**Assignment 03**

**Data Structures**

TechLift CureMD is Pakistan's first-ever industry-led bootcamp program, and for that purpose they are looking for the registration of the candidates who are willing to participate in the program.

Design a system where the candidates would be able to provide their basic information along with their educational documents.

**Task 1:** Register 15 people who are interested for the program. Take the hardcoded data as there is no UI/Web page involved.

**Task 2:** For the next step, TechLift has decided to choose only those candidates (let say 10 people) who have secured 3.00 CGPA. So, your task is to filter the list out candidates with eligible criteria.

**Task 3:** After the shortlisting and finalizing the 10 candidates for the program, the Bootcamp has been started and the candidates are being evaluated on the basis of weekly projects. The candidates have submitted 2 projects since the start of the course, rating between 1 to 100 marks.

In this task, you are required to assign each candidate with random marks (1 to 100) for two different projects.

**Task 4:** Find out the candidates who have scored more than 90% score collectively in the projects.

**Task 5:** There is another requirement where candidates list need to be searched by a city name. Example: Search all candidates that are from "Rawalpindi". The search should be in constant time O(1).

Hint: Dictionary might be helpful in this case.

**Task 6:** Implement the sorting on the list of the candidates from the Task 4 on the basis of marks of their assignments.

**Task 7:** Measure the Time Complexity of each task and write it down in the start of each task.