

NAG Toolbox for MATLAB

x02ah

1 Purpose

x02ah returns the largest positive argument for which the Fortran intrinsic functions SIN and COS return a result with some meaningful accuracy.

2 Syntax

```
[result] = x02ah()
```

3 Description

The trigonometric functions sin and cos supplied in some compiler run-time libraries do not return accurate results when their argument is large. Often the related accuracy of a result gets progressively worse as the argument gets larger. x02ah gives a value beyond which the compiler run-time library returns results with no relative accuracy at all. Note that some run-time libraries do return accurate results for all arguments to sin and cos.

4 References

None.

5 Parameters

5.1 Compulsory Input Parameters

None.

5.2 Optional Input Parameters

None.

5.3 Input Parameters Omitted from the MATLAB Interface

None.

5.4 Output Parameters

1: **result – double scalar**

The result of the function.

6 Error Indicators and Warnings

None.

7 Accuracy

None.

8 Further Comments

None.

9 Example

```
if isequal(computer(), 'PCWIN')
elseif isequal(computer(), 'GLNXA64')
else
end

[result] = x02ah()

result =
    1.8447e+19
```
