

**NAME**

exit - cause normal process termination

**SYNOPSIS**

```
#include <stdlib.h>

void exit(int status);
```

**DESCRIPTION**

The `exit()` function causes normal process termination and the value of `status` & `0377` is returned to the parent (see `wait(2)`).

All functions registered with `atexit(3)` and `on_exit(3)` are called, in the reverse order of their registration. (It is possible for one of these functions to use `atexit(3)` or `on_exit(3)` to register an additional function to be executed during exit processing; the new registration is added to the front of the list of functions that remain to be called.) If one of these functions does not return (e.g., it calls `_exit(2)`, or kills itself with a signal), then none of the remaining functions is called, and further exit processing (in particular, flushing of `stdio(3)` streams) is abandoned. If a function has been registered multiple times using `atexit(3)` or `on_exit(3)`, then it is called as many times as it was registered.

All open `stdio(3)` streams are flushed and closed. Files created by `tmpfile(3)` are removed.

The C standard specifies two constants, `EXIT_SUCCESS` and `EXIT_FAILURE`, that may be passed to `exit()` to indicate successful or unsuccessful termination, respectively.

**RETURN VALUE**

The `exit()` function does not return.

**ATTRIBUTES**

**Multithreading (see `pthread(7)`)**

The `exit()` function uses a global variable that is not protected, so it is not thread-safe.

**CONFORMING TO**

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

**NOTES**

It is undefined what happens if one of the functions registered using `atexit(3)` and `on_exit(3)` calls either `exit()` or `longjmp(3)`. Note that a call to `execve(2)` removes registrations created using `atexit(3)` and `on_exit(3)`.

The use of `EXIT_SUCCESS` and `EXIT_FAILURE` is slightly more portable (to non-UNIX environments) than the use of 0 and some nonzero value like 1 or -1. In particular, VMS uses a different convention.

BSD has attempted to standardize exit codes; see the file `<syssexits.h>`.

After `exit()`, the exit status must be transmitted to the parent process. There are three cases. If the parent has set `SA_NOCLDWAIT`, or has set the `SIGCHLD` handler to `SIG_IGN`, the status is discarded. If the parent was waiting on the child, it is notified of the exit status. In both cases the exiting process dies immediately. If the parent has not indicated that it is not interested in the exit status, but is not waiting, the exiting process turns into a zombie process (which is nothing but a container for the single byte representing the exit status) so that the parent can learn the exit status when it later calls one of the `wait(2)` functions.

If the implementation supports the `SIGCHLD` signal, this signal is sent to the parent. If the parent has set `SA_NOCLDWAIT`, it is undefined whether a `SIGCHLD` signal is sent.

If the process is a session leader and its controlling terminal is the controlling terminal of the session, then each process in the foreground process group of this controlling terminal is sent a `SIGHUP` signal, and the terminal is disassociated from this session, allowing it to be acquired by a new controlling process.

If the exit of the process causes a process group to become orphaned, and if any member of the

newly orphaned process group is stopped, then a **SIGHUP** signal followed by a **SIGCONT** signal will be sent to each process in this process group. See [setpgid\(2\)](#) for an explanation of orphaned process groups.

**SEE ALSO**

[\\_exit\(2\)](#), [setpgid\(2\)](#), [wait\(2\)](#), [atexit\(3\)](#), [on\\_exit\(3\)](#), [tmpfile\(3\)](#)

**COLOPHON**

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