

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.

NE_BAD_PARAM

On entry, argument $\langle value \rangle$ 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.

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*): $infbnd = \langle value \rangle$.

Attempt to assign too small a value of **Local Searches Tolerance** (*loctol*): $loctol = \langle value \rangle$.

Attempt to assign too small a value of **Target Objective Error** (*objerr*): $objerr = \langle value \rangle$.

Attempt to assign too small a value of **Target Objective Safeguard** (*objsg*): $objsg = \langle value \rangle$.

7 Accuracy

Not applicable.

8 Parallelism and Performance

Not applicable.

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` (e05jcc).
