

NAG Library Routine Document

F06UPF

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

F06UPF 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 Hermitian tridiagonal matrix A .

2 Specification

double precision FUNCTION F06UPF(NORM, N, D, E)

INTEGER	N
<i>double precision</i>	D(*)
<i>complex*16</i>	E(*)
CHARACTER*1	NORM

3 Description

None.

4 References

None.

5 Parameters

- | | | |
|----|--|--------------|
| 1: | NORM – CHARACTER*1 | <i>Input</i> |
| | <i>On entry:</i> specifies the value to be returned. | |
| | NORM = '1' or 'O' | |
| | The 1-norm. | |
| | NORM = 'I' | |
| | The ∞ -norm. | |
| | NORM = 'F' or 'E' | |
| | The Frobenius (or Euclidean) norm. | |
| | NORM = 'M' | |
| | The value $\max_{i,j} a_{ij} $ (not a norm). | |
| | <i>Constraint:</i> NORM = '1', 'O', 'I', 'F', 'E' or 'M'. | |
| 2: | N – INTEGER | <i>Input</i> |
| | <i>On entry:</i> n , the order of the matrix A . | |
| | When N = 0, F06UPF is set to zero. | |
| | <i>Constraint:</i> $N \geq 0$. | |
| 3: | D(*) – <i>double precision</i> array | <i>Input</i> |
| | Note: the dimension of the array D must be at least $\max(1, N)$. | |
| | <i>On entry:</i> the n diagonal elements of the tridiagonal matrix A . | |

4: $E(*)$ – *complex*16* array

Input

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

On entry: the $(n - 1)$ subdiagonal or superdiagonal elements of the tridiagonal matrix A .

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Further Comments

None.

9 Example

None.
