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**diagonal( ) —** Extract diagonal into column vector

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## Description

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

## Syntax

> *numeric colvector*   diagonal(*numeric matrix A*)

## Remarks and examples [stata.com](stata.com)

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*):
          *A*:     $r \times c$
     *result*:   $\min(r, c) \times 1$

## Diagnostics

None.

## Also see

[M-5] **blockdiag( )** — Block-diagonal matrix

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

[M-5] **isdiagonal( )** — Whether matrix is diagonal

[M-4] **Manipulation** — Matrix manipulation

For suggested citations, see the FAQ on [citing Stata documentation](#).