

NAG Library Routine Document

F06JMF (IZAMAX)

Note: before using this routine, please read the Users' Note for your implementation to check the interpretation of ***bold italicised*** terms and other implementation-dependent details.

1 Purpose

F06JMF (IZAMAX) computes the index of the absolutely largest component of a complex vector.

2 Specification

```
INTEGER FUNCTION F06JMF(N, X, INCX)
INTEGER          N, INCX
complex*16      X(*)
```

The routine may be called by its BLAS name *izamax*.

3 Description

F06JMF (IZAMAX) returns, via the functions name, the smallest index i such that

$$|\operatorname{Re}(x_i)| + |\operatorname{Im}(x_i)| = \max_j (|\operatorname{Re}(x_j)| + |\operatorname{Im}(x_j)|)$$

where x is an n element complex vector.

4 References

None.

5 Parameters

- | | | |
|----|--|--------------|
| 1: | N – INTEGER | <i>Input</i> |
| | <i>On entry:</i> n , the number of elements in x . | |
| 2: | $X(*)$ – complex*16 array | <i>Input</i> |
| | Note: the dimension of the array X must be at least $1 + (N - 1) \text{INCX} $. | |
| | <i>On entry:</i> the incremented array X must contain the n element vector x . | |
| 3: | INCX – INTEGER | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of X between successive elements of x . | |
| | <i>Constraint:</i> $\text{INCX} > 0$. | |

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Further Comments

None.

9 Example

None.
