

NAG Toolbox

nag_machine_real_largest (x02a1)

1 Purpose

nag_machine_real_largest (x02a1) returns the largest positive floating-point number.

2 Syntax

```
[result] = nag_machine_real_largest
```

```
[result] = x02a1
```

3 Description

nag_machine_real_largest (x02a1) returns the largest positive number in the model of floating-point arithmetic described in the X02 Chapter Introduction. The returned value is equal to $(1 - b^{-p}) \times b^{e_{\max}}$, where b is the arithmetic base (see nag_machine_model_base (x02bh)) and e_{\max} is the maximum exponent (see nag_machine_model_maxexp (x02bl)) in the model.

4 References

None.

5 Parameters

5.1 Compulsory Input Parameters

None.

5.2 Optional Input Parameters

None.

5.3 Output Parameters

1: **result**

The result of the function.

6 Error Indicators and Warnings

None.

7 Accuracy

None.

8 Further Comments

None.

9 Example

See Section 10 in nag_machine_precision (x02aj).

9.1 Program Text

```
function x02al_example
fprintf('x02al example results\n\n');
fprintf('the largest positive model number = %22.15e\n', ...
        x02al);
```

9.2 Program Results

```
x02al example results
the largest positive model number = 1.797693134862316e+308
```
