

NAME

assert – abort the program if assertion is false

LIBRARY

Standard C library (*libc*, *-lc*)

SYNOPSIS

```
#include <assert.h>
```

```
void assert(bool expression);
```

DESCRIPTION

This macro can help programmers find bugs in their programs, or handle exceptional cases via a crash that will produce limited debugging output.

If *expression* is false (i.e., compares equal to zero), **assert()** prints an error message to standard error and terminates the program by calling **abort(3)**. The error message includes the name of the file and function containing the **assert()** call, the source code line number of the call, and the text of the argument; something like:

```
prog: some_file.c:16: some_func: Assertion `val == 0' failed.
```

If the macro **NDEBUG** is defined at the moment *<assert.h>* was last included, the macro **assert()** generates no code, and hence does nothing at all. It is not recommended to define **NDEBUG** if using **assert()** to detect error conditions since the software may behave non-deterministically.

RETURN VALUE

No value is returned.

ATTRIBUTES

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

Interface	Attribute	Value
assert()	Thread safety	MT-Safe

STANDARDS

C11, POSIX.1-2008.

HISTORY

C89, C99, POSIX.1-2001.

In C89, *expression* is required to be of type *int* and undefined behavior results if it is not, but in C99 it may have any scalar type.

BUGS

assert() is implemented as a macro; if the expression tested has side-effects, program behavior will be different depending on whether **NDEBUG** is defined. This may create Heisenbugs which go away when debugging is turned on.

SEE ALSO

abort(3), **assert_perror(3)**, **exit(3)**