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### ***Rocky Enterprise Linux 9.2 Manual Pages on command 'tanl.3'***

**\$ man tanl.3**

TAN(3)                      Linux Programmer's Manual                      TAN(3)

#### **NAME**

tan, tanf, tanl - tangent function

#### **SYNOPSIS**

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

```
double tan(double x);
```

```
float tanf(float x);
```

```
long double tanl(long double x);
```

Link with -lm.

Feature Test Macro Requirements for glibc (see feature\_test\_macros(7)):

tanf(), tanl():

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

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

#### **DESCRIPTION**

These functions return the tangent of x, where x is given in radians.

#### **RETURN VALUE**

On success, these functions return the tangent of x.

If x is a NaN, a NaN is returned.

If x is positive infinity or negative infinity, a domain error occurs, and a NaN is returned.

If the correct result would overflow, a range error occurs, and the functions return

HUGE\_VAL, HUGE\_VALF, or HUGE\_VALL, respectively, with the mathematically correct sign.

## ERRORS

See `math_error(7)` for information on how to determine whether an error has occurred when calling these functions.

The following errors can occur:

Domain error:  $x$  is an infinity

`errno` is set to `EDOM` (but see `BUGS`). An invalid floating-point exception (`FE_INVALID`) is raised.

Range error: result overflow

An overflow floating-point exception (`FE_OVERFLOW`) is raised.

## ATTRIBUTES

For an explanation of the terms used in this section, see `attributes(7)`.

??

?Interface      ? Attribute    ? Value    ?

??

?`tan()`, `tanf()`, `tanl()` ? Thread safety ? MT-Safe ?

??

## CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

The variant returning `double` also conforms to SVr4, 4.3BSD, C89.

## BUGS

Before version 2.10, the `glibc` implementation did not set `errno` to `EDOM` when a domain error occurred.

## SEE ALSO

`acos(3)`, `asin(3)`, `atan(3)`, `atan2(3)`, `cos(3)`, `ctan(3)`, `sin(3)`

## COLOPHON

This page is part of release 5.10 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/>.

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