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## ***Red Hat Enterprise Linux Release 9.2 Manual Pages on 'stdio.3' command***

**\$ man stdio.3**

STDIO(3)                   Linux Programmer's Manual                   STDIO(3)

### 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 subse?

quent 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 flush 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 fol?

lowing 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

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

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