**makesymmetric() — Make square matrix symmetric (Hermitian)**

### Description

makesymmetric(A) returns A made into a symmetric (Hermitian) matrix by reflecting elements below the diagonal.

__makesymmetric(A) does the same thing but stores the result back in A.__

### Syntax

```plaintext
numeric matrix makesymmetric(numeric matrix A)
void _makesymmetric(numeric matrix A)
```

### Remarks and examples

If A is real, elements below the diagonal are copied into their corresponding above-the-diagonal position.

If A is complex, the conjugate of the elements below the diagonal are copied into their corresponding above-the-diagonal positions, and the imaginary part of the diagonal is set to zero.

Whether A is real or complex, roundoff error can make matrix calculations that are supposed to produce symmetric matrices produce matrices that vary a little from symmetry, and makesymmetric() can be used to correct the situation.

### Conformability

makesymmetric(A):

<table>
<thead>
<tr>
<th>A:</th>
<th>n × n</th>
</tr>
</thead>
<tbody>
<tr>
<td>result:</td>
<td>n × n</td>
</tr>
</tbody>
</table>

__makesymmetric(A):

| A:  | n × n |

### Diagnostics

makesymmetric(A) and _makesymmetric(A) abort with error if A is not square. Also, _makesymmetric() aborts with error if A is a view.
Also see

[M-5] {\texttt{issymmetric()} — Whether matrix is symmetric (Hermitian)}

[M-4] {\textbf{Manipulation} — Matrix manipulation}