**NAME**

div, ldiv, lldiv, imaxdiv - compute quotient and remainder of an integer division

**SYNOPSIS**

**#include <stdlib.h>**

**div_t div(int** *numerator*, **int** *denominator*);
**ldiv_t ldiv(long** *numerator*, **long** *denominator*);
**lldiv_t lldiv(long long** *numerator*, **long long** *denominator*);

**#include <inttypes.h>**

**imaxdiv_t imaxdiv(intmax_t** *numerator*, **intmax_t** *denominator*);

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

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

**DESCRIPTION**

The **div**() function computes the value *numerator/denominator* and returns the quotient and remainder in a structure named *div_t* that contains two integer members (in unspecified order) named *quot* and *rem*. The quotient is rounded toward zero. The result satisfies *quot\*denominator+rem = numerator*.

The **ldiv**(), **lldiv**(), and **imaxdiv**() functions do the same, dividing numbers of the indicated type and returning the result in a structure of the indicated name, in all cases with fields *quot* and *rem* of the same type as the function arguments.

**RETURN VALUE**

The *div_t* (etc.) structure.

**ATTRIBUTES**

**Multithreading (see pthreads(7))**

The **div**(), **ldiv**(), **lldiv**(), and **imaxdiv**() functions are thread-safe.

**CONFORMING TO**

SVr4, 4.3BSD, C89. C99. The functions **lldiv**() and **imaxdiv**() were added in C99.

**EXAMPLE**

After

div_t q = div(-5, 3);

the values *q.quot* and *q.rem* are -1 and -2, respectively.

**SEE ALSO**

abs(3), remainder(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/.