Special Values

Several functions return important special values that you can use in your M−files.

Function	Return Value
ans	Most recent answer (variable). If you do not assign an output variable to an expression, MATLAB automatically stores the result in `ans`.
eps	Floating−point relative accuracy. This is the tolerance MATLAB uses in its calculations.
intmax	Largest 8−, 16−, 32−, or 64−bit integer your computer can represent.
intmin	Smallest 8−, 16−, 32−, or 64−bit integer your computer can represent.
realmax	Largest floating−point number your computer can represent.
realmin	Smallest positive floating−point number your computer can represent.
pi	`3.1415926535897...`
i, j	Imaginary unit.
inf	Infinity. Calculations like `n/0`, where `n` is any nonzero real value, result in `inf`.
NaN	Not a Number, an invalid numeric value. Expressions like `0/0` and `inf/inf` result in a `NaN`, as do arithmetic operations involving a `NaN`. Also, if `n` is complex with a zero real part, then `n/0` returns a value with a `NaN` real part.
computer	Computer type.
version	MATLAB version string.

Here are some examples that use these values in MATLAB expressions.

```
x = 2 * pi
x =
   6.2832

A = [3+2i 7−8i]
A =
   3.0000 + 2.0000i   7.0000 − 8.0000i

tol = 3 * eps
tol =
   6.6613e−016
```

```
intmax('uint64')
ans =
   18446744073709551615
```

Keywords Operators