Miscellaneous Mathematical Symbols-A
Range: 27C0–27EF

This file contains an excerpt from the character code tables and list of character names for
The Unicode Standard, Version 14.0

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

See https://www.unicode.org/charts/ for access to a complete list of the latest character code charts.
See https://www.unicode.org/charts/PDF/Unicode-14.0/ for charts showing only the characters added in Unicode 14.0.
See https://www.unicode.org/Public/14.0.0/charts/ for a complete archived file of character code charts for Unicode 14.0.

Disclaimer

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 14.0 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 14.0, online at https://www.unicode.org/versions/Unicode14.0.0/, 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 https://www.unicode.org/ucd/ and https://www.unicode.org/reports/

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

Copying characters from the character code tables or list of character names is not recommended, because for production reasons the PDF files for the code charts cannot guarantee that the correct character codes will always be copied.

Fonts

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See https://www.unicode.org/charts/fonts.html for a list.

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See https://www.unicode.org/pending/pending.html and https://www.unicode.org/alloc/Pipeline.html.

	27C	27D	27E
0	↙ 27C0	⟐ 27D0	⟠ 27E0
1	⟁ 27C1	⟑ 27D1	⟡ 27E1
2	⟂ 27C2	⟒ 27D2	⟢ 27E2
3	⟃ 27C3	⟓ 27D3	⟣ 27E3
4	⟄ 27C4	⟔ 27D4	⟤ 27E4
5	⟅ 27C5	⟕ 27D5	⟥ 27E5
6	⟆ 27C6	⟖ 27D6	⟦ 27E6
7	⟇ 27C7	⟗ 27D7	⟧ 27E7
8	⟈ 27C8	⟘ 27D8	⟨ 27E8
9	⟉ 27C9	⟙ 27D9	⟩ 27E9
A	⟊ 27CA	⟚ 27DA	⟪ 27EA
B	⟋ 27CB	⟛ 27DB	⟫ 27EB
C	⟌ 27CC	⟜ 27DC	⟬ 27EC
D	⟍ 27CD	⟝ 27DD	⟭ 27ED
E	⟎ 27CE	⟞ 27DE	⟮ 27EE
F	⟏ 27CF	⟟ 27DF	⟯ 27EF

Miscellaneous symbols

27C0   ∠   THREE DIMENSIONAL ANGLE
         • used by Euclid
27C1   ⟁   WHITE TRIANGLE CONTAINING SMALL WHITE TRIANGLE
         • used by Euclid
27C2   ⊥   PERPENDICULAR
         = orthogonal to
         • relation, typeset with additional spacing
         → 22A5 ⊥ up tack
27C3   ⟃   OPEN SUBSET
27C4   ⟄   OPEN SUPERSET

Paired punctuation

27C5   ⟅   LEFT S-SHAPED BAG DELIMITER
27C6   ⟆   RIGHT S-SHAPED BAG DELIMITER

Operator

27C7   ⩔   OR WITH DOT INSIDE
         → 2228 ∨ logical or
         → 228D ⊍ multiset multiplication
         → 27D1 ⟑ and with dot

Miscellaneous symbols

27C8   ⟈   REVERSE SOLIDUS PRECEDING SUBSET
27C9   ⟉   SUPERSET PRECEDING SOLIDUS

Vertical line operator

27CA   ⫾   VERTICAL BAR WITH HORIZONTAL STROKE
         → 2AF2 ⫲ parallel with horizontal stroke
         → 2AF5 ⫵ triple vertical bar with horizontal stroke

Miscellaneous symbol

27CB   ⟋   MATHEMATICAL RISING DIAGONAL
         = \diagup
         → 2215 ∕ division slash

Division operator

27CC   ⟌   LONG DIVISION
         • graphically extends over the dividend
         → 00F7 ÷ division sign
         → 2215 ∕ division slash
         → 221A √ square root

Miscellaneous symbol

27CD   ⟍   MATHEMATICAL FALLING DIAGONAL
         = \diagdown
         → 2216 ∖ set minus
         → 29F5 ⧵ reverse solidus operator

Operators

27CE   ⟎   SQUARED LOGICAL AND
         = box min
         • morphological min product operator
         • morphological erosion operator
         • additive minimum operator
27CF   ⟏   SQUARED LOGICAL OR
         = box max
         • morphological max product operator
         • morphological dilation operator
         • additive maximum operator

Miscellaneous symbol

27D0   ⟐   WHITE DIAMOND WITH CENTRED DOT
         → 1F4A0 💠 diamond shape with a dot inside

Operators

27D1   ⟑   AND WITH DOT
         → 2227 ∧ logical and
         → 27C7 ⩔ or with dot inside
         → 2A40 ⩀ intersection with dot
27D2   ⟒   ELEMENT OF OPENING UPWARDS
         → 2AD9 ⫙ element of opening downwards
27D3   ⟓   LOWER RIGHT CORNER WITH DOT
         = pullback
         → 230B ⌋ right floor
27D4   ⟔   UPPER LEFT CORNER WITH DOT
         = pushout
         → 2308 ⌈ left ceiling

Database theory operators

27D5   ⟕   LEFT OUTER JOIN
27D6   ⟖   RIGHT OUTER JOIN
27D7   ⟗   FULL OUTER JOIN
         → 2A1D ⨝ join

Tacks and turnstiles

27D8   ⟘   LARGE UP TACK
         → 22A5 ⊥ up tack
27D9   ⟙   LARGE DOWN TACK
         → 22A4 ⊤ down tack
27DA   ⟚   LEFT AND RIGHT DOUBLE TURNSTILE
         → 22A8 ⊨ true
         → 2AE4 ⫤ vertical bar double left turnstile
27DB   ⟛   LEFT AND RIGHT TACK
         → 22A2 ⊢ right tack
27DC   ⟜   LEFT MULTIMAP
         → 22B8 ⊸ multimap
27DD   ⟝   LONG RIGHT TACK
         → 22A2 ⊢ right tack
27DE   ⟞   LONG LEFT TACK
         → 22A3 ⊣ left tack
27DF   ⟟   UP TACK WITH CIRCLE ABOVE
         = radial component
         → 2AF1 ⫱ down tack with circle below

Modal logic operators

27E0   ⟠   LOZENGE DIVIDED BY HORIZONTAL RULE
         • used as form of possibility in modal logic
         → 25CA ◊ lozenge
27E1   ⟡   WHITE CONCAVE-SIDED DIAMOND
         = never (modal operator)
         → 25C7 ◇ white diamond
27E2   ⟢   WHITE CONCAVE-SIDED DIAMOND WITH LEFTWARDS TICK
         = was never (modal operator)
27E3   ⟣   WHITE CONCAVE-SIDED DIAMOND WITH RIGHTWARDS TICK
         = will never be (modal operator)
27E4   ⟤   WHITE SQUARE WITH LEFTWARDS TICK
         = was always (modal operator)
         → 25A1 □ white square
         → 25FB ◻ white medium square
27E5   ⟥   WHITE SQUARE WITH RIGHTWARDS TICK
         = will always be (modal operator)

Mathematical brackets

These bracket characters are also used as punctuation outside of a mathematical context.

27E6 ⟦ MATHEMATICAL LEFT WHITE SQUARE
       BRACKET
       = z notation left bag bracket
       → 301A ⟦ left white square bracket
27E7 ⟧ MATHEMATICAL RIGHT WHITE SQUARE
       BRACKET
       = z notation right bag bracket
       → 301B ⟧ right white square bracket
27E8 ⟨ MATHEMATICAL LEFT ANGLE BRACKET
       = bra
       = z notation left sequence bracket
       → 2329 〈 left-pointing angle bracket
       → 3008 〈 left angle bracket
27E9 ⟩ MATHEMATICAL RIGHT ANGLE BRACKET
       = ket
       = z notation right sequence bracket
       → 232A 〉 right-pointing angle bracket
       → 3009 〉 right angle bracket
27EA ⟪ MATHEMATICAL LEFT DOUBLE ANGLE
       BRACKET
       = z notation left chevron bracket
       → 300A 《 left double angle bracket
27EB ⟫ MATHEMATICAL RIGHT DOUBLE ANGLE
       BRACKET
       = z notation right chevron bracket
       → 300B 》 right double angle bracket
27EC ⟬ MATHEMATICAL LEFT WHITE TORTOISE SHELL
       BRACKET
       → 2997 ⟨ left black tortoise shell bracket
       → 3018 〘 left white tortoise shell bracket
27ED ⟭ MATHEMATICAL RIGHT WHITE TORTOISE
       SHELL BRACKET
       → 2998 ⟩ right black tortoise shell bracket
       → 3019 〙 right white tortoise shell bracket
27EE ⟮ MATHEMATICAL LEFT FLATTENED
       PARENTHESIS
       = lgroup
27EF ⟯ MATHEMATICAL RIGHT FLATTENED
       PARENTHESIS
       = rgroup