NAME

cunglq.f −

SYNOPSIS

Functions/Subroutines

subroutine **cunglq** (M, N, K, A, LDA, TAU, WORK, LWORK, INFO)
CUNGLQ

Function/Subroutine Documentation

subroutine cunglq (integerM, integerN, integerK, complex, dimension(lda, *)A, integerLDA, complex, dimension(*)TAU, complex, dimension(*)WORK, integerLWORK, integerINFO)
CUNGLQ

Purpose:

```
CUNGLQ generates an M-by-N complex matrix Q with orthonormal rows,
which is defined as the first M rows of a product of K elementary
reflectors of order N

      Q  =  H(k)**H . . . H(2)**H H(1)**H

as returned by CGELQF.
```

Parameters:

M

```
M is INTEGER
The number of rows of the matrix Q. M >= 0.
```

N

```
N is INTEGER
The number of columns of the matrix Q. N >= M.
```

K

```
K is INTEGER
The number of elementary reflectors whose product defines the
matrix Q. M >= K >= 0.
```

A

```
A is COMPLEX array, dimension (LDA,N)
On entry, the i-th row must contain the vector which defines
the elementary reflector H(i), for i = 1,2,...,k, as returned
by CGELQF in the first k rows of its array argument A.
On exit, the M-by-N matrix Q.
```

LDA

```
LDA is INTEGER
The first dimension of the array A. LDA >= max(1,M).
```

TAU

```
TAU is COMPLEX array, dimension (K)
TAU(i) must contain the scalar factor of the elementary
reflector H(i), as returned by CGELQF.
```

WORK

```
WORK is COMPLEX array, dimension (MAX(1,LWORK))
On exit, if INFO = 0, WORK(1) returns the optimal LWORK.
```

LWORK

```
LWORK is INTEGER
The dimension of the array WORK. LWORK >= max(1,M).
For optimum performance LWORK >= M*NB, where NB is
the optimal blocksize.
```

If LWORK = -1, then a workspace query is assumed; the routine
only calculates the optimal size of the WORK array, returns
this value as the first entry of the WORK array, and no error
message related to LWORK is issued by XERBLA.

INFO

INFO is INTEGER
= 0: successful exit;
< 0: if INFO = -i, the i-th argument has an illegal value

Author:

Univ. of Tennessee

Univ. of California Berkeley

Univ. of Colorado Denver

NAG Ltd.

Date:

November 2011

Definition at line 128 of file cunglq.f.

Author

Generated automatically by Doxygen for LAPACK from the source code.