

NAME

gamma, gammaf, gammal - (logarithm of the) gamma function

SYNOPSIS

```
#include <math.h>
```

```
double gamma(double x);  
float gammaf(float x);  
long double gammal(long double x);
```

Link with *-lm*.

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

```
gamma():  
    _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE  
gammaf(), gammal():  
    _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600
```

DESCRIPTION

These functions are deprecated: instead, use either the [tgamma\(3\)](#) or the [lgamma\(3\)](#) functions, as appropriate.

For the definition of the Gamma function, see [tgamma\(3\)](#).

***BSD version**

The libm in 4.4BSD and some versions of FreeBSD had a **gamma()** function that computes the Gamma function, as one would expect.

glibc version

Glibc has a **gamma()** function that is equivalent to [lgamma\(3\)](#) and computes the natural logarithm of the Gamma function.

RETURN VALUE

See [lgamma\(3\)](#).

ERRORS

See [lgamma\(3\)](#).

CONFORMING TO

Because of historical variations in behavior across systems, this function is not specified in any standard.

NOTES**History**

4.2BSD had a **gamma()** that computed $\ln(|\Gamma(x)|)$, leaving the sign of $\Gamma(x)$ in the external integer *signgam*. In 4.3BSD the name was changed to [lgamma\(3\)](#), and the man page promises

At some time in the future the name gamma will be rehabilitated and used for the Gamma function

This did indeed happen in 4.4BSD, where **gamma()** computes the Gamma function (with no effect on *signgam*). However, this came too late, and we now have [tgamma\(3\)](#), the true gamma function.

SEE ALSO

[lgamma\(3\)](#), [signgam\(3\)](#), [tgamma\(3\)](#)

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/>.