NAG Library Function Document

nag_iload (f16dbc)

1 Purpose

nag_iload (f16dbc) broadcasts a scalar into an integer vector.

2 Specification

```
#include <nag.h>
#include <nagf16.h>
void nag_iload (Integer n, Integer alpha, Integer x[], Integer incx,
     NagError *fail)
```

3 Description

nag_iload (f16dbc) performs the operation

$$x \leftarrow (\alpha, \alpha, \ldots, \alpha)^{\mathrm{T}},$$

where x is an n-element integer vector and α is an integer scalar.

4 References

Basic Linear Algebra Subprograms Technical (BLAST) Forum (2001) *Basic Linear Algebra Subprograms Technical (BLAST) Forum Standard* University of Tennessee, Knoxville, Tennessee http://www.netlib.org/blas/blast-forum/blas-report.pdf

5 Arguments

1: **n** – Integer *Input*

On entry: n, the number of elements in x.

Constraint: **n** ≥ 0.

2: **alpha** – Integer *Input*

On entry: the scalar α.

3: **x**[dim] – Integer *Output*

Note: the dimension, *dim*, of the array **x** must be at least $\max(1, 1 + (\mathbf{n} - 1)|\mathbf{incx}|)$.

On exit: the scalar α is scattered with a stride of **incx** in **x**. Intermediate elements of **x** are unchanged.

4: **incx** – Integer *Input*

On entry: the increment in the subscripts of **x** between successive elements of x.

Constraint: **incx** $\neq 0$.

5: **fail** – NagError * *Input/Output*

The NAG error argument (see Section 2.7 in How to Use the NAG Library and its Documentation).

6 Error Indicators and Warnings

NE_ALLOC_FAIL

Dynamic memory allocation failed.
See Section 2.3.1.2 in How to Use the NAG Library and its Documentation for further information.

NE_BAD_PARAM

On entry, argument ⟨*value*⟩ had an illegal value.

NE_INT

On entry, **incx** = ⟨*value*⟩.
Constraint: **incx** $\neq 0$.

On entry, **n** = ⟨*value*⟩.
Constraint: **n** ≥ 0.

NE_INTERNAL_ERROR

An unexpected error has been triggered by this function. Please contact NAG.
See Section 2.7.6 in How to Use the NAG Library and its Documentation for further information.

NE_NO_LICENCE

Your licence key may have expired or may not have been installed correctly.
See Section 2.7.5 in How to Use the NAG Library and its Documentation for further information.

7 Accuracy

The BLAS standard requires accurate implementations which avoid unnecessary over/underflow (see Section 2.7 of Basic Linear Algebra Subprograms Technical (BLAST) Forum (2001)).

8 Parallelism and Performance

nag_iload (f16dbc) is not threaded in any implementation.

9 Further Comments

None.

10 Example

See Section 10 in nag_dgeqpf (f08bec) and nag_zgeqpf (f08bsc).