1 Purpose

nag_real_safe_small_number (X02AMC) returns the safe range of floating-point arithmetic.

2 Specification

```c
#include <nag.h>
#include <nagx02.h>
double nag_real_safe_small_number
```

3 Description

nag_real_safe_small_number (X02AMC) is a constant defined in the C Header file.

nag_real_safe_small_number (X02AMC) is defined to be the smallest positive model number $z$ such that for any $x$ in the range $[z, 1/z]$ the following can be computed without undue loss of accuracy, overflow, underflow or other error:

\[-x\]
\[1/x\]
\[-1/x\]
\[\sqrt{x}\]
\[\log(x)\]
\[\exp(\log(x))\]
\[y^{\log(x)/\log(y)}\] for any $y$

4 References

None.

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.