

Supplemental Mathematical Operators

Range: 2A00–2AFF

The Unicode Standard, Version 3.2

This file contains an excerpt from the character code tables and list of character names for *The Unicode Standard, Version 3.2*.

Characters in this chart that are new for The Unicode Standard, Version 3.2 are shown in conjunction with any existing characters. For ease of reference, the new characters have been highlighted in the chart grid and in the names list.

This file will not be updated with errata, or when additional characters are assigned to the Unicode Standard. See <http://www.unicode.org/charts> for access to a complete list of the latest character charts.

Disclaimer

These charts are provided as the on-line reference to the character contents of the Unicode Standard, Version 3.2 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 excerpt file, please consult the appropriate sections of The Unicode Standard, Version 3.0 (ISBN 0-201-61633-5), as well as Unicode Standard Annexes #28 and #27, the other Unicode Technical Reports and the Unicode Character Database, which are available on-line.

See <http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html> and <http://www.unicode.org/unicode/reports>

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

Fonts

The shapes of the reference glyphs used in these code charts are not prescriptive. Considerable variation is to be expected in actual fonts. The particular fonts used in these charts were provided to the Unicode Consortium by a number of different font designers, who own the rights to the fonts.

See <http://www.unicode.org/unicode/uni2book/u2fonts.html> for a list.

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



























































































































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

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	2A0	2A1	2A2	2A3	2A4	2A5	2A6	2A7
0	2A00	2A10	2A20	2A30	2A40	2A50	2A60	2A70
1	2A01	2A11	2A21	2A31	2A41	2A51	2A61	2A71
2	2A02	2A12	2A22	2A32	2A42	2A52	2A62	2A72
3	2A03	2A13	2A23	2A33	2A43	2A53	2A63	2A73
4	2A04	2A14	2A24	2A34	2A44	2A54	2A64	2A74
5	2A05	2A15	2A25	2A35	2A45	2A55	2A65	2A75
6	2A06	2A16	2A26	2A36	2A46	2A56	2A66	2A76
7	2A07	2A17	2A27	2A37	2A47	2A57	2A67	2A77
8	2A08	2A18	2A28	2A38	2A48	2A58	2A68	2A78
9	2A09	2A19	2A29	2A39	2A49	2A59	2A69	2A79
A	2A0A	2A1A	2A2A	2A3A	2A4A	2A5A	2A6A	2A7A
B	2A0B	2A1B	2A2B	2A3B	2A4B	2A5B	2A6B	2A7B
C	2A0C	2A1C	2A2C	2A3C	2A4C	2A5C	2A6C	2A7C
D	2A0D	2A1D	2A2D	2A3D	2A4D	2A5D	2A6D	2A7D
E	2A0E	2A1E	2A2E	2A3E	2A4E	2A5E	2A6E	2A7E
F	2A0F	2A1F	2A2F	2A3F	2A4F	2A5F	2A6F	2A7F

	2A8	2A9	2AA	2AB	2AC	2AD	2AE	2AF
0	 2A80	 2A90	 2AA0	 2AB0	 2AC0	 2AD0	 2AE0	 2AF0
1	 2A81	 2A91	 2AA1	 2AB1	 2AC1	 2AD1	 2AE1	 2AF1
2	 2A82	 2A92	 2AA2	 2AB2	 2AC2	 2AD2	 2AE2	 2AF2
3	 2A83	 2A93	 2AA3	 2AB3	 2AC3	 2AD3	 2AE3	 2AF3
4	 2A84	 2A94	 2AA4	 2AB4	 2AC4	 2AD4	 2AE4	 2AF4
5	 2A85	 2A95	 2AA5	 2AB5	 2AC5	 2AD5	 2AE5	 2AF5
6	 2A86	 2A96	 2AA6	 2AB6	 2AC6	 2AD6	 2AE6	 2AF6
7	 2A87	 2A97	 2AA7	 2AB7	 2AC7	 2AD7	 2AE7	 2AF7
8	 2A88	 2A98	 2AA8	 2AB8	 2AC8	 2AD8	 2AE8	 2AF8
9	 2A89	 2A99	 2AA9	 2AB9	 2AC9	 2AD9	 2AE9	 2AF9
A	 2A8A	 2A9A	 2AAA	 2ABA	 2ACA	 2ADA	 2AEA	 2AFA
B	 2A8B	 2A9B	 2AAB	 2ABB	 2ACB	 2ADB	 2AEB	 2AFB
C	 2A8C	 2A9C	 2AAC	 2ABC	 2ACC	 2ADC	 2AEC	 2AFC
D	 2A8D	 2A9D	 2AAD	 2ABD	 2ACD	 2ADD	 2AED	 2AFD
E	 2A8E	 2A9E	 2AAE	 2ABE	 2ACE	 2ADE	 2AEE	 2AFE
F	 2A8F	 2A9F	 2AAF	 2ABF	 2ACF	 2ADF	 2AEF	 2AFF

N-ary operators

- 2A00 \odot N-ARY CIRCLED DOT OPERATOR
 → 2299 \odot circled dot operator
 → 25C9 \odot fisheye
- 2A01 \oplus N-ARY CIRCLED PLUS OPERATOR
 → 2295 \oplus circled plus
- 2A02 \otimes N-ARY CIRCLED TIMES OPERATOR
 → 2297 \otimes circled times
- 2A03 \cup N-ARY UNION OPERATOR WITH DOT
- 2A04 \cup N-ARY UNION OPERATOR WITH PLUS
 → 228E \cup multiset union
- 2A05 \sqcap N-ARY SQUARE INTERSECTION OPERATOR
 → 2293 \sqcap square cap
- 2A06 \sqcup N-ARY SQUARE UNION OPERATOR
 → 2294 \sqcup square cup
- 2A07 \wedge TWO LOGICAL AND OPERATOR
 = merge
 → 2A55 \wedge two intersecting logical and
- 2A08 \vee TWO LOGICAL OR OPERATOR
 → 2A56 \vee two intersecting logical or
- 2A09 \times N-ARY TIMES OPERATOR
 → 00D7 \times multiplication sign

Summations and integrals

- 2A0A \sum MODULO TWO SUM
 → 2211 \sum n-ary summation
- 2A0B \int SUMMATION WITH INTEGRAL
- 2A0C \iiint QUADRUPLE INTEGRAL OPERATOR
 ≈ 222B \int 222B \int 222B \int 222B \int
- 2A0D \int FINITE PART INTEGRAL
- 2A0E \int INTEGRAL WITH DOUBLE STROKE
- 2A0F \int INTEGRAL AVERAGE WITH SLASH
- 2A10 \int CIRCULATION FUNCTION
- 2A11 \int ANTICLOCKWISE INTEGRATION
- 2A12 \int LINE INTEGRATION WITH RECTANGULAR PATH AROUND POLE
- 2A13 \int LINE INTEGRATION WITH SEMICIRCULAR PATH AROUND POLE
- 2A14 \int LINE INTEGRATION NOT INCLUDING THE POLE
- 2A15 \int INTEGRAL AROUND A POINT OPERATOR
- 2A16 \int QUATERNION INTEGRAL OPERATOR
- 2A17 \int INTEGRAL WITH LEFTWARDS ARROW WITH HOOK
- 2A18 \int INTEGRAL WITH TIMES SIGN
- 2A19 \int INTEGRAL WITH INTERSECTION
- 2A1A \int INTEGRAL WITH UNION
- 2A1B \int INTEGRAL WITH OVERBAR
 = upper integral
- 2A1C \int INTEGRAL WITH UNDERBAR
 = lower integral

Miscellaneous large operators

- 2A1D \bowtie JOIN
 = large bowtie
 • relational database theory
 → 22C8 \bowtie bowtie
 → 27D7 \bowtie full outer join
- 2A1E \triangleleft LARGE LEFT TRIANGLE OPERATOR
 • relational database theory
 → 25C1 \triangleleft white left-pointing triangle
- 2A1F \textcircled{z} Z NOTATION SCHEMA COMPOSITION
 → 2A3E \textcircled{z} z notation relational composition
- 2A20 \gg Z NOTATION SCHEMA PIPING
 → 226B \gg much greater-than
- 2A21 \uparrow Z NOTATION SCHEMA PROJECTION
 → 21BE \uparrow upwards harpoon with barb rightwards

Plus and minus sign operators

- 2A22 $\textcircled{+}$ PLUS SIGN WITH SMALL CIRCLE ABOVE
- 2A23 $\textcircled{+}$ PLUS SIGN WITH CIRCUMFLEX ACCENT ABOVE
- 2A24 $\textcircled{+}$ PLUS SIGN WITH TILDE ABOVE
 = positive difference or sum
- 2A25 $\textcircled{+}$ PLUS SIGN WITH DOT BELOW
 → 2214 $\textcircled{+}$ dot plus
- 2A26 $\textcircled{+}$ PLUS SIGN WITH TILDE BELOW
 = sum or positive difference
- 2A27 $\textcircled{+}$ PLUS SIGN WITH SUBSCRIPT TWO
 = nim-addition
- 2A28 \blacktriangle PLUS SIGN WITH BLACK TRIANGLE
- 2A29 $\textcircled{-}$ MINUS SIGN WITH COMMA ABOVE
- 2A2A $\textcircled{-}$ MINUS SIGN WITH DOT BELOW
 → 2238 $\textcircled{-}$ dot minus
- 2A2B $\textcircled{-}$ MINUS SIGN WITH FALLING DOTS
- 2A2C $\textcircled{-}$ MINUS SIGN WITH RISING DOTS
- 2A2D $\textcircled{-}$ PLUS SIGN IN LEFT HALF CIRCLE
- 2A2E $\textcircled{-}$ PLUS SIGN IN RIGHT HALF CIRCLE

Multiplication and division sign operators

- 2A2F \times VECTOR OR CROSS PRODUCT
 → 00D7 \times multiplication sign
- 2A30 \times MULTIPLICATION SIGN WITH DOT ABOVE
- 2A31 \times MULTIPLICATION SIGN WITH UNDERBAR
- 2A32 \times SEMIDIRECT PRODUCT WITH BOTTOM CLOSED
- 2A33 \times SMASH PRODUCT
- 2A34 $\textcircled{\times}$ MULTIPLICATION SIGN IN LEFT HALF CIRCLE
- 2A35 $\textcircled{\times}$ MULTIPLICATION SIGN IN RIGHT HALF CIRCLE
- 2A36 $\textcircled{\times}$ CIRCLED MULTIPLICATION SIGN WITH CIRCUMFLEX ACCENT

2A37 \odot MULTIPLICATION SIGN IN DOUBLE CIRCLE

2A38 \oplus CIRCLED DIVISION SIGN

Miscellaneous mathematical operators

2A39 \triangleplus PLUS SIGN IN TRIANGLE

2A3A \triangleminus MINUS SIGN IN TRIANGLE

2A3B $\triangle\times$ MULTIPLICATION SIGN IN TRIANGLE

2A3C \dashv INTERIOR PRODUCT
→ 230B \lfloor right floor

2A3D \lrcorner RIGHTHAND INTERIOR PRODUCT
→ 230A \llcorner left floor
→ 2319 \lnot turned not sign

2A3E ζ Z NOTATION RELATIONAL COMPOSITION
→ 2A1F ζ z notation schema composition

2A3F \amalg AMALGAMATION OR COPRODUCT
→ 2210 \sqcup n-ary coproduct

Intersections and unions

2A40 \cap INTERSECTION WITH DOT
→ 2227 \wedge logical and
→ 27D1 \wedge and with dot

2A41 \cup UNION WITH MINUS SIGN
= z notation bag subtraction
→ 228E \cup multiset union

2A42 $\overline{\cup}$ UNION WITH OVERBAR

2A43 $\overline{\cap}$ INTERSECTION WITH OVERBAR

2A44 $\overline{\wedge}$ INTERSECTION WITH LOGICAL AND

2A45 $\overline{\cup}$ UNION WITH LOGICAL OR

2A46 $\overline{\cap}$ UNION ABOVE INTERSECTION

2A47 $\overline{\cup}$ INTERSECTION ABOVE UNION

2A48 $\overline{\cap}$ UNION ABOVE BAR ABOVE INTERSECTION

2A49 $\overline{\cup}$ INTERSECTION ABOVE BAR ABOVE UNION

2A4A \cup UNION BESIDE AND JOINED WITH UNION

2A4B \cup INTERSECTION BESIDE AND JOINED WITH INTERSECTION

2A4C \cup CLOSED UNION WITH SERIFS
→ 222A \cup union

2A4D \cap CLOSED INTERSECTION WITH SERIFS
→ 2229 \cap intersection

2A4E \square DOUBLE SQUARE INTERSECTION

2A4F \square DOUBLE SQUARE UNION

2A50 \cup CLOSED UNION WITH SERIFS AND SMASH PRODUCT

Logical ands and ors

2A51 \wedge LOGICAL AND WITH DOT ABOVE

2A52 \vee LOGICAL OR WITH DOT ABOVE

2A53 \wedge DOUBLE LOGICAL AND

2A54 \vee DOUBLE LOGICAL OR

2A55 \wedge TWO INTERSECTING LOGICAL AND
→ 2A07 \wedge two logical and operator

2A56 \wedge TWO INTERSECTING LOGICAL OR
→ 2A08 \vee two logical or operator

2A57 \vee SLOPING LARGE OR

2A58 \wedge SLOPING LARGE AND

2A59 \times LOGICAL OR OVERLAPPING LOGICAL AND

2A5A \wedge LOGICAL AND WITH MIDDLE STEM

2A5B \vee LOGICAL OR WITH MIDDLE STEM

2A5C \wedge LOGICAL AND WITH HORIZONTAL DASH

2A5D \vee LOGICAL OR WITH HORIZONTAL DASH

2A5E $\overline{\wedge}$ LOGICAL AND WITH DOUBLE OVERBAR
→ 2306 $\overline{\wedge}$ perspective

2A5F $\underline{\wedge}$ LOGICAL AND WITH UNDERBAR

2A60 $\underline{\wedge}$ LOGICAL AND WITH DOUBLE UNDERBAR
→ 2259 \triangle estimates

2A61 \vee SMALL VEE WITH UNDERBAR
→ 225A \cong equiangular to

2A62 $\overline{\vee}$ LOGICAL OR WITH DOUBLE OVERBAR

2A63 $\underline{\vee}$ LOGICAL OR WITH DOUBLE UNDERBAR
→ 225A \cong equiangular to

Miscellaneous mathematical operators

2A64 \triangleleft Z NOTATION DOMAIN ANTIRESTRICTION

2A65 \triangleright Z NOTATION RANGE ANTIRESTRICTION
→ 2332 \triangleright conical taper

Relational operators

2A66 \doteq EQUALS SIGN WITH DOT BELOW
→ 2250 \doteq approaches the limit

2A67 \equiv IDENTICAL WITH DOT ABOVE

2A68 \equiv TRIPLE HORIZONTAL BAR WITH DOUBLE VERTICAL STROKE
= identical and parallel to

→ 22D5 \equiv equal and parallel to
→ 29E5 \equiv identical to and slanted parallel

2A69 \equiv TRIPLE HORIZONTAL BAR WITH TRIPLE VERTICAL STROKE

2A6A \sim TILDE OPERATOR WITH DOT ABOVE

2A6B \sim TILDE OPERATOR WITH RISING DOTS
→ 223B \sim homothetic

2A6C \approx SIMILAR MINUS SIMILAR

2A6D \cong CONGRUENT WITH DOT ABOVE
→ 2245 \cong approximately equal to

2A6E \star EQUALS WITH ASTERISK
→ 225B \star star equals

2A6F \approx ALMOST EQUAL TO WITH CIRCUMFLEX ACCENT

2A70 \approx APPROXIMATELY EQUAL OR EQUAL TO

2A71 \doteq EQUALS SIGN ABOVE PLUS SIGN

2A72	⊕	PLUS SIGN ABOVE EQUALS SIGN	2A8F	⋈	LESS-THAN ABOVE SIMILAR ABOVE GREATER-THAN
2A73	≡	EQUALS SIGN ABOVE TILDE OPERATOR	2A90	⋈	GREATER-THAN ABOVE SIMILAR ABOVE LESS-THAN
2A74	≡	DOUBLE COLON EQUAL ≈ 003A : 003A : 003D =	2A91	⋈	LESS-THAN ABOVE GREATER-THAN ABOVE DOUBLE-LINE EQUAL
2A75	≡	TWO CONSECUTIVE EQUALS SIGNS ≈ 003D = 003D =	2A92	⋈	GREATER-THAN ABOVE LESS-THAN ABOVE DOUBLE-LINE EQUAL
2A76	≡	THREE CONSECUTIVE EQUALS SIGNS ≈ 003D = 003D = 003D =	2A93	⋈	LESS-THAN ABOVE SLANTED EQUAL ABOVE GREATER-THAN ABOVE SLANTED EQUAL
2A77	≡	EQUALS SIGN WITH TWO DOTS ABOVE AND TWO DOTS BELOW	2A94	⋈	GREATER-THAN ABOVE SLANTED EQUAL ABOVE LESS-THAN ABOVE SLANTED EQUAL
2A78	≡	EQUIVALENT WITH FOUR DOTS ABOVE	2A95	⋈	SLANTED EQUAL TO OR LESS-THAN → 22DC ≲ equal to or less-than
2A79	⋈	LESS-THAN WITH CIRCLE INSIDE	2A96	⋈	SLANTED EQUAL TO OR GREATER-THAN → 22DD ≳ equal to or greater-than
2A7A	⋈	GREATER-THAN WITH CIRCLE INSIDE	2A97	⋈	SLANTED EQUAL TO OR LESS-THAN WITH DOT INSIDE
2A7B	⋈	LESS-THAN WITH QUESTION MARK ABOVE	2A98	⋈	SLANTED EQUAL TO OR GREATER-THAN WITH DOT INSIDE
2A7C	⋈	GREATER-THAN WITH QUESTION MARK ABOVE	2A99	⋈	DOUBLE-LINE EQUAL TO OR LESS-THAN → 22DC ≲ equal to or less-than
2A7D	⋈	LESS-THAN OR SLANTED EQUAL TO → 2264 ≤ less-than or equal to	2A9A	⋈	DOUBLE-LINE EQUAL TO OR GREATER-THAN → 22DD ≳ equal to or greater-than
2A7E	⋈	GREATER-THAN OR SLANTED EQUAL TO → 2265 ≥ greater-than or equal to	2A9B	⋈	DOUBLE-LINE SLANTED EQUAL TO OR LESS-THAN
2A7F	⋈	LESS-THAN OR SLANTED EQUAL TO WITH DOT INSIDE	2A9C	⋈	DOUBLE-LINE SLANTED EQUAL TO OR GREATER-THAN
2A80	⋈	GREATER-THAN OR SLANTED EQUAL TO WITH DOT INSIDE	2A9D	⋈	SIMILAR OR LESS-THAN
2A81	⋈	LESS-THAN OR SLANTED EQUAL TO WITH DOT ABOVE	2A9E	⋈	SIMILAR OR GREATER-THAN
2A82	⋈	GREATER-THAN OR SLANTED EQUAL TO WITH DOT ABOVE	2A9F	⋈	SIMILAR ABOVE LESS-THAN ABOVE EQUALS SIGN
2A83	⋈	LESS-THAN OR SLANTED EQUAL TO WITH DOT ABOVE RIGHT	2AA0	⋈	SIMILAR ABOVE GREATER-THAN ABOVE EQUALS SIGN
2A84	⋈	GREATER-THAN OR SLANTED EQUAL TO WITH DOT ABOVE LEFT	2AA1	⋈	DOUBLE NESTED LESS-THAN = absolute continuity → 226A ≪ much less-than
2A85	⋈	LESS-THAN OR APPROXIMATE	2AA2	⋈	DOUBLE NESTED GREATER-THAN → 226B ≫ much greater-than
2A86	⋈	GREATER-THAN OR APPROXIMATE	2AA3	⋈	DOUBLE NESTED LESS-THAN WITH UNDERBAR
2A87	⋈	LESS-THAN AND SINGLE-LINE NOT EQUAL TO → 2268 ≉ less-than but not equal to	2AA4	⋈	GREATER-THAN OVERLAPPING LESS-THAN
2A88	⋈	GREATER-THAN AND SINGLE-LINE NOT EQUAL TO → 2269 ≊ greater-than but not equal to	2AA5	⋈	GREATER-THAN BESIDE LESS-THAN
2A89	⋈	LESS-THAN AND NOT APPROXIMATE	2AA6	⋈	LESS-THAN CLOSED BY CURVE
2A8A	⋈	GREATER-THAN AND NOT APPROXIMATE	2AA7	⋈	GREATER-THAN CLOSED BY CURVE
2A8B	⋈	LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN → 22DA ≍ less-than equal to or greater-than	2AA8	⋈	LESS-THAN CLOSED BY CURVE ABOVE SLANTED EQUAL
2A8C	⋈	GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN → 22DB ≎ greater-than equal to or less-than	2AA9	⋈	GREATER-THAN CLOSED BY CURVE ABOVE SLANTED EQUAL
2A8D	⋈	LESS-THAN ABOVE SIMILAR OR EQUAL	2AAA	⋈	SMALLER THAN
2A8E	⋈	GREATER-THAN ABOVE SIMILAR OR EQUAL	2AAB	⋈	LARGER THAN
			2AAC	⋈	SMALLER THAN OR EQUAL TO

2AAD	➤	LARGER THAN OR EQUAL TO
2AAE	≡	EQUALS SIGN WITH BUMPY ABOVE → 224F ≃ difference between
2AAF	⋈	PRECEDES ABOVE SINGLE-LINE EQUALS SIGN → 227C ≦ precedes or equal to
2AB0	➤	SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN → 227D ≧ succeeds or equal to
2AB1	⋈	PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO
2AB2	➤	SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO
2AB3	⋈	PRECEDES ABOVE EQUALS SIGN
2AB4	➤	SUCCEEDS ABOVE EQUALS SIGN
2AB5	⋈	PRECEDES ABOVE NOT EQUAL TO
2AB6	➤	SUCCEEDS ABOVE NOT EQUAL TO
2AB7	⋈	PRECEDES ABOVE ALMOST EQUAL TO
2AB8	➤	SUCCEEDS ABOVE ALMOST EQUAL TO
2AB9	⋈	PRECEDES ABOVE NOT ALMOST EQUAL TO
2ABA	➤	SUCCEEDS ABOVE NOT ALMOST EQUAL TO
2ABB	⋈	DOUBLE PRECEDES
2ABC	➤	DOUBLE SUCCEEDS

Subset and superset relations

2ABD	⊂	SUBSET WITH DOT
2ABE	⊃	SUPERSET WITH DOT
2ABF	⊆	SUBSET WITH PLUS SIGN BELOW
2AC0	⊇	SUPERSET WITH PLUS SIGN BELOW
2AC1	⊆	SUBSET WITH MULTIPLICATION SIGN BELOW
2AC2	⊇	SUPERSET WITH MULTIPLICATION SIGN BELOW
2AC3	⊆	SUBSET OF OR EQUAL TO WITH DOT ABOVE
2AC4	⊇	SUPERSET OF OR EQUAL TO WITH DOT ABOVE
2AC5	⊆	SUBSET OF ABOVE EQUALS SIGN
2AC6	⊇	SUPERSET OF ABOVE EQUALS SIGN
2AC7	⊆	SUBSET OF ABOVE TILDE OPERATOR
2AC8	⊇	SUPERSET OF ABOVE TILDE OPERATOR
2AC9	⊆	SUBSET OF ABOVE ALMOST EQUAL TO
2ACA	⊇	SUPERSET OF ABOVE ALMOST EQUAL TO
2ACB	⊆	SUBSET OF ABOVE NOT EQUAL TO
2ACC	⊇	SUPERSET OF ABOVE NOT EQUAL TO
2ACD	⊆	SQUARE LEFT OPEN BOX OPERATOR
2ACE	⊆	SQUARE RIGHT OPEN BOX OPERATOR
2ACF	⊂	CLOSED SUBSET → 2282 ⊂ subset of

2AD0	⊂	CLOSED SUPERSET → 2283 ⊃ superset of
2AD1	⊆	CLOSED SUBSET OR EQUAL TO
2AD2	⊇	CLOSED SUPERSET OR EQUAL TO
2AD3	⊆	SUBSET ABOVE SUPERSET
2AD4	⊇	SUPERSET ABOVE SUBSET
2AD5	⊆	SUBSET ABOVE SUBSET
2AD6	⊇	SUPERSET ABOVE SUPERSET
2AD7	⊆	SUPERSET BESIDE SUBSET
2AD8	⊆	SUPERSET BESIDE AND JOINED BY DASH WITH SUBSET

Forks

2AD9	⊍	ELEMENT OF OPENING DOWNWARDS → 2208 ∈ element of → 27D2 ⊍ element of opening upwards
2ADA	⋈	PITCHFORK WITH TEE TOP → 22D4 ⋈ pitchfork
2ADB	⋈	TRANSVERSAL INTERSECTION → 22D4 ⋈ pitchfork
2ADC	⋈	FORKING = not independent • an equational logic symbol, not a computing science symbol • non-independence (original concept) is related to forking ≡ 2ADD ⊥ 0338 ⊄
2ADD	⋈	NONFORKING = independent • an equational logic symbol, not a computing science symbol • independence (original concept) is related to non-forking

Tacks and turnstiles

2ADE	⊥	SHORT LEFT TACK → 22A3 ⊥ left tack
2ADF	⊥	SHORT DOWN TACK → 22A4 ⊥ down tack
2AE0	⊥	SHORT UP TACK → 22A5 ⊥ up tack
2AE1	⊥	PERPENDICULAR WITH S
2AE2	⊥	VERTICAL BAR TRIPLE RIGHT TURNSTILE = ordinarily satisfies
2AE3	⊥	DOUBLE VERTICAL BAR LEFT TURNSTILE → 22A9 ⊥ forces
2AE4	⊥	VERTICAL BAR DOUBLE LEFT TURNSTILE → 22A8 ⊥ true
2AE5	⊥	DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE
2AE6	⊥	LONG DASH FROM LEFT MEMBER OF DOUBLE VERTICAL → 22A9 ⊥ forces

- 2AE7 $\overline{\downarrow}$ SHORT DOWN TACK WITH OVERBAR
 → 22A4 $\overline{\downarrow}$ down tack
 → 2351 $\overline{\uparrow}$ apl functional symbol up tack overbar
- 2AE8 $\underline{\uparrow}$ SHORT UP TACK WITH UNDERBAR
 → 22A5 $\underline{\uparrow}$ up tack
 → 234A $\underline{\downarrow}$ apl functional symbol down tack underbar
- 2AE9 $\overline{\uparrow}$ SHORT UP TACK ABOVE SHORT DOWN TACK
- 2AEA $\overline{\downarrow}$ DOUBLE DOWN TACK
- 2AEB $\overline{\uparrow}$ DOUBLE UP TACK
 = independence
 • probability theory
- 2AEC $\overline{\neg}$ DOUBLE STROKE NOT SIGN
 → 00AC \neg not sign
- 2AED $\overline{\neg}$ REVERSED DOUBLE STROKE NOT SIGN
 → 2310 \neg reversed not sign

Vertical line operators

- 2AEE \nmid DOES NOT DIVIDE WITH REVERSED NEGATION SLASH
 → 2224 \nmid does not divide
- 2AEF $\overset{\circ}{|}$ VERTICAL LINE WITH CIRCLE ABOVE
- 2AF0 $\underset{\circ}{|}$ VERTICAL LINE WITH CIRCLE BELOW
- 2AF1 $\underset{\circ}{\downarrow}$ DOWN TACK WITH CIRCLE BELOW
 = necessarily satisfies
 → 27DF $\overset{\circ}{\uparrow}$ up tack with circle above
- 2AF2 $\#$ PARALLEL WITH HORIZONTAL STROKE
 → 2226 $\#$ not parallel to
- 2AF3 $\#$ PARALLEL WITH TILDE OPERATOR
- 2AF4 \equiv TRIPLE VERTICAL BAR BINARY RELATION
 = interleave
 → 2980 \equiv triple vertical bar delimiter
- 2AF5 $\#$ TRIPLE VERTICAL BAR WITH HORIZONTAL STROKE

Miscellaneous mathematical operator

- 2AF6 \vdots TRIPLE COLON OPERATOR
 • logic
 → 22EE \vdots vertical ellipsis

Relations

- 2AF7 \lll TRIPLE NESTED LESS-THAN
 → 22D8 \lll very much less-than
- 2AF8 \ggg TRIPLE NESTED GREATER-THAN
 → 22D9 \ggg very much greater-than
- 2AF9 \leqslant DOUBLE-LINE SLANTED LESS-THAN OR EQUAL TO
 → 2266 \leqslant less-than over equal to
- 2AFA \geqslant DOUBLE-LINE SLANTED GREATER-THAN OR EQUAL TO
 → 2267 \geqslant greater-than over equal to

- 2AFB \equiv TRIPLE SOLIDUS BINARY RELATION
 → 2AF4 \equiv triple vertical bar binary relation

Operators

- 2AFC \equiv LARGE TRIPLE VERTICAL BAR OPERATOR
 • often n-ary
 → 2AF4 \equiv triple vertical bar binary relation
 → 2980 \equiv triple vertical bar delimiter
- 2AFD \parallel DOUBLE SOLIDUS OPERATOR
 → 2225 \parallel parallel to
- 2AFE \perp WHITE VERTICAL BAR
 = Dijkstra choice
- 2AFF \perp N-ARY WHITE VERTICAL BAR
 = n-ary Dijkstra choice