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():
_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

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C89, C99, SVr4, 4.3BSD. 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

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