Miscellaneous Mathematical Symbols-A

Range: 27C0–27EF

This chart contains an excerpt from the character code tables and list of character names for
The Unicode Standard, Version 18.0 BETA REVIEW DRAFT

This file will not be updated with errata, or when additional characters are assigned 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-18.0/ for charts showing only the characters added in Unicode 18.0. See https://www.unicode.org/Public/18.0.0/charts/ for a complete set of character code charts for Unicode 18.0. See https://www.unicode.org/Public/18.0.0/charts/About.html#Conventions for conventions used in these code charts, and other general information.

Disclaimer

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 18.0 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 18.0, online at:

https://www.unicode.org/versions/Unicode18.0.0/

Fonts

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

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

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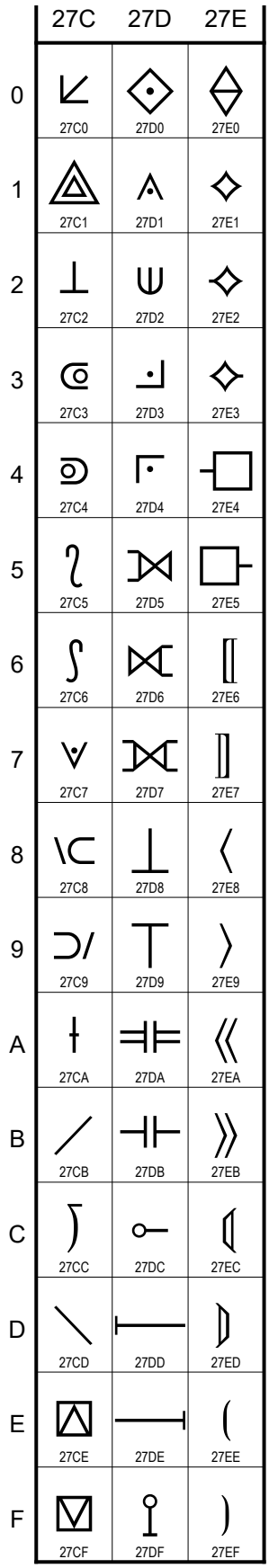

	27C	27D	27E
0	27C0	27D0	27E0
1	27C1	27D1	27E1
2	27C2	27D2	27E2
3	27C3	27D3	27E3
4	27C4	27D4	27E4
5	27C5	27D5	27E5
6	27C6	27D6	27E6
7	27C7	27D7	27E7
8	27C8	27D8	27E8
9	27C9	27D9	27E9
A	27CA	27DA	27EA
B	27CB	27DB	27EB
C	27CC	27DC	27EC
D	27CD	27DD	27ED
E	27CE	27DE	27EE
F	27CF	27DF	27EF

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