NAME

sincos, sincosf, sincosl − calculate sin and cos simultaneously

SYNOPSIS

#define _GNU_SOURCE /* See feature_test_macros(7) */
#include <math.h>

void sincos(double *x*, **double ****sin*, **double ****cos*);
void sincosf(float *x*, **float ****sin*, **float ****cos*);
void sincosl(long double *x*, **long double ****sin*, **long double ****cos*);

Link with *−lm*.

DESCRIPTION

Several applications need sine and cosine of the same angle *x*. These functions compute both at the same time, and store the results in **sin* and **cos*. Using this function can be more efficient than two separate calls to **sin**(3) and **cos**(3).

If *x* is a NaN, a NaN is returned in **sin* and **cos*.

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

RETURN VALUE

These functions return *void*.

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 an infinity
An invalid floating-point exception (**FE_INVALID**) is raised.

These functions do not set *errno*.

VERSIONS

These functions first appeared in glibc in version 2.1.

ATTRIBUTES

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

Interface	Attribute	Value
sincos(), **sincosf**(), **sincosl**()	Thread safety	MT-Safe

CONFORMING TO

These functions are GNU extensions.

NOTES

To see the performance advantage of **sincos**(), it may be necessary to disable **gcc**(1) built-in optimizations, using flags such as:

```
cc -O -lm -fno-builtin prog.c
```

SEE ALSO

cos(3), **sin**(3), **tan**(3)

COLOPHON

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