

NAG Library Function Document

nag_machine_precision (X02AJC)

1 Purpose

nag_machine_precision (X02AJC) returns ϵ , the value *machine precision*.

2 Specification

```
#include <nag.h>
#include <nagx02.h>
double nag_machine_precision
```

3 Description

nag_machine_precision (X02AJC) is a constant defined in the C Header file.

nag_machine_precision (X02AJC) returns *machine precision*, computed as $\epsilon = \frac{1}{2} \times b^{1-p}$, where b is the arithmetic base (see nag_real_base (X02BHC)) and p is the number of significant base- b digits (see nag_real_base_digits (X02BJC)).

It is important to note that the definition of ϵ here differs from that in ISO (1997).

4 References

ISO (1997) ISO Fortran 95 programming language (ISO/IEC 1539–1:1997)

5 Arguments

None.

6 Error Indicators and Warnings

None.

7 Accuracy

None.

8 Parallelism and Performance

Not applicable.

9 Further Comments

None.

10 Example

None.
