NAG Fortran Library Routine Document

F06BMF

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

F06BMF completes the safe computation of the Euclidean length of a vector, following a call to F06FJF or F06KJF which return values α and ξ such that

$$\|x\|_2{}^2 = \alpha^2 \xi.$$

F06BMF returns, via the function name, the value

$$\min\left(\alpha\sqrt{\xi}, flmax\right),$$

where $flmax$ is the value given by 1/(X02AMF).

2 Specification

double precision `FUNCTION F06BMF (SCAL, SSQ)`
double precision `SCAL, SSQ`

3 Description

None.

4 References

None.

5 Parameters

1: SCAL – ***double precision*** *Input*

On entry: the scaling factor α, returned by F06FJF or F06KJF.

Constraint: $\mathrm{SCAL} \geq 0$.

2: SSQ – ***double precision*** *Input*

On entry: the scaled sum of squares ξ, returned by F06FJF or F06KJF.

Constraint: $\mathrm{SSQ} \geq 1$.

6 Error Indicators and Warnings

None.