

NAG 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(OPTSTR, COMM, LCOMM, IFAIL)
  INTEGER          LCOMM, IFAIL
  double precision COMM(LCOMM)
  CHARACTER*(*)    OPTSTR
```

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 optional parameter 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 optional parameter 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 real value. Such numbers may be up to 16 contiguous characters.

For E05JDF, each user-specified optional parameter 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', COMM, LCOMM, 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 symbolic names and default values is given in Section 11 in E05JBF.

4 References

None.

5 Parameters

- 1: OPTSTR – CHARACTER*(*) *Input*
On entry: a string defining a single optional parameter (as described in Section 3 and in Section 11 in E05JBF).
- 2: COMM(LCOMM) – *double precision* array *Communication Array*
On exit: COMM **must not** be altered between calls to any of the routines E05JBF, E05JCF, E05JDF, E05JEF, E05JFF, E05JGF, E05JHF, E05JJF, E05JKF and E05JLF.
- 3: LCOMM – INTEGER *Input*
On entry: the dimension of the array COMM as declared in the (sub)program from which E05JDF is called.
Constraint: LCOMM $\geq$ 100.
- 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 Section 3.3 in the Essential Introduction 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

On entry, LCOMM < 100,
 or the initialization routine E05JAF has not been called.

IFAIL = 2

The supplied optional parameter is invalid. The correct number of word ‘tokens’ are present, but a keyword or keyword combination is not valid.

IFAIL = 3

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

IFAIL = 4

Data-type discrepancy: either a real value was associated with an integer optional parameter or a non-numeric value was associated with a numeric optional parameter.

IFAIL = 5

The value to be set could not be parsed. Check that the value specifies a valid integer or real value.

IFAIL = 6

The optional-parameter name contained the wrong number of word ‘tokens’, so could not be recognized 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 in E05JCF.
