

NAG Library Function Document

nag_g02_opt_get (g02zlc)

1 Purpose

nag_g02_opt_get (g02zlc) is used to query the value of optional arguments available to supported problem solving functions in Chapter g02. Currently, only nag_regsn_quant_linear (g02qgc) is supported.

2 Specification

```
#include <nag.h>
#include <nagg02.h>

void nag_g02_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_g02_opt_get (g02zlc) is used to query the current values of options. It is necessary to initialize optional argument arrays using nag_g02_opt_set (g02zkc) before any options are queried.

nag_g02_opt_get (g02zlc) 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 12 in nag_regsn_quant_linear (g02qgc).

4 References

None.

5 Arguments

- 1: **optstr** – const char * *Input*
On entry: a string identifying the option whose current value is required. See Section 12 in nag_regsn_quant_linear (g02qgc) for information on valid options. In addition, the following is a valid option:
Identify
nag_g02_opt_get (g02zlc) returns in **cvalue** the function name supplied to nag_g02_opt_set (g02zkc) when the optional argument arrays **iopts** and **opts** were initialized.
- 2: **ivalue** – Integer * *Output*
On exit: if the optional argument supplied in **optstr** is an integer valued argument, **ivalue** will hold its current value.
- 3: **rvalue** – double * *Output*
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 string returned in **cvalue** will never exceed $\min(\mathbf{lvalue}, 41)$ 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: **lvalue** – Integer *Input*
On entry: length of **cvalue**. At most $\min(\mathbf{lvalue} - 1, 40)$ non-null characters will be written into **cvalue**.
Constraint: **lvalue** > 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 **lvalue**, **rvalue** or **cvalue** holds the current value.
optype = Nag_Integer
optstr is an integer valued optional argument, its current value has been returned in **lvalue**.
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_g02_opt_set (g02zkc).
- 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_g02_opt_set (g02zkc).
- 9: **fail** – NagError * *Input/Output*
The NAG error argument (see Section 3.6 in the Essential Introduction).

6 Error Indicators and Warnings

NE_BAD_PARAM

On entry, argument $\langle \text{value} \rangle$ had an illegal value.

NE_INT

On entry, **lvalue** = $\langle \text{value} \rangle$.
Constraint: **lvalue** > 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.

NE_INVALID_OPTION

On entry, either the option arrays have not been initialized or they have been corrupted.

On entry, the *option* in **optstr** was not recognized: **optstr** = "*value*".

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

Not applicable.

10 Example

See the example programs associated with the problem solving function you wish to use for a demonstration of how to use `nag_g02_opt_get` (`g02zlc`) to query options.
