

ACOS(3)

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

NAME

acos, acosf, acosl - arc cosine function

SYNOPSIS

```
#include <math.h>

double acos(double x);
float acosf(float x);
long double acosl(long double x);
```

Link with -lm.

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

acosf(), **acosl()**:

```
_BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600 ||
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L;
```

or cc -std=c99

DESCRIPTION

The **acos**() function calculates the arc cosine of x; that is the value whose cosine is x.

RETURN VALUE

On success, these functions return the arc cosine of x in radians; the return value is in the range [0, pi].

If x is a NaN, a NaN is returned.

If x is +1, +0 is returned.

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

If x is outside the range [-1, 1], a domain error occurs, and a NaN is returned.

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 outside the range [-1, 1] errno is set to **EDOM**. An invalid floating-point exception (**FE_INVALID**) is raised.

CONFORMING TO

C99, POSIX.1-2001. The variant returning double also conforms to SVr4, 4.3BSD, C89.

SEE ALSO

asin(3), **atan**(3), **atan2**(3), **cacos**(3), **cos**(3), **sin**(3), **tan**(3)

COLOPHON

This page is part of release 3.54 of the Linux man-pages project. A description of the project, and information about reporting bugs, can be found at <http://www.kernel.org/doc/man-pages/>.

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