blockdiag() — Block-diagonal matrix

Description

blockdiag(Z₁, Z₂) returns a block-diagonal matrix with Z₁ in the upper-left corner and Z₂ in the lower right, that is,

\[
\begin{bmatrix}
    Z₁ & 0 \\
    0 & Z₂
\end{bmatrix}
\]

Z₁ and Z₂ may be either real or complex and need not be of the same type.

Syntax

numeric matrix  blockdiag(numeric matrix Z₁, numeric matrix Z₂)

Remarks and examples

To create a block diagonal matrix of Z₁, Z₂, Z₃, code
: blockdiag(Z₁, blockdiag(Z₂, Z₃))

Conformability

blockdiag(Z₁, Z₂):

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Z₁</td>
<td>r₁ × c₁</td>
</tr>
<tr>
<td>Z₂</td>
<td>r₂ × c₂</td>
</tr>
<tr>
<td>result</td>
<td>r₁ + r₂ × c₁ + c₂</td>
</tr>
</tbody>
</table>

Diagnostics

None. Either or both Z₁ and Z₂ may be void.

Also see

[M-4] Standard — Functions to create standard matrices