

Language	MATLAB/Octave	Python	R
Reshaping (rows first)	<code>reshape(1:6,3,2)'</code> ;	<code>arange(1,7).reshape(2,-1)</code> <code>a.setshape(2,3)</code>	<code>matrix(1:6,nrow=3,byrow=T)</code>
Reshaping (columns first)	<code>reshape(1:6,2,3);</code>	<code>arange(1,7).reshape(-1,2).transpose()</code>	<code>matrix(1:6,nrow=2)</code> <code>array(1:6,c(2,3))</code>
Flatten to vector (by rows, like comics)	<code>a'(:)</code>	<code>a.flatten()</code> <b>or</b>	<code>as.vector(t(a))</code>
Flatten to vector (by columns)	<code>a(:)</code>	<code>a.flatten(1)</code>	<code>as.vector(a)</code>
Flatten upper triangle (by columns)	<code>vech(a)</code>		<code>a[row(a) &lt;= col(a)]</code>

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 1 & 4 & 2 & 5 & 3 & 6 \end{bmatrix}$$