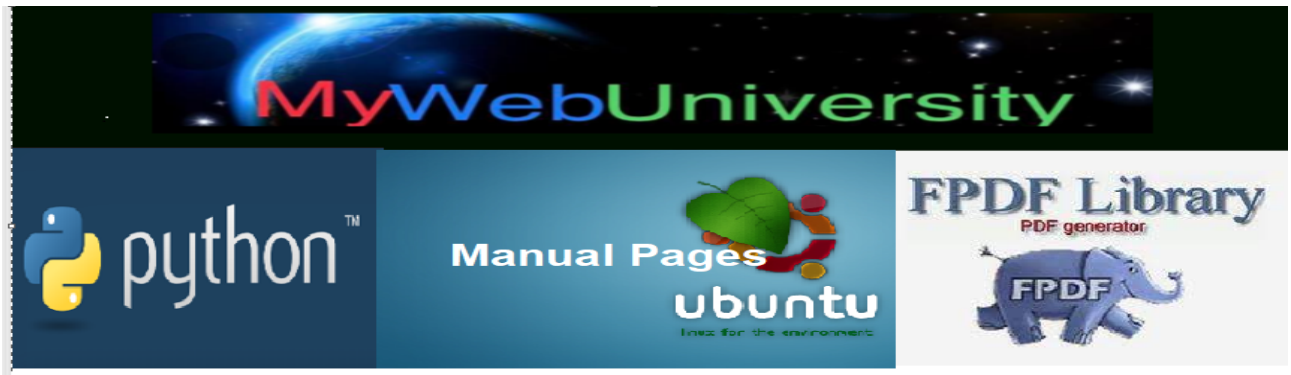


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## *Linux Ubuntu 26.04 Manual Pages on command 'log1pl.3'*

***$ man log1pl.3***

log1p(3) Library Functions Manual log1p(3)

NAME

log1p, log1pf, log1pl - logarithm of 1 plus argument

LIBRARY

Math library (libm, -lm)

SYNOPSIS

```
#include <math.h>

double log1p(double x);

float log1pf(float x);

long double log1pl(long double x);
```

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

log1p():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| _XOPEN_SOURCE >= 500

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

log1pf(), log1pl():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

These functions return a value equivalent to

log(1 + x)

The result is computed in a way that is accurate even if the value of x is near zero.

## RETURN VALUE

On success, these functions return the natural logarithm of (1 + x).

If x is a NaN, a NaN is returned.

If x is positive infinity, positive infinity is returned.

If x is -1, a pole error occurs, and the functions return -HUGE_VAL, -HUGE_VALF, or -HUGE_VALL, respectively.

If x is less than -1 (including negative infinity), a domain error occurs, and a NaN (not a number) 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 less than -1.

errno is set to EDOM (but see BUGS). An invalid floating-point exception (FE_IN? VALID) is raised.

Pole error: x is -1.

errno is set to ERANGE (but see BUGS). A divide-by-zero floating-point exception (FE_DIVBYZERO) is raised.

## ATTRIBUTES

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

| Interface | Attribute | Value |
|---|---|---|
| log1p(), log1pf(), log1pl() | Thread safety | MT-Safe |

## STANDARDS

C11, POSIX.1-2008.

## HISTORY

C99, POSIX.1-2001.

## BUGS

Before glibc 2.22, the glibc implementation did not set errno to EDOM when a domain error occurred.

Before glibc 2.22, the glibc implementation did not set errno to ERANGE when a range error occurred.

## SEE ALSO

exp(3), expm1(3), log(3)