

# NAG Library Function Document

## nag\_glopt\_bnd\_mcs\_optset\_char (e05jec)

### 1 Purpose

nag\_glopt\_bnd\_mcs\_optset\_char (e05jec) may be used to supply individual ‘ON’/‘OFF’-valued character 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\_char (e05jec).

### 2 Specification

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

void nag_glopt_bnd_mcs_optset_char (const char *optstr, const char *cvalue,
    Nag_E05State *state, NagError *fail)
```

### 3 Description

nag\_glopt\_bnd\_mcs\_optset\_char (e05jec) may be used to supply values for ‘ON’/‘OFF’-valued character optional arguments to nag\_glopt\_bnd\_mcs\_solve (e05jbc). It is only necessary to call nag\_glopt\_bnd\_mcs\_optset\_char (e05jec) for those arguments whose values are to be different from their default values. One call to nag\_glopt\_bnd\_mcs\_optset\_char (e05jec) sets one argument value.

Each ‘ON’/‘OFF’-valued character optional argument is defined by a single character string in **optstr** and the corresponding value in **cvalue**. For example, the following allows local searches to be turned off:

```
strcpy(&lcsrch[0], "Off");
e05jec ('Local Searches', lcsrch, &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 defining a single ‘ON’/‘OFF’-valued character optional argument (as described in Section 12 in nag\_glopt\_bnd\_mcs\_solve (e05jbc)).
- 2: **cvalue** – const char \* *Input*  
*On entry:* the ‘ON’/‘OFF’ value associated with the keyword 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  $\langle value \rangle$  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.

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 illegal value of **Local Searches** (*lscrch*): *lscrch* =  $\langle value \rangle$ .

Attempt to assign an illegal value of **Repeatability** (*repeat*): *repeat* =  $\langle value \rangle$ .

## 7 Accuracy

Not applicable.

## 8 Parallelism and Performance

nag\_glopt\_bnd\_mcs\_optset\_char (e05jec) 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 'ON'/'OFF'-valued character optional arguments to nag\_glopt\_bnd\_mcs\_solve (e05jbc).

## 10 Example

See Section 10 in nag\_glopt\_bnd\_mcs\_optset\_file (e05jcc).

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