not a number

Canonical name	NotANumber
Date of creation	2013-03-22 18:14:09
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Owner	PrimeFan (13766)
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Numerical id	4
Author	PrimeFan (13766)
Entry type	Definition
Classification	msc 68P01

In a computer, *not a number* (usually abbreviated *NaN*) indicates that an arithmetical operation has resulted in a value that is not a number understood (or representable) by the computer. Division by zero is one frequent cause of a result being NaN. Asking for the square root of a negative number is another operation that can result in NaN (unless the computer has been programmed to recognize imaginary numbers).

NaN is not a specific value that can be tested for with the usual comparison operators. The programmer is advised to test for NaN with a special function provided by the programming language (such as `isNaN(x)` in JavaScript.

Generally, computer algebra systems do not report NaN results even if they do display an error message for a given operation.

References

[1] David Flanagan, *JavaScript the Definitive Guide: The Definitive Guide.* New York: O'Reilly (2006): 24