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Rocky Enterprise Linux 9.2 Manual Pages on command 'mbrtowc.3'

\$ man mbrtowc.3

MBRTOWC(3)

Linux Programmer's Manual

MBRTOWC(3)

NAME

mbrtowc - convert a multibyte sequence to a wide character

SYNOPSIS

```
#include <wchar.h>
size_t mbrtowc(wchar_t *pwc, const char *s, size_t n, mbstate_t *ps);
```

DESCRIPTION

The main case for this function is when s is not NULL and pwc is not NULL. In this case, the mbrtowc() function inspects at most n bytes of the multibyte string starting at s, extracts the next complete multibyte character, converts it to a wide character and stores it at *pwc. It updates the shift state *ps. If the converted wide character is not L'\0' (the null wide character), it returns the number of bytes that were consumed from s. If the converted wide character is L'\0', it resets the shift state *ps to the initial state and returns 0.

If the n bytes starting at s do not contain a complete multibyte character, mbrtowc() returns (size_t) -2. This can happen even if n >= MB_CUR_MAX, if the multibyte string contains redundant shift sequences.

If the multibyte string starting at s contains an invalid multibyte sequence before the next complete character, mbrtowc() returns (size_t) -1 and sets errno to EILSEQ. In this case, the effects on *ps are undefined.

A different case is when s is not NULL but pwc is NULL. In this case, the mbrtowc() function behaves as above, except that it does not store the converted wide character in memory.

A third case is when *s* is NULL. In this case, *pwc* and *n* are ignored. If the conversion state represented by **ps* denotes an incomplete multibyte character conversion, the *mbrtowc()* function returns *(size_t)* -1, sets *errno* to EILSEQ, and leaves **ps* in an undefined state. Otherwise, the *mbrtowc()* function puts **ps* in the initial state and returns 0.

In all of the above cases, if *ps* is NULL, a static anonymous state known only to the *mbrtowc()* function is used instead. Otherwise, **ps* must be a valid *mbstate_t* object. An *mbstate_t* object *a* can be initialized to the initial state by zeroing it, for example using

```
memset(&a, 0, sizeof(a));
```

RETURN VALUE

The *mbrtowc()* function returns the number of bytes parsed from the multibyte sequence starting at *s*, if a non-L'\0' wide character was recognized. It returns 0, if a L'\0' wide character was recognized. It returns *(size_t)* -1 and sets *errno* to EILSEQ, if an invalid multibyte sequence was encountered. It returns *(size_t)* -2 if it couldn't parse a complete multibyte character, meaning that *n* should be increased.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

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?mbrtowc() ? Thread safety ? MT-Unsafe race:mbrtowc!ips ?

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CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C99.

NOTES

The behavior of *mbrtowc()* depends on the LC_CTYPE category of the current locale.

SEE ALSO

mbsinit(3), *mbsrtowcs(3)*

COLOPHON

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