

NAG Fortran Library Routine Document

F06UNF

Note: before using this routine, please read the Users' Note for your implementation to check the interpretation of ***bold italicised*** terms and other implementation-dependent details.

1 Purpose

F06UNF returns, via the function name, the value of the 1-norm, the ∞ -norm, the Frobenius norm, or the maximum absolute value of the elements of a complex n by n tridiagonal matrix A .

2 Specification

double precision FUNCTION F06UNF (NORM, N, DL, D, DU)

INTEGER

N

complex*16

DL(*), D(*), DU(*)

CHARACTER*1

NORM

3 Description

None.

4 References

None.

5 Parameters

1: NORM – CHARACTER*1

Input

On entry: specifies the value to be returned:

if NORM = '1' or 'O', the 1-norm;

if NORM = 'I', the ∞ -norm;

if NORM = 'F' or 'E', the Frobenius (or Euclidean) norm;

if NORM = 'M', the value $\max_{i,j} |a_{ij}|$ (not a norm).

Constraint: NORM = '1', 'O', 'I', 'F', 'E' or 'M'.

2: N – INTEGER

Input

On entry: n , the order of the matrix A .

Constraint: $N \geq 0$.

3: DL(*) – **complex*16** array

Input

Note: the dimension of the array DL must be at least $\max(1, N - 1)$.

On entry: the $(n - 1)$ sub-diagonal elements of A .

4: D(*) – **complex*16** array

Input

Note: the dimension of the array D must be at least $\max(1, N)$.

On entry: the n diagonal elements of A .

5: DU(*) – *complex*16* array

Input

Note: the dimension of the array DU must be at least $\max(1, N - 1)$.

On entry: the $(n - 1)$ super-diagonal elements of A .

6 Error Indicators and Warnings

None.
