

NAG Library Routine Document

E04WBF

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

E04WBF is used to initialize routines E04DGA, E04MFA, E04NCA, E04NFA, E04NKA, E04UCA, E04UFA, E04UGA and E04USA.

2 Specification

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SUBROUTINE E04WBF(RNAME, CWSAV, LCWSAV, LWSAV, LLWSAV, IWSAV, LIWSAV,
1          RWSAV, LRWSAV, IFAIL)
    INTEGER          LCWSAV, LLWSAV, IWSAV(LIWSAV), LIWSAV, LRWSAV, IFAIL
    double precision    RWSAV(LRWSAV)
    LOGICAL          LWSAV(LLWSAV)
    CHARACTER*6      RNAME
    CHARACTER*80     CWSAV(LCWSAV)

```

3 Description

E04WBF initializes some or all of the arrays CWSAV, LWSAV, IWSAV and RWSAV for the routine specified by RNAME, and any associated option setting routines.

4 References

None.

5 Parameters

- 1: RNAME – CHARACTER*6 *Input*
On entry: the name of the routine to be initialized.
Constraint: RNAME must be a valid routine name.
- 2: CWSAV(LCWSAV) – CHARACTER*80 array *Communication Array*
- 3: LCWSAV – INTEGER *Input*
On entry: the dimension of the array CWSAV as declared in the (sub)program from which E04WBF is called.
Constraints:
 if RNAME = 'E04UFF' or 'E04UFA', LCWSAV $\geq$ 5;
 otherwise LCWSAV $\geq$ 1.
- 4: LWSAV(LLWSAV) – LOGICAL array *Communication Array*
- 5: LLWSAV – INTEGER *Input*
On entry: the dimension of the array LWSAV as declared in the (sub)program from which E04WBF is called.
Constraints:
 if RNAME = 'E04NKF' or 'E04NKA', LLWSAV $\geq$ 20;
 if RNAME = 'E04UGF' or 'E04UGA', LLWSAV $\geq$ 20;
 otherwise LLWSAV $\geq$ 120.

6: IWSAV(LIWSAV) – INTEGER array

Communication Array

7: LIWSAV – INTEGER

Input

On entry: the dimension of the array IWSAV as declared in the (sub)program from which E04WBF is called.

Constraints:

if RNAME = 'E04NKF' or 'E04NKA', LIWSAV $\geq$ 380;
 if RNAME = 'E04UGF' or 'E04UGA', LIWSAV $\geq$ 550;
 otherwise LIWSAV $\geq$ 610.

8: RWSAV(LRWSAV) – *double precision* array

Communication Array

9: LRWSAV – INTEGER

Input

On entry: the dimension of the array RWSAV as declared in the (sub)program from which E04WBF is called.

Constraints:

if RNAME = 'E04NKF' or 'E04NKA', LRWSAV $\geq$ 285;
 if RNAME = 'E04UGF' or 'E04UGA', LRWSAV $\geq$ 550;
 otherwise LRWSAV $\geq$ 475.

10: 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

The routine name supplied in RNAME is invalid

IFAIL = 2

One or more of the workspace array lengths LCWSAV, LLWSAV, LIWSAV or LRWSAV is too small.

7 Accuracy

Not applicable.

8 Further Comments

The time taken by E04WBF is negligible.

9 Example

The use of E04WBF is illustrated by the example programs of the routines listed in Section 1.
