CS F111 - Computer Programming - Lab 5

Date: April 20, 2021 - 5pm to 7pm.

- The lab is **EVALUATIVE**.
- Follow the instructions given below in the exact order.
- Any deviation from the instructions or incomplete steps will be dealt with according to the policy announced on quanta.
- Without the video recording link, the lab marks will be withheld.
- You may refer **ONLY** to the teaching materials shared by the course instructors.

LAB INSTRUCTIONS

(Please ensure that you follow the instructions in this order.)

1. Close all applications and browser-tabs except the ones needed during the lab, and join the Google meet assigned to your group..
2. Start recording your screen and webcam feed in the format mentioned in the "Software Prerequisites" document. Ensure that the date/time are visible.
3. Solve the questions given in the question paper.
4. When you are ready to submit your solution, upload your C program via the form given below:
   https://forms.gle/3ZEDmkLKUfwmFBiY7
   Please ensure that you use BITS email ID while filling the form.
5. Stop screen and webcam recording.
   Please click the "Stop recording" button only once. If you click it multiple times, you may lose the entire recording.
6. Upload the recording on your BITS Google Drive.
7. Edit the options on the uploaded recording to allow the "All can view" option and copy the link to be shared. If you're unsure about this, use the following link : https://tinyurl.com/GDriveuploadhelp
8. Submit the link of the recording via the form below by 5pm, 21st April:
   https://forms.gle/jE1eThQzVXh2ujtw6
   Please ensure that you use BITS email ID while filling the form.

NOTE :

- Resubmission of solutions on the form is not permitted, so please ensure that you only submit your final solutions.
- There are a total of 2 evaluative questions.
- In all the questions assume that the maximum size of the array is 100.
- There is an optional question at the end which won't be evaluated, but you may submit them if you wish to do so.

Question 1 - (5 Marks):

A list of integers A is called a *sublist* of a list of integers B, if for any integer n in A, the number of times n occurs in B is at least as large as the number of times n occurs in A.

Write a program `Q1.c` that takes two lists of integers A,B (of possibly different sizes) from the user, and prints YES, if A is a sublist of B, otherwise prints NO.

Sample Output : 1

```
Enter size of A : 5
Enter A : -1 0 3 0 -1

Enter size of B : 7
Enter B : 3 0 -1 0 0 -1 -2

YES
```

Sample Output : 2

```
Enter size of A : 6
Enter A : -1 0 3 0 -1 -1

Enter size of B : 7
Enter B : -1  3 0 0 0 -1 -2

NO
```

Question 2 - (5 Marks):

Write a program **`Q2.c`** that takes a list of positive integers (>0) from the user until it sees a non-positive number, and then prints the greatest common divisor of all the positive integers in the list.

Sample Output : 1

```
Enter integers : 24 16 18 -20
GCD : 2
```

Sample Output : 2

```
Enter integers : 2 4 6 8 9 0
GCD : 1
```

Question 3 - (Optional - 0 Marks):

Write a program **`Q3.c`** that takes an integer n from the user and print all subsets of the set {1,2,3,...., n}, without repeating the same subset.

Sample Output : 1

```
Enter integer : 4
Subsets :
1
2
3
4
1 2
1 3
1 4
2 3
2 4
3 4
1 2 3
1 2 4
2 3 4
1 2 3 4
```

Sample Output : 2

```
Enter integer : 3
Subsets :
1
2
3
1 2
1 3
2 3
1 2 3
```
