

# **Etraveli Group Recruitment 2024**

## **Welcome**

1.Candidate needs to address 2 programs , you have either option for each problem statement .

2.Candidate needs to use Java programming language -preferred . If you are not comfortable with Java you can also use C++ .

3.Include rough work into submission .

4.Submission needs to be completed using the github account , you need to send us the github repository link . Please ensure your repository is public and accessible to us.

Github repository project name needs to be in format

<<Firstname\_Lastname\_MobileNumber\_AWH>>.

## **All the best!**

## **Section A**

**Q1.**

A football tournament got completed. The players have been given points for scoring goals and points for committing fouls. Now, it is up to the football association club to find the best player in the tournament. As a programmer, your job is to help the club by telling them the highest number of points achieved by some player. You are given two sequences  $X_1, X_2, X_3, \dots, X_N$  and  $Y_1, Y_2, Y_3, \dots, Y_N$  For each valid  $i$  , player  $i$  scored  $X_i$  goals and committed  $Y_i$  fouls. For each goal, the player that scored it gets 10 points, and for each foul, 5 points are deducted from the player that committed it. However, if the resulting number of points of some player is negative, this player will be considered to have 0 points instead. You need to calculate the total number of points gained by each player and tell the club the maximum of these values.

Example:-

$N = 4$

Goals :- 8 5 7 2

Fouls :- 3 0 5 1

Answer:- 65

**OR**

**Q2.**

You are given identical squares, each with side length  $X$ . All the squares have their sides parallel to the  $x$ -axis and  $y$ -axis. That is, the squares are not tilted. You have to take several (possibly, zero or all) squares and rearrange them to obtain a mega square. The mega square can't have any gap in the enclosed region or have overlapping squares. Also, you cannot rotate any square. Output the side length of the largest mega square that you can obtain.

Examples:- ( $N$ =number of squares,  $X$ =length of the side of each square)

$N=5, X=3$       Answer:- 6

$N=3, X=2$       Answer:- 2

$N=16, X=18$     Answer:- 72

$N=11, X=8$      Answer:- 24

$N=8, X=6$       Answer:- 12

## Section B

**Q1.**

Given an array of integers. Write a program to find the second highest number from the array.

Example:-  $\text{arr1} = \{2, 34, 6, 5, 28, 15\}$     Answer:- 28

**OR**

**Q2.**

Write a program to print the count of each character in a given string.

Example:- "Pune is a good city"

Answer:-  $P=1, u=1, n=1, e=1, i=2, s=1, a=1, g=1, o=2, d=1, c=1, t=1, y=1$