Rocky Enterprise Linux 9.2 Manual Pages on command 'atan2l.3'

$ man atan2l.3

ATAN2(3) Linux Programmer's Manual ATAN2(3)

NAME

atan2, atan2f, atan2l - arc tangent function of two variables

SYNOPSIS

```
#include <math.h>

double atan2(double y, double x);

float atan2f(float y, float x);

long double atan2l(long double y, long double x);
```

Link with -lm.

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

atan2f(), atan2l():

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
    || /* Since glibc 2.19: */ _DEFAULT_SOURCE
    || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

These functions calculate the principal value of the arc tangent of y/x, using the signs of the two arguments to determine the quadrant of the result.

RETURN VALUE

On success, these functions return the principal value of the arc tan?

gent of y/x in radians; the return value is in the range [-pi, pi].

If y is +0 (-0) and x is less than 0, +pi (-pi) is returned.

If y is +0 (-0) and x is greater than 0, +0 (-0) is returned.

If y is less than 0 and x is +0 or -0, -pi/2 is returned.

If y is greater than 0 and x is +0 or -0, pi/2 is returned.

If either x or y is NaN, a NaN is returned.

If y is +0 (-0) and x is -0, +pi (-pi) is returned.

If y is +0 (-0) and x is +0, +0 (-0) is returned.

If y is a finite value greater (less) than 0, and x is negative infin?

ity, +pi (-pi) is returned.

If y is a finite value greater (less) than 0, and x is positive infin?

ity, +0 (-0) is returned.

If y is positive infinity (negative infinity), and x is finite, pi/2

(-pi/2) is returned.

If y is positive infinity (negative infinity) and x is negative infin?

ity, +3*pi/4 (-3*pi/4) is returned.

If y is positive infinity (negative infinity) and x is positive infin?

ity, +pi/4 (-pi/4) is returned.

ERRORS

No errors occur.

ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

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?Interface ? Attribute ? Value ?

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?atan2(), atan2f(), atan2l() ? Thread safety ? MT-Safe ?

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CONFORMING TO

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

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

SEE ALSO

acos(3), asin(3), atan(3), carg(3), cos(3), sin(3), tan(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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