

# NAG Library Routine Document

## F06QFF

**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

F06QFF performs the matrix-copy operation

$$B \leftarrow A$$

where  $A$  and  $B$  are  $m$  by  $n$  real general or trapezoidal matrices.

### 2 Specification

```
SUBROUTINE F06QFF (MATRIX, M, N, A, LDA, B, LDB)
  INTEGER          M, N, LDA, LDB
  REAL (KIND=nag_wp) A(LDA,*), B(LDB,*)
  CHARACTER(1)    MATRIX
```

### 3 Description

None.

### 4 References

None.

### 5 Arguments

- |    |   |              |
|----|---|--------------|
| 1: | <p>MATRIX – CHARACTER(1)</p> <p><i>On entry:</i> the matrix type.</p> <p>MATRIX = 'G'<br/>General matrix.</p> <p>MATRIX = 'U'<br/>Upper trapezoidal matrix (upper triangular if <math>m = n</math>).</p> <p>MATRIX = 'L'<br/>Lower trapezoidal matrix (lower triangular if <math>m = n</math>).</p> <p><i>Constraint:</i> MATRIX = 'G', 'U' or 'L'.</p> | <i>Input</i> |
| 2: | <p>M – INTEGER</p> <p><i>On entry:</i> <math>m</math>, the number of rows of the matrices <math>A</math> and <math>B</math>.</p> <p><i>Constraint:</i> <math>M \geq 0</math>.</p>   | <i>Input</i> |
| 3: | <p>N – INTEGER</p> <p><i>On entry:</i> <math>n</math>, the number of columns of the matrices <math>A</math> and <math>B</math>.</p> <p><i>Constraint:</i> <math>N \geq 0</math>.</p>  | <i>Input</i> |

4: A(LDA,\*) – REAL (KIND=nag\_wp) array *Input*

**Note:** the second dimension of the array A must be at least N.

*On entry:* the  $m$  by  $n$  general or trapezoidal matrix  $A$ .

If MATRIX = 'U',  $A$  is upper trapezoidal and the elements of the array below the diagonal are not referenced.

If MATRIX = 'L',  $A$  is lower trapezoidal and the elements of the array above the diagonal are not referenced.

5: LDA – INTEGER *Input*

*On entry:* the first dimension of the array A as declared in the (sub)program from which F06QFF is called.

*Constraint:*  $LDA \geq \max(1, M)$ .

6: B(LDB,\*) – REAL (KIND=nag\_wp) array *Output*

**Note:** the second dimension of the array B must be at least N.

*On exit:* the  $m$  by  $n$  general or trapezoidal matrix  $B$ .

If MATRIX = 'U',  $B$  is upper trapezoidal and the elements of the array below the diagonal are not referenced.

If MATRIX = 'L',  $B$  is lower trapezoidal and the elements of the array above the diagonal are not referenced.

7: LDB – INTEGER *Input*

*On entry:* the first dimension of the array B as declared in the (sub)program from which F06QFF is called.

*Constraint:*  $LDB \geq \max(1, M)$ .

## 6 Error Indicators and Warnings

None.

## 7 Accuracy

Not applicable.

## 8 Parallelism and Performance

F06QFF is not threaded in any implementation.

## 9 Further Comments

None.

## 10 Example

None.

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