Title

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makesymmetric( ) — Make square matrix symmetric (Hermitian)

Syntax

> *numeric matrix*   makesymmetric(*numeric matrix A*)
>
> *void*   _makesymmetric(*numeric matrix A*)

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*.

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*):

A:	$n \times n$
result:	$n \times n$

_makesymmetric(*A*):

A:	$n \times n$

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