Rocky Enterprise Linux 9.2 Manual Pages on command 'gammal.3'

$ man gammal.3

GAMMA(3)   Linux Programmer's Manual   GAMMA(3)

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():

     _XOPEN_SOURCE

        || /* Since glibc 2.19: */ _DEFAULT_SOURCE

        || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

   gammaf(), gammal():

     _XOPEN_SOURCE >= 600 || (_XOPEN_SOURCE && _ISOC99_SOURCE)

        || /* Since glibc 2.19: */ _DEFAULT_SOURCE

        || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

   These functions are deprecated: instead, use either the tgamma(3) or the lgamma(3) func?

   tions, 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 log‐ arithm of the Gamma function.

RETURN VALUE

See lgamma(3).

ERRORS

See lgamma(3).

ATTRIBUTES

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

??
?Interface   ? Attribute   ? Value   ?
??
?gamma(), gammaf(), gammal() ? Thread safety ? MT-Unsafe race:signgam ?
??

CONFORMING TO

Because of historical variations in behavior across systems, this function is not speci‐ fied in any recent standard. It was documented in SVID 2.

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 ef‐ fect 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 5.10 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 https://www.kernel.org/doc/man-pages/.