NAG Library Routine Document

F06FEF

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

F06FEF multiplies a real vector by the reciprocal of a scalar.

2 Specification

```
SUBROUTINE F06FEF (N, ALPHA, X, INCX)

INTEGER            N, INCX
REAL (KIND=nag_wp) ALPHA, X(*)
```

3 Description

F06FEF performs the operation

$$x \leftarrow \frac{1}{\alpha}x$$

where x is an n-element real vector scattered with stride INCX and α is a real nonzero scalar.

4 References

None.

5 Parameters

1: N – INTEGER *Input*

On entry: n, the number of elements in x.

2: ALPHA – REAL (KIND=nag_wp) *Input*

On entry: the scalar α.

Constraint: ALPHA $\neq 0.0$.

3: X$(*)$ – REAL (KIND=nag_wp) array *Input/Output*

Note: the dimension of the array X must be at least $\max(1, 1 + (\text{N} - 1) \times \text{INCX})$.

On entry: the n-element vector x. x_i must be stored in X$(1 + (i - 1) \times \text{INCX})$, for $i = 1, 2, \ldots, \text{N}$. Intermediate elements of X are not referenced.

On exit: the updated vector x, stored in the same array elements used to supply the original vector.

4: INCX – INTEGER *Input*

On entry: the increment in the subscripts of X between successive elements of x.

Constraint: INCX > 0.

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Further Comments

None.

9 Example

None.
