Lab Sheet – 7

The purpose of this lab is to let you **solve more problems on strings**. There are 5 problems from Codeforces to be solved in this week. Each one is different and will teach you a new skill in terms of thinking, solving and/or coding. Ensure that you attempt and solve each of these problems on your own, from the first principles and based on your raw understanding. All the problems require you to iterate through the string in one way or the other, checking some condition, and such minor operations to compute the result.

- Please ensure you completed all the problems up to Week 6 before you start this.
- Break the problem goal into milestones **and incrementally implement** your solution.
- Ask for help only after you have tried enough from your side.
- Refer to **Python Strings** and **w3schools string methods** for syntax as necessary.

Note: If you don't understand the problem, don't proceed to come up with a solution. If you are not clear about the solution, don't proceed to coding. If you are not sure about the code, don't submit to code forces. These are self-defeating practices which you must avoid.

1. Repeating Cipher (1095A)
    a. https://codeforces.com/contest/1095/problem/A
    b. If you are able to solve this problem on your own, you are on right path.
    c. First code encryption algorithm before you try this (decryption) problem.
2. Diagonal Walking (954A)
    a. https://codeforces.com/problemset/problem/954/A
    b. A basic implementation problem on string. Use appropriate string method.
3. Love 'A' (1146A)
    a. https://codeforces.com/problemset/problem/1146/A
    b. Seems like a simple implementation problem but can be a bit tricky.
    c. Strings can be of varying number of alphabets, how to keep track?
    d. You may need a double (nested) for loop. Or dictionary (check this).
4. Boy or Girl (236A)
    a. https://codeforces.com/contest/236/problem/A.
    b. This problem requires identifying the given property in a string.
    c. Using Set (check this) would be ideal. You can try it.
5. Word (59A)
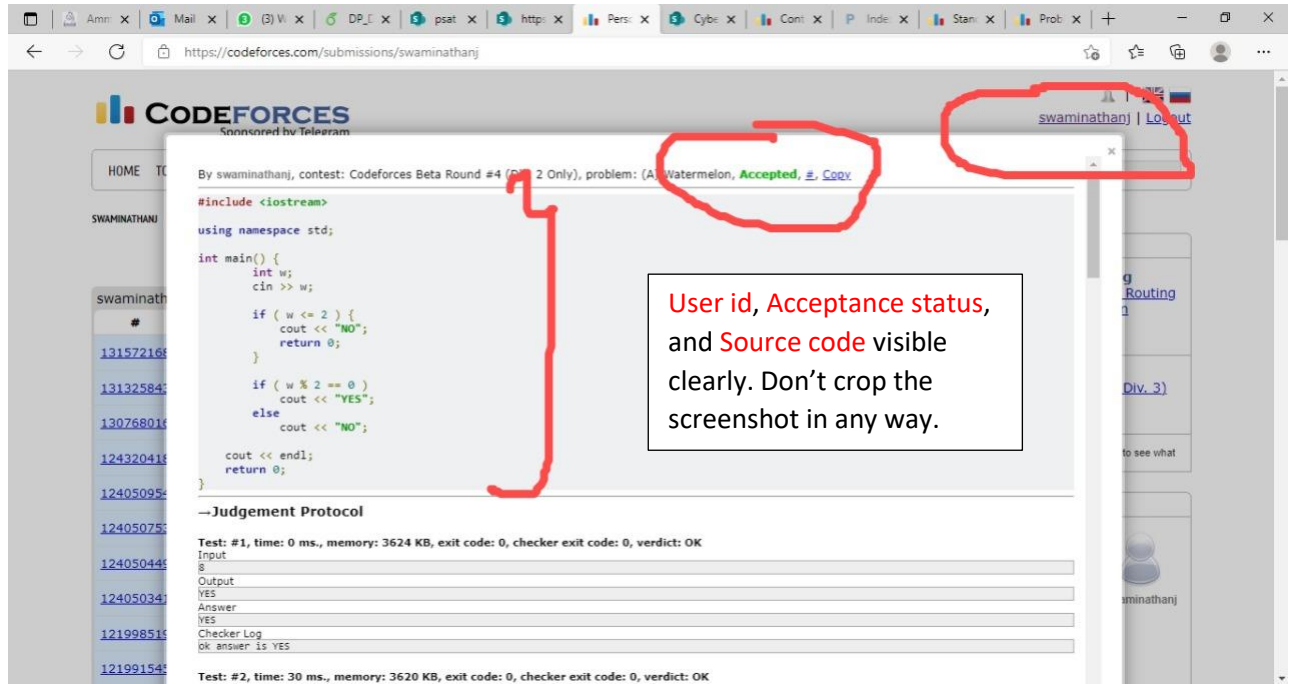   a. https://codeforces.com/contest/59/problem/A.
    b. A simple and straightforward problem if you use appropriate method.
    c. You may also think of solving it without string.

   Note: Please ensure the solutions are submitted and accepted in Codeforces.

Important note: You must try on your own and drill your way through. Don't mind if you struggle. Without struggle, there is no learning. Get used to struggling and overcoming. That is very normal in problem solving. You can seek help after you have tried enough.

Submission: The proof of acceptance (screenshots) along with source code for all 5 problems must be submitted in Teams → Week 7 - Assignment. Sample format below.

The code shown above is in C++. You submission would have Python code instead.