

NAME

`abs`, `labs`, `llabs`, `imaxabs` – compute the absolute value of an integer

SYNOPSIS

```
#include <stdlib.h>
```

```
int abs(int j);
```

```
long int labs(long int j);
```

```
long long int llabs(long long int j);
```

```
#include <inttypes.h>
```

```
intmax_t imaxabs(intmax_t j);
```

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

```
llabs():
```

```
    _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

DESCRIPTION

The `abs()` function computes the absolute value of the integer argument *j*. The `labs()`, `llabs()` and `imaxabs()` functions compute the absolute value of the argument *j* of the appropriate integer type for the function.

RETURN VALUE

Returns the absolute value of the integer argument, of the appropriate integer type for the function.

ATTRIBUTES

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

Interface	Attribute	Value
<code>abs()</code> , <code>labs()</code> , <code>llabs()</code> , <code>imaxabs()</code>	Thread safety	MT-Safe

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C99, SVr4, 4.3BSD. C89 only includes the `abs()` and `labs()` functions; the functions `llabs()` and `imaxabs()` were added in C99.

NOTES

Trying to take the absolute value of the most negative integer is not defined.

The `llabs()` function is included in glibc since version 2.0. The `imaxabs()` function is included in glibc since version 2.1.1.

For `llabs()` to be declared, it may be necessary to define `_ISOC99_SOURCE` or `_ISOC9X_SOURCE` (depending on the version of glibc) before including any standard headers.

By default, GCC handles `abs()`, `labs()`, and (since GCC 3.0) `llabs()` and `imaxabs()` as built-in functions.

SEE ALSO

`cabs(3)`, `ceil(3)`, `fabs(3)`, `floor(3)`, `rint(3)`

COLOPHON

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