NAME

log, **logf**, **logl**, **log10**, **log10f**, **log10l**, **log2**, **log2f**, **log2l**, **log1p**, **log1pf**, **log1pl** - logarithm functions

LIBRARY

Math Library (libm, -lm)

SYNOPSIS

#include <math.h>

double
log(*double x*);

float
logf(*float x*);

long double
logl(*long double x*);

double
log10(*double x*);

float
log10f(*float x*);

long double
log10l(*long double x*);

double
log2(*double x*);

float
log2f(*float x*);

long double
log2l(*long double x*);

double
log1p(*double x*);

float

log1pf(*float x*);

long double
log1pl(*long double x*);

DESCRIPTION

The **log**(), **logf**(), and **logl**() functions compute the natural logarithm of *x*.

The **log10**(), **log10f**(), and **log10l**() functions compute the logarithm base 10 of *x*, while **log2**(), **log2f**(), and **log2l**() compute the logarithm base 2 of *x*.

The **log1p**(), **log1pf**(), and **log1pl**() functions compute the natural logarithm of 1 + x. Computing the natural logarithm as log1p(x) is more accurate than computing it as log(1 + x) when *x* is close to zero.

RETURN VALUES

These functions return the requested logarithm; the logarithm of 1 is +0. An attempt to take the logarithm of +-0 results in a divide-by-zero exception, and -infinity is returned. Otherwise, attempting to take the logarithm of a negative number results in an invalid exception and a return value of NaN.

SEE ALSO

exp(3), ilogb(3), math(3), pow(3)

STANDARDS

The **log**(), **logf**(), **logl**(), **log10**(), **log10f**(), **log10l**(), **log2**(), **log2f**(), **log2l**(), **log1p**(), **log1pf**(), and **log1pl**() functions conform to ISO/IEC 9899:1999 ("ISO C99").

HISTORY

The **log**() function first appeared in Version 1 AT&T UNIX; **log10**() in Version 7 AT&T UNIX; **log1p**() in 4.3BSD.