**TechSoc 2019-20**

**Reverse Coding Finals**

Hey everyone! Welcome to the onsite final round of TechSoc Reverse Coding, 2019-2020.

Congratulations for having made it to the second round by being among the top 37 teams that participated in the offline prelims a month ago.

This will be a coding based round, and as an augment to whatever happened in the first round, you'll be required to solve patterns, which are given in an executable format to you, and code them up to produce the required pattern. The given codes will then be run against our tests.

**Number of questions:** 6

**Total time allotted:** 1.5 hours

**MARKING SCHEME:**

**Maximum possible score:** 240

Question 1: 15 marks for correct code

Question 2: 30 marks for correct code

Question 3: 40 marks for correct code

Question 4: 50 marks for correct code

Question 5: 45 marks for correct code

Question 6: 60 marks for correct code

**QUESTION FORMAT:**

Each question will have a small text followed by a prompt asking you to input integers or strings. Give input separated by spaces and end with an enter, which will give you a result in the form of a number. This number is related to the input by a pattern, you'll have to code and send.

**INPUT CONSTRAINTS:**

**Question 1:**

Two integers n, where 1<=n<=10^5.

**Question 2:**

One integer n, where 1<=n<=10^3.

**Question 3:**

One string S, where the length of S, 1<=|S|<=10^5.

**Question 4:**

One integer n, where 1<=n<=10^5.

**Question 5:**

One integer n, where 1<=n<=10^2.

**Question 6:**

One integer n, where 1<=n<=10^5.

In case you aren’t aware of why the constraints matter, it is due to the fact that a computer can do ~10^7 instructions in a second. Due to compilation time limit of a second, make sure your algorithm has less than 10^7 operations.

**CODING FORMAT:**

You will be expected to write code that does NOT produce ANY input or output text.

The input format will be just one or two integers or a string (let's say) and output just an integer.

Sometimes, output or input might be out of integer range. Do not forget to use longer integer variables in that case.

For example, here are code snippets in C++:

// For C++ users of the Q1

#include<bits/stdc++h>

using namespace std;

int f(int a, int b){

// return a+b;

// this can be a possible answer which is syntactically correct

}

main(){

int a, b;

cin>>a>>b;

cout<<f(a,b)<<endl;

}

//For C++ users of Q3

#include<bits/stdc++h>

using namespace std;

int f(string s){

// return s.length();

// this can be a possible answer which is syntactically correct

}

main(){

}

main(){

string s;

cin>>s;

cout<<f(s)<<endl;

}

//For C++ users of Q2, Q4, Q5, Q6

#include<bits/stdc++h>

using namespace std;

int f(int a){

// return a+1;

// this can be a possible answer which is syntactically correct

}

main(){

int a;

cin>>a;

cout<<f(a)<<endl;

}

You are free to change the header files or functions as you want, but **MAKE SURE YOU STICK WITH THE INPUT OUTPUT FORMAT.** Deviation from this can cause total failing of all test cases and hence result in wrong results.

**SUBMISSION FORMAT:**

Please open the website mentioned in the contest room.

A set of executables for Windows and Linux/Mac are given separately in a downloadable folder. Download and unpack the folder. The .exe files are executable on Windows and the .out files are executable on Mac and Linux.

In the extension to submit your answer, submit your code saved as a text file with the extension .cpp, .c or .py depending on the language in which you code the answer in. You will be returned the number of marks scored on the question, full marks for a correct answer and partial marks for few failed test cases. Save the file name ONLY IN THIS FORMAT: <rollno>\_<questionno>.<extension> .

Example: if your roll number is CS18B003 and you’re submitting your code for the fourth question in C++, then save the file as ‘CS18B003\_4.cpp’. You can use either of your teammates’ roll numbers.

Also note: the submission shows status (correct or wrong), but not the nature of error (runtime/time limit/compilation/wrong answer), so you’ll have to debug the code yourself.

Are you ready for the challenge, and for a huge set of TechSoc hostel points?

Then listen to our hero, who's going anonymous for kinda obvious reasons. Our hero was born the most optimistic guy on earth. He took everything in life positively, all the success, failure, setbacks, achievements and most importantly, he was a happy person.

Life completely changed with a change in his mindset.

What really happened? No one knows. But everyone knows that he's now struggling.

You can start the contest now.