

## ASSIGNMENT 7

Write a function **COUNTINSTRING**<sup>1</sup> that counts the number of occurrences of a string S1 can be found in a string S2 (the 2 strings given as parameters) meaning how many time you can find S1 into S2 <sup>2</sup>and return it.

Write another function **COUNTINFILE**<sup>3</sup> that counts how many times a string S (given as a parameter to the function) can be found in the attached DataFile.txt file. The functions should open the file, reads lines (one line at a time) from the file into a string Line, use the COUNT function to see how many time S can be found in Line, and add the line count to the count for the file, close the file, and return it. Do not edit the file.

The function **main** should call the function COUNTINFILE 5 times for the following 5 concepts “Computer Science”, “Programming”, “C++”, “COSC”, and “RLC” to determine the number of times these concepts can be found in the file and output for each of the 5 concepts the corresponding computed count.

You should solve the problem in C++ using only concepts studied in class so far (so, do not use arrays, pointers, c-strings or array of string, lists, or any other concepts we did not learn in Chapters 1 to 7).

You need to create and submit:

- Visual Studio 2019 **C++ code** (call the project YourName-Assignment7). Submit the YourName-Assignment7.cpp file from your Visual C++ project.
- A **screenshots document** (YourName-Assignment7-Screenshot.docx) containing screenshots of your entire code in editor (take multiple screenshots if it larger than one window) and screenshots of the entire program output/console window (take multiple screenshots if it larger than one window). If the code/console/output does not fit on one screen take multiple screenshots.

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<sup>1</sup> With this exact name, parameters, return value, and definition. Here is the prototype: `int COUNTINSTRING (string S1, string S2)`

<sup>2</sup> You can find S1 in the string S2 multiple times, so, you will need to search the string S2 repeatedly until you reach the end of it

<sup>3</sup> With this exact name, parameters, return value, and definition. Here is the prototype: `int COUNTINFILE (string S)`