

The Test College of Engineering offers different Engineering courses. Write code to create a file/records of data base of students. Each student record consists of a nine-letter roll number (like 1921TE049), Grades in five different subjects (S1,S2,S3,S4,S5) are integer values (in between 0,4,5,6,7,8,9 and 10).

- (a) Write a code to handle queries of the form (sub, Rmin, Rmax), where sub is the subject (S1/S2/S3/S4/S5) and Rmin, Rmax are two integers between 0,4,5,6,7,8,9 and 10. The query should print all the student roll numbers and their marks in the specified subject provided that the Grade points are in the range [Rmin,Rmax]. The printing should be in the sorted order of the Grades (higher to lower). Some Grades may appear multiple times, and some may be missing. All students with marks in the query interval [Rmin,Rmax] should be reported. If two or more students have the same Grade points the student with smaller Roll number will be appearing first.

- (b) **State the complexity of your algorithm and justify.**