

**Mid Term Lab Assignment
Data Structure Lab [K]**

Due Date: 17 March 2023

Marks: 20

Consider you are assigned as a TA under Probation office. Your Supervisor is to receive the CGPA of 'N' students by emails from the Department Heads and asked you to find the CGPAs who are in probation (for probation, CGPA is less than 2.50) and sort (selection sort) the probation CGPAs after receiving the CGPAs of 'x' students where lowest CGPA will be at first, and if 'y' new emails come with the remaining (N-x) CGPAs, you need to keep it as sorted like previously mentioned. So that when your supervisor starts notifying the students, the lowest CGPA stays at first. After disbursing the first one, 2nd lowest will be at first and goes on. Your supervisor also needs a searching system where he/she will be able to search (binary search) for a particular CGPA to see whether it is present in the probation CGPA list or not.

Sample input output:

Input	How many students? ➤ 10 How many CGPAs you would like to enter at this moment?: ➤ 7 Enter CGPAs of 7 students: ➤ 2.8 1.7 2.5 1.2 2.68 1.9 2.33
Output	Sorted CGPA of probation students: ➤ 1.2 1.7 1.9 2.33
Input	How many additional CGPAs are received from the remaining CGPAs? ➤ 3 Enter CGPAs of the 3 newly received CGPAs: ➤ 1.3 2.77 2.35
Output	Sorted CGPAs of probation students: ➤ 1.2 1.3 1.7 1.9 2.33 2.35
Input	Enter a CGPA to search in the probation list: ➤ 1.9
Output	The entered 1.9 CGPA can be found in the probation CGPA list