

setbuf

Defined in header <stdio.h>

```
void setbuf( FILE          *stream, char          *buffer );    (until C99)
void setbuf( FILE *restrict stream, char *restrict buffer );    (since C99)
#define BUFSIZ             /*unspecified*/
```

Sets the internal buffer to use for stream operations. It should be at least BUFSIZ characters long.

If buffer is not null, equivalent to `setvbuf(stream, buffer, _IOFBF, BUFSIZ)`.

If buffer is null, equivalent to `setvbuf(stream, NULL, _IONBF, 0)`, which turns off buffering.

Parameters

stream - the file stream to set the buffer to

buffer - pointer to a buffer for the stream to use. If a null pointer is supplied, the buffering is turned off

Return value

None.

Notes

If BUFSIZ is not the appropriate buffer size, setvbuf can be used to change it.

setvbuf should also be used to detect errors, since setbuf does not indicate success or failure.

This function may only be used after stream has been associated with an open file, but before any other operation (other than a failed call to **setbuf**/setvbuf).

A common error is setting the buffer of stdin or stdout to an array whose lifetime ends before the program terminates:

```
int main(void) {
    char buf[BUFSIZ];
    setbuf(stdin, buf);
} // lifetime of buf ends, undefined behavior
```

Example

setbuf may be used to disable buffering on streams that require immediate output.

Run this code

```
#include <stdio.h>
#include <threads.h>

int main(void)
{
    setbuf(stdout, NULL); // unbuffered stdout
    putchar('a'); // 'a' appears immediately if stdout is unbuffered
    thrd_sleep(&(struct timespec){.tv_sec=1}, NULL); // sleep 1 sec
    putchar('b');
}
```

Output:

ab

References

- C17 standard (ISO/IEC 9899:2018):

- 7.21.5.5 The setbuf function (p: 225)
- C11 standard (ISO/IEC 9899:2011):
 - 7.21.5.5 The setbuf function (p: 307–308)
- C99 standard (ISO/IEC 9899:1999):
 - 7.19.5.5 The setbuf function (p: 273)
- C89/C90 standard (ISO/IEC 9899:1990):
 - 4.9.5.5 The setbuf function

See also

setvbuf sets the buffer and its size for a file stream
(function)

C++ documentation for **setbuf**

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