NAG Library Function Document

nag_glopt_bnd_mcs_optset_int (e05jfc)

1 Purpose

nag_glopt_bnd_mcs_optset_int (e05jfc) may be used to supply individual integer optional arguments to
nag_glopt_bnd_mcs_solve (e05jbc). The initialization function nag_glopt_bnd_mcs_init (e05jac) must
have been called before calling nag_glopt_bnd_mcs_optset_int (e05jfc).

2 Specification

#include <nag.h>
#include <nage05.h>

void nag_glopt_bnd_mcs_optset_int (const char *optstr, Integer ivalue,
Nag_E05State *state, NagError *fail)

3 Description

nag_glopt_bnd_mcs_optset_int (e05jfc) may be used to supply values for integer optional arguments to
nag_glopt_bnd_mcs_solve (e05jbc). It is only necessary to call nag_glopt_bnd_mcs_optset_int (e05jfc)
for those arguments whose values are to be different from their default values. One call to
nag_glopt_bnd_mcs_optset_int (e05jfc) sets one argument value.

Each integer optional argument is defined by a single character string in optstr and the corresponding
value in ivalue. For example, the following allows the function evaluations limit to be defined:

    nf = 1000;
    e05jfc ('Function Evaluations Limit', nf, &state, &fail);

A complete list of optional arguments, their symbolic names and default values is given in Section 12 in
nag_glopt_bnd_mcs_solve (e05jbc).

4 References

None.

5 Arguments

1: optstr – const char *  \hspace{1cm} \textit{Input}
\hspace{1cm} \textit{On entry:} a string identifying an integer-valued optional argument (as described in Section 12 in
nag_glopt_bnd_mcs_solve (e05jbc)).

2: ivalue – Integer  \hspace{1cm} \textit{Input}
\hspace{1cm} \textit{On entry:} an integer value associated with the optional argument in optstr.

3: state – Nag_E05State *  \hspace{1cm} \textit{Communication Structure}
\hspace{1cm} state contains information required by other functions in this suite. You must not modify it
directly in any way.

4: fail – NagError *  \hspace{1cm} \textit{Input/Output}
\hspace{1cm} 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 \(\text{value}\) had an illegal value.

**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_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.

**NE_NOT_INIT**
Initialization function \texttt{nag_glopt_bnd_mcs_init (e05jac)} has not been called.

**NE_OPT_NOT_READ**
The supplied optional argument is invalid. A keyword or keyword combination was not recognized.

**NE_OUT_OF_RANGE**
Attempt to assign a non-positive value of Function Evaluations Limit \(nf\): \(nf = \text{value}\). Attempt to assign a non-positive value of Local Searches Limit \(loclim\): \(loclim = \text{value}\). Attempt to assign a non-positive value of Static Limit \(stclim\): \(stclim = \text{value}\).

7 Accuracy
Not applicable.

8 Parallelism and Performance
\texttt{nag_glopt_bnd_mcs_optset_int (e05jfc)} is threaded by NAG for parallel execution in multithreaded implementations of the NAG Library.

Please consult the X06 Chapter Introduction for information on how to control and interrogate the OpenMP environment used within this function. Please also consult the Users’ Note for your implementation for any additional implementation-specific information.

9 Further Comments
\texttt{nag_glopt_bnd_mcs_optset_file (e05jcc)} or \texttt{nag_glopt_bnd_mcs_optset_string (e05jdc)} may also be used to supply integer optional arguments to \texttt{nag_glopt_bnd_mcs_solve (e05jbc)}. 
10 Example

See Section 10 in nag_glopt_bnd_mcs_optset_file (e05jcc).