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**():
            _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600 || _ISOC99_SOURCE ||
            _POSIX_C_SOURCE >= 200112L;
            or *cc -std=c99*

DESCRIPTION
        The **atan**() function calculates 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
    Multithreading (see pthreads(7))
        The **atan**(), **atanf**(), and **atanl**() functions are thread-safe.

CONFORMING TO
        C99, POSIX.1-2001. 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
        This page is part of release 3.74 of the Linux *man-pages* project. A description of the project,
        information about reporting bugs, and the latest version of this page, can be found at
        http://www.kernel.org/doc/man-pages/.