

Program support utilities

Program termination

The following functions manage program termination and resources cleanup.

Defined in header `<stdlib.h>`

abort	causes abnormal program termination (without cleaning up) (function)
exit	causes normal program termination with cleaning up (function)
quick_exit (C11)	causes normal program termination without completely cleaning up (function)
_Exit (C99)	causes normal program termination without cleaning up (function)
atexit	registers a function to be called on <code>exit()</code> invocation (function)
at_quick_exit (C11)	registers a function to be called on <code>quick_exit</code> invocation (function)
EXIT_SUCCESS EXIT_FAILURE	indicates program execution execution status (macro constant)

Communicating with the environment

system	calls the host environment's command processor (function)
getenv getenv_s (C11)	access to the list of environment variables (function)

Signals

Several functions and macro constants for signal management are provided.

Defined in header `<signal.h>`

signal	sets a signal handler for particular signal (function)
raise	runs the signal handler for particular signal (function)
sig_atomic_t	the integer type that can be accessed as an atomic entity from an asynchronous signal handler (typedef)
SIG_DFL SIG_IGN	defines signal handling strategies (macro constant)
SIG_ERR	error was encountered (macro constant)

Signal types

SIGABRT SIGFPE SIGILL SIGINT SIGSEGV SIGTERM	defines signal types (macro constant)
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Non-local jumps

Defined in header `<setjmp.h>`

setjmp	saves the context (function macro)
longjmp	jumps to specified location (function)

Types

jmp_buf	execution context type (typedef)
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References

- C11 standard (ISO/IEC 9899:2011):
 - 7.13 Nonlocal jumps <setjmp.h> (p: 262–264)
 - 7.14 Signal handling <signal.h> (p: 265–267)
 - 7.22 General utilities <stdlib.h> (p: 340–360)
 - 7.31.7 Signal handling <signal.h> (p: 455)
 - 7.31.12 General utilities <stdlib.h> (p: 456)
- C99 standard (ISO/IEC 9899:1999):
 - 7.13 Nonlocal jumps <setjmp.h> (p: 243–245)
 - 7.14 Signal handling <signal.h> (p: 246–248)
 - 7.20 General utilities <stdlib.h> (p: 306–324)
 - 7.26.6 Signal handling <signal.h> (p: 401)
 - 7.26.10 General utilities <stdlib.h> (p: 402)
- C89/C90 standard (ISO/IEC 9899:1990):
 - 4.6 NON-LOCAL JUMPS <setjmp.h>
 - 4.7 SIGNAL HANDLING <signal.h>
 - 4.10 GENERAL UTILITIES <stdlib.h>
 - 4.13.5 Signal handling <signal.h>
 - 7.13.7 General utilities <stdlib.h>

See also

C++ documentation for Program support utilities

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