

NAME

nan, nanf, nanl – return 'Not a Number'

SYNOPSIS

```
#include <math.h>
```

```
double nan(const char *tagp);
```

```
float nanf(const char *tagp);
```

```
long double nanl(const char *tagp);
```

Link with `-lm`.

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

```
nan(), nanf(), nanl():
```

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

DESCRIPTION

These functions return a representation (determined by *tagp*) of a quiet NaN. If the implementation does not support quiet NaNs, these functions return zero.

The call `nan("char-sequence")` is equivalent to:

```
strtod("NaN(char-sequence)", NULL);
```

Similarly, calls to `nanf()` and `nanl()` are equivalent to analogous calls to [strtof\(3\)](#) and [strtold\(3\)](#).

The argument *tagp* is used in an unspecified manner. On IEEE 754 systems, there are many representations of NaN, and *tagp* selects one. On other systems it may do nothing.

VERSIONS

These functions first appeared in glibc in version 2.1.

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

Interface	Attribute	Value
<code>nan()</code> , <code>nanf()</code> , <code>nanl()</code>	Thread safety	MT-Safe locale

CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008. See also IEC 559 and the appendix with recommended functions in IEEE 754/IEEE 854.

SEE ALSO

[isnan\(3\)](#), [strtod\(3\)](#), [math_error\(7\)](#)

COLOPHON

This page is part of release 4.16 of the Linux *man-pages* project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.