

Title: Proposal to normatively reference external code charts
Status: Follow up on recommendation M72.10 (Code Charts)
Source Michel Suignard (ISO/IEC 10646 Project Editor)
Actions For consideration by SC2, WG2
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Summary

This document describes a process by which ISO/IEC 10646 could normatively reference a set of code charts produced by an outside entity (the Unicode Consortium) which would still be an integral part of the standard. This would simplify greatly the production of the standard by making it editable by a regular text processor. This can be achieved by adding a normative reference to a new resource (Code chart) and making sure that the reference matches the repertoire covered by this edition of ISO/IEC 10646 and its amendment(s) as applicable. This documents describes in detail the required modification corresponding to the 7th edition of ISO/IEC 10646 if the proposal is accepted.

The revision contains a slightly modified clause 37 (change highlighted in yellow) and a sample of the first pages of what could be such a code chart file appended at the end of this document.

Details

Modification to clause 2: Normative references.

In the context of Unicode 18.0 and ISO/IEC 10646 7th edition, the proposal is to recreate a parallel folder structure relying on the existing structure that was proposed in the past:

<https://www.unicode.org/iso10646/edition7/charts/>

(the folder content would be created in a manner similar to Unicode version with a block-by-block view and a consolidated view, but no delta view). (See discussion about code chart types below)

A new reference would be added to reference the code charts in a normative section of the standard, such as:

ISO/IEC 10646 7th Edition, Code charts <https://www.unicode.org/iso10646/edition7/charts/>

Still open for debate is whether we refer to the Unicode 18.0 code charts directly, or whether we create a parallel structure with same repertoire content. While the repertoire is identical, it may be desirable to use different header or footer for ISO/IEC 10646. In addition, it would now be possible to create a block-by-block view of the standard, similar to what is available at <https://www.unicode.org/charts/>. Note that there is no intent at this point to create an index view similar to the link above but simply a folder containing all these blocks. Managing and maintaining a separate index view specific to ISO/IEC 10646 would be a complex endeavor. Note that ISO/IEC 10646 can still refer informatively to the Unicode index view as it addresses the same repertoire.

The Unicode Standard maintains 3 types of code charts for each version:

- Code charts (formerly un-versioned). These are block-by-block code charts of the whole repertoire and are typically accessed using an index page.
- Consolidated view (formerly archived) which contains in a single PDF file the

whole repertoire. The file is bookmarked to allow easy navigation to individual sections of the PDF file. That PDF file is extremely large (approximately 180MB).

- Delta charts (formerly versioned) which are also block-by-block files. These blocks contain newly encoded characters or existing characters with significant changes to existing glyphs or properties associated to the related code points (such as standardized variation sequences). These delta charts are also typically accessed by a single delta code charts page which points to the various blocks. Unlike the other code chart types, the blocks are presented with highlights (yellow for new character and blue for other changes).

Until now, ISO/IEC 10646 editions have only included code charts equivalent to the consolidated view but integrated in the standard itself which makes the standard size extremely large. Amendments have used a format not in use by the Unicode standard which is a simple PDF including all blocks of the Delta charts with the same highlights.

Modification to clause 14: Structure of the code charts and lists.

Replace clause title with “**Structure of the code charts**” and replace the first paragraph with the following new text:

The code charts, including the lists of character names, shall be in accordance with the referenced ‘ISO/IEC 10646 7th Edition, Code charts’ (see clause 37). They specify for each character its graphic symbol, its coded representation, and its character name, unless the name is defined algorithmically (see sub-clause 7.4).

Modification to clause 37: Code charts and lists of character names.

Replace clause title with “**Code charts**” and replace sub-clause 37.1, 37.2, and 37.3 with the following text:

37.1 General

The detailed code charts for the BMP, SMP, SIP, TIP, and SSP are shown in the referenced **Code charts content identified as ‘ISO/IEC 10646 7th Edition, Code charts’ located at:**

<https://www.unicode.org/iso10646/edition7/charts/> .

Their content constitutes an integral and normative part of this document.

They specify for each character its graphic symbol, its coded representation, and its character name, unless the name is defined algorithmically (see sub-clause 7.4). These code charts are available either as a single consolidated PDF file (consolidated.pdf) containing all blocks, or as a set of block-by-blocks PDF files in the form Ux.pdf, where ‘x’ represents the first code point in hexadecimal notation of the block. For example, the file name U4E00.pdf corresponds to the CJK Unified Ideographs block (4E00..9FFF).

There are three types of code charts depending on the types of character names, specified algorithmically or not, and the type of information provided in the code charts. These types are described in 37.2, 37.3 and 37.4.

37.2 Code chart for characters with names not algorithmically defined

Code charts are presented in block-by-block arrays of graphic symbols representing the characters organized in one to sixteen columns of sixteen graphic symbols each. The lower digit of the coded representation is indicated in the left margin while the remaining upper digits are indicated in the top margin. The full coded representation for each character is also indicated under each representative graphic symbols.

Note 1 Graphic symbols corresponding to the representation of graphic characters are

informative. See Clause 14.

Note 2 Characters for which one or more standardized variation sequences are defined are indicated with a triangular mark in the top-right of the corresponding code chart cell.

(remove 37.3 Character names list sub-clause title)

These arrays of graphic symbols are followed by the character names list and a summary of standardized variation sequences (see 17.6.2) as appropriate.

Note 3 A array and related names list may be arranged in a single page if their contents allow it.

(follows content of current sub-clause 37.3, not repeated here)

(remove sub-clause 37.4 and 37.5 and create new sub-clause 37.3 and 37.4)

37.3 Code chart for characters with names algorithmically defined and no annotation

Most of the code charts with names algorithmically defined have no additional annotation. Therefore, their code charts do not show their names as a separate names list. This covers the CJK Unified ideographs, the Tangut characters, the Jurchen characters, the Small Seal characters, and the Hangul Syllables. Their presentation is specified in 24.3 for CJK Unified ideographs, in 25.3 for Tangut ideographs, in 26.3 for Jurchen characters, and in 27.3 for Small Seal characters.

37.4 Code chart for characters with names algorithmically defined and annotation

Some code charts with names algorithmically defined have additional annotations and are therefore displayed differently. The code chart for CJK Compatibility ideographs uses an hybrid model specified in 24.4, mixing the presentation used for CJK Unified ideographs, with additional annotation. Other blocks with names algorithmically defined, such as the Nūshu characters, the Khitan Small Script characters, and the Egyptian hieroglyphs for the extended block, use the same presentation as blocks using non algorithmically defined names specified in 37.2.

It should also be noted that ISO/IEC 10646 contains Annex G ‘Alphabetically sorted list of character names’ which is repertoire related but has no equivalent in the Unicode Standard. No action is required at this point.

Background context

In June 2025, SC2 in resolution M30-04 adopted the WG2 recommendation M72.10 which had the following text:

Recommendation M72.10 (Code Charts)

WG2 recommends that the Project Editor explore with ITTF the possibility of moving the UCS code charts from the core text of the CD into an electronic data attachment and, if an acceptable plan can be worked out, to implement that in the CD.

Following that, I communicated with ITTF (Mr. Alexander ESTRADA, ISO Editorial Manager), mentioning:

...I have done experiment of that (but not in the current CD (Cd.3)) and now with the synchronization between ISO/IEC 10646 and Unicode repertoire (for example the 7th edition content will be the same as Unicode v18.0), it would be extremely beneficial to share that code chart content between Unicode and 10646. The ISO/IEC 10646 code chart is in fact identical to the 'archived' version of Unicode of the synchronized version (for Unicode 17.0 it is <https://www.unicode.org/Public/17.0.0/charts/CodeCharts.pdf>). (Unicode v17.0 has no 10646 equivalent, Unicode v16.0 was synchronized with amd2 of the previous edition). Note that the file is protected and bookmarked by blocks which makes it much more accessible.

My preferred option would be to make that code chart pdf file a normative reference (clause 2 of the standard). The other option is to make it an electronic data attachments (clause 5). I prefer the clause 2 route because it makes the management of copyright issues simpler. For all practical purpose, the code chart development is entirely funded and created by the Unicode Consortium which has provided terms and conditions to provide adequate referencing by ISO, see <https://www.unicode.org/charts/About.html>, especially the sections 'Charts and Ancillary Data for ISO/IEC 10646' and 'Terms of Use' which says: 'The Unicode Consortium specifically grants ISO a license to produce such code charts with their associated character names list to show the repertoire of characters for that standard, as a normatively referenced, integral part of that standard.'

It would greatly simplify the editing work on this project as the code charts production is not even managed by Word, and would be even less manageable by OSD. While moving the rest of the standard to OSD is challenging in itself (due to its multi-lingual nature), at least it becomes an option.

The answer from Alexander ESTRADA was the following:

I concur with your assessment and agree with the Clause 2 route. I see similar maneuvers were employed in previous versions of ISO/IEC 10646. As with any Clause 2 reference, please ensure that it is cited by using a "shall" or "shall be in accordance with" statement, which denotes its use is a requirement of the document.

...

If the document is to be referred in Clause 2, please follow the [ISO/IEC Directives Part 2, 10.2 Permitted referenced documents](#) "Normatively referenced documents shall be documents published by ISO or IEC. In the absence of appropriate ISO or IEC documents, those published by other bodies may be listed as normative references provided that

- a) the referenced document is recognized by the committee as having wide acceptance and authoritative status,*
- b) the committee has the agreement of the authors or publishers (where known) of the referenced document for its inclusion as a reference,*

- c) the authors or publishers (where known) have also agreed to inform the committee of their intention to revise the referenced document and what points the revision will affect,
- d) the document is available under commercial terms which are fair, reasonable and non-discriminatory, and
- e) any patented item required for the implementation of the document is available to be licensed in accordance with the ISO/IEC Directives, Part 1, 2021, 2.14, "Reference to patented items".

...

The ISO Technical Program Manager attached to JTC1/SC2 (Mr. Stephane SAUVAGE), concurred by saying: "Route for clause 2 is indeed best to use to make normative reference to avoid duplication of effort..."

To which I answered:

To give some context, the code charts for 7th edition are eventually going to match the 'archived version of Unicode V18.0 code chart, version which is currently in its own 'alpha' release. The content of this code chart is currently available in draft form at <https://www.unicode.org/Public/draft/charts/CodeCharts.pdf> and will eventually show in <https://www.unicode.org/Public/18.0.0/charts/CodeCharts.pdf> when finalized. The official version of that archived version of the code charts for Unicode v17.0 is available at <https://www.unicode.org/Public/17.0.0/charts/CodeCharts.pdf>. (there is no ISO/IEC 10646 equivalent to Unicode V17.0)

It is my understanding that the linked document above is acceptable as a referenced resource per the [ISO/IEC Directives Part 2, 10.2 Permitted referenced documents](#). You can look at the first page of that file as it contains some terms concerning usage by ISO (this could be modified if needed). Because going from an electronic attachment to a linked reference goes beyond what was suggested in the WG2 recommendation and related SC2 resolution, this probably means that this solution cannot be implemented right away, but at least it can be discussed at the next SC2 plenary next June. This obviously implies that to be referenceable, the repertoire content needs to be 100% in sync between a Unicode version and an edition (or amended) of ISO/IEC 10646.

Then Stéphane answered:

"...

I believe on my side that the reference(s) to the Unicode Standard(s) can be listed in clause 2 as it is currently in the text of [ISO Projects - ISO/IEC CD 10646.3 - Overview](#), but they need to be mentioned in normative manner in the content of the text ...

Note that as indicated in 10.2 of directives part 2, the committee needs to have at hand the agreement of UNICODE, see b) and c) of 10.2 of directives part 2, extract below :

- b) the committee has the agreement of the authors or publishers (where known) of the referenced document for its inclusion as a reference,
- c) the authors or publishers (where known) have also agreed to inform the committee of their intention to revise the referenced document and what points the revision will affect,

...

Concerning the agreement, note that all Unicode code Charts contain the following text in their header:

The Unicode Consortium specifically grants ISO a license to produce such code charts with their associated character names list to show the repertoire of characters for that

standard, as a normatively referenced, integral part of that standard.

This should cover the item b) mentioned above. In the context of the Unicode standard and ISO/IEC 10646, the second item is covered by the repertoire synchronization between the two standards.

EOF

ISO/IEC 10646 7th Edition 2026

Consolidated Code Charts

This file contains the complete set of character code tables and list of character names for *ISO/IEC 10646 7th Edition 2026*

This file will not be updated with errata, or when additional characters are assigned to ISO/IEC 10646. These charts constitute a Unicode product per Terms of Use expressed below.

Fonts

The shapes of the reference glyphs used in these code charts are not prescriptive. Considerable variation is to be expected in actual fonts.

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The Unicode Consortium specifically grants ISO a license to produce such code charts with their associated character names list to show the repertoire of characters for that standard, as a normatively referenced, integral part of that standard.

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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	001A		<control> = SUBSTITUTE → FFFD  replacement character
0001		<control> = START OF HEADING	001B		<control> = ESCAPE
0002		<control> = START OF TEXT	001C		<control> = INFORMATION SEPARATOR FOUR = file separator (FS)
0003		<control> = END OF TEXT	001D		<control> = INFORMATION SEPARATOR THREE = group separator (GS)
0004		<control> = END OF TRANSMISSION	001E		<control> = INFORMATION SEPARATOR TWO = record separator (RS)
0005		<control> = ENQUIRY	001F		<control> = INFORMATION SEPARATOR ONE = unit separator (US)
0006		<control> = ACKNOWLEDGE	ASCII punctuation and symbols		
0007		<control> = BELL	<i>Based on ISO/IEC 646.</i>		
0008		<control> = BACKSPACE	0020		SPACE • sometimes considered a control code • other space characters: 2000  no-break space → 00A0  zero width space → 200B  zero width space → 202F  narrow no-break space → 2060  word joiner → 2420  symbol for space → 2422  blank symbol → 2423  open box → 3000  ideographic space → FEFF  zero width no-break space
0009		<control> = CHARACTER TABULATION = horizontal tabulation (HT) = tab	0021		EXCLAMATION MARK = factorial = bang → 00A1  inverted exclamation mark → 01C3  latin letter retroflex click → 203C  double exclamation mark → 203D  interrobang → 26A0  warning sign → 2757  heavy exclamation mark symbol → 2762  heavy exclamation mark ornament → 2E53  medieval exclamation mark → A71D  modifier letter raised exclamation mark
000A		<control> = LINE FEED (LF) = new line (NL) = end of line (EOL)	0022		QUOTATION MARK = double quote • 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 → 02DD  double acute accent → 02EE  modifier letter double apostrophe → 030B  combining double acute accent → 030E  combining double vertical line above → 05F4  hebrew punctuation gershayim → 201C  left double quotation mark → 201D  right double quotation mark → 2033  double prime → 3003  ditto mark
000B		<control> = LINE TABULATION = vertical tabulation (VT)			
000C		<control> = FORM FEED (FF)			
000D		<control> = CARRIAGE RETURN (CR)			
000E		<control> = SHIFT OUT • known as LOCKING-SHIFT ONE in 8-bit environments			
000F		<control> = SHIFT IN • known as LOCKING-SHIFT ZERO in 8-bit environments			
0010		<control> = DATA LINK ESCAPE			
0011		<control> = DEVICE CONTROL ONE			
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			

- 0023 # **NUMBER SIGN**
 = pound sign (weight)
 = hashtag, hash
 = crosshatch, octothorpe
 • for denoting musical sharp 266F # is preferred
 → 2114 ℔ l b bar symbol
 → 2116 № numero sign
 → 2317 ⇕ viewdata square
 → 266F # music sharp sign
 → 29E3 # equals sign and slanted parallel
- 0024 \$ **DOLLAR SIGN**
 = 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 ₡
 → 00A2 ¢ cent sign
 → 00A4 Ɑ currency sign
 → 20B1 ₱ peso sign
 → 1F4B2 \$ heavy dollar sign
- 0025 % **PERCENT SIGN**
 → 066A ‰ arabic percent sign
 → 2030 ‰ per mille sign
 → 2031 ‰ per ten thousand sign
 → 2052 ‰ commercial minus sign
- 0026 & **AMPERSAND**
 = and
 • originally derived from a ligature of ‘e’ and ‘t’
 → 204A 𐌆 tironian sign et
 → 214B 𐌆 turned ampersand
 → 1F674 & heavy ampersand ornament
- 0027 ' **APOSTROPHE**
 = apostrophe-quote (1.0)
 = single 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 ’
 • 05F3 ’ is preferred for geresh when writing Hebrew
 → 02B9 ’ modifier letter prime
 → 02BC ’ modifier letter apostrophe
 → 02C8 ’ modifier letter vertical line
 → 0301 ´ combining acute accent
 → 030D ´ combining vertical line above
 → 05F3 ’ hebrew punctuation geresh
 → 2018 ‘ left single quotation mark
 → 2019 ’ right single quotation mark
 → 2032 ’ prime
 → A78C ' 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
 • can have five or six spokes
 → 066D ★ arabic five pointed star
 → 203B ✕ reference mark
 → 2042 ✱ asterism
 → 204E * low asterisk
 → 2051 ✱ two asterisks aligned vertically
 → 20F0 ⚭ combining asterisk above
 → 2217 * asterisk operator
 → 26B9 ✱ sextile
 → 2731 ✱ heavy asterisk
 → A673 ☆ slavonic asterisk
 → 1F7B6 ✱ medium six spoked asterisk

ASCII math operator

- 002B + **PLUS SIGN**
 → 02D6 + modifier letter plus sign
 → 2212 − minus sign
 → 2795 ⛶ heavy plus sign
 → FB29 ⛶ hebrew letter alternative plus sign
 → 1F7A2 ⛶ light greek cross

ASCII punctuation

- 002C , **COMMA**
 = the use as decimal or thousands separator is locale dependent
 → 060C ٫ arabic comma
 → 066B ٫ arabic decimal separator
 → 201A ٫ single low-9 quotation mark
 → 2E12 ٫ hypodiastole
 → 2E41 ٫ reversed comma
 → 2E4C ٫ medieval comma
 → 3001 ٫ ideographic comma
- 002D - **HYPHEN-MINUS**
 = hyphen, dash
 = minus sign
 • used generically for hyphen, minus sign or en dash, all of which have dedicated alternatives
 → 00AD ͂ soft hyphen
 → 02D7 - modifier letter minus sign
 → 2010 - hyphen
 → 2011 ͜ non-breaking hyphen
 → 2012 − figure dash
 → 2013 — en dash
 → 2027 · hyphenation point
 → 2043 ▪ hyphen bullet
 → 2212 − minus sign
 → 10191 — roman uncia sign
- 002E . **FULL STOP**
 = period, dot, decimal point
 • the use as decimal point is locale dependent
 • may be rendered as a raised decimal point in old style numbers
 → 00B7 · middle dot
 → 06D4 ٫ arabic full stop
 → 2024 . one dot leader
 → 2026 … horizontal ellipsis
 → 2E33 · raised dot
 → 2E3C ٫ stenographic full stop
 → 3002 ٫ ideographic full stop

- 002F / **SOLIDUS**
 = slash, forward slash, virgule
 → 0338 ∕ combining long solidus overlay
 → 2044 ⁄ fraction slash
 → 2215 ⁄ division slash
 → 27CB ⁄ mathematical rising diagonal
 → 29F8 ⁄ big solidus
 → 2E4A ⁄ dotted solidus

ASCII digits

- 0030 0 **DIGIT ZERO**
 ~ 0030 FE00 0 short diagonal stroke form
- 0031 1 **DIGIT ONE**
- 0032 2 **DIGIT TWO**
 → 01BB 2 latin letter two with stroke
 → 218A 2 turned digit two
- 0033 3 **DIGIT THREE**
 → 218B 3 turned digit three
 → A7AB 3 latin capital letter reversed open e
- 0034 4 **DIGIT FOUR**
 → A72C 4 latin capital letter cuatrillo
- 0035 5 **DIGIT FIVE**
 → 01BC 5 latin capital letter tone five
- 0036 6 **DIGIT SIX**
- 0037 7 **DIGIT SEVEN**
- 0038 8 **DIGIT EIGHT**
- 0039 9 **DIGIT NINE**

ASCII punctuation

- 003A : **COLON**
 • also used to denote division or scale; for that mathematical use 2236 : is preferred
 • in Finnish and Swedish, also used as intra-word punctuation (abbreviation mark)
 → 02D0 : modifier letter triangular colon
 → 02F8 : modifier letter raised colon
 → 0589 : armenian full stop
 → 05C3 : hebrew punctuation sof pasuq
 → 1361 : ethiopic wordspace
 → 1365 : ethiopic colon
 → 205A : two dot punctuation
 → 205D : tricolon
 → 2236 : ratio
 → A789 : modifier letter colon
 → FE30 : presentation form for vertical two dot leader
- 003B ; **SEMICOLON**
 • this, and not 037E ;, is the preferred character for “Greek question mark”
 → 037E ; greek question mark
 → 061B ؛ arabic semicolon
 → 204F ; reversed semicolon
 → 2E35 ; turned semicolon

ASCII mathematical operators

Other mathematical operators start at 2200.

- 003C < **LESS-THAN SIGN**
 • paired with 003E > for ASCII-based angle bracket markup conventions
 → 02C2 < modifier letter left arrowhead
 → 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 ≡
 → 1400 = canadian syllabics hyphen
 → 2248 ≈ almost equal to
 → 2260 ≠ not equal to
 → 2261 ≡ identical to
 → 2E40 = double hyphen
 → 30A0 = katakana-hiragana double hyphen
 → A78A = modifier letter short equals sign
 → FE66 = small equals sign
 → 10190 = roman sextans sign
 → 1F7F0 = heavy equals sign
- 003E > **GREATER-THAN SIGN**
 → 02C3 > modifier letter right arrowhead
 → 203A > single right-pointing angle quotation mark
 → 232A > right-pointing angle bracket
 → 27E9 > mathematical right angle bracket
 → 3009 > right angle bracket

ASCII punctuation

- 003F ? **QUESTION MARK**
 → 00BF ¿ inverted question mark
 → 037E ; greek question mark
 → 061F ؟ arabic question mark
 → 203D ? interrobang
 → 2047 ?? double question mark
 → 2753 ? black question mark ornament
 → 2BD1 ⚡ uncertainty sign
 → 2E2E ؟ reversed question mark
 → 2E54 ？ medieval question mark
 → FFFD replacement character
- 0040 @ **COMMERCIAL AT**
 = at sign
 = arroba (old Spanish unit of weight)
 → 24D0 @ circled latin small letter a

Uppercase Latin alphabet

- 0041 A **LATIN CAPITAL LETTER A**
- 0042 B **LATIN CAPITAL LETTER B**
 → 212C B script capital b
- 0043 C **LATIN CAPITAL LETTER C**
 → 03F9 C greek capital lunate sigma symbol
 → 2102 C double-struck capital c
 → 2103 °C degree celsius
 → 212D C black-letter capital c
 → 216D C roman numeral one hundred
- 0044 D **LATIN CAPITAL LETTER D**
 → 216E D roman numeral five hundred
- 0045 E **LATIN CAPITAL LETTER E**
 → 0190 E latin capital letter open e
 → 2107 E euler constant
 → 2130 E script capital e
- 0046 F **LATIN CAPITAL LETTER F**
 → 2109 °F degree fahrenheit
 → 2131 F script capital f
 → 2132 F turned capital f
- 0047 G **LATIN CAPITAL LETTER G**
- 0048 H **LATIN CAPITAL LETTER H**
 → 210B H script capital h
 → 210C H black-letter capital h
 → 210D H 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 → 2110 ℑ script capital i → 2111 Ꝛ black-letter capital i → 2160 I roman numeral one
004A	J	LATIN CAPITAL LETTER J
004B	K	LATIN CAPITAL LETTER K → 212A ℔ kelvin sign
004C	L	LATIN CAPITAL LETTER L → 2112 ℒ script capital l
004D	M	LATIN CAPITAL LETTER M → 2133 ℓ script capital m → 216F M roman numeral one thousand
004E	N	LATIN CAPITAL LETTER N → 2115 ℕ double-struck capital n
004F	O	LATIN CAPITAL LETTER O
0050	P	LATIN CAPITAL LETTER P → 2118 ℙ script capital p → 2119 ℔ double-struck capital p
0051	Q	LATIN CAPITAL LETTER Q → 051A Q cyrillic capital letter qa → 211A Q double-struck capital q → 213A Q̇ rotated capital q
0052	R	LATIN CAPITAL LETTER R → 211B ℞ script capital r → 211C ℞ black-letter capital r → 211D ℞ 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 → 051C W cyrillic capital letter we
0058	X	LATIN CAPITAL LETTER X → 2169 X roman numeral ten
0059	Y	LATIN CAPITAL LETTER Y
005A	Z	LATIN CAPITAL LETTER Z → 2124 ℤ double-struck capital z → 2128 Ꝟ 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 ℵ combining reverse solidus overlay → 2216 ∖ set minus → 27CD ↘ mathematical falling diagonal → 29F9 ↵ big reverse solidus
005D	]	RIGHT SQUARE BRACKET = closing square bracket (1.0)

005E	^	CIRCUMFLEX ACCENT • this is a spacing character • used in ASCII-based representation of exponentiation → 02C4 ^ modifier letter up arrowhead → 02C6 ^ modifier letter circumflex accent → 0302 ∘ combining circumflex accent → 2038 ⤴ caret → 2227 ∧ logical and → 2303 ⤴ up arrowhead
005F	_	LOW LINE = spacing underscore (1.0) • this is a spacing character • joins with adjacent instances of itself → 02CD _ modifier letter low macron → 0331 ◌̲ combining macron below → 0332 ◌̳ combining low line → 2017 ≡ double low line → FE2D ◌̲̳ combining conjoining macron below
0060	`	GRAVE ACCENT = backtick, backquote • this is a spacing character • in some technical contexts functions as opening quote, paired with apostrophe → 00B4 ´ acute accent → 02CB ` modifier letter grave accent → 0300 ◌̃ combining grave accent → 1FEF ◌̃ greek varia → 2018 ‘ left single quotation mark → 2035 ′ reversed prime

Lowercase Latin alphabet

0061	a	LATIN SMALL LETTER A → 0251 ɑ latin small letter alpha
0062	b	LATIN SMALL LETTER B
0063	c	LATIN SMALL LETTER C → 03F2 Ϸ greek lunate sigma symbol → 1D04 ċ latin letter small capital c
0064	d	LATIN SMALL LETTER D → 0501 ḏ cyrillic small letter komi de
0065	e	LATIN SMALL LETTER E → 212E ℰ estimated symbol → 212F ℷ script small e → AB32 ɛ latin small letter blackletter e
0066	f	LATIN SMALL LETTER F → 0192 ƒ latin small letter f with hook → AB35 ƒ latin small letter lenis f
0067	g	LATIN SMALL LETTER G → 0261 ɡ latin small letter script g → 210A Ꝓ script small g
0068	h	LATIN SMALL LETTER H → 04BB ḥ cyrillic small letter shha → 210E ħ planck constant
0069	i	LATIN SMALL LETTER I • Turkish and Azerbaijani use 0130 İ for uppercase → 0131 ı latin small letter dotless i → 2071 ⁱ superscript latin small letter i → 1D6A4 ℹ mathematical italic small dotless i
006A	j	LATIN SMALL LETTER J → 0237 ĵ latin small letter dotless j → 03F3 ϳ greek letter yot → 1D6A5 ℹ mathematical italic small dotless j
006B	k	LATIN SMALL LETTER K

006C	l	LATIN SMALL LETTER L
		→ 2113 ℓ script small l
		→ 1D4C1 ℓ mathematical script small l
006D	m	LATIN SMALL LETTER M
006E	n	LATIN SMALL LETTER N
		→ 207F ⁱ superscript latin small letter n
006F	o	LATIN SMALL LETTER O
		→ 1D0F o latin letter small capital o
		→ 2134 ø script small o
		→ AB3D o latin small letter blackletter o
0070	p	LATIN SMALL LETTER P
0071	q	LATIN SMALL LETTER Q
		→ 051B q cyrillic small letter qa
0072	r	LATIN SMALL LETTER R
0073	s	LATIN SMALL LETTER S
		→ 017F ſ latin small letter long s
		→ A731 s latin letter small capital 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
		→ 051D w cyrillic small letter we
		→ 1D21 w latin letter small capital w
0078	x	LATIN SMALL LETTER X
		→ 00D7 × multiplication sign
0079	y	LATIN SMALL LETTER Y
007A	z	LATIN SMALL LETTER Z
		→ 01B6 z latin small letter z with stroke
		→ 1D22 z latin letter small capital z

ASCII punctuation and symbols

007B	{	LEFT CURLY BRACKET
		= opening curly bracket (1.0)
		= left brace
007C		VERTICAL LINE
		= vertical bar, pipe
		• used in pairs to indicate absolute value
		• also used as an unpaired separator or as a fence
		→ 00A6 † broken bar
		→ 01C0 latin letter dental click
		→ 05C0 hebrew punctuation paseq
		→ 0964 devanagari danda
		→ 20D2 ‡ combining long vertical line overlay
		→ 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 º combining tilde
		→ 0334 º combining tilde overlay
		→ 2053 ~ swung dash
		→ 223C ~ tilde operator
		→ 2E1B ˜ tilde with ring above
		→ 2E2F ' vertical tilde
		→ 301C ~ wave dash
		→ FF5E ~ fullwidth tilde

Control character

007F		<control>
		= DELETE

HEX	C	J	K	V	HEX	C	J	K	V
4E00 一 1.0	一	一	一	一	4E14 且 1.4	且	且	且	且
	G0-523B	HB1-A440	T1-4421	J0-306C		G0-4752	HB1-A542	T1-4562	J0-336E
4E01 丁 1.1	丁	丁	丁	丁	4E15 丕 1.4	丕	丕	丕	丕
	G0-3621	HB1-A442	T1-4423	J0-437A		G0-5827	HB1-A541	T1-4561	J0-5023
4E02 𠂇 1.1	𠂇	𠂇	𠂇		4E16 世 1.4	世	世	世	世
	G5-3021		T4-2126	J14-2122		G0-4A40	HB1-A540	T1-4560	J0-4024
4E03 七 1.1	七	七	七	七	4E17 卅 1.3	卅	卅	卅	卅
	G0-465F	HB1-A443	T1-4424	J0-3C37		GE-3024		T4-2155	J0-5242
4E04 上 1.1	上	上	上	上					KP1-3413
	GE-3021	H-9EB3	T3-2126	J1-3022	卅 MD-4E17				
4E05 下 1.1	下	下	下		4E18 丘 1.4	丘	丘	丘	丘
	GE-3022		T3-2125	J1-3023		G0-4770	HB1-A543	T1-4563	J0-3566
4E06 𠂇 1.1	𠂇			𠂇	4E19 丙 1.4	丙	丙	丙	丙
	GK-6837			K2-2121		G0-317B	HB1-A4FE	T1-455F	J0-4A3A
4E07 万 1.2	万	万	万	万	4E1A 业 1.4	业	业	业	业
	G0-4D72	HB2-C945	T2-2126	J0-4B7C		G0-5235	H-9EB2		JMJ-006330
4E08 丈 1.2	丈	丈	丈	丈	4E1B 丛 1.4	丛			
	G0-5549	HB1-A456	T1-4437	J0-3E66		G0-3454			
4E09 三 1.2	三	三	三	三	4E1C 东 1.4	东	东		
	G0-487D	HB1-A454	T1-4435	J0-3B30		G0-362B	H-9DD6		
4E0A 上 1.2	上	上	上	上	4E1D 丝 1.4	丝			
	G0-494F	HB1-A457	T1-4438	J0-3E65		G0-4B3F			
4E0B 下 1.2	下	下	下	下	4E1E 丞 1.5	丞	丞	丞	丞
	G0-4F42	HB1-A455	T1-4436	J0-323C		G0-5829	HB1-A5E0	T1-4722	J0-3E67
4E0C 开 1.2	开	开	开	开	4E1F 丢 1.5	丢	丢	丢	丢
	G0-5822	HB2-C946	T2-2127	J1-3024		GE-3025	HB1-A5E1	T1-4723	J1-3026
4E0D 不 1.3	不	不	不	不				K1-6D4A	
	G0-323B	HB1-A4A3	T1-4462	J0-4954	4E20 北 1.5	北	北	北	
4E0E 与 1.3	与	与	与	与		G5-3023		T3-2262	JMJ-006335
	G0-536B	HB2-C94F	T2-212F	J0-4D3F	4E21 𠂇 1.5	𠂇	𠂇	𠂇	𠂇
				K2-2123		GE-3026	H-994F	T3-2261	J0-4E3E
4E0F 𠂇 1.3	𠂇	𠂇	𠂇	𠂇				K2-2126	KP1-3415
	G3-3021	HB2-C94D	T2-212D	J4-2123	4E22 丢 1.5 丩 4.5	丢	丢	丢	丢
4E10 𠂇 1.3	𠂇	𠂇	𠂇	𠂇		G0-362A		T3-2263	JMJ-006337
	G0-5824	HB1-A4A2	T1-4461	J0-5022	4E23 𠂇 1.6	𠂇	𠂇	𠂇	𠂇
4E11 丑 1.3	丑	丑	丑	丑		GE-3027		T4-2335	J1-3027
	G0-3373	HB1-A4A1	T1-4460	J0-312F	4E24 两 1.6	两	两	两	两
4E12 刃 1.3	刃	刃	刃	刃		G0-413D	H-89CE	T3-243F	J1-3028
	GE-3023		T4-2139	J14-2124	4E25 严 1.6	严			K2-2127
4E13 𠂇 1.3 𠂇 7.2	𠂇					G0-514F			KP1-3418
	G0-5728								

HEX	C	J	K	V	HEX	C	J	K	V
4E26 一 1.7	並	並	並	並	並	並			
	GKX-0078.14	HB1-A8C3	T1-4B64	J0-4A42	K1-6172	KP1-341B			
4E27 一 1.7	喪								
	G0-4925								
4E28 2.0	丨	丨	丨	丨	丨	丨			
	G0-582D	H-8BC0	T3-2121	J13-2E24	K2-2128	KP1-3420			
4E29 2.1	凵		凵	凵	凵				
	G5-303C		T4-2127	J4-2125	KP1-3421				
4E2A 2.2	个	个	个	个	个	个	个		
	G0-3876	H-9FC4	T3-212C	J0-5024	K2-2129	KP1-3422	VN-04E2A		
4E2B 2.2	丫	丫	丫	丫	丫	丫	丫		
	G0-513E	HB1-A458	T1-4439	J14-2126	K1-6622	KP1-3423	V1-4A34		
4E2C 冫 90.0 冫 90'0	冫	冫		冫					
	G0-635C	H-8BD4		J4-702E					
4E2D 2.3	中	中	中	中	中	中	中		
	G0-5650	HB1-A4A4	T1-4463	J0-4366	K0-7169	KP0-EABB	V1-4A35		
4E2E 2.3	乚	乚	乚	乚	乚	乚	乚		
	GE-3028	HB2-C950	T2-2130	J14-2127	K2-212A	KP1-3424			
4E2F 2.3	丰	丰	丰	丰		丰			
	GE-3029	H-8C72	T4-213A	J13-2E25		KP1-3426			
4E30 2.3	丰	丰	丰	丰	丰	丰	丰		
	G0-3761	HB1-A4A5	T1-4464	J13-2E26	K1-622C	KP0-DECE	V1-4A36		
4E31 2.4	𠂇	𠂇	𠂇	𠂇	𠂇	𠂇	𠂇		
	G3-3031	HB2-C963	T2-2143	J0-5025	K1-595E	KP1-3428			
4E32 2.6	串	串	串	串	串	串	串		
	G0-342E	HB1-A6EA	T1-486B	J0-367A	K0-4D7A	KP0-D3F2	V1-4A37		
4E33 2.7	弗	弗	弗	弗	弗	弗			
	G3-3028	HB2-CBB1	T2-2531	JMJ-006354	K2-212B	KP1-342B			
4E34 2.8	临								
	G0-4159								
4E35 2.9	𠂇	𠂇	𠂇		𠂇				
	GE-302A		T4-2B5E	J1-302E	KP1-342D				
4E36 、 3.0	、	、	、	、	、	、			
	G0-583C	H-06BF	T3-2122	J0-5026	K2-212C	KP1-342E			
4E37 、 3.1	、	、		、					
	GK-685F	H-8BF9		K2-212D					
4E38 、 3.2	丸	丸	丸	丸	丸	丸	丸		
	G0-4D68	HB1-A459	T1-443A	J0-345D	K0-7C2F	KP0-F6C5	V1-4A38		
4E39 、 3.3	丹	丹	丹	丹	丹	丹	丹		
	G0-3524	HB1-A4A6	T1-4465	J0-4330	K0-5321	KP0-D5AD	V1-4A39		
4E3A 、 3.3	为		为						
	G0-4E2A		JMJ-056827						
4E3B 、 3.4	主	主	主	主	主	主	主		
	G0-5677	HB1-A544	T1-4564	J0-3C67	K0-712B	KP0-E9DB	V1-4A3A		
4E3C 、 3.4	井	井	井	井	井	井	井		
	GE-302B	HB2-C964	T2-2144	J0-5027	K2-212E	KP1-3431			
4E3D 一 1.6	丽	丽	丽	丽		丽			
	G0-4076	H-8946	T3-2740	JMJ-006366		KP1-341A			
4E3E 、 3.8	举								
	G0-3E59								
4E3F 丿 4.0	丿	丿	丿	丿	丿	丿	丿		
	G0-582F	H-C6C0	T3-2123	J0-5028	K2-212F	KP1-3433	V1-4A3B		
4E40 丿 4.0	丿		丿	丿	丿	丿	丿		
	GE-302C		T4-2122	J14-2128	K2-2130	KP1-3434			
4E41 丿 4.0	丿		丿	丿	丿	丿	丿		
	GK-6875		T4-2123	J1-3030	K2-2131				
4E42 丿 4.1	乂	乂	乂	乂	乂	乂	乂		
	G3-302A	HB2-C940	T2-2121	J0-5029	K0-6751	KP0-FDA6	V1-4A3C		
4E43 丿 4.1	乃	乃	乃	乃	乃	乃	乃		
	G0-444B	HB1-A444	T1-4425	J0-4735	K0-522C	KP0-D5A4	V1-4A3D		
4E44 丿 4.1	乂		乂						
	GE-302D		J1-3031						
4E45 丿 4.2	久	久	久	久	久	久	久		
	G0-3E43	HB1-A45B	T1-443C	J0-3557	K0-4E79	KP0-D0E0	V1-4A3E		
4E46 丿 4.2	久		久	久					
	GE-302E		T3-2130	JMJ-006380					
4E47 丿 4.2	乇	乇	乇	乇	乇	乇	乇		
	G0-5831	HB2-C947	T2-2128	J14-2129	K2-2132	KP1-3439			
4E48 丿 4.2	么	么	么	么	么	么	么		
	G0-4334	HB1-A45C	T1-443D	J4-212A	K2-2133	KP1-343A			
4E49 、 3.2	义	义	义	义	义	义	义		
	G0-5265	H-FAE5	T3-212E	JMJ-006383	K2-2134	KP1-3438			
4E4A 丿 4.2	乇					乇			
	GK-6865					K2-2135			
4E4B 丿 4.3	之	之	之	之	之	之	之		
	G0-562E	HB1-A4A7	T1-4466	J0-4737	K0-717D	KP0-EACF	V1-4A3F		
4E4C 丿 4.3	乌								
	G0-4E5A								

HEX	C	J	K	V	HEX	C	J	K	V
4E4D 𠂇 4.4 G0-5527 HB1-A545 T1-4565 J0-4663 K0-5E3F KP0-E0C5 V1-4A40	𠂇	𠂇	𠂇	𠂇	4E61 𡩺 52.0 𡩺 4.2 G0-4F67	𡩺			
4E4E 𠂈 4.4 G0-3A75 HB1-A547 T1-4567 J0-3843 K0-7B3A KP0-F3F3 V1-4A41	𠂈	𠂈	𠂈	𠂈	4E62 𡩻 46.1 GE-3033	𡩻	𡩻	𡩻	
4E4F 𠂉 4.4 G0-3726 HB1-A546 T1-4566 J0-4B33 K0-7939 KP0-F1FD V1-4A42	𠂉	𠂉	𠂉	𠂉	4E63 𡩼 5.3 G3-3E73	𡩼	𡩼	𡩼	𡩼
4E50 𠂊 4.4 G0-4056	𠂊			𠂊	4E64 𡩽 5.3 GK-6864	𡩽	𡩽	𡩽	𡩽
4E51 𠂋 4.5 GE-302F	𠂋	𠂋	𠂋	𠂋	4E65 𡩾 5.3 GK-6866	𡩾	𡩾	𡩾	𡩾
4E52 𠂌 4.5 G0-4639 HB1-A5E2 T1-4724 JMJ-006390 K2-2136	𠂌	𠂌	𠂌	𠂌	4E66 𡩿 5.3 𠂇 2.3 G0-4A69	𡩿			
4E53 𠂍 4.5 𠂇 3.5 G0-4552 HB1-A5E3 T1-4725 JMJ-006391 K2-2137	𠂍	𠂍	𠂍	𠂍	4E67 𡪀 5.4 GE-3034	𡪀	𡪀	𡪀	𡪀
4E54 𠂎 4.5 G0-4747	𠂎	𠂎			4E68 𡪁 5.5 G5-303F	𡪁	𡪁	𡪁	
4E55 𠂏 4.6 GE-3030	𠂏	𠂏			4E69 𡪂 5.5 G0-5840 HB1-A5E4 T1-4726 J14-2130 K2-213E KP1-3455	𡪂	𡪂	𡪂	𡪂
4E56 𠂐 4.7 G0-3954 HB1-A8C4 T1-4B65 J0-502A K0-4E52 KP0-D3D1 V1-4A43	𠂐	𠂐	𠂐	𠂐	4E6A 𡪃 5.5 GH-1201 H-9C57 T4-2228 JMJ-006412	𡪃	𡪃	𡪃	𡪃
4E57 𠂑 4.8 GE-3031	𠂑	𠂑	𠂑	𠂑	4E6B 𡪄 5.5 GK-6779	𡪄	𡪄	𡪄	𡪄
4E58 𠂒 4.9 G0-334B HB1-ADBC T1-537D J0-502B K0-632B KP0-E4F0 V1-4A44	𠂒	𠂒	𠂒	𠂒	4E6C 𡪅 5.5 GK-677C	𡪅	𡪅	𡪅	𡪅
4E59 𡀀 5.0 G0-5252 HB1-A441 T1-4422 J0-3235 K0-6B60 KP0-FBF7 V1-4A45	𡀀	𡀀	𡀀	𡀀	4E6D 𡪆 5.5 GK-682C	𡪆	𡪆	𡪆	𡪆
4E5A 𡀁 5.0 GE-3032 H-C87B T4-2124 J14-212F	𡀁	𡀁	𡀁	𡀁	4E6E 𡪇 5.5 GK-6839	𡪇	𡪇	𡪇	𡪇
4E5B 𡀂 5.0 GK-686A H-8BC6	𡀂	𡀂			4E6F 𡪈 5.5 GK-6874	𡪈	𡪈	𡪈	𡪈
4E5C 𡀃 5.1 G0-583F HB2-C941 T2-2122 J1-3035 K2-213A KP1-344B	𡀃	𡀃	𡀃	𡀃	4E70 𡪉 5.5 G0-4272	𡪉			
4E5D 𡀄 5.1 G0-3E45 HB1-A445 T1-4426 J0-3665 K0-4E7A KP0-D0E1 V1-4A46	𡀄	𡀄	𡀄	𡀄	4E71 𡪊 5.6 G0-4252	𡪊	𡪊	𡪊	𡪊
4E5E 𡀅 5.2 G0-4672 HB1-A45E T1-443F J0-3870 K0-4B77 KP0-CEDE V1-4A47	𡀅	𡀅	𡀅	𡀅	4E72 𡪋 5.6 GK-684E	𡪋	𡪋	𡪋	𡪋
4E5F 𡀆 5.2 G0-5232 HB1-A45D T1-443E J0-4C69 K0-6525 KP0-F7DF V1-4A48	𡀆	𡀆	𡀆	𡀆	4E73 𡪌 5.7 G0-4869 HB1-A8C5 T1-4B66 J0-467D K0-6A61 KP0-FBB1 V1-4A4A	𡪌	𡪌	𡪌	𡪌
4E60 𡀇 5.2 𠂇 15.1 G0-4F30	𡀇				4E74 𡪍 5.7 GE-3035	𡪍	𡪍	𡪍	

HEX	THX	CCZ	QJZ	DYC	HEX	THX	CCZ	QJZ	DYC	HEX	THX	CCZ	QJZ	DYC
3D000 一 1* 一 4E00	TH-00001	C-00001	K-00001	D-00001	3D014 祜 3 祜 795C	TH-00019	C-00019	K-00019	D-00019	3D028 𡗗 3 𡗗 256AA	TH-00038	C-00038	K-00038	D-00038
3D001 弋 1 弋 5F0C	TH-00002	C-00002	K-00002	D-00002	3D015 禮 3 禮 79AE	TH-00020	C-00020	K-00020	D-00020	3D029 𡗗 3 𡗗 25737	TH-00039	C-00039	K-00039	D-00039
3D002 一 1 元 5143	TH-00003	C-00003	K-00003	D-00003	3D016 𡗗 3 𡗗 200DE	TH-00021	C-00021	K-00021	D-00021	3D02A 𡗗 3 𡗗 256FF	TH-00040	C-00040	K-00040	D-00040
3D003 一 1 天 5929	TH-00004	C-00004	K-00004	D-00004	3D017 禕 3 禕 79A7	TH-00022	C-00022	K-00023	D-00022	3D02B 𡗗 3 𡗗 21AFB	TH-00041	C-00041		D-00041
3D004 一 1 丕 4E15	TH-00005	C-00005	K-00005	D-00005	3D018 禎 3 禎 799B	TH-00023	C-00023	K-00022	D-00023	3D02C 𡗗 3 禎 798B	TH-Y004		K-00041	
3D005 一 1 𡗗 53D3	TH-00006	C-00006	K-00006	D-00006	3D019 祿 3 祿 797F	TH-00024	C-00024	K-00024	D-00024	3D02D 𡗗 3 祭 796D	TH-00042	C-00042	K-00042	D-00042
3D006 丄 2* 丄 4E04	TH-00007	C-00007	K-00007	D-00008	3D01A 禰 3 禰 79A0	TH-00025	C-00025	K-00025	D-00025	3D02E 𡗗 3 祀 7940	TH-00043	C-00043	K-00043	D-00043
3D007 一 2 一 2011E	TH-Y001			D-00007	3D01B 禎 3 禎 798E	TH-00026	C-00026	K-00026	D-00026	3D02F 𡗗 3 禨 79A9	TH-00044	C-00044	K-00044	D-00044
3D008 丄 2 上 4E0A	TH-00008	C-00008	K-00008		3D01C 𡗗 3 祥 7965	TH-00027	C-00027	K-00027	D-00027	3D030 𡗗 3 崇 7961	TH-00045	C-00045	K-00045	D-00045
3D009 丄 2 帝 5E1D	TH-00009	C-00009	K-00009	D-00009	3D01D 𡗗 3 祉 7949	TH-00028	C-00028	K-00028	D-00028	3D031 𡗗 3 禱 256A8	TH-00046	C-00046	K-00046	D-00046
3D00A 丄 2 帝 22087	TH-00010	C-00010	K-00010	D-00010	3D01E 𡗗 3 福 798F	TH-00029	C-00029	K-00029	D-00029	3D032 𡗗 3 禳 79B7	TH-00047	C-00047	K-00047	D-00047
3D00B 丄 2 𡗗 3AC4	TH-00011	C-00011	K-00011	D-00011	3D01F 𡗗 3 祐 7950	TH-00030	C-00030	K-00030	D-00030	3D033 𡗗 3 祐 796A	TH-00048	C-00048	K-00048	D-00048
3D00C 丄 2 𡗗 230DF	TH-00012	C-00012	K-00012	D-00012	3D020 𡗗 3 祺 797A	TH-00031	C-00031	K-00031	D-00031	3D034 𡗗 3 祐 7954	TH-00049	C-00049	K-00049	D-00049
3D00D 丄 2 𡗗 230D9	TH-00013	C-00013	K-00013	D-00013	3D021 𡗗 3 祺 79A5	TH-00032	C-00032	K-00032	D-00032	3D035 𡗗 3 祖 7956	TH-00050	C-00050	K-00050	D-00050
3D00E 丄 2 𡗗 96F1	TH-00014	C-00014	K-00014	D-00014	3D022 𡗗 3 祗 7957	TH-00033	C-00033	K-00033	D-00033	3D036 𡗗 3 𡗗 256F1	TH-00051	C-00051	K-00051	D-00051
3D00F 丄 2 𡗗 4E05	TH-00015	C-00015	K-00015	D-00016	3D023 𡗗 3 禋 7994	TH-00034	C-00034	K-00034	D-00034	3D037 𡗗 3 𡗗 794A	TH-00052	C-00052	K-00052	D-00052
3D010 一 2 一 2011F	TH-Y002			D-00015	3D024 𡗗 3 𡗗 256C3	TH-00035	C-00035		D-00035	3D038 𡗗 3 𡗗 7970	TH-00053	C-00053	K-00053	D-00053
3D011 丄 2 下 4E0B	TH-00016	C-00016	K-00016		3D025 𡗗 3 神 2569E	TH-Y003		K-00035		3D039 𡗗 3 祐 794F	TH-00054	C-00054	K-00054	D-00054
3D012 示 3* 示 793A	TH-00017	C-00017	K-00017	D-00017	3D026 𡗗 3 祗 7947	TH-00036	C-00036	K-00036	D-00036	3D03A 𡗗 3 𡗗 40FE	TH-00055	C-00055	K-00055	D-00055
3D013 𡗗 3 𡗗 25605	TH-00018	C-00018	K-00018	D-00018	3D027 𡗗 3 祗 7955	TH-00037	C-00037	K-00037	D-00037	3D03B 𡗗 3 祠 7960	TH-00056	C-00056	K-00056	D-00056

HEX	THX	CCZ	QJZ	DYC	HEX	THX	CCZ	QJZ	DYC	HEX	THX	CCZ	QJZ	DYC
3D03C 𠂔 3 𠂔 793F TH-00057 C-00057 K-00057 D-00057	𠂔	𠂔	𠂔	𠂔	3D050 𠂔 3 𠂔 7973 TH-00077 C-00077 K-00077 D-00077	𠂔	𠂔	𠂔	𠂔	3D064 𠂔 3 𠂔 7946 TH-X003 C-00095 K-00096	𠂔	𠂔	𠂔	
3D03D 𠂔 3 𠂔 7998 TH-00058 C-00058 K-00058 D-00058	𠂔	𠂔	𠂔	𠂔	3D051 𠂔 3 𠂔 7974 TH-00078 C-00078 K-00078 D-00078	𠂔	𠂔	𠂔	𠂔	3D065 𠂔 3 𠂔 795A TH-X004 C-00096 K-00097	𠂔	𠂔	𠂔	
3D03E 𠂔 3 𠂔 796B TH-00059 C-00059 K-00059 D-00059	𠂔	𠂔	𠂔	𠂔	3D052 𠂔 3 𠂔 79A1 TH-00079 C-00079 K-00079 D-00079	𠂔	𠂔	𠂔	𠂔	3D066 𠂔 4* 𠂔 4E09 TH-00093 C-00097 K-00098 D-00093	𠂔	𠂔	𠂔	𠂔
3D03F 𠂔 3 𠂔 797C TH-00060 C-00060 K-00060 D-00060	𠂔	𠂔	𠂔	𠂔	3D053 𠂔 3 𠂔 7982 TH-00080 C-00080 K-00080 D-00080	𠂔	𠂔	𠂔	𠂔	3D067 𠂔 4 𠂔 5F0E TH-00094 C-00098 K-00099 D-00094	𠂔	𠂔	𠂔	𠂔
3D040 𠂔 3 𠂔 411F TH-00061 C-00061 K-00061 D-00061	𠂔	𠂔	𠂔	𠂔	3D054 𠂔 3 𠂔 29991 TH-00081 C-00081	𠂔	𠂔			3D068 𠂔 5* 𠂔 738B TH-00095 C-00099 K-00100 D-00095	𠂔	𠂔	𠂔	𠂔
3D041 𠂔 3 𠂔 795D TH-00062 C-00062 K-00062 D-00062	𠂔	𠂔	𠂔	𠂔	3D055 𠂔 3 𠂔 2EA87 TH-Y005 K-00081 D-00081	𠂔		𠂔	𠂔	3D069 𠂔 5 𠂔 2067B TH-00096 C-00100 K-00101 D-00096	𠂔	𠂔	𠂔	𠂔
3D042 𠂔 3 𠂔 256FD TH-00063 C-00063 K-00063 D-00063	𠂔	𠂔	𠂔	𠂔	3D056 𠂔 3 𠂔 793E TH-00082 C-00082 K-00082 D-00082	𠂔	𠂔	𠂔	𠂔	3D06A 𠂔 5 𠂔 958F TH-00097 C-00101 K-00102 D-00097	𠂔	𠂔	𠂔	𠂔
3D043 𠂔 3 𠂔 7953 TH-00064 C-00064 K-00064 D-00064	𠂔	𠂔	𠂔	𠂔	3D057 𠂔 3 𠂔 2566D TH-00083 C-00083 K-00083 D-00083	𠂔	𠂔	𠂔	𠂔	3D06B 𠂔 5 𠂔 26903 TH-00098 C-00102 K-00103	𠂔	𠂔	𠂔	
3D044 𠂔 3 𠂔 7948 TH-00065 C-00065 K-00065 D-00065	𠂔	𠂔	𠂔	𠂔	3D058 𠂔 3 𠂔 7993 TH-00084 C-00084 K-00084 D-00084	𠂔	𠂔	𠂔	𠂔	3D06C 𠂔 5 𠂔 7687 TH-Y007 D-00098	𠂔		𠂔	
3D045 𠂔 3 𠂔 79B1 TH-00066 C-00066 K-00066 D-00066	𠂔	𠂔	𠂔	𠂔	3D059 𠂔 3 𠂔 256C6 TH-00085 C-00085 K-00085 D-00085	𠂔	𠂔	𠂔	𠂔	3D06D 𠂔 6* 𠂔 738B TH-00099 C-00103 K-00104 D-00099	𠂔	𠂔	𠂔	𠂔
3D046 𠂔 3 𠂔 25678 TH-00067 C-00067 K-00068 D-00067	𠂔	𠂔	𠂔	𠂔	3D05A 𠂔 3 𠂔 798D TH-00086 C-00086 K-00086 D-00086	𠂔	𠂔	𠂔	𠂔	3D06E 𠂔 6 𠂔 248EA TH-00100 C-00104 K-00105 D-00100	𠂔	𠂔	𠂔	𠂔
3D047 𠂔 3 𠂔 25739 TH-00068 C-00068 K-00067 D-00068	𠂔	𠂔	𠂔	𠂔	3D05B 𠂔 3 𠂔 795F TH-00087 C-00087 K-00087 D-00087	𠂔	𠂔	𠂔	𠂔	3D06F 𠂔 6 𠂔 24A83 TH-00101 C-00105 K-00106 D-00101	𠂔	𠂔	𠂔	𠂔
3D048 𠂔 3 𠂔 799C TH-00069 C-00069 K-00069 D-00069	𠂔	𠂔	𠂔	𠂔	3D05C 𠂔 3 𠂔 25731 TH-00088 C-00088 K-00088 D-00088	𠂔	𠂔	𠂔	𠂔	3D070 𠂔 6 𠂔 74D8 TH-00102 C-00106 K-00107 D-00102	𠂔	𠂔	𠂔	𠂔
3D049 𠂔 3 𠂔 79B3 TH-00070 C-00070 K-00070 D-00070	𠂔	𠂔	𠂔	𠂔	3D05D 𠂔 3 𠂔 410F TH-00089 C-00089 K-00089 D-00089	𠂔	𠂔	𠂔	𠂔	3D071 𠂔 6 𠂔 74A5 TH-00103 C-00107 K-00108 D-00103	𠂔	𠂔	𠂔	𠂔
3D04A 𠂔 3 𠂔 79AC TH-00071 C-00071 K-00071 D-00071	𠂔	𠂔	𠂔	𠂔	3D05E 𠂔 3 𠂔 7958 TH-00090 C-00090 K-00090 D-00090	𠂔	𠂔	𠂔	𠂔	3D072 𠂔 6 𠂔 7420 TH-00104 C-00108 K-00109 D-00104	𠂔	𠂔	𠂔	𠂔
3D04B 𠂔 3 𠂔 79AA TH-00072 C-00072 K-00072 D-00072	𠂔	𠂔	𠂔	𠂔	3D05F 𠂔 3 𠂔 7981 TH-00091 C-00091 K-00091 D-00091	𠂔	𠂔	𠂔	𠂔	3D073 𠂔 6 𠂔 24AD5 TH-00105 C-00109 K-00110 D-00105	𠂔	𠂔	𠂔	𠂔
3D04C 𠂔 3 𠂔 79A6 TH-00073 C-00073 K-00073 D-00073	𠂔	𠂔	𠂔	𠂔	3D060 𠂔 3 𠂔 25738 TH-00092 C-00092 K-00092 D-00092	𠂔	𠂔	𠂔	𠂔	3D074 𠂔 6 𠂔 24AA2 TH-00106 C-00110 K-00111 D-00106	𠂔	𠂔	𠂔	𠂔
3D04D 𠂔 3 𠂔 25671 TH-00074 C-00074 K-00074 D-00074	𠂔	𠂔	𠂔	𠂔	3D061 𠂔 3 𠂔 79B0 TH-X001 C-00093 K-00093	𠂔	𠂔	𠂔	𠂔	3D075 𠂔 6 𠂔 74A0 TH-00107 C-00111 K-00112 D-00107	𠂔	𠂔	𠂔	𠂔
3D04E 𠂔 3 𠂔 7996 TH-00075 C-00075 K-00075 D-00075	𠂔	𠂔	𠂔	𠂔	3D062 𠂔 3 𠂔 256DC TH-Y006 K-00094	𠂔	𠂔	𠂔		3D076 𠂔 6 𠂔 74B5 TH-00108 C-00112 K-00113	𠂔	𠂔	𠂔	
3D04F 𠂔 3 𠂔 256A9 TH-00076 C-00076 K-00076 D-00076	𠂔	𠂔	𠂔	𠂔	3D063 𠂔 3 𠂔 7967 TH-X002 C-00094 K-00095	𠂔	𠂔	𠂔		3D077 𠂔 6 𠂔 747E TH-00109 C-00113 K-00114 D-00108	𠂔	𠂔	𠂔	𠂔