

**CS 202 : IT Workshop I**  
**Assignment 5**  
**Total Marks =10**

Q1.

**Class Student**

```
- name: String  
- rollNo: int  
- cgpa: double  
- facultyAdvisor: Faculty  
- branch: String  
- collegeID: String  
  
<<constructor>>Student()  
<<constructor>>Student(Faculty)  
+ updateStudentRecord() : void  
+ getStudentDetails() : void  
+ getAdvisor() : Faculty
```

**Class Faculty**

```
- name : String  
- empID: int  
<<constructor>>Faculty()  
+ toString() : String
```

Consider two classes **Student** and **Faculty** as detailed above. Each student has a faculty advisor. The driver class (containing the main() method) should have methods addStudent(), deleteStudent(), addFaculty() and deleteFaculty(). **The total strength of students is 5 and total strength of faculty is 2.** The methods updateStudentRecord(), getStudentDetails(), getStudentMonitor() are invoked for one object at a time, which is identified by the roll number of the student.

- a)** Design a menu driven interface for the user. The options are 1) Add student, 2) Delete student, 3) Add faculty, 4) Delete Faculty, 5) Update Student Record 6) Get Student Details, 7) Get Advisor Details. [Hint : First, Add Faculty and then add student. Use array of objects to store the student and faculty]. Note that maximum number of students and faculty are 5 and 2, respectively. Else, a error message should be shown.
- b)** Keep the student array sorted by the field roll number after addition/deletion of a new student.
- c)** CollegeID is a static field and it should be initialized with a value using static block.

**d)** `toString()` function in the `Faculty` class returns a string that contains faculty name and empID.