

Experiment 7

Character counting

Introduction:

The purpose of the C code you will write this week is to individually examine the characters of a sentence entered by the user. You can utilize the `#include <ctype.h>` and `#include <string.h>` libraries if needed.

Problem Statement:

Write a C code that determines the number of words in a sentence entered by the user, counts the total number of vowels and consonants in the sentence, and prints it to the screen.

Procedure:

1. Function Definitions: Define the following functions

void countWords(arguments): Define a function that counts the number of words in the entered sentence. For this, you can create a logic that recognizes the (' ') spaces between the words.(30 pts.)

void countVowelsAndConsonants(arguments): Define a function that counts the vowels and consonants in the entered sentence. Vowel letters can be defined as 'a, e, i, u, o,' and it is sufficient to check only for lowercase letters. You can use the code

char character = tolower(sentence[i]);

to convert words entered in uppercase to lowercase. (30 pts.)

2. Main Function: Write the main function. In this function:

- Ask the user to enter a sentence. You can define the maximum character count as 100. (5 pts.)
- Call the **countWords** to calculate the number of words in the entered sentence. (10 pts.)
- Print the number of words in the sentence.(5 pts.)
- Call the **countVowelsAndConsonants** to find the count of vowels and consonants. (10 pts.)
- Print the number of vowel letters in the sentence and the number of consonant letters in the sentence.(10 pts.)

3. Sample Outputs:

```
Please enter a sentence: this is an example sentences  
Number of words in the sentence: 5  
Number of vowel letters in the sentence: 9  
Number of consonant letters in the sentence: 15
```

```
Please enter a sentence: Hello world  
Number of words in the sentence: 2  
Number of vowel letters in the sentence: 3  
Number of consonant letters in the sentence: 7
```