

**NAME**

mbsinit - test for initial shift state

**SYNOPSIS**

```
#include <wchar.h>
```

```
int mbsinit(const mbstate_t *ps);
```

**DESCRIPTION**

Character conversion between the multibyte representation and the wide character representation uses conversion state, of type *mbstate\_t*. Conversion of a string uses a finite-state machine; when it is interrupted after the complete conversion of a number of characters, it may need to save a state for processing the remaining characters. Such a conversion state is needed for the sake of encodings such as ISO-2022 and UTF-7.

The initial state is the state at the beginning of conversion of a string. There are two kinds of state: The one used by multibyte to wide character conversion functions, such as [mbsrtowcs\(3\)](#), and the one used by wide character to multibyte conversion functions, such as [wcsrtombs\(3\)](#), but they both fit in a *mbstate\_t*, and they both have the same representation for an initial state.

For 8-bit encodings, all states are equivalent to the initial state. For multibyte encodings like UTF-8, EUC-\*, BIG5 or SJIS, the wide character to multibyte conversion functions never produce non-initial states, but the multibyte to wide-character conversion functions like [mbrtowc\(3\)](#) do produce non-initial states when interrupted in the middle of a character.

One possible way to create an *mbstate\_t* in initial state is to set it to zero:

```
mbstate_t state;  
memset(&state,0,sizeof(mbstate_t));
```

On Linux, the following works as well, but might generate compiler warnings:

```
mbstate_t state = { 0 };
```

The function **mbsinit()** tests whether *\*ps* corresponds to an initial state.

**RETURN VALUE**

**mbsinit()** returns nonzero if *\*ps* is an initial state, or if *ps* is NULL. Otherwise, it returns 0.

**ATTRIBUTES**

**Multithreading (see [pthreads\(7\)](#))**

The **mbsinit()** function is thread-safe.

**CONFORMING TO**

C99.

**NOTES**

The behavior of **mbsinit()** depends on the **LC\_CTYPE** category of the current locale.

**SEE ALSO**

[mbrlen\(3\)](#), [mbrtowc\(3\)](#), [wctomb\(3\)](#), [mbsrtowcs\(3\)](#), [wcsrtombs\(3\)](#)

**COLOPHON**

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