

sign() — Sign and complex quadrant functions
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Description

`sign(R)` returns the elementwise sign of *R*. `sign()` is defined

Argument range	<code>sign(<i>arg</i>)</code>
$arg \geq .$.
$arg < 0$	-1
$arg = 0$	0
$arg > 0$	1

`quadrant(Z)` returns a real matrix recording the quadrant of each complex entry in *Z*. `quadrant()` is defined

Argument range		
<code>Re(<i>arg</i>)</code>	<code>Im(<i>arg</i>)</code>	<code>quadrant(<i>arg</i>)</code>
$Re \geq .$.
$Re = 0$	$Im = 0$.
$Re > 0$	$Im \geq 0$	1
$Re \leq 0$	$Im > 0$	2
$Re < 0$	$Im \leq 0$	3
$Re \geq 0$	$Im < 0$	4

`quadrant(1+0i)==1`, `quadrant(-1+0i)==3`
`quadrant(0+1i)==2`, `quadrant(0-1i)==4`

Syntax

real matrix `sign(real matrix R)`

real matrix `quadrant(complex matrix Z)`

Conformability

`sign(R)`:

R: $r \times c$
result: $r \times c$

`quadrant(Z)`:

Z: $r \times c$
result: $r \times c$

Diagnostics

`sign(R)` returns missing when *R* is missing.

`quadrant(Z)` returns missing when *Z* is missing.

Also see

[M-5] **dsign()** — FORTRAN-like DSIGN() function

[M-4] **scalar** — Scalar mathematical functions