

# BASIS AND PRACTICE IN C PROGRAMMING

## SPRING SEMESTER 2022

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### Assignment 5

This assignment consists of 3 tasks. Guidelines for submission format are given at the end of the assignment file.

**Note:** Texts in **green** color should be inserted by the keyboard. Follow the submission, example output formats, and task description in order to get a full score.

### Tasks

**Task 1.** Write a file-copy program that reads the original filename from a keyboard and creates a copy of the file with the same content inside of it. Assume that the file that you are entering as input (in our case, the file is example.txt) is in the current directory of the program.

**Example input from keyboard:**

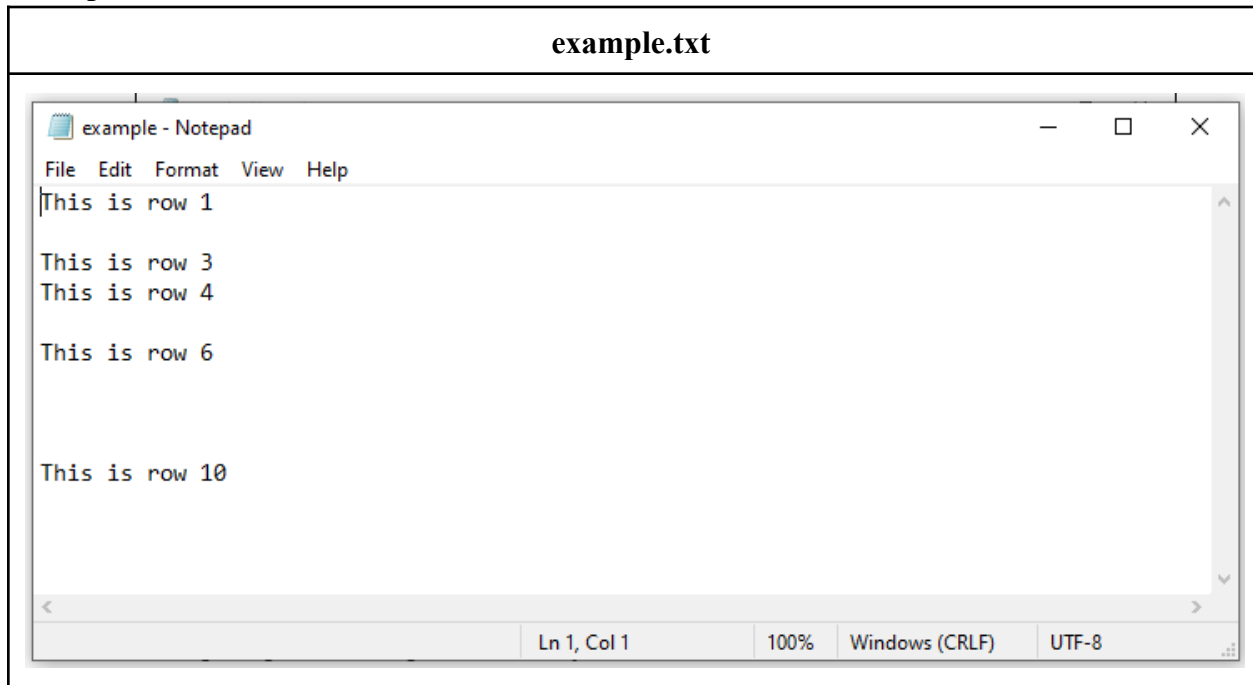
Enter filename: **example.txt**

**Example output:**

The copy of the file “**example.txt**” is created with the name: **example\_copy.txt**

**Task 2.** Write a program that opens a text file whose name is obtained from the keyboard. Your program should calculate and print the number of characters in each row of the file. You are required to create a separate method that calculates the length of a given string (**Note:** Do not use ready functions such as *strlen()*).

**Example file:**



**Example input from a keyboard:**

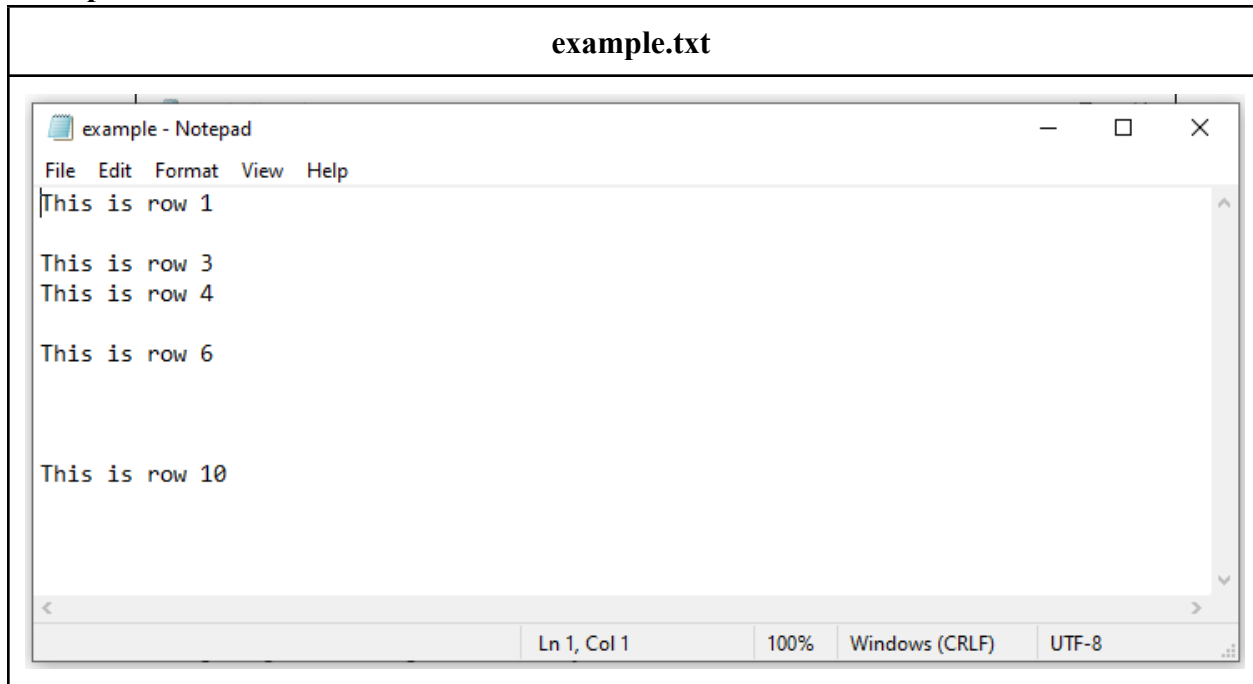
Enter filename: **example.txt**

**Example output from a keyboard:**

Row 1: there are 10 letters  
Row 2: there are 0 letters  
Row 3: there are 10 letters  
Row 4: there are 10 letters  
Row 5: there are 0 letters  
Row 6: there are 10 letters  
Row 7: there are 0 letters  
Row 8: there are 0 letters  
Row 9: there are 0 letters  
Row 10: there are 10 letters

**Task 3.** Write a program that counts occurrences of a word in a file. Your program should read a filename and the word from a keyboard, then it should print the occurrences of that word in the file.

**Example file:**



**Example input 1 from the keyboard:**

Enter filename: **example.txt**  
Enter a word: **row**

**Example output 1:**

There are **5** occurrences of the word "row"

**Example input 2 from the keyboard:**

Enter filename: **example.txt**  
Enter a word: **test**

**Example output 2:**

There is **0** occurrence of the word "test"

**Submission format:** Submit 3 separate C files. C files must include the implementation code of each task and comments for each line of code to explain the purpose. All the files should be submitted as a **zip** file.

**Name of zip file:** {student ID}\_{Student name}\_assignment5.zip

**Example:** 2020712837\_Frank\_Thomas\_assignment5.zip

**Example for source code submission format in C files:**

```
/*
* Function: square_the_biggest
* -----
* Returns the square of the largest of its two input values
*
* n1: one real value
* n2: the other real value
*
* returns: the square of the larger of n1 and n2
*/

double square_the_biggest (float n1, float n2) {
    if(n1 > n2) {          // check if the first number is bigger
        return n1*n1; // if the first number is bigger, then return square of n1
    }
    return n2*n2; // otherwise return square of n2
}
```