

nag_opt_init (e04xxc)

1. Purpose

nag_opt_init (e04xxc) is the options structure initialization function for Chapter e04. This function or **nag_opt_read (e04xyc)** must be called before using the options structure.

2. Specification

```
#include <nag.h>
#include <nage04.h>
```

```
void nag_opt_init(Nag_E04_Opt *options)
```

3. Description

The optimization functions of Chapter e04 have a number of optional parameters, which are set by means of a structure of type `Nag_E04_Opt`. Optional parameter values may be assigned to members of an options structure directly in the program text and/or by supplying the optional values in a file which can be read by the function **nag_opt_read (e04xyc)**.

If optional parameter values are assigned directly in the program text and no use is made of **nag_opt_read (e04xyc)**, then **nag_opt_init** **must** be called before any assignments are made to the options structure. Initialization is still required even if no assignments are made to the structure before it is passed to the optimization function.

If the file reading function **nag_opt_read (e04xyc)** is used then this will automatically initialize the options structure if this has not already been done. Any direct assignment to the options structure made **after** a call to **nag_opt_read (e04xyc)** must **not** be preceded by a call to **nag_opt_init** otherwise the values set by **nag_opt_read (e04xyc)** will be lost. Direct assignments to the options structure made **before** calling **nag_opt_read (e04xyc)** must, of course, still be preceded by a call to **nag_opt_init**.

The purpose of **nag_opt_init** is to initialize the options structure members with null values which indicate to the optimization function that the optional parameter a structure member represents is not to be changed from its default value.

4. Parameters

options

Output: the initialized options structure.

5. Error Indications and Warnings

None.

6. Further Comments

None.

7. See Also

nag_opt_read (e04xyc)
nag_opt_free (e04xzc)
Chapter Introduction.

8. Example

For examples of the use of **nag_opt_init** see any of the example programs for **nag_opt_lsq_no_deriv (e04fcc)**, **nag_opt_lsq_deriv (e04gbc)**, **nag_opt_bounds_no_deriv (e04jbc)**, **nag_opt_bounds_deriv (e04kbc)**, **nag_opt_lp (e04mfc)**, **nag_opt_qp (e04nfc)** and **nag_opt_lsq_covariance (e04ycc)**.