

Terminology: Functions and Operators

Functions

Glyph	Glyph Name	Unicode Glyph Name	Code	Monadic Function	Dyadic Function
+	Plus	Plus Sign	002B	Conjugate	Plus
-	Minus	Hyphen-Minus	002D	Negate	Minus
×	Times	Multiplication Sign	00D7	Direction	Times
÷	Divide	Division Sign	00F7	Reciprocal	Divide
└	Downstile	Left Floor	230A	Floor	Minimum
┐	Upstile	Left Ceiling	2308	Ceiling	Maximum
	Stile	Vertical Line	007C	Magnitude	Residue
*	Star	Asterisk	002A	Exponential	Power
⊗	Log	*Circle Star	235F	Natural Logarithm	Logarithm
○	Circle	White Circle	25CB	Pi Times	Circular Functions
!	Exclamation Mark	Exclamation Mark	0021	Factorial	Binomial
^	Logical AND	Logical AND	2227		Lowest Common Multiple/AND
∨	Logical OR	Logical OR	2228		Greatest Common Divisor/OR
⋈	Logical NAND	*Up Caret Tilde	2372		NAND
⋈	Logical NOR	*Down Caret Tilde	2371		NOR
<	Less Than	Less-Than Sign	003C		Less Than
≤	Less Than Or Equal To	Less-Than Or Equal To	2264		Less Than Or Equal To
=	Equal	Equals Sign	003D		Equal To
≥	Greater Than Or Equal To	Greater-Than Or Equal To	2265		Greater Than Or Equal To
>	Greater Than	Greater-Than Sign	003E		Greater Than
≠	Not Equal	Not Equal To	2260	Unique Mask	Not Equal To
~	Tilde	Tilde	007E	NOT	Without
?	Question Mark	Question Mark	003F	Roll	Deal
€	Epsilon	Small Element Of	220A	Enlist (Type if $\square ML=0$)	Membership
⏟	Epsilon Underbar	*Epsilon Underbar	2377		Find
,	Comma	Comma	002C	Ravel	Catenate/Laminate
⏟	Comma Bar	*Comma Bar	236A	Table	Catenate First/Laminate
⏏	Squad	*Squish Quad	2337	Materialise	Index
ℓ	Iota	*Iota	2373	Index Generator	Index Of
ℓ	Iota Underbar	*Iota Underbar	2378	Where	Interval Index
ρ	Rho	*Rho	2374	Shape	Reshape
↑	Up Arrow	Upwards Arrow	2191	$\square ML \leq 1$ Mix $\square ML \geq 2$ First	Take
↓	Down Arrow	Downwards Arrow	2193	Split	Drop
↵	Left Tack	Left Tack	22A3	Same	Left
↶	Right Tack	Right Tack	22A2	Same	Right
⌞	Down Tack	Down Tack	22A4		Encode
⌟	Up Tack	Up Tack	22A5		Decode
/	Slash	Solidus	002F		Replicate
⌋	Slash Bar	*Slash Bar	233F		Replicate First

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Glyph	Glyph Name	Unicode Glyph Name	Code	Monadic Function	Dyadic Function	
	Backslash	Reverse Solidus	005C		Expand	**
	Backslash Bar	*Backslash Bar	2340		Expand First	**
	Circle Stile	*Circle Stile	233D	Reverse	Rotate	
	Circle Bar	Circled Minus	2296	Reverse First	Rotate First	
	Circle Backslash	*Circle Backslash	2349	Transpose	Dyadic Transpose	
	Grade Up	*Delta Stile	234B	Grade Up	Dyadic Grade Up	
	Grade Down	*Del Stile	2352	Grade Down	Dyadic Grade Down	
	Domino	*Quad Divide	2339	Matrix Inverse	Matrix Divide	
	Equal Underbar	Identical To	2261	Depth	Match	
	Equal Underbar Slash	Not Identical To	2262	Tally	Not Match	
	Left Shoe	Subset Of	2282	Enclose	$\square_{ML} \leq 2$ Partitioned Enclose $\square_{ML} = 3$ Partition	
	Left Shoe Underbar	Subset Of or Equal To	2286	Nest	Partition	
	Right Shoe	Superset Of	2283	$\square_{ML} \leq 1$ First $\square_{ML} \geq 2$ Mix	Pick	
	Up Shoe	Intersection	2229		Intersection	
	Down Shoe	Union	222A	Unique	Union	
	Hydrant	*** *Down Tack Jot	234E	Execute	Dyadic Execute	
	Thorn	*** *Up Tack Jot	2355	Format	Format by Specification	

* The Unicode Glyph Name is preceded by "APL FUNCTIONAL SYMBOL"

** These glyphs are *hybrids*, that is, the argument/operand to the left of the glyph determines whether it acts as a function or an operator

*** The Unicode naming of *Up Tack Jot and *Down Tack Jot is counter to the way the APL community recognises these glyphs

Operators

Glyph	Glyph Name	Unicode Glyph Name	Code	Operator	Resulting Derived Function	
	Slash	Solidus	002F	Reduce (monadic)	monadic and dyadic	**
	Slash Bar	*Slash Bar	233F	Reduce First (monadic)	monadic and dyadic	**
	Backslash	Reverse Solidus	005C	Scan (monadic)	monadic	**
	Backslash Bar	*Backslash Bar	2340	Scan First (monadic)	monadic	**
	Diaeresis	Diaeresis	00A8	Each (monadic)	monadic and dyadic	
	Jot Diaeresis	*Jot Diaeresis	2364	Atop or Rank (dyadic)	monadic and dyadic	
	Circle Diaeresis	*Circle Diaeresis	2365	Over (dyadic)	monadic and dyadic	
	Quad Equal	*Quad Equal	2338	Key (monadic)	monadic and dyadic	
	Quad Diamond	*Quad Diamond	233A	Stencil (dyadic)	monadic	
	Tilde Diaeresis	*Tilde Diaeresis	2368	Commute or Constant (monadic)	monadic and dyadic	
	Star Diaeresis	*Star Diaeresis	2363	Power (dyadic)	monadic and dyadic	
	Dot	Full Stop	002E	Inner or Outer Product (dyadic)	dyadic	
	Jot	Ring Operator	2218	Beside or Bind (dyadic)	monadic and dyadic	
	Jot Underbar	*Jot Underbar	235B	Behind (dyadic)	monadic and dyadic	
	Quad Colon	*Quad Colon	2360	Variant (dyadic)	monadic and dyadic	
	At	At Sign	0040	At (dyadic)	monadic and dyadic	
	Ampersand	Ampersand	0026	Spawn (monadic)	monadic and dyadic	
	I-Beam	*I-Beam	2336	I-Beam (monadic)	monadic and dyadic	

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