### 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.

### Syntax

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

### Remarks and examples

Remarks are presented under the following headings:

- Example of rowshape()
- Example of colshape()

#### Example of rowshape()

```stata
: A
   1  2  3  4
1 11 12 13 14
2 21 22 23 24
3 31 32 33 34
4 41 42 43 44

: rowshape(A,2)
   1  2  3  4  5  6  7  8
1 11 12 13 14 21 22 23 24
2 31 32 33 34 41 42 43 44
```
### Example of `colshape()`

```
: colshape(A, 2)
```

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>24</td>
</tr>
</tbody>
</table>

### Conformability

- **rowshape**($T$, $r$):
  - $T$: $r_0 \times c_0$
  - $r$: $1 \times 1$
  - result: $r \times r_0 c_0 / r$

- **colshape**($T$, $c$):
  - $T$: $r_0 \times c_0$
  - $c$: $1 \times 1$
  - result: $r_0 c_0 / c \times c$

### Diagnostics

Let $r_0$ and $c_0$ be the number of rows and columns of $T$.

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