

NAG Library Function Document

nag_iloadd (f16dbc)

1 Purpose

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

2 Specification

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

3 Description

nag_iloadd (f16dbc) performs the operation

$$x \leftarrow (\alpha, \alpha, \dots, \alpha)^T,$$

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 | <i>Input</i> |
| | <i>On entry:</i> n , the number of elements in x . | |
| | <i>Constraint:</i> $n \geq 0$. | |
| 2: | alpha – Integer | <i>Input</i> |
| | <i>On entry:</i> the scalar α . | |
| 3: | x[<i>dim</i>] – Integer | <i>Output</i> |
| | Note: the dimension, dim , of the array x must be at least $\max(1, 1 + (n - 1) incx)$. | |
| | <i>On exit:</i> the scalar α is scattered with a stride of incx in x . Intermediate elements of x are unchanged. | |
| 4: | incx – Integer | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of x between successive elements of x . | |
| | <i>Constraint:</i> incx $\neq 0$. | |
| 5: | fail – NagError * | <i>Input/Output</i> |
| | The NAG error argument (see Section 3.6 in the Essential Introduction). | |

6 Error Indicators and Warnings

NE_BAD_PARAM

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

NE_INT

On entry, $\mathbf{incx} = \langle value \rangle$.
Constraint: $\mathbf{incx} \neq 0$.

On entry, $\mathbf{n} = \langle value \rangle$.
Constraint: $\mathbf{n} \geq 0$.

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

Not applicable.

9 Further Comments

None.

10 Example

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