NAG Library Function Document

nag_glopt_bnd_mcs_optset_real (e05jgc)

1 Purpose

nag_glopt_bnd_mcs_optset_real (e05jgc) may be used to supply individual real 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_real (e05jgc).

2 Specification

#include <nag.h>
#include <nage05.h>
void nag_glopt_bnd_mcs_optset_real (const char *optstr, double rvalue,
Nag_E05State *state, NagError *fail)

3 Description

nag_glopt_bnd_mcs_optset_real (e05jgc) may be used to supply values for real optional arguments to
nag_glopt_bnd_mcs_solve (e05jbc). It is only necessary to call nag_glopt_bnd_mcs_optset_real (e05jgc)
for those arguments whose values are to be different from their default values. One call to
nag_glopt_bnd_mcs_optset_real (e05jgc) sets one argument value.

Each real optional argument is defined by a single character string in optstr and the corresponding value
in rvalue. For example the following illustrates how the local searches tolerance could be defined:

loctol = 1.0e-10;
e05jgc (‘Local Searches Tolerance’, loctol, &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 * 
   Input
   On entry: a string identifying a real-valued optional argument (as described in Section 12 in
   nag_glopt_bnd_mcs_solve (e05jbc)).

2: rvalue – double 
   Input
   On entry: the value associated with the optional argument in optstr.

3: state – Nag_E05State * 
   Communication Structure
   state contains information required by other functions in this suite. You must not modify it
directly in any way.

4: 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_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 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 an out-of-bounds value of Infinite Bound Size (infbnd): infbnd = ⟨value⟩.  
Attempt to assign too small a value of Local Searches Tolerance (loctol): loctol = ⟨value⟩.  
Attempt to assign too small a value of Target Objective Error (objerr): objerr = ⟨value⟩.  
Attempt to assign too small a value of Target Objective Safeguard (objsfg): objsfg = ⟨value⟩.

7 Accuracy
Not applicable.

8 Parallelism and Performance

nag_glopt_bnd_mcs_optset_real (e05jgc) 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

nag_glopt_bnd_mcs_optset_file (e05jcc) or nag_glopt_bnd_mcs_optset_string (e05jdc) may also be used to supply real optional arguments to nag_glopt_bnd_mcs_solve (e05jbc).
10 Example

See Section 10 in nag_glopt_bnd_mcs_optset_file (e05jec).