NAME

putc, putc_unlocked, putchar, putchar_unlocked, fputc, putw – put character or word on a stream

SYNOPSIS

```
#include <stdio.h>
int putc(int c, FILE *stream);
int putc_unlocked(int c, FILE *stream);
int putchar(int c);
int putchar_unlocked(int c);
int fputc(int c, FILE *stream);
int putw(int w, FILE *stream);
```

MT-LEVEL

See the **NOTES** section of this page.

DESCRIPTION

putc( ) writes *c* (converted to an **unsigned char**) onto the output *stream* (see **intro**(3)) at the position where the file pointer (if defined) is pointing, and advances the file pointer appropriately. If the file cannot support positioning requests, or *stream* was opened with append mode, the character is appended to the output *stream*. **putchar(***c***)** is defined as **putc(***c*, *stdout***)**. **putc( )** and **putchar( )** are macros.

putc_unlocked( ) and **putchar_unlocked( )** are respectively variants of **putc( )** and **putchar( )** that do not lock the stream. It is the caller's responsibility to acquire the stream lock before calling these functions and releasing the lock afterwards; see **flockfile**(3S) and **stdio**(3S).

fputc( ) behaves like **putc( )**, but is a function rather than a macro. **fputc( )** runs more slowly than **putc( )**, but it takes less space per invocation and its name can be passed as an argument to a function.

putw( ) writes the C **int** (word) *w* to the standard I/O output *stream* (at the position of the file pointer, if defined). The size of a word is the size of an integer and varies from machine to machine. **putw( )** neither assumes nor causes special alignment in the file.

RETURN VALUES

On success, **putc( )**, **fputc( )**, and **putchar( )** return the value that was written. On error, those functions return the constant **EOF**. **putw( )** returns **ferror(stream)**, so that it returns 0 on success and 1 on failure.

Failure will occur, for example, if the file *stream* is not open for writing or if the output file cannot grow.

SEE ALSO

write(2), **intro**(3), **fclose**(3S), **ferror**(3S), **flockfile**(3S), **fopen**(3S), **printf**(3S), **puts**(3S), **setbuf**(3S), **stdio**(3S)

NOTES

Because it is implemented as a macro, **putc( )** evaluates a *stream* argument more than once. In particular, **putc(***c*, ******f***++**);** does not work sensibly. **fputc( )** should be used instead.

Because of possible differences in word length and byte ordering, files written using **putw( )** are machine-dependent, and may not be read using **getw( )** on a different processor.

Functions exist for all the above defined macros. To get the function form, the macro name must be undefined (for example, **#undef putc**).

fputc( ), putc( ), putchar( ), and **putw( )** are MT-Safe in multi-thread applications. **putc_unlocked( )** and **putchar_unlocked( )** are unsafe in multi-thread applications.