

## manipulation — Matrix manipulation

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[M-5] Manual entry	Function	Purpose
<b>Transposition</b>		
<a href="#">transposeonly()</a>	transposeonly()	transposition without conjugation
<a href="#">_transpose()</a>	_transpose()	transposition in place
<b>Diagonals</b>		
<a href="#">diag()</a>	diag()	create diagonal matrix from vector
<a href="#">_diag()</a>	_diag()	replace diagonal of matrix
<a href="#">diagonal()</a>	diagonal()	extract diagonal of matrix into vector
<b>Triangular &amp; symmetric</b>		
<a href="#">lowertriangle()</a>	lowertriangle()	extract lower triangle
	uppertriangle()	extract upper triangle
<a href="#">sublowertriangle()</a>	sublowertriangle()	generalized lowertriangle()
<a href="#">makesymmetric()</a>	makesymmetric()	make matrix symmetric (Hermitian)
<b>Sorting</b>		
<a href="#">sort()</a>	sort()	sort rows of matrix
	jumble()	randomize order of rows of matrix
	order()	permutation vector for ordered rows
	unorder()	permutation vector for randomized rows
	_collate()	order matrix on permutation vector
<a href="#">uniqrows()</a>	uniqrows()	sorted, unique rows

### Editing

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<code>_fillmissing()</code>	<code>_fillmissing()</code>	change matrix to contain missing values
<code>editmissing()</code>	<code>editmissing()</code>	replace missing values in matrix
<code>editvalue()</code>	<code>editvalue()</code>	replace values in matrix
<code>edittozero()</code>	<code>edittozero()</code> <code>edittozerotol()</code>	edit matrix for roundoff error (zeros) same, absolute tolerance
<code>edittoint()</code>	<code>edittoint()</code> <code>edittointtol()</code>	edit matrix for roundoff error (integers) same, absolute tolerance

### Permutation vectors

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<code>invorder()</code>	<code>invorder()</code> <code>revorder()</code>	inverse of permutation vector reverse of permutation vector
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### Matrices into vectors & vice versa

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<code>vec()</code>	<code>vec()</code> <code>vech()</code> <code>invvech()</code>	convert matrix into column vector convert symmetric matrix into column vector convert column vector into symmetric matrix
<code>rowshape()</code>	<code>rowshape()</code> <code>colshape()</code>	reshape matrix to have $r$ rows reshape matrix to have $c$ columns

### Associative arrays

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<code>asarray()</code>	<code>asarray()</code> <code>asarray_*</code>	store or retrieve element in array utility routines
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## Description

The above functions manipulate matrices, such as extracting the diagonal and sorting.

## Remarks and examples

[stata.com](http://www.stata.com)

There is a thin line between manipulation and utility; also see

[M-4] [utility](#)     Matrix utility functions

## Also see

[M-4] [intro](#) — Categorical guide to Mata functions