NAG Library Routine Document

E04VMF

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

E04VMF may be used to supply individual integer optional parameters to E04VHF. The initialization routine E04VGF **must** have been called before calling E04VMF.

2 Specification

```
SUBROUTINE E04VMF (STRING, IVALUE, CW, IW, RW, IFAIL)
INTEGER            IVALUE, IW(*), IFAIL
REAL (KIND=nag_wp) RW(*)
CHARACTER(*)       STRING
CHARACTER(8)       CW(*)
```

3 Description

E04VMF may be used to supply values for integer optional parameters to E04VHF. It is only necessary to call E04VMF for those parameters whose values are to be different from their default values. One call to E04VMF sets one parameter value.

Each integer optional parameter is defined by a single character string in STRING and the corresponding value in IVALUE. For example, the following allows the iteration limit to be defined:

```
ITNLIM = 1000
IF (M > 500) ITNLIM = 500
CALL E04VMF ('Major Iterations', ITNLIM, CW, IW, RW, IFAIL)
```

Optional parameter settings are preserved following a call to E04VHF and so the keyword **Defaults** is provided to allow you to reset all the optional parameters to their default values before a subsequent call to E04VHF.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 12 in E04VHF.

4 References

None.

5 Parameters

1: STRING – CHARACTER(*) *Input*

On entry: a single valid keyword of an integer optional parameter (as described in Section 12 in E04VHF).

2: IVALUE – INTEGER *Input*

On entry: an integer value associated with the keyword in STRING.

3: CW(∗) – CHARACTER(8) array *Communication Array*

Note: the dimension of the array CW must be at least LENCW (see E04VGF).

4: IW(∗) – INTEGER array *Communication Array*

Note: the dimension of the array IW must be at least LENIW (see E04VGF).

5: RW(∗) – REAL (KIND=nag_wp) array *Communication Array*

Note: the dimension of the array RW must be at least LENRW (see E04VGF).

6: IFAIL – INTEGER *Input/Output*

On entry: IFAIL must be set to 0, −1 or 1. If you are unfamiliar with this parameter you should refer to Section 3.3 in the Essential Introduction for details.

For environments where it might be inappropriate to halt program execution when an error is detected, the value −1 or 1 is recommended. If the output of error messages is undesirable, then the value 1 is recommended. Otherwise, if you are not familiar with this parameter, the recommended value is 0. **When the value −1 or 1 is used it is essential to test the value of IFAIL on exit.**

On exit: IFAIL = 0 unless the routine detects an error or a warning has been flagged (see Section 6).

6 Error Indicators and Warnings

If on entry IFAIL = 0 or −1, explanatory error messages are output on the current error message unit (as defined by X04AAF).

Errors or warnings detected by the routine:

IFAIL = 1

The initialization routine E04VGF has not been called.

IFAIL = 2

The supplied option is invalid. Check that the keywords are neither ambiguous nor misspelt.

IFAIL = −99

An unexpected error has been triggered by this routine. Please contact NAG.

See Section 3.8 in the Essential Introduction for further information.

IFAIL = −399

Your licence key may have expired or may not have been installed correctly.

See Section 3.7 in the Essential Introduction for further information.

IFAIL = −999

Dynamic memory allocation failed.

See Section 3.6 in the Essential Introduction for further information.

7 Accuracy

Not applicable.

8 Parallelism and Performance

Not applicable.

9 Further Comments

E04VKF or E04VLF may also be used to supply integer optional parameters to E04VHF.

10 Example

See Section 10 in E04VHF and E04VKF.