

# Assignment 1 - CP Basics

Submitted by: Vandana Kumari  
Enroll No: 21501172024

Q1, Q2, Q3 codes accepted in codeforces

#	When	Who	Problem	Lang	Verdict	Time	Memory
348567518	Nov/12/2025 11:37 UTC+5:5	sunshine512	A - Petya and Strings	C++17 (GCC 7-32)	Accepted	124 ms	0 KB
348564022	Nov/12/2025 11:01 UTC+5:5	sunshine512	A - Vasya the Hostler	C++17 (GCC 7-32)	Accepted	61 ms	0 KB
348563456	Nov/12/2025 10:55 UTC+5:5	sunshine512	A - Fox And Snake	C++17 (GCC 7-32)	Accepted	46 ms	0 KB
348534429	Nov/12/2025 02:43 UTC+5:5	sunshine512	A - Petya and Strings	C++17 (GCC 7-32)	Accepted	156 ms	0 KB
348525639	Nov/12/2025 00:40 UTC+5:5	sunshine512	B - Sequence Game	C++17 (GCC 7-32)	Accepted	421 ms	3900 KB
348485593	Nov/11/2025 19:54 UTC+5:5	sunshine512	A - Ambitious Kid	C++17 (GCC 7-32)	Accepted	156 ms	0 KB
348485211	Nov/11/2025 19:52 UTC+5:5	sunshine512	A - Ambitious Kid	C++17 (GCC 7-32)	Wrong answer on test 5	46 ms	0 KB
348485035	Nov/11/2025 19:51 UTC+5:5	sunshine512	A - Ambitious Kid	C++17 (GCC 7-32)	Wrong answer on test 5	77 ms	0 KB
348020857	Nov/08/2025 19:16 UTC+5:5	sunshine512	C - Target Practice	C++17 (GCC 7-32)	Accepted	46 ms	0 KB

Q1)

```
#include <bits/stdc++.h>
using namespace std;

int main(){
    string s1,s2;
    cin >> s1 >> s2 ;
    int ans=0;

    for(int i=0; i<s1.length(); i++){
        if(tolower(s1[i]) == tolower(s2[i])){
            ans++;
        }
        else if(tolower(s1[i]) < tolower(s2[i])){
            ans=-1;
            break;
        }else{
            ans=1;
            break;
        }
    }

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

## Q2)

The screenshot shows a judge interface for a C++ challenge. On the left, under 'CPH JUDGE: RESULTS', there is a section for 'A. Fox And Snake' with four test cases (TC 1, TC 2, TC 3, TC 4) all marked as 'Passed'. Below this is a 'Submit' button and a 'Set ONLINE JUDGE' checkbox. At the bottom are buttons for 'Run All', '+ New', 'Stop', and 'Delete'. On the right, the code for 'A\_Fox\_And\_Snake.cpp' is displayed:

```
#include <bits/stdc++.h>
using namespace std;

int main(){
    int n,m;
    cin>>n>>m;

    for(int i=0; i<n; i++){
        string s(m, '#');
        for(int j=0; j<m; j++){
            if(i*j!=0){
                if(i==3 || i==7 || i==11 || i==15 || i==19 || i==23 || i==27 || i==31 || i==35 || i==39 || i==43 || i==47){
                    if(j!=0){
                        s[j]= '.';
                    }
                }else{
                    if(j!=m-1){
                        s[j]= '.';
                    }
                }
            }
        }
        cout<<s<<endl;
    }
    return 0;
}
```

At the bottom of the interface, status indicators show 'Ln 26, Col 2', 'Spaces: 4', 'UTF-8', 'CRLF', 'C++', 'Go Live', 'Win32', and 'Prettier'.

## Q3)

The screenshot shows a judge interface for a C++ challenge. On the left, under 'CPH JUDGE: RESULTS', there is a section for 'A. Vasya the Hipster' with three test cases (TC 1, TC 2, TC 3) all marked as 'Passed'. Each test case has an 'Input' field and an 'Expected Output' field. Below this is a 'Submit' button and a 'Set ONLINE JUDGE' checkbox. At the bottom are buttons for 'Run All', '+ New', 'Stop', and 'Delete'. On the right, the code for 'A\_Vasya\_the\_Hipster.cpp' is displayed:

```
#include <bits/stdc++.h>
using namespace std;

int main(){
    int a,b;
    cin>>a>>b;

    cout<<min(a,b)<< " ";
    cout<<abs(a-b)/2<<endl;
    return 0;
}
```

At the bottom of the interface, status indicators show 'Ln 12, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', 'C++', 'Go Live', 'Win32', and 'Prettier'.

Q4)

The screenshot shows a Java code submission interface. At the top, there are navigation links: Description, Accepted (highlighted), Editorial, Solutions, and Submissions. Below these are buttons for Stack, Back, Forward, and Refresh. On the right side, there are icons for settings, a lock, a user icon, and a plus sign.

The main area displays the following information:

- Accepted**: 99 / 99 testcases passed
- Vandana submitted at Nov 12, 2025 11:47
- Runtime**: 22 ms | Beats 93.63% (Green)
- Memory**: 81.56 MB | Beats 5.76%
- A histogram showing the distribution of execution times. The x-axis is labeled with 1ms, 31ms, 61ms, and 90ms. The y-axis shows percentages from 0% to 15%. A blue bar chart indicates the distribution, with a notable peak between 61ms and 90ms.
- Code** (Java):

```
1 class Solution {  
2     public int largestRectangleArea(int[] heights) {  
3         Deque<Integer> st = new ArrayDeque<>();  
4         int maxArea=0;  
5         int ele=0, nse=0, pse= 0;  
6         for(int i=0; i<heights.length; i++){  
7             while(!st.isEmpty() && heights[st.peek()]>heights[i]){  
8                 ele=st.pop();  
9                 nse=i;  
10                pse=st.isEmpty() ? -1: st.peek();  
11                maxArea= Math.max(maxArea, heights[ele] * (nse-pse-1));  
12            }  
13            st.push(i); //ham index ko push krenge  
14        }  
15        while(!st.isEmpty()){  
16            nse=heights.length;  
17            ele=st.pop();  
18            pse= st.isEmpty() ? -1: st.peek();  
19            maxArea= Math.max(maxArea, heights[ele] * (nse-pse-1));  
20        }  
21        return maxArea;  
22    }  
23 }  
24  
25 }
```

At the bottom, there are buttons for Testcase and Test Result.