NAME

atan, atanf, atanl − arc tangent function

SYNOPSIS

#include <math.h>

double atan(double *x***);**
float atanf(float *x***);**
long double atanl(long double *x***);**

Link with *−lm*.

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

atanf(), **atanl**():
_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 *x*; that is the value whose tangent is *x*.

RETURN VALUE

On success, these functions return the principal value of the arc tangent of *x* in radians; the return value is in the range [−pi/2, pi/2].

If *x* is a NaN, a NaN is returned.

If *x* is +0 (−0), +0 (−0) is returned.

If *x* is positive infinity (negative infinity), +pi/2 (−pi/2) is returned.

ERRORS

No errors occur.

ATTRIBUTES

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

Interface	Attribute	Value
atan(), **atanf**(), **atanl**()	Thread safety	MT-Safe

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), **atan2**(3), **carg**(3), **catan**(3), **cos**(3), **sin**(3), **tan**(3)

COLOPHON

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