

diagonal() — Extract diagonal into column vector

Syntax	Description	Remarks and examples	Conformability
Diagnostics	Also see		

Syntax

numeric colvector `diagonal(numeric matrix A)`

Description

`diagonal(A)` extracts the diagonal of A and returns it in a column vector.

Remarks and examples

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`diagonal()` may be used with nonsquare matrices.

Do not confuse `diagonal()` with its functional inverse, `diag()`; see [M-5] [diag\(\)](#). `diagonal()` extracts the diagonal of a matrix into a vector; `diag()` creates a diagonal matrix from a vector.

Conformability

`diagonal(A)`:

<i>A</i> :	$r \times c$
<i>result</i> :	$\min(r, c) \times 1$

Diagnostics

None.

Also see

- [M-5] [diag\(\)](#) — Create diagonal matrix
- [M-5] [isdiagonal\(\)](#) — Whether matrix is diagonal
- [M-5] [blockdiag\(\)](#) — Block-diagonal matrix
- [M-4] [manipulation](#) — Matrix manipulation