

Miscellaneous Mathematical Symbols-B

Range: 2980–29FF

This file contains an excerpt from the character code tables and list of character names for *The Unicode Standard, Version 5.0*.

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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-5.0/> for charts showing only the characters added in Unicode 5.0.
See <http://www.unicode.org/Public/5.0.0/charts/> for a complete archived file of character code charts for Unicode 5.0.

Disclaimer

These charts are provided as the on-line reference to the character contents of the Unicode Standard, Version 5.0 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 5.0 (ISBN 0-321-48091-0), online at <http://www.unicode.org/versions/Unicode5.0.0/>, as well as Unicode Standard Annexes #9, #11, #14, #15, #24, #29, #31, and #34, the other Unicode Technical Reports and Standards, and the Unicode Character Database, which are available on-line.

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.

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
























































































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

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	298	299	29A	29B	29C	29D	29E	29F
0	 2980	 2990	 29A0	 29B0	 29C0	 29D0	 29E0	 29F0
1	 2981	 2991	 29A1	 29B1	 29C1	 29D1	 29E1	 29F1
2	 2982	 2992	 29A2	 29B2	 29C2	 29D2	 29E2	 29F2
3	 2983	 2993	 29A3	 29B3	 29C3	 29D3	 29E3	 29F3
4	 2984	 2994	 29A4	 29B4	 29C4	 29D4	 29E4	 29F4
5	 2985	 2995	 29A5	 29B5	 29C5	 29D5	 29E5	 29F5
6	 2986	 2996	 29A6	 29B6	 29C6	 29D6	 29E6	 29F6
7	 2987	 2997	 29A7	 29B7	 29C7	 29D7	 29E7	 29F7
8	 2988	 2998	 29A8	 29B8	 29C8	 29D8	 29E8	 29F8
9	 2989	 2999	 29A9	 29B9	 29C9	 29D9	 29E9	 29F9
A	 298A	 299A	 29AA	 29BA	 29CA	 29DA	 29EA	 29FA
B	 298B	 299B	 29AB	 29BB	 29CB	 29DB	 29EB	 29FB
C	 298C	 299C	 29AC	 29BC	 29CC	 29DC	 29EC	 29FC
D	 298D	 299D	 29AD	 29BD	 29CD	 29DD	 29ED	 29FD
E	 298E	 299E	 29AE	 29BE	 29CE	 29DE	 29EE	 29FE
F	 298F	 299F	 29AF	 29BF	 29CF	 29DF	 29EF	 29FF

Miscellaneous mathematical symbols

- 2980 \equiv TRIPLE VERTICAL BAR DELIMITER
 → 2AF4 \equiv triple vertical bar binary relation
 → 2AFC \equiv large triple vertical bar operator
- 2981 \bullet Z NOTATION SPOT
 • medium-small-sized black circle
 → 2219 \bullet bullet operator
 → 25CF \bullet black circle
- 2982 $\textcircled{:}$ Z NOTATION TYPE COLON
 → 0F7F $\textcircled{:}$ tibetan sign rnam bcaid

Brackets

- 2983 $\{$ LEFT WHITE CURLY BRACKET
 2984 $\}$ RIGHT WHITE CURLY BRACKET
 2985 $($ LEFT WHITE PARENTHESIS
 → FF5F $($ fullwidth left white parenthesis
- 2986 $)$ RIGHT WHITE PARENTHESIS
 • used for Bourbakist intervals
 → FF60 $)$ fullwidth right white parenthesis
- 2987 \langle Z NOTATION LEFT IMAGE BRACKET
 2988 \rangle Z NOTATION RIGHT IMAGE BRACKET
 2989 \langle Z NOTATION LEFT BINDING BRACKET
 298A \rangle Z NOTATION RIGHT BINDING BRACKET
 298B $[$ LEFT SQUARE BRACKET WITH UNDERBAR
 298C $]$ RIGHT SQUARE BRACKET WITH UNDERBAR
 298D $[$ LEFT SQUARE BRACKET WITH TICK IN TOP CORNER
 298E $]$ RIGHT SQUARE BRACKET WITH TICK IN BOTTOM CORNER
 298F $[$ LEFT SQUARE BRACKET WITH TICK IN BOTTOM CORNER
 2990 $]$ RIGHT SQUARE BRACKET WITH TICK IN TOP CORNER
 2991 \langle LEFT ANGLE BRACKET WITH DOT
 2992 \rangle RIGHT ANGLE BRACKET WITH DOT
 2993 \lessgtr LEFT ARC LESS-THAN BRACKET
 2994 \gtrless RIGHT ARC GREATER-THAN BRACKET
 2995 \lessgtr DOUBLE LEFT ARC GREATER-THAN BRACKET
 2996 \gtrless DOUBLE RIGHT ARC LESS-THAN BRACKET
 2997 $\{$ LEFT BLACK TORTOISE SHELL BRACKET
 → 3014 $\{$ left tortoise shell bracket
 → 3018 $\{$ left white tortoise shell bracket
- 2998 $\}$ RIGHT BLACK TORTOISE SHELL BRACKET

Fences

- 2999 \vdots DOTTED FENCE
 • four close dots vertical
- 299A zigzag VERTICAL ZIGZAG LINE
 → 2307 zigzag wavy line

Angles

- 299B \sphericalangle MEASURED ANGLE OPENING LEFT
 → 2221 \sphericalangle measured angle
- 299C right angle RIGHT ANGLE VARIANT WITH SQUARE
 → 221F right angle right angle
- 299D $\text{right angle with dot}$ MEASURED RIGHT ANGLE WITH DOT
 299E \sphericalangle ANGLE WITH S INSIDE
 299F \sphericalangle ACUTE ANGLE
 29A0 \sphericalangle SPHERICAL ANGLE OPENING LEFT
 → 2222 \sphericalangle spherical angle
- 29A1 \sphericalangle SPHERICAL ANGLE OPENING UP
 29A2 \sphericalangle TURNED ANGLE
 → 2220 \sphericalangle angle
- 29A3 \sphericalangle REVERSED ANGLE
 29A4 \sphericalangle ANGLE WITH UNDERBAR
 29A5 \sphericalangle REVERSED ANGLE WITH UNDERBAR

- 29A6 \sphericalangle OBLIQUE ANGLE OPENING UP
 29A7 \sphericalangle OBLIQUE ANGLE OPENING DOWN
 29A8 \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING UP AND RIGHT
 29A9 \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING UP AND LEFT
 29AA \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING DOWN AND RIGHT
 29AB \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING DOWN AND LEFT
 29AC \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING RIGHT AND UP
 29AD \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING LEFT AND UP
 29AE \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING RIGHT AND DOWN
 29AF \sphericalangle MEASURED ANGLE WITH OPEN ARM ENDING IN ARROW POINTING LEFT AND DOWN

Empty sets

- 29B0 \emptyset REVERSED EMPTY SET
 → 2205 \emptyset empty set
 → 2349 \emptyset apl functional symbol circle
 backslash
- 29B1 \emptyset EMPTY SET WITH OVERBAR
 29B2 \emptyset EMPTY SET WITH SMALL CIRCLE ABOVE
 29B3 \emptyset EMPTY SET WITH RIGHT ARROW ABOVE
 29B4 \emptyset EMPTY SET WITH LEFT ARROW ABOVE

Circle symbols

- 29B5 \ominus CIRCLE WITH HORIZONTAL BAR
 → 2296 \ominus circled minus
- 29B6 \odot CIRCLED VERTICAL BAR
 29B7 \odot CIRCLED PARALLEL
 29B8 \odot CIRCLED REVERSE SOLIDUS
 29B9 \odot CIRCLED PERPENDICULAR
 29BA \odot CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF DIVIDED BY VERTICAL BAR
 29BB \otimes CIRCLE WITH SUPERIMPOSED X
 → 2297 \otimes circled times
- 29BC \otimes CIRCLED ANTICLOCKWISE-ROTATED DIVISION SIGN
 29BD \uparrow UP ARROW THROUGH CIRCLE
 29BE \odot CIRCLED WHITE BULLET
 → 229A \odot circled ring operator
 → 233E \odot apl functional symbol circle jot
 → 25CE \odot bullseye
- 29BF \odot CIRCLED BULLET
 • forms part of a graduated set of circles with enclosed black circle of different sizes
 → 2299 \odot circled dot operator
 → 25C9 \odot fisheye
 → 2A00 \odot n-ary circled dot operator
- 29C0 \odot CIRCLED LESS-THAN
 29C1 \odot CIRCLED GREATER-THAN
 29C2 \odot CIRCLE WITH SMALL CIRCLE TO THE RIGHT
 29C3 \odot CIRCLE WITH TWO HORIZONTAL STROKES TO THE RIGHT

Square symbols

- 29C4 \boxplus SQUARED RISING DIAGONAL SLASH
 → 2341 \boxplus apl functional symbol quad slash
 → 303C \boxplus masu mark
- 29C5 \boxminus SQUARED FALLING DIAGONAL SLASH
 → 2342 \boxminus apl functional symbol quad backslash
- 29C6 \boxtimes SQUARED ASTERISK
 29C7 \boxtimes SQUARED SMALL CIRCLE
 → 233B \boxtimes apl functional symbol quad jot

- 29C8 ◻ SQUARED SQUARE
 29C9 ◻ TWO JOINED SQUARES

Triangle symbols

- 29CA △ TRIANGLE WITH DOT ABOVE
 29CB △ TRIANGLE WITH UNDERBAR
 29CC △ S IN TRIANGLE
 29CD △ TRIANGLE WITH SERIFS AT BOTTOM
 → 25B3 △ white up-pointing triangle
 29CE ▽ RIGHT TRIANGLE ABOVE LEFT TRIANGLE
 29CF ◁ LEFT TRIANGLE BESIDE VERTICAL BAR
 29D0 ▷ VERTICAL BAR BESIDE RIGHT TRIANGLE

Bowtie symbols

- 29D1 ⌘ BOWTIE WITH LEFT HALF BLACK
 → 22C8 ⌘ bowtie
 29D2 ⌘ BOWTIE WITH RIGHT HALF BLACK
 29D3 ⌘ BLACK BOWTIE
 29D4 ⌘ TIMES WITH LEFT HALF BLACK
 → 22C9 ⌘ left normal factor semidirect product
 29D5 ⌘ TIMES WITH RIGHT HALF BLACK
 → 22CA ⌘ right normal factor semidirect product
 29D6 ⌘ WHITE HOURGLASS
 = vertical bowtie
 = white framus
 → 231B ⌘ hourglass
 29D7 ⌘ BLACK HOURGLASS

Fences

- 29D8 } LEFT WIGGLY FENCE
 → FE34 { presentation form for vertical wavy low line
 29D9 } RIGHT WIGGLY FENCE
 29DA } LEFT DOUBLE WIGGLY FENCE
 29DB } RIGHT DOUBLE WIGGLY FENCE

Miscellaneous mathematical symbols

- 29DC ∞ INCOMPLETE INFINITY
 = ISOtech entity ⧜
 → 221E ∞ infinity
 29DD ∞ TIE OVER INFINITY
 29DE ∞ INFINITY NEGATED WITH VERTICAL BAR
 29DF ∞ DOUBLE-ENDED MULTIMAP
 → 22B8 ↔ multimap
 29E0 ◻ SQUARE WITH CONTOURED OUTLINE
 = D'Alembertian
 → 274F ◻ lower right drop-shadowed white square
 29E1 ≧ INCREASES AS
 → 22B4 ≧ normal subgroup of or equal to
 29E2 ≍ SHUFFLE PRODUCT
 → 22FF E z notation bag membership

Relations

- 29E3 ≠ EQUALS SIGN AND SLANTED PARALLEL
 → 0023 # number sign
 → 22D5 # equal and parallel to
 29E4 ≠ EQUALS SIGN AND SLANTED PARALLEL WITH TILDE ABOVE
 29E5 ≐ IDENTICAL TO AND SLANTED PARALLEL
 → 2A68 ≐ triple horizontal bar with double vertical stroke
 29E6 ≐ GLEICH STARK
 = tautological equivalent

Miscellaneous mathematical symbols

- 29E7 † THERMODYNAMIC
 • vertical bar crossed by two horizontals
 → 2260 ≠ not equal to
 29E8 ▼ DOWN-POINTING TRIANGLE WITH LEFT HALF BLACK
 → 25ED ▲ up-pointing triangle with left half black
 29E9 ▼ DOWN-POINTING TRIANGLE WITH RIGHT HALF BLACK
 → 25EE ▲ up-pointing triangle with right half black
 29EA ◆ BLACK DIAMOND WITH DOWN ARROW
 29EB ◆ BLACK LOZENGE
 → 25CA ◊ lozenge
 29EC ○ WHITE CIRCLE WITH DOWN ARROW
 29ED ● BLACK CIRCLE WITH DOWN ARROW

Error bar symbols

- 29EE ◻ ERROR-BARRED WHITE SQUARE
 29EF ◼ ERROR-BARRED BLACK SQUARE
 29F0 ◊ ERROR-BARRED WHITE DIAMOND
 29F1 ◆ ERROR-BARRED BLACK DIAMOND
 29F2 ○ ERROR-BARRED WHITE CIRCLE
 29F3 ● ERROR-BARRED BLACK CIRCLE

Miscellaneous mathematical symbols

- 29F4 ⇨ RULE-DELAYED
 = colon right arrow
 29F5 \ REVERSE SOLIDUS OPERATOR
 → 005C \ reverse solidus
 → 2216 \ set minus
 29F6 / SOLIDUS WITH OVERBAR
 29F7 \ REVERSE SOLIDUS WITH HORIZONTAL STROKE

Large operators

- 29F8 / BIG SOLIDUS
 → 2215 / division slash
 29F9 \ BIG REVERSE SOLIDUS
 = z notation schema hiding
 → 2216 \ set minus

Specialized plus sign operators

- 29FA # DOUBLE PLUS
 29FB ## TRIPLE PLUS

Brackets

- 29FC ‹ LEFT-POINTING CURVED ANGLE BRACKET
 → 227A ‹ precedes
 → 2329 ‹ left-pointing angle bracket
 29FD › RIGHT-POINTING CURVED ANGLE BRACKET
 → 227B › succeeds
 → 232A › right-pointing angle bracket

Miscellaneous mathematical symbols

- 29FE + TINY
 → 002B + plus sign
 29FF - MINY
 → 2212 - minus sign