

C++ for Engineers and Scientists | (4th Edition)



Problem

(Data processing)

a. Write a C++ program that stops reading a line of text when a period is entered and displays the sentence with correct spacing and capitalization. For this program, correct spacing means only one space between words, and all letters should be lowercase, except the first letter. For example, if the user enters the text i am going to Go TO The moVies., the displayed sentence should be I am going to go to the movies.

b. Determine what characters, if any, aren't displayed correctly by the program you created for Exercise a.

Step-by-step solution

Step 1 of 4

Data Processing

Program Plan:

- Include header files and declare required namespaces.
- Initialize the main () function.
- Prompt the user to enter the incorrect string.
- Compute the result and display the output.

Comment

Step 2 of 4

a)

Program:

```
//*****  
// This program prompts the user to enter the incorrect  
//string and display the correct string with correct  
//capitalization and spacing.  
//*****
```

```
// header files and namespace used  
#include <iostream>  
#include <string>  
using namespace std;
```

```
// main function  
int main()  
{
```

Declare the variable of string type to store the user input string.

```
//variable declaration  
string string1;
```

The variable len is used to store the length of the user input string.

```
//variable for length  
int len;
```

Prompt the user to enter the string to be corrected.

```
// display output  
cout << "Please enter string "<<endl;
```

The getline () function is used to read the user input string.

```
//read the string  
getline(cin, string1);
```

The length() function of the string class is used to calculate the length of the string and stored in len.

```
//calculate length  
len = string1.length();
```

declare and initialize the loopcount variable to be used as a counter for the loop.

```
//variable declaration  
int loopcount=0;
```

Implement the while () loop until a period is reached and the value of loopcount is incremented with each the execution of the while loop.

```
//implement while loop  
while(string1.at(loopcount)!='.'){  
loopcount++;
```

The erase () function is used to erase the extra element after the fullstop.

```
//erase the extra element  
string1.erase(loopcount+1,len-loopcount-1);
```

The variable len is assigned one extra value than the loopcount variable.

```
//value assignment  
len=loopcount+1;
```

The start element of the string is converted to uppercase by using the touppercase ()

```
//conversion to uppercase  
string1.at(0)=toupper(string1.at(0));
```

The rest of the element are converted to lowercase by using the ouppercase () function of string class.

```
//conversion to lowercase  
for(int loopcount = 1;loopcount < len; loopcount++)  
{  
string1.at(loopcount) = tolower(string1.at(loopcount));  
}
```

Display the correct string.

```
//display statement  
cout << "The correct string is:" << string1<<endl;
```

```
}
```

Comment

Step 3 of 4

Sample output:

```
Please enter string  
i am going to GO TO The moVies.,  
The correct string is:  
I am going to go to the movies.
```

Comment

Step 4 of 4

b)

The non-character elements like the punctuation marks remains unaffected by the touppercase () or tolowercase () functions so they are displayed as it is.

Comment

Was this solution helpful?

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Recommended solutions for you to review

Chapter 5.3, Problem 6E

(Conversion)a. Write a C++ program to convert meters to feet. The program should request the starting meter value, the number...

See solution

Chapter 12.2, Problem 5E

(Program) Write a C++ program that has a Date class and a Julian class. The Date class should be the same Date class used in...

See solution

Post a question

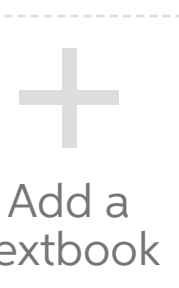
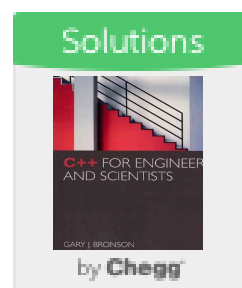
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