

**Re()** — Extract real or imaginary part

[Description](#)[Syntax](#)[Conformability](#)[Diagnostics](#)[Also see](#)

## Description

$\text{Re}(Z)$  returns a real matrix containing the real part of  $Z$ .  $Z$  may be real or complex.

$\text{Im}(Z)$  returns a real matrix containing the imaginary part of  $Z$ .  $Z$  may be a real or complex. If  $Z$  is real,  $\text{Im}(Z)$  returns a matrix of zeros.

## Syntax

*real matrix*  $\text{Re}(\text{numeric matrix } Z)$

*real matrix*  $\text{Im}(\text{numeric matrix } Z)$

## Conformability

$\text{Re}(Z)$ ,  $\text{Im}(Z)$ :

$Z$ :	$r \times c$
<i>result</i> :	$r \times c$

## Diagnostics

$\text{Re}(Z)$ , if  $Z$  is real, literally returns  $Z$  and not a copy of  $Z$ . This makes execution of  $\text{Re}()$  applied to real arguments instant.

## Also see

[M-5] [C\(\)](#) — Make complex

[M-4] [Scalar](#) — Scalar mathematical functions

[M-4] [Utility](#) — Matrix utility functions