

Idioms

Key to the types and ranks of the arguments in the idioms:

Type	Description
C	Character
B	Boolean
N	Numeric
P	Nested
X	any type

Rank	Description
S	Scalar or single item vector
V	Vector
M	Matrix
A	Array of any rank

The idioms described below must be entered precisely as shown to be recognised.

Idiom	Description
$\rho\rho XA$	The rank of XA (returned as a one-element vector)
$\neq\rho XA$	The rank of XA (returned as a scalar)
$BV/\iota NS$	The subset of NS corresponding to the 1s in BV
$BV/\iota\rho XV$	The positions in XV corresponding to the 1s in BV
$NA>''cXV$	The subset of XV in the index positions defined by NA (equivalent to $XV[NA]$)
$XA_1\{ \}XA_2$	XA_1 and XA_2 are ignored (no result produced)
$XA_1\{ \alpha \}XA_2$	XA_1 (XA_2 is ignored)
$XA_1\{ \omega \}XA_2$	XA_2 (XA_1 is ignored)
$XA_1\{ \alpha \ \omega \}XA_2$	XA_1 and XA_2 as a two item vector ($XA_1 \ XA_2$)
$\{0\}XA$	0 irrespective of XA
$\{0\}''XA$	0 corresponding to each item of XA
$,/PV$	The enclose of the items of PV catenated along their last axes
$\bar{,}/PV$	The enclose of the items of PV catenated along their first axes
$\triangleright\phi XA$	The item in the top right of XA ($\square ML < 2$)
$\uparrow\phi XA$	The item in the top right of XA ($\square ML \geq 2$)
$\triangleright\phi, XA$	The item in the bottom right of XA ($\square ML < 2$)
$\uparrow\phi, XA$	The item in the bottom right of XA ($\square ML \geq 2$)
$0=\rho XV$	1 if XV has a shape of zero, 0 otherwise
$0=\rho\rho XA$	1 if XA has a rank of zero (scalar), 0 otherwise
$0=\equiv XA$	1 if XA has a depth of zero (simple scalar), 0 otherwise
$XM_1\{(\downarrow\alpha)\iota\downarrow\omega\}XM_2$	A simple vector comprising as many items as there are rows in XM_2 , where each item is the number of the first row in XM_1 that matches each row in XM_2 . NOTE: Although still recognised, since Dyalog v14.0 this is idiom is no more efficient than $XM_1\iota XM_2$
$\downarrow\Phi\uparrow PV$	A nested vector comprising vectors that each correspond to a position in the original vectors of PV – the first vector contains the first item from each vector in PV , padded to be the same length as the largest vector, and so on ($\square ML < 2$)
$\downarrow\Phi\triangleright PV$	A nested vector comprising vectors that each correspond to a position in the original vectors of PV – the first vector contains the first item from each vector in PV , padded to be the same length as the largest vector, and so on ($\square ML \geq 2$)
$\wedge\backslash' '=CA$	A Boolean mask indicating the leading blank spaces in each row of CA
$+/\wedge\backslash' '=CA$	The number of leading blank spaces in each row of CA
$+/\wedge\backslash BA$	The number of leading 1s in each row of BA
$\{(\vee\backslash' '\neq\omega)/\omega\}CV$	CV without any leading blank spaces

Idiom	Description
$\{ (+/\wedge \backslash ' ' = \omega) \downarrow \omega \} CV$	CV without any leading blank spaces
$\sim o ' ' \downarrow CA$	A nested vector comprising simple character vectors constructed from the rows of CA (which must be of depth 1) with all blank spaces removed
$\{ (+/\vee \backslash ' ' \neq \phi \omega) \uparrow \downarrow \omega \} CA$	A nested vector comprising simple character vectors constructed from the rows of CA (which must be of depth 1) with trailing blank spaces removed
$\triangleright o \rho \overline{\overline{XA}}$	The length of the first axis of each item in XA ($\square ML < 2$)
$\uparrow o \rho \overline{\overline{XA}}$	The length of the first axis of each item in XA ($\square ML \geq 2$)
$XA_1, \leftarrow XA_2$	XA_1 redefined to be XA_1 with XA_2 catenated along its last axis
$XA_1 \overline{\leftarrow} XA_2$	XA_1 redefined to be XA_1 with XA_2 catenated along its first axis
$\{ (= \Phi \omega) \square \omega \} XA$	XA with the major cells sorted into numerical/alphabetical order
$\{ (= \Psi \omega) \square \omega \} XA$	XA with the major cells sorted into reverse numerical/alphabetical order
$\{ \omega [\Phi \omega] \} XV$	XV sorted into numerical/alphabetical order
$\{ \omega [\Psi \omega] \} XV$	XV sorted into reverse numerical/alphabetical order
$\{ \omega [\Phi \omega ;] \} XM$	XM with the rows sorted into numerical/alphabetical order
$\{ \omega [\Psi \omega ;] \} XM$	XM with the rows sorted into reverse numerical/alphabetical order
$1 \equiv XA$	1 if XA has a depth of 1 (simple array), 0 otherwise
$1 \equiv , XA$	1 if XA has a depth of 0 or 1 (simple scalar, vector, etc.), 0 otherwise
$0 \in \rho XA$	1 if XA is empty, 0 otherwise
$\sim 0 \in \rho XA$	1 if XA is not empty, 0 otherwise
$\neg f XA$	The first sub-array along the first axis of XA
$\neg / XA$	The first sub-array along the last axis of XA
$\neg f XA$	The last sub-array along the first axis of XA
$\neg / XA$	The last sub-array along the last axis of XA
$* o NA$	Euler's idiom (accurate when NA is a multiple of $oJO.5$)
$0 \Rightarrow \rho XA$	1 if XA has an empty first dimension, 0 otherwise ($\square ML < 2$)
$0 \neq \rho XA$	1 if XA does not have an empty first dimension, 0 otherwise ($\square ML < 2$)
$\lfloor 0.5 + NA$	The content of NA with each item rounded to the nearest integer
$XA \downarrow \sim \leftarrow NS$	XA redefined to be XA with the last $-NS$ items along the leading axis removed; NS should be negative
$\square AV \downarrow CA$	<i>Classic edition only:</i> The character numbers (atomic vector index) corresponding to the characters in CA