

NAG Library Routine Document

E04UEF/E04UEA

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

To supply individual optional parameters to E04UCF/E04UCA. More precisely, E04UEF must be used to supply optional parameters to E04UCF and E04UEA must be used to supply optional parameters to E04UCA.

E04UEA is a version of E04UEF that has additional parameters in order to make it safe for use in multithreaded applications (see Section 5). The initialization routine E04WBF **must** have been called before calling E04UEA.

E04UEF/E04UEA can also be used to supply individual optional parameters to E04UFF/E04UFA.

2 Specification

2.1 Specification for E04UEF

```
SUBROUTINE E04UEF(STR)
  CHARACTER*(*)    STR
```

2.2 Specification for E04UEA

```
SUBROUTINE E04UEA(STR, LWSAV, IWSAV, RWSAV, INFORM)
  INTEGER          IWSAV(610), INFORM
  double precision RWSAV(475)
  LOGICAL          LWSAV(120)
  CHARACTER*(*)    STR
```

3 Description

E04UEF/E04UEA may be used to supply values for optional parameters to E04UCF/E04UCA. It is only necessary to call E04UEF/E04UEA for those parameters whose values are to be different from their default values. One call to E04UEF/E04UEA 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

```
Print Level = 1
```

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 in Fortran's I, F, E or D formats, terminated by a space if this is not the last item on the line.

Blank strings and comments are ignored. A comment begins with an asterisk (*) and all subsequent characters in the string are regarded as part of the comment.

For E04UEF, each user-specified option is normally printed as it is defined, on the current advisory message unit (see X04ABF), but this printing may be suppressed using the keyword Nolist. Thus the statement

```
CALL E04EUF ('Nolist')
```

suppresses printing of this and subsequent options. Printing will automatically be turned on again after a call to E04UCF and may be turned on again at any time using the keyword List.

For E04UEA printing is turned off by default, but may be turned on at any time using the keyword List.

Optional parameter settings are preserved following a call to E04UCF/E04UCA 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 E04UCF/E04UCA.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 11 in E04UCF/E04UCA.

4 References

None.

5 Parameters

- 1: STR – CHARACTER*(*) *Input*
On entry: a single valid option string (as described in Section 3 and in Section 11 in E04UCF/E04UCA).

Note: *the following are additional parameters for specific use with E04UEA. Users of E04UEF therefore need not read the remainder of this description.*

- 2: LWSAV(120) – LOGICAL array *Communication Array*
 3: IWSAV(610) – INTEGER array *Communication Array*
 4: RWSAV(475) – **double precision** array *Communication Array*

The arrays LWSAV, IWSAV and RWSAV **must not** be altered between calls to any of the routines E04UEA, E04UCA, E04UDA or E04WBF.

- 5: INFORM – INTEGER *Output*
On exit: contains zero if a valid option string has been supplied and a value > 0 otherwise (see Section 6).

6 Error Indicators and Warnings

Errors or warnings detected by the routine:

INFORM = 5

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

7 Accuracy

Not applicable.

8 Further Comments

E04UDF/E04UDA may also be used to supply optional parameters to E04UCF/E04UCA.

9 Example

See Section 9 in E04UDF/E04UDA.
