

# NAG Library Routine Document

## F06FBF

**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

F06FBF broadcasts a real scalar into a real vector.

### 2 Specification

```
SUBROUTINE F06FBF (N, CON, X, INCX)
  INTEGER          N, INCX
  REAL (KIND=nag_wp) CON, X(*)
```

### 3 Description

F06FBF performs the operation

$$x \leftarrow (\alpha, \alpha, \dots, \alpha)^T,$$

where  $x$  is an  $n$ -element real vector.

### 4 References

None.

### 5 Parameters

- |    |                                                                                                                           |               |
|----|---------------------------------------------------------------------------------------------------------------------------|---------------|
| 1: | N – INTEGER                                                                                                               | <i>Input</i>  |
|    | <i>On entry:</i> $n$ , the number of elements in $x$ .                                                                    |               |
| 2: | CON – REAL (KIND=nag_wp)                                                                                                  | <i>Input</i>  |
|    | <i>On entry:</i> the scalar $\alpha$ .                                                                                    |               |
| 3: | X(*) – REAL (KIND=nag_wp) array                                                                                           | <i>Output</i> |
|    | <b>Note:</b> the dimension of the array X must be at least $\max(1, 1 + (N - 1) \times \text{INCX})$ .                    |               |
|    | <i>On exit:</i> the vector $x$ . $x_i$ will be stored in $X(1 + (i - 1) \times \text{INCX})$ , for $i = 1, 2, \dots, N$ . |               |
|    | Intermediate elements of X are unchanged.                                                                                 |               |
| 4: | INCX – INTEGER                                                                                                            | <i>Input</i>  |
|    | <i>On entry:</i> the increment in the subscripts of X between successive elements of $x$ .                                |               |
|    | <i>Constraint:</i> $\text{INCX} > 0$ .                                                                                    |               |

### 6 Error Indicators and Warnings

None.

### 7 Accuracy

Not applicable.

## **8 Parallelism and Performance**

Not applicable.

## **9 Further Comments**

None.

## **10 Example**

None.

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