

Signum * 0 0 0 Times

<p>*y is <code>_1</code> if y is negative, 0 if it is zero, 1 if it is positive; more generally, *y is the intersection of the unit circle with the line from the origin through the argument y in the complex plane. For example:</p> <pre style="margin-left: 20px;"> *_3 0 5 3j4 _1 0 1 0.6j0.8 </pre> <p>The comparison with zero is tolerant, as defined by the phrase <code>(y% Y)*t<: Y</code> where t denotes the tolerance. The fit conjunction applies to signum, as in <code>*!.t.</code></p>	<p>* denotes multiplication, defined as in elementary mathematics and extended to complex numbers as usual:</p> <pre style="margin-left: 20px;"> t=:+.x,y [x=:2j4 [y=:5j3 r=-/*/t [i=:+/ . * t (x,:y);t;r;i;(r j. i);(x*y) </pre> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">2j4</td> <td style="padding: 2px;">2 4</td> <td style="padding: 2px;">_2</td> <td style="padding: 2px;">26</td> <td style="padding: 2px;">_2j26</td> <td style="padding: 2px;">_2j26</td> </tr> <tr> <td style="padding: 2px;">5j3</td> <td style="padding: 2px;">5 3</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	2j4	2 4	_2	26	_2j26	_2j26	5j3	5 3				
2j4	2 4	_2	26	_2j26	_2j26								
5j3	5 3												

Signum is useful in effecting selections. For example:

```

* y=: _4 0 4
_1 0 1

>:@* y
0 1 2

f=: %:
f ^: * " 0 y
16 0 2
Inverse of f, Identity, or f

(* y) { ;:'Yes No Maybe'
+-----+-----+
|Maybe|Yes|No|
+-----+-----+
Select using indexing ({}

g=: <:`-:`+:@.*"0
g y
_8 _1 2
See Agenda (@.)
    
```

The dyad * used on a list and a table illustrates the significance of agreement, as discussed in Section II B:

```

m=: i. 3 4 [ v=: 3 2 1
m ; (v*m) ; (m*v) ; (+/ m*v) ; (v +/ . * m)
+-----+-----+-----+-----+
|0 1 2 3|0 3 6 9|0 3 6 9|16 22 28 34|16 22 28 34|
|4 5 6 7|8 10 12 14|8 10 12 14|      |      |
|8 9 10 11|8 9 10 11|8 9 10 11|      |      |
    
```

+-----+-----+-----+-----+-----+