

NAG 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.

2 Specification

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

3 Description

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

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

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

4 References

None.

5 Parameters

- | | | |
|----|---|--------------|
| 1: | SCAL – <i>double precision</i>
<i>On entry:</i> the scaling factor α , returned by F06FJF or F06KJF.
<i>Constraint:</i> SCAL ≥ 0 . | <i>Input</i> |
| 2: | SSQ – <i>double precision</i>
<i>On entry:</i> the scaled sum of squares ξ , returned by F06FJF or F06KJF.
<i>Constraint:</i> SSQ ≥ 1 . | <i>Input</i> |

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Further Comments

None.

9 Example

None.
