diagonal() — Extract diagonal into column vector

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

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):

\[
\begin{align*}
A: & \quad r \times c \\
result: & \quad \min(r, c) \times 1
\end{align*}
\]
```

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