

CSE108 – Computer Programming Laboratory

Lab #7

Date: Monday March 25, 2019

Handin: A student with number 20180000001 should hand in three separate files named 20180000001_par1.c, 20180000001_par2.c for this lab.

Part 1. [50pts] Write a function that takes a string as a parameter to correct typos in the string. The function must obey the three rules that are shown below to correct typos:

- Any sentence must begin with an uppercase.
- Any letter in the text should be lowercase except the letters that are mentioned in first rule:
- There must be only one white space after each comma and point.

Don't use any extra library except stdio.h library. The header of the function is:

```
void check_typos(char plain_text[300])
```

The main function should be as shown below:

```
int main()
{
    char plain_text[300]="this Is a text which has some typos. you should
    correct tHe text,because you will use the Text to test your check_typos
    function.therefore, try to correct all typos iN the test. This part of
    the text is correct, so no correction should be done on this part.";

    typo_check(plain_text);

    printf("%s",plain_text);

    return 0;
}
```

Output:

This is a text which has some typos. You should correct the text, because you will use the text to test your check_typos function. Therefore, try to correct all typos in the test. This part of the text is correct, so no correction should be done on this part.

Part 2. [30pts] Write a function that takes a string to count the occurrence of each word in the string. The function cares about case sensitivity when it counts the words (E.g. this \neq This). After the function finds the counts of the words in the string, you should print results in the main function as follows:

```
There are 2 'This' in the text.  
There are 2 'is' in the text.  
There are 1 'a' in the text.  
There are 3 'text' in the text.  
There are 1 'which' in the text.  
...
```

You can only use `strcmp()` and `strncpy()` functions from `string.h` library. Any other function or library are forbidden except the `stdio.h` library. The header of the function is:

```
void word_counter(char text[300], int counters[150], char words[150][20])
```

Part 3. [20pts] Write a function that takes a string to find longest word in the string and returns length of the longest word. If there are more than one words which are the longest words in the string, then the function only prints the word that occurs in the string firstly.

Don't use any extra library except `stdio.h` library. The header of the function is:

```
int find_longest_word(char text[1000])
```

Input:

The Silmarillion is a collection of mythopoeic works by English writer J. R. R. Tolkien, edited and published posthumously by his son, Christopher Tolkien, in 1977, with assistance from Guy Gavriel Kay. The Silmarillion, along with J. R. R. Tolkien's other works, forms an extensive, though incomplete, narrative that describes the universe of Eä in which are found the lands of Valinor, Beleriand, Númenor, and Middle-earth, within which The Hobbit and The Lord of the Rings take place.

Output:

The longest word is Silmarillion with the number of 12 letters.