_diag() — Replace diagonal of a matrix

Description

_diag(Z, v) replaces the diagonal of the matrix Z with v. Z need not be square.

1. If v is a vector, the vector replaces the principal diagonal.
2. If v is 1 × 1, each element of the principal diagonal is replaced with v.
3. If v is a void vector (1 × 0 or 0 × 1), Z is left unchanged.

Syntax


Conformability

_diag(Z, v):

input:

Z: \( n \times m, n \leq m \)

v: 1 × 1, 1 × n,  or \( n \times 1 \)

or

Z: \( n \times m, n > m \)

v: 1 × 1, 1 × m,  or \( m \times 1 \)

output:

Z: \( n \times m \)

Diagnostics

_diag(Z, v) aborts with error if Z or v is a view.

Also see

[M-5] diag() — Create diagonal matrix