	-	<b>HYPHEN-MINUS</b> = 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	.	<b>FULL STOP</b> = 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	/	<b>SOLIDUS</b> = slash, virgule → 01C0 ı latin letter dental click → 0338 ⁄ combining long solidus overlay → 2044 ⁄ fraction slash → 2215 ⁄ division slash → 2E4A ⁄ dotted solidus
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**ASCII digits**

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

**ASCII punctuation and symbols**

003A	:	<b>COLON</b> • 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	;	<b>SEMICOLON</b> • this, and not 037E ;, is the preferred character for 'Greek question mark' → 037E ; greek question mark → 061B ٫ arabic semicolon → 204F ٫ reversed semicolon
003C	<	<b>LESS-THAN SIGN</b> → 2039 ‹ single left-pointing angle quotation mark → 2329 ‹ left-pointing angle bracket → 27E8 ‹ mathematical left angle bracket → 3008 ‹ left angle bracket
003D	=	<b>EQUALS SIGN</b> • other related characters: 2241 ≈ –2263 ≡ → 2260 ≠ not equal to → 2261 ≡ identical to → A78A = modifier letter short equals sign → 10190 = roman sextans sign
003E	>	<b>GREATER-THAN SIGN</b> → 203A › single right-pointing angle quotation mark → 232A › right-pointing angle bracket → 27E9 › mathematical right angle bracket → 3009 › right angle bracket
003F	?	<b>QUESTION MARK</b> → 00BF ٫ inverted question mark → 037E ; greek question mark → 061F ٫ arabic question mark → 203D ٫ interrobang → 2048 ٫! question exclamation mark → 2049 ٫! exclamation question mark
0040	@	<b>COMMERCIAL AT</b> = at sign

**Uppercase Latin alphabet**

0041	A	<b>LATIN CAPITAL LETTER A</b>
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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 <b>ı</b> for lowercase → 0130 <b>İ</b> latin capital letter i with dot above → 0406 <b>I</b> cyrillic capital letter byelorussian-ukrainian i → 04C0 <b>I</b> cyrillic letter palochka → 2110 <i>I</i> script capital i → 2111 <i>I</i> black-letter capital i → 2160 <b>I</b> roman numeral one
004A	J	LATIN CAPITAL LETTER J	
004B	K	LATIN CAPITAL LETTER K	→ 212A <b>K</b> 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 <b>V</b> 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 <b>[</b> (−27EB <b>]</b> ), 2983 <b>[</b> (−2998 <b>]</b> ), 3008 <b>&lt;</b> (−301B <b>]</b> )
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005C	\	REVERSE SOLIDUS	= backslash → 20E5 <b>\</b> combining reverse solidus overlay → 2216 <b>\</b> set minus
005D	]	RIGHT SQUARE BRACKET	= closing square bracket (1.0)
005E	^	CIRCUMFLEX ACCENT	• this is a spacing character → 02C4 <b>^</b> modifier letter up arrowhead → 02C6 <b>^</b> modifier letter circumflex accent → 0302 <b>ˆ</b> combining circumflex accent → 2038 <b>^</b> caret → 2303 <b>^</b> up arrowhead
005F	_	LOW LINE	= spacing underscore (1.0) • this is a spacing character → 02CD <b>_</b> modifier letter low macron → 0331 <b>̣</b> combining macron below → 0332 <b>̤</b> combining low line → 2017 <b>==</b> double low line
0060	`	GRAVE ACCENT	• this is a spacing character → 02CB <b>`</b> modifier letter grave accent → 0300 <b>̀</b> combining grave accent → 2035 <b>`</b> 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 <b>h</b> cyrillic small letter shha → 210E <i>h</i> planck constant
0069	i	LATIN SMALL LETTER I	• Turkish and Azerbaijani use 0130 <b>İ</b> for uppercase → 0131 <b>ı</b> latin small letter dotless i → 1D6A4 <i>ı</i> mathematical italic small dotless i
006A	j	LATIN SMALL LETTER J	→ 0237 <b>j</b> 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 <b>ⁿ</b> 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