

C library function - mbstowcs()

Description

The C library function **size_t mbstowcs(schar_t *pwcs, const char *str, size_t n)** converts the string of multi-byte characters pointed to, by the argument **str** to the array pointed to by **pwcs**.

Declaration

Following is the declaration for mbstowcs() function.

```
size_t mbstowcs(schar_t *pwcs, const char *str, size_t n)
```

Parameters

- **pwcs** – This is the pointer to an array of wchar_t elements that is long enough to store a wide string max characters long.
- **str** – This is the C multi-byte character string to be interpreted.
- **n** – This is the maximum number of wchar_t characters to be interpreted.

Return Value

This function returns the number of characters translated, excluding the ending null-character. If an invalid multi-byte character is encountered, a -1 value is returned.

Example

The following example shows the usage of mbstowcs() function.

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>

int main () {
    int len;
    char *pmbnull  = NULL;
    char *pmb = (char *)malloc( MB_CUR_MAX );
    wchar_t *pwc = L"Hi";
    wchar_t *pwcs = (wchar_t *)malloc( sizeof( wchar_t ));

    printf("Converting to multibyte string\n");
```

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```
len = wcstombs( pmb, pwc, MB_CUR_MAX);
printf("Characters converted %d\n", len);
printf("Hex value of first multibyte character: %#.4x\n", pmb);

printf("Converting back to Wide-Character string\n");
len = mbstowcs( pwcs, pmb, MB_CUR_MAX);
printf("Characters converted %d\n", len);
printf("Hex value of first wide character %#.4x\n\n", pwcs);

return(0);
}
```

Let us compile and run the above program that will produce the following result –

```
Converting to multibyte string
Characters converted 1
Hex value of first multibyte character: 0x19a60010
Converting back to Wide-Character string
Characters converted 1
Hex value of first wide character 0x19a60030
```