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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'gamma.3' command

\$ man gamma.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 -Im. 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 Igamma(3) functions, as appropriate.

For the definition of the Gamma function, see tgamma(3).

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 Igamma(3) and com?

putes the natural logarithm of the Gamma function.

RETURN VALUE

See Igamma(3).

ERRORS

See Igamma(3).

ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

?Interface ? Attribute ? Value ?

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

CONFORMING TO

Because of historical variations in behavior across systems, this func?

tion is not specified 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 Igamma(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

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/.

GNU 2017-09-15 GAMMA(3)