NAME

sgetrf.f −

SYNOPSIS

Functions/Subroutines

subroutine **sgetrf** (M, N, A, LDA, IPIV, INFO)

SGETRF

Function/Subroutine Documentation

subroutine sgetrf (integerM, integerN, real, dimension(lda, *)A, integerLDA, integer, dimension(*)IPIV, integerINFO)

SGETRF

Purpose:

SGETRF computes an LU factorization of a general M-by-N matrix A
using partial pivoting with row interchanges.

The factorization has the form
A = P * L * U
where P is a permutation matrix, L is lower triangular with unit
diagonal elements (lower trapezoidal if m > n), and U is upper
triangular (upper trapezoidal if m < n).

This is the right-looking Level 3 BLAS version of the algorithm.

Parameters:

M

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

N

N is INTEGER
The number of columns of the matrix A. N >= 0.

A

A is REAL array, dimension (LDA,N)
On entry, the M-by-N matrix to be factored.
On exit, the factors L and U from the factorization
A = P*L*U; the unit diagonal elements of L are not stored.

LDA

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

IPIV

IPIV is INTEGER array, dimension (min(M,N))
The pivot indices; for 1 <= i <= min(M,N), row i of the
matrix was interchanged with row IPIV(i).

INFO

INFO is INTEGER
= 0: successful exit
< 0: if INFO = -i, the i-th argument had an illegal value
> 0: if INFO = i, U(i,i) is exactly zero. The factorization
has been completed, but the factor U is exactly
singular, and division by zero will occur if it is used

to solve a system of equations.

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Definition at line 109 of file sgetrf.f.

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