NAME

stdio − standard input/output library functions

SYNOPSIS

#include <stdio.h>

FILE ***stdin**;
FILE ***stdout**;
FILE ***stderr**;

DESCRIPTION

The standard I/O library provides a simple and efficient buffered stream I/O interface. Input and output is mapped into logical data streams and the physical I/O characteristics are concealed. The functions and macros are listed below; more information is available from the individual man pages.

A stream is associated with an external file (which may be a physical device) by *opening* a file, which may involve creating a new file. Creating an existing file causes its former contents to be discarded. If a file can support positioning requests (such as a disk file, as opposed to a terminal), then a *file position indicator* associated with the stream is positioned at the start of the file (byte zero), unless the file is opened with append mode. If append mode is used, it is unspecified whether the position indicator will be placed at the start or the end of the file. The position indicator is maintained by subsequent reads, writes and positioning requests. All input occurs as if the characters were read by successive calls to the **fgetc**(3) function; all output takes place as if all characters were written by successive calls to the **fputc**(3) function.

A file is disassociated from a stream by *closing* the file. Output streams are flushed (any unwritten buffer contents are transferred to the host environment) before the stream is disassociated from the file. The value of a pointer to a *FILE* object is indeterminate after a file is closed (garbage).

A file may be subsequently reopened, by the same or another program execution, and its contents reclaimed or modified (if it can be repositioned at the start). If the main function returns to its original caller, or the **exit**(3) function is called, all open files are closed (hence all output streams are flushed) before program termination. Other methods of program termination, such as **abort**(3) do not bother about closing files properly.

At program startup, three text streams are predefined and need not be opened explicitly: *standard input* (for reading conventional input), *standard output* (for writing conventional output), and *standard error* (for writing diagnostic output). These streams are abbreviated *stdin*, *stdout*, and *stderr*. When opened, the standard error stream is not fully buffered; the standard input and output streams are fully buffered if and only if the streams do not refer to an interactive device.

Output streams that refer to terminal devices are always line buffered by default; pending output to such streams is written automatically whenever an input stream that refers to a terminal device is read. In cases where a large amount of computation is done after printing part of a line on an output terminal, it is necessary to **fflush**(3) the standard output before going off and computing so that the output will appear.

The *stdio* library is a part of the library **libc** and routines are automatically loaded as needed by **cc**(1). The SYNOPSIS sections of the following manual pages indicate which include files are to be used, what the compiler declaration for the function looks like and which external variables are of interest.

The following are defined as macros; these names may not be reused without first removing their current definitions with **#undef**: **BUFSIZ**, **EOF**, **FILENAME_MAX**, **FOPEN_MAX**, **L_cuserid**, **L_ctermid**, **L_tmpnam**, **NULL**, **SEEK_END**, **SEEK_SET**, **SEEK_CUR**, **TMP_MAX**, **clearerr**, **feof**, **ferror**, **fileno**, **getc**, **getchar**, **putc**, **putchar**, **stderr**, **stdin**, **stdout**. Function versions of the macro functions **feof**, **ferror**, **clearerr**, **fileno**, **getc**, **getchar**, **putc**, and **putchar** exist and will be used if the macros definitions are explicitly removed.

List of functions

Function	Description
clearerr(3)	check and reset stream status
fclose(3)	close a stream

fdopen(3)	stream open functions
feof(3)	check and reset stream status
ferror(3)	check and reset stream status
fflush(3)	flush a stream
fgetc(3)	get next character or word from input stream
fgetpos(3)	reposition a stream
fgets(3)	get a line from a stream
fileno(3)	return the integer descriptor of the argument stream
fopen(3)	stream open functions
fprintf(3)	formatted output conversion
fpurge(3)	flush a stream
fputc(3)	output a character or word to a stream
fputs(3)	output a line to a stream
fread(3)	binary stream input/output
freopen(3)	stream open functions
fscanf(3)	input format conversion
fseek(3)	reposition a stream
fsetpos(3)	reposition a stream
ftell(3)	reposition a stream
fwrite(3)	binary stream input/output
getc(3)	get next character or word from input stream
getchar(3)	get next character or word from input stream
gets(3)	get a line from a stream
getw(3)	get next character or word from input stream
mktemp(3)	make temporary filename (unique)
perror(3)	system error messages
printf(3)	formatted output conversion
putc(3)	output a character or word to a stream
putchar(3)	output a character or word to a stream
puts(3)	output a line to a stream
putw(3)	output a character or word to a stream
remove(3)	remove directory entry
rewind(3)	reposition a stream
scanf(3)	input format conversion
setbuf(3)	stream buffering operations
setbuffer(3)	stream buffering operations
setlinebuf(3)	stream buffering operations
setvbuf(3)	stream buffering operations
sprintf(3)	formatted output conversion
sscanf(3)	input format conversion
strerror(3)	system error messages
sys_errlist(3)	system error messages
sys_nerr(3)	system error messages
tempnam(3)	temporary file routines
tmpfile(3)	temporary file routines
tmpnam(3)	temporary file routines
ungetc(3)	un-get character from input stream
vfprintf(3)	formatted output conversion
vfscanf(3)	input format conversion
vprintf(3)	formatted output conversion
vscanf(3)	input format conversion
vsprintf(3)	formatted output conversion
vsscanf(3)	input format conversion

CONFORMING TO

The *stdio* library conforms to C89.

SEE ALSO

close(2), **open**(2), **read**(2), **write**(2), **stdout**(3), **unlocked_stdio**(3)

COLOPHON

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