

**isdiagonal()** — Whether matrix is diagonal

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## Description

`isdiagonal(A)` returns 1 if  $A$  has only zeros off the principal diagonal and returns 0 otherwise. `isdiagonal()` may be used with either real or complex matrices.

## Syntax

*real scalar* `isdiagonal(numeric matrix A)`

## Remarks and examples

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See [\[M-5\] diag\(\)](#) for making diagonal matrices out of vectors or out of nondiagonal matrices; see [\[M-5\] diagonal\(\)](#) for extracting the diagonal of a matrix into a vector.

## Conformability

`isdiagonal(A)`:  
     $A: r \times c$   
    *result:*  $1 \times 1$

## Diagnostics

`isdiagonal(A)` returns 1 if  $A$  is void.

## Also see

[\[M-5\] diag\(\)](#) — Create diagonal matrix

[\[M-5\] diagonal\(\)](#) — Extract diagonal into column vector

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