



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

### ***\$ man fread.3***

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

#### NAME

fread, fwrite - binary stream input/output

#### SYNOPSIS

```
#include <stdio.h>

size_t fread(void *ptr, size_t size, size_t nmemb, FILE *stream);

size_t fwrite(const void *ptr, size_t size, size_t nmemb,
              FILE *stream);
```

#### DESCRIPTION

The function `fread()` reads `nmemb` items of data, each `size` bytes long, from the stream pointed to by `stream`, storing them at the location given by `ptr`.

The function `fwrite()` writes `nmemb` items of data, each `size` bytes long, to the stream pointed to by `stream`, obtaining them from the location given by `ptr`.

For nonlocking counterparts, see `unlocked_stdio(3)`.

#### RETURN VALUE

On success, `fread()` and `fwrite()` return the number of items read or written. This number equals the number of bytes transferred only when `size` is 1. If an error occurs, or the end of the file is reached, the return value is a short item count (or zero).

The file position indicator for the stream is advanced by the number of bytes successfully read or written.

fread() does not distinguish between end-of-file and error, and callers must use feof(3) and ferror(3) to determine which occurred.

## ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

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?Interface ? Attribute ? Value ?

??

?fread(), fwrite() ? Thread safety ? MT-Safe ?

??

## CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C89.

## EXAMPLES

The program below demonstrates the use of fread() by parsing /bin/sh ELF executable in binary mode and printing its magic and class:

```
$ ./a.out
```

```
ELF magic: 0x7f454c46
```

```
Class: 0x02
```

Program source

```
#include <stdio.h>

#include <stdlib.h>

#define ARRAY_SIZE(arr) (sizeof(arr) / sizeof((arr)[0]))

int
main(void)
{
    FILE *fp = fopen("/bin/sh", "rb");

    if (!fp) {
        perror("fopen");
        return EXIT_FAILURE;
    }

    unsigned char buffer[4];

    size_t ret = fread(buffer, ARRAY_SIZE(buffer), sizeof(*buffer), fp);

    if (ret != sizeof(*buffer)) {
```

```

    fprintf(stderr, "fread() failed: %zu\n", ret);
    exit(EXIT_FAILURE);
}

printf("ELF magic: %#04x%02x%02x%02x\n", buffer[0], buffer[1],
       buffer[2], buffer[3]);
ret = fread(buffer, 1, 1, fp);
if (ret != 1) {
    fprintf(stderr, "fread() failed: %zu\n", ret);
    exit(EXIT_FAILURE);
}

printf("Class: %#04x\n", buffer[0]);
fclose(fp);
exit(EXIT_SUCCESS);
}

```

#### SEE ALSO

read(2), write(2), feof(3), ferror(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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