NAME

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

LIBRARY

Standard C library (*libc*, *−lc*)

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():
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

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

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

Interface	Attribute	Value
div(), **ldiv**(), **lldiv**(), **imaxdiv**()	Thread safety	MT-Safe

STANDARDS

POSIX.1-2001, POSIX.1-2008, C99, SVr4, 4.3BSD. The functions **lldiv**() and **imaxdiv**() were added in C99.

EXAMPLES

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)