NAG Library Function Document

nag_fit_opt_get (e02zlc)

1 Purpose

nag_fit_opt_get (e02zlc) is used to query the value of optional arguments available to supported problem solving functions in Chapter e02. Currently, only nag_2d_spline_fit_ts_scat (e02jdc) is supported.

2 Specification

#include <nag.h>
#include <nag.e02.h>

void nag_fit_opt_get (const char *optstr, Integer *ivalue, double *rvalue,
                    char *cvalue, Integer lcvalue, Nag_VariableType *optype,
                    const Integer iopts[], const double opts[], NagError *fail)

3 Description

nag_fit_opt_get (e02zlc) is used to query the current values of options. It is necessary to initialize optional argument arrays using nag_fit_opt_set (e02zkc) before any options are queried.

nag_fit_opt_get (e02zlc) will normally return either an integer, real or character value dependent upon the type associated with the optional argument being queried. Whether the option queried is of integer, real or character type is indicated by the returned value of optype.

Information on optional argument names and whether these options are real, integer or character can be found in Section 11 in nag_2d_spline_fit_ts_scat (e02jdc).

4 References

None.

5 Arguments

1: optstr – const char *

On entry: a string identifying the option whose current value is required. See Section 11 in nag_2d_spline_fit_ts_scat (e02jdc) for information on valid options. In addition, the following is a valid option:

Identify

nag_fit_opt_get (e02zlc) returns in cvalue the function name supplied to nag_fit_opt_set (e02zkc) when the optional argument arrays iopts and opts were initialized.

2: ivalue – Integer *

On exit: if the optional argument supplied in optstr is an integer valued argument, ivalue will hold its current value.

3: rvalue – double *

On exit: if the optional argument supplied in optstr is a real valued argument, rvalue will hold its current value.
4:  cvalue – char *
    Output
    Note: the maximum length (excluding the NULL terminator) of the string returned in cvalue
    depends on the problem solving routine in use. See Section 11.1 of the relevant solver.
    The string returned in cvalue will never exceed lcvalue characters in length (including the NULL
    terminator).
    On exit: if the optional argument supplied in optstr is a character valued argument, cvalue will
    hold its current value, unless Identify is specified (see optstr).

5:  lcvalue – Integer
    Input
    On entry: length of cvalue. At most lcvalue – 1 non-null characters will be written into cvalue.
    Constraint: lcvalue > 1.

6:  optype – Nag_VariableType *
    Output
    On exit: indicates whether the optional argument supplied in optstr is an integer, real or character
    valued argument and hence which of ivalue, rvalue or cvalue holds the current value.

    optype = Nag_Integer
    optstr is an integer valued optional argument, its current value has been returned in ivalue.

    optype = Nag_Real
    optstr is a real valued optional argument, its current value has been returned in rvalue.

    optype = Nag_Character
    optstr is a character valued optional argument, its current value has been returned in cvalue.

7:  iopts[dim] – const Integer
    Communication Array
    Note: the dimension, dim, of this array is dictated by the requirements of associated functions that
    must have been previously called. This array MUST be the same array passed as argument iopts
    in the previous call to nag_fit_opt_set (e02zkc).

8:  opts[dim] – const double
    Communication Array
    Note: the dimension, dim, of this array is dictated by the requirements of associated functions that
    must have been previously called. This array MUST be the same array passed as argument opts
    in the previous call to nag_fit_opt_set (e02zkc).

9:  fail – NagError *
    Input/Output
    The NAG error argument (see Section 3.6 in the Essential Introduction).

6   Error Indicators and Warnings

NE_ALLOC_FAIL
    Dynamic memory allocation failed.
    See Section 3.2.1.2 in the Essential Introduction for further information.

NE_BAD_PARAM
    On entry, argument ⟨value⟩ had an illegal value.

NE_INT
    On entry, lcvalue = ⟨value⟩.
    Constraint: lcvalue > 1.
NE_INTERNAL_ERROR
An internal error has occurred in this function. Check the function call and any array sizes. If the
call is correct then please contact NAG for assistance.
An unexpected error has been triggered by this function. Please contact NAG.
See Section 3.6.6 in the Essential Introduction for further information.

NE_INVALID_OPTION
On entry, either the option arrays have not been initialized or they have been corrupted.
On entry, the optional argument in optstr was not recognized: optstr = (value).

NE_NO_LICENCE
Your licence key may have expired or may not have been installed correctly.
See Section 3.6.5 in the Essential Introduction for further information.

NW_TRUNCATED
On entry, optstr indicates a character optional argument, but cvalue is too short to hold the stored
value. The returned value will be truncated.

7 Accuracy
Not applicable.

8 Parallelism and Performance
Not applicable.

9 Further Comments
None.

10 Example
See the example programs associated with the problem solving function you wish to use for a
demonstration of how to use nag_fit_opt_get (e02zlc) to query options.