Syntax

transmorphic matrix  rowshape(transmorphic matrix $T$, real scalar $r$)
transmorphic matrix  colshape(transmorphic matrix $T$, real scalar $c$)

Description

rowshape($T$, $r$) returns $T$ transformed into a matrix with $\text{trunc}(r)$ rows.

colshape($T$, $c$) returns $T$ having $\text{trunc}(c)$ columns.

In both cases, elements are assigned sequentially with the column index varying more rapidly. See [M-5] vec() for a function that varies the row index more rapidly.

Remarks and examples

Remarks are presented under the following headings:

Example of rowshape()
Example of colshape()

Example of rowshape()

: A

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
</tr>
</tbody>
</table>

: rowshape(A,2)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
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<tr>
<td>2</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
</tr>
</tbody>
</table>
Example of colshape()

: colshape(A, 2)

```
1 1 2
2 13 14
3 21 22
4 23 24
5 31 32
6 33 34
7 41 42
8 43 44
```

Conformability

\[ \text{rowshape}(T, r): \]
\[
T: \ r_0 \times c_0 \\
r: \ 1 \times 1 \\
result: \ r \times r_0c_0/r 
\]

\[ \text{colshape}(T, c): \]
\[
T: \ r_0 \times c_0 \\
c: \ 1 \times 1 \\
result: \ r_0c_0/c \times c 
\]

Diagnostics

Let \( r_0 \) and \( c_0 \) be the number of rows and columns of \( T \).

\( \text{rowshape()} \) aborts with error if \( r_0 \times c_0 \) is not evenly divisible by \( \text{trunc}(r) \).

\( \text{colshape()} \) aborts with error if \( r_0 \times c_0 \) is not evenly divisible by \( \text{trunc}(c) \).

Also see

[M-4] manipulation — Matrix manipulation