NAG Library Routine Document

F06BLF

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

F06BLF computes the quotient of two real scalars.

2 Specification

```
FUNCTION F06BLF (A, B, FAIL)
REAL (KIND=nag_wp) F06BLF

REAL (KIND=nag_wp) A, B
LOGICAL            FAIL
```

3 Description

F06BLF returns the value q via the function name, where

$$q = \begin{cases} a/b, & \text{if } a/b \text{ does not overflow,} \\ 0, & \text{if } a = 0, \\ flmax \times \text{sign}(a/b), & \text{if } a \neq 0 \text{ and } a/b \text{ would overflow.} \end{cases}$$

Here $flmax$ is the large value given by $1/(\text{X02AMF})$, and $\text{sign}(a/0)$ is taken as $\text{sign } a$.

4 References

None.

5 Arguments

1:   A – REAL (KIND=nag_wp)   *Input*

On entry: the value a.

2:   B – REAL (KIND=nag_wp)   *Input*

On entry: the value b.

3:   FAIL – LOGICAL   *Output*

On exit: .TRUE. if a/b would overflow (in which case $|q| = flmax$) or $a = b = 0$ (in which case $q = 0$); otherwise .FALSE..

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Parallelism and Performance

F06BLF is not threaded in any implementation.

9   Further Comments

None.

10   Example

None.