

### [3.21] Convert matrices to single-row or single-column vectors

It is occasionally necessary to convert a matrix to a row- or column-vector. To convert a matrix to a column vector, use this:

```
mat2cvec(m)
Func
©([m]) convert matrix to column vector
©2april01/dburkett@infinet.com

list▶mat(mat▶list(m),1)

EndFunc
```

Or, to convert a matrix to a row vector, use this:

```
mat2rvec(m)
Func
©([m]) convert matrix to row vector
©2april01/dburkett@infinet.com

list▶mat(mat▶list(m),1)T

EndFunc
```

*mat2cvec()* converts a matrix to a row vector by first converting the matrix to a list, then converting that list to a matrix with one element in each row. *mat2rvec()* changes a matrix to a row vector in the same way, except that the column vector is transposed to make it a row vector. For example, if the input matrix is

$$m = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

then *mat2rvec(m)* returns [a b c d e f g h i], and *mat2cvec(m)* returns

$$\begin{bmatrix} a \\ b \\ c \\ d \\ e \\ f \\ g \\ h \\ i \end{bmatrix}$$