

**NAME**

ilu0 - simple ILU(0) preconditioning

**CALLING SEQUENCE**

[L,U,ierr]=ilu0(A)

**PARAMETERS**

A : sparse matrix (must be square)  
L : lower triangular matrix  
U : upper triangular matrix  
ierr : error flag

**DESCRIPTION**

Builds an incomplete LU factorization of the sparse matrix **A**. The two factors **L** and **U** are stored in CSR format. The CSR format is the Compressed Sparse Row format used by Scilab. ILU0 is not recommended for realistic problems. It is only provided for comparison purposes.

ierr : The error flag on return.

0 --> normal return

k --> code stoped on a zero pivot at step k.

**EXAMPLE**

```
A=mmread(SCILIN+'/tests/matrices/nos1.mtx')
n=size(A,1); b=ones(n,1);
[L,U,ierr]=ilu0(A)
x=U\ (L\b)
A*x-b
```

**AUTHOR**

Sparskit procedure interfaced by Aladin Group

**SEE ALSO**

iluk, ilut, ilud, ilutp, iludp, milu0