

Lab Sheet – 6

The purpose of this lab is to let you **solve simple string-based problems**. There are 5 problems from Codeforces to be solved in this week. We will first walk you through solving one problem in a step-by-step manner. You can then solve the remaining problems in a similar manner. All the problems require you to iterate through the string in one way or the other, checking some condition, and similar minor operations to compute the result.

- **Do not attempt this if** you haven't completed the 20 (at least 15) String Exercises given last week. First complete that.
- 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. You will only waste your time by this unhealthy approach.

1. Romaji (1593A)

- <https://codeforces.com/contest/1008/problem/A>
- Based on a char is a vowel or not condition differs.
- You need to define a function to check a char is vowel or not.

2. Football (96A)

- <https://codeforces.com/problemset/problem/96/A>
- The input is a binary string which you can process one char at a time.
- You can solve it using a counter or using appropriate string method(s).

3. Mike and Palindrome (798A)

- <https://codeforces.com/problemset/problem/798/A>
- You can check if a string is a palindrome or not in multiple ways.
- You can implement a function for checking palindrome to re-use.

4. Minimizing the String (1076A)

- <https://codeforces.com/contest/1076/problem/A>.
- This problem requires you to think differently.
- Work out many new examples on paper to come up with a solution idea.

5. Superhero Transformation (1111A)

- <https://codeforces.com/contest/1111/problem/A>.
- Don't worry about the problem title and story. It is a simple problem.
- You need to iterate through 2 strings simultaneously and check.

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 the 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 6 - Assignment](#). Sample format below.

By swaminathanj, contest: Codeforces Beta Round #4 (Div. 2 Only), problem: (A) Watermelon, **Accepted**, [Copy](#)

```
#include <iostream>
using namespace std;

int main() {
    int w;
    cin >> w;

    if ( w <= 2 ) {
        cout << "NO";
        return 0;
    }

    if ( w % 2 == 0 )
        cout << "YES";
    else
        cout << "NO";

    cout << endl;
    return 0;
}
```

→Judgement Protocol

Test: #1, time: 0 ms., memory: 3624 KB, exit code: 0, checker exit code: 0, verdict: OK

Input	8
Output	
Answer	YES
Checker Log	ok answer is YES

Test: #2, time: 30 ms., memory: 3620 KB, exit code: 0, checker exit code: 0, verdict: OK

User id, Acceptance status, and Source code visible clearly. Don't crop the screenshot in any way.

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