

↑ 6.16 Char library functions: ctype

Students:
Section 6.17 is a part of 2 assignments: CSC108 CH06.10-6.27 C6B ▾
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Includes: CA
Due: 05/06/2025, 11:59 PM EDT

6.17 Functions with C string parameters

Functions commonly modify C strings. The following function modifies a string by replacing spaces with hyphens.

Figure 6.17.1: Modifying a C string parameter.

```
#include <iostream>
#include <cstring>
using namespace std;

// Function replaces spaces with hyphens
void StrSpaceToHyphen(char modString[]) {
    int i; // Loop index

    for (i = 0; i < strlen(modString); ++i) {
        if (modString[i] == ' ') {
            modString[i] = '-';
        }
    }
}

int main() {
    const int INPUT_STR_SIZE = 50; // Input C string size
    char userStr[INPUT_STR_SIZE]; // Input C string from user

    // Prompt user for input
    cout << "Enter string with spaces: " << endl;
    cin.getline(userStr, INPUT_STR_SIZE);

    // Call function to modify user defined C string
    StrSpaceToHyphen(userStr);

    cout << "String with hyphens: " << userStr << endl;
    return 0;
}
```

```
Enter string with spaces:
Hello there everyone.
String with hyphens: Hello-there-everyone.

...
Enter string with spaces:
Good bye now !!!
String with hyphens: Good-bye--now---!!!
```

[Feedback?](#)

The parameter definition uses [] to indicate an array parameter. The function call's argument does not use []. The compiler *automatically passes the C string as a pointer*. Hence, the above function modifies the original string argument (userStr) and not a copy.

The strlen() function can be used to determine the length of the string argument passed to the function. So, unlike functions with array parameters of other types, a function with a C string parameter does not require a second parameter to specify the string size.

zyDE 6.17.1: Modifying a C string parameter: Spaces to hyphens.

1. Run the program, noting correct output.
2. Modify the function to also replace each '!' by a '?'.

Load default template...

```
1 #include <iostream>
2 #include <cstring>
3 using namespace std;
4
5 // Function replaces spaces with hyphens
6 void StrSpaceToHyphen(char modString[]) {
7     int i; // Loop index
8
9     for (i = 0; i < strlen(modString); ++i) {
10         if (modString[i] == ' ') {
11             modString[i] = '-';
12         }
13     }
14 }
15
16 int main() {
17 }
```

Hello there everyone!!!

[Run](#)

[Feedback?](#)

PARTICIPATION ACTIVITY | 6.17.1: Functions with string parameters.

- 1) A parameter declared as `char movieTitle[]` is a string.
 - True
 - False
- 2) For a function with a string parameter, the function must include a second parameter for the string size.
 - True
 - False
- 3) To pass a string to a function, the argument must include [], as in `GetMovieRating(favMovie[])`.
 - True
 - False

[Feedback?](#)

A programmer can explicitly define an array parameter as a pointer. The following uses `char* modString` instead of the earlier `char modString[]`. Such pointer parameters are common for C string parameters, such as in the C string library functions.

Figure 6.17.2: Modifying a C string using a pointer parameter.

```
#include <iostream>
#include <cstring>
using namespace std;

// Function replaces spaces with hyphens
void StrSpaceToHyphen(char* modString) {
    int i; // Loop index

    for (i = 0; i < strlen(modString); ++i) {
        if (modString[i] == ' ') {
            modString[i] = '-';
        }
    }
}

int main() {
    const int INPUT_STR_SIZE = 50; // Input string size
    char userStr[INPUT_STR_SIZE]; // Input C string from user

    // Prompt user for input
    cout << "Enter string with spaces: " << endl;
    cin.getline(userStr, INPUT_STR_SIZE);

    // Call function to modify user defined C string
    StrSpaceToHyphen(userStr);

    cout << "String with hyphens: " << userStr << endl;
    return 0;
}
```

```
Enter string with spaces:
Hello there everyone!
String with hyphens: Hello-there-everyone!

...
Enter string with spaces:
Good bye now !!!
String with hyphens: Good-bye--now---!!!
```

[Feedback?](#)

PARTICIPATION ACTIVITY | 6.17.2: Functions with C string parameters.

- 1) Passing a C string to a function creates a copy of that string within the function.
 - True
 - False
- 2) A C string is automatically passed by pointer.
 - True
 - False

[Feedback?](#)

CHALLENGE ACTIVITY | 6.17.1: Modify a C string parameter.

Complete the function to replace any period by an exclamation point. Ex: "Hello. I'm Miley. Nice to meet you." becomes:

"Hello! I'm Miley! Nice to meet you!"

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```
1 #include <iostream>
2 #include <cstring>
3 using namespace std;
4
5 void MakeSentenceExcited(char* sentenceText) {
6
7     /* Your solution goes here */
8
9 }
10
11 int main() {
12     const int TEST_STR_SIZE = 50;
13     char testStr[TEST_STR_SIZE];
14
15     cin.getline(testStr, TEST_STR_SIZE);
16     MakeSentenceExcited(testStr);
17     cout << testStr << endl;
18 }
```

[Run](#)

[Feedback?](#)

How was this section? [Provide section feedback](#)

Activity summary for assignment: CSC108 CH06.10-6.27 C6B ▾

0 / 30 points

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↓ 6.18 Using pass by reference to modify string/vector parameters