Experiment 5(B)

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Subject Name: Advanced Programming Lab-1 **Subject Code: 22CSP-314**

1. Title: CamelCase

2. Objective:

There is a sequence of words in camelCase as a string of letters, s, having the following properties:

- It is a concatenation of one or more *words* consisting of English letters.
- All letters in the first word are *lowercase*.
- For each of the subsequent words, the first letter is *uppercase* and rest of the letters are *lowercase*.

Given s, determine the number of words in s.

3. Algorithm:

a) Initialize Count:

- **Start by initializing a counter variable count to 1. This is because, in camelCase notation, the first word starts with a lowercase letter and is not preceded by any uppercase letter.**

b) Iterate Through the String:

- **Loop through each character ch in the string s.**
  - **Check for Uppercase Letters:**
    - **For each character, check if it is an uppercase letter (i.e., if ch is between 'A' and 'Z').**
    - **If an uppercase letter is found, increment the count by 1. This indicates the start of a new word in the camelCase string.**

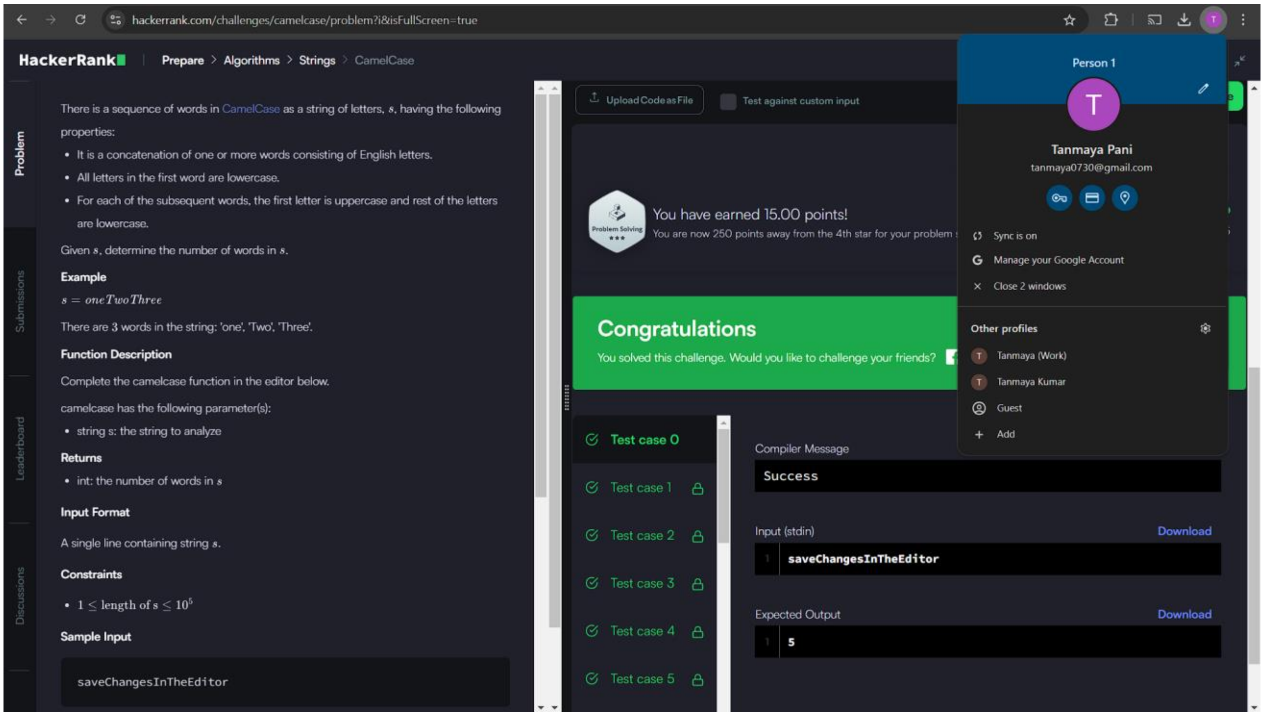
c) Return the Count:

- **After iterating through the entire string, return the value of count. This value represents the total number of words in the camelCase string.**

4. Implementation/Code:

```
int camelcase(string s) {
    int count = 1;
    for(char ch:s){
        if(ch>='A'&& ch<='Z'){
            count++;
        }
    }
    return count;
}
```

5. Output:



hackerrank.com/challenges/camelcase/problem?i&isFullScreen=true

HackerRank Prepare > Algorithms > Strings > CamelCase

There is a sequence of words in CamelCase as a string of letters, s, having the following properties:

- It is a concatenation of one or more words consisting of English letters.
- All letters in the first word are lowercase.
- For each of the subsequent words, the first letter is uppercase and rest of the letters are lowercase.

Given s, determine the number of words in s.

Example

$s = oneTwoThree$

There are 3 words in the string: 'one', 'Two', 'Three'.

Function Description

Complete the camelcase function in the editor below.

camelcase has the following parameter(s):

- string s: the string to analyze

Returns

- int: the number of words in s

Input Format

A single line containing string s.

Constraints

- $1 \leq \text{length of s} \leq 10^5$

Sample Input

```
saveChangesInTheEditor
```

You have earned 15.00 points!

You are now 250 points away from the 4th star for your problem

Congratulations

You solved this challenge. Would you like to challenge your friends?

Test case 0
Test case 1
Test case 2
Test case 3
Test case 4
Test case 5

Compiler Message

```
Success
```

Input (stdin)

```
saveChangesInTheEditor
```

Expected Output

```
5
```

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6. Learning Outcomes:

- **Understanding CamelCase Notation**: You learned how to identify the structure of camelCase notation, where each new word starts with an uppercase letter.

- **Character Comparison**: You practiced using conditional checks to identify uppercase letters within a string.

- **Counting and Iteration**: You reinforced concepts of iteration through a string and incrementing a counter based on specific conditions.

- **String Parsing Techniques**: You developed skills in parsing a string to extract meaningful information, such as counting words in camelCase notation.

- **Algorithm Design**: You practiced designing an algorithm that efficiently counts words by focusing on key characteristics of the input format.

7. Time Complexity: O(n)

8. Space Complexity: O(1)