

**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).

**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\(7\)](#).

Interface	Attribute	Value
<b>fread()</b> , <b>fwrite()</b>	Thread safety	MT-Safe

**CONFORMING TO**

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

**SEE ALSO**

[read\(2\)](#), [write\(2\)](#), [feof\(3\)](#), [ferror\(3\)](#), [unlocked\\_stdio\(3\)](#)

**COLOPHON**

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