

Utility: nagdmc_order_real

Purpose

nagdmc_order_real orders a real array according to rank values, giving data values sorted in ascending order.

Declaration

```
#include <nagdmc.h>
void nagdmc_order_real(long n, long start, long step, long data[], long rank[],
                       int *info);
```

Parameters

- 1: **n** – long *Input*
On entry: the number of consecutive data values to arrange in rank order.
Constraint: **n** > 0.
- 2: **start** – long *Input*
On entry: **data**[**start**] is the first data value considered.
Constraint: **start** ≥ 0.
- 3: **step** – long *Input*
On entry: the step length between pairs of data values.
Constraint: **step** ≥ 1.
- 4: **data**[*d*] – long *Input/Output*
On entry: an array of length $d \geq (\mathbf{n} - 1) * \mathbf{step} + \mathbf{start} + 1$ containing integer values.
On exit: the re-arranged data values.
- 5: **rank**[**n**] – long *Input*
On entry: the ranks of the **n** considered data values in **data**.
- 6: **info** – int * *Output*
On exit: **info** gives information on the success of the function call:
 - 0: the function successfully completed its task.
 - i*; *i* = 1, 2, 3: the specification of the *i*th formal parameter was incorrect.

Notation

n the number of data values, n .
data data values x_i (separated by **step** values) to sort, for $i = 1, 2, \dots, n$.
rank rank values r_i , for $i = 1, 2, \dots, n$.

Description

Given the i th data value x_i and its rank r_i , for $i = 1, 2, \dots, n$, the n data values are re-arranged in ascending order.

References and Further Reading

Knuth D E (1973) *The Art of Computer Programming (Volume 3)* Addison-Wesley (2nd Edition).

See Also

None.