NAME

fpclassify, **isfinite**, **isinf**, **isnan**, **isnormal** - classify a floating-point number

LIBRARY

Math Library (libm, -lm)

SYNOPSIS

#include <math.h>

int
fpclassify(*real-floating x*);

int
isfinite(*real-floating x*);

int
isinf(*real-floating x*);

int
isnan(*real-floating x*);

int
isnormal(*real-floating x*);

DESCRIPTION

The **fpclassify**() macro takes an argument of *x* and returns one of the following manifest constants.

FP_INFINITE	Indicates that *x* is an infinite number.
FP_NAN	Indicates that *x* is not a number (NaN).
FP_NORMAL	Indicates that *x* is a normalized number.
FP_SUBNORMAL	Indicates that *x* is a denormalized number.
FP_ZERO	Indicates that *x* is zero (0 or -0).

The **isfinite**() macro returns a non-zero value if and only if its argument has a finite (zero, subnormal, or normal) value. The **isinf**(), **isnan**(), and **isnormal**() macros return non-zero if and only if *x* is an infinity, NaN, or a non-zero normalized number, respectively.

The symbol **isnanf**() is provided as an alias to **isnan**() for compatibility, and its use is deprecated. Similarly, **finite**() and **finitef**() are deprecated versions of **isfinite**().

SEE ALSO

isgreater(3), math(3), signbit(3)

STANDARDS

The **fpclassify**(), **isfinite**(), **isinf**(), **isnan**(), and **isnormal**() macros conform to ISO/IEC 9899:1999 ("ISO C99").

HISTORY

The **fpclassify**(), **isfinite**(), **isinf**(), **isnan**(), and **isnormal**() macros were added in FreeBSD 5.1. 3BSD introduced **isinf**() and **isnan**() functions, which accepted *double* arguments; these have been superseded by the macros described above.