

blockdiag() — Block-diagonal matrix

Syntax	Description	Remarks and examples	Conformability
Diagnostics	Also see		

Syntax

numeric matrix `blockdiag(numeric matrix Z_1 , numeric matrix Z_2)`

Description

`blockdiag(Z_1 , Z_2)` returns a block-diagonal matrix with Z_1 in the upper-left corner and Z_2 in the lower right, that is,

$$\begin{bmatrix} Z_1 & \mathbf{0} \\ \mathbf{0} & Z_2 \end{bmatrix}$$

Z_1 and Z_2 may be either real or complex and need not be of the same type.

Remarks and examples

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To create a block diagonal matrix of Z_1 , Z_2 , Z_3 , code

```
: blockdiag(Z1, blockdiag(Z2,Z3))
```

Conformability

`blockdiag(Z_1 , Z_2):`

Z_1 : $r_1 \times c_1$

Z_2 : $r_2 \times c_2$

result: $r_1 + r_2 \times c_1 + c_2$

Diagnostics

None. Either or both Z_1 and Z_2 may be void.

Also see

[M-4] [standard](#) — Functions to create standard matrices