NAG Fortran Library Routine Document

E05JDF

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

E05JDF may be used to supply individual optional parameters to E05JBF. The initialization routine E05JAF **must** have been called before calling E05JDF.

2 Specification

```
SUBROUTINE E05JDF (STRING, RW, LENRW, IFAIL)
INTEGER            LENRW, IFAIL
double precision   RW(LENRW)
CHARACTER*(*)      STRING
```

3 Description

E05JDF may be used to supply values for optional parameters to E05JBF. It is only necessary to call E05JDF for those parameters whose values are to be different from their default values. One call to E05JDF sets one parameter value.

Each optional parameter is defined by a single character string, of up to 72 characters, consisting of one or more items. The items associated with a given option must be separated by spaces, or equals signs [=]. Alphabetic characters may be upper or lower case. The string

```
Static Limit = 100
```

is an example of a string used to set an optional parameter. For each option the string contains one or more of the following items:

– a mandatory keyword;

– a phrase that qualifies the keyword;

– a number that specifies an INTEGER or ***double precision*** value. Such numbers may be up to 16 contiguous characters.

For E05JDF, each user-specified option is not normally printed as it is defined, but this printing may be turned on using the keyword **List**. Thus the statement

```
CALL E05JDF ('List', RW, LENRW, IFAIL)
```

turns on printing of this and subsequent options. Printing may be turned off again using the keyword **Nolist**.

Optional parameter settings are preserved following a call to E05JBF 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 E05JBF.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 11 of the document for E05JBF.

4 References

None.

5 Parameters

1: STRING – CHARACTER*(*) *Input*

On entry: a single valid option string (as described in Section 3 and in Section 11 of the document for E05JBF).

2: RW(LENRW) – ***double precision*** array *Communication Array*

The array RW **must not** be altered between calls to any of the routines E05JBF, E05JCF, E05JDF, E05JEF, E05JFF, E05JGF, E05JHF, E05JKF and E05JLF.

3: LENRW – INTEGER *Input*

On entry: the dimension of the array RW as declared in the (sub)program from which E05JDF is called.

4: 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 Chapter P01 for details.

On exit: IFAIL $= 0$ unless the routine detects an error (see Section 6).

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.**

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 E05JAF has not been called.

IFAIL $= 2$

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

IFAIL $= 3$

The option string contains an option-name/numerical-value pair where the numerical value is outside the valid range expected by the option name. See Section 11 of the document for E05JBF for allowable values of the optional parameters.

IFAIL $= 4$

Data-type discrepancy: an integer option was attempted to be given a ***double precision*** value.

IFAIL $= 5$

The value to be set could not be parsed. Check that the value specifies a valid INTEGER or ***double precision*** value.

IFAIL $= 6$

The option-name contained the wrong number of word ‘tokens’, so could not be recognised by the routine.

7 Accuracy

Not applicable.

8 Further Comments

E05JCF, E05JEF, E05JFF or E05JGF may also be used to supply optional parameters to E05JBF.

9 Example

See Section 9 of the document for E05JCF.
