

CS 202 : IT Workshop I
Assignment 6
Total Marks =10

Q1.

Class Student	Class Faculty	Class Person
<ul style="list-style-type: none">- rollNo: int- cgpa: double- facultyAdvisor: Faculty- branch: String- <u>collegeID</u>: String <p><<constructor>>Student() <<constructor>>Student(Faculty) + getDetails() : void + getAdvisor() : Faculty</p>	<ul style="list-style-type: none">- empID: int<<constructor>>Faculty()+ toString() : String+getDetails() : void	<ul style="list-style-type: none">- name: String- age:int<<constructor>>Person()+getDetails():void

Consider the classes **Student**, **Faculty** and **Person**. Student and Faculty share a Has-A relationship (A student has a faculty advisor), where as Both **Faculty** and **Student** classes share a IS-A relationship with **Person**. Both **Faculty** and **Student** classes override the method `getDetails()` by adding faculty and student specific details to it. Note that maximum number of students and faculty are 5 and 2, respectively.

The driver class (containing the `main()` method) should have methods `addStudent()`, `deleteStudent()`, `addFaculty()` and `deleteFaculty()`, `addPerson()` and `deletePerson()`. Else, a error message should be shown. Establish the relationship among the classes based on thier relationships.

- 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) Add Person 6) Delete Person 7) Get Student Details, 8) Get Advisor Details 9) Get Person Details.

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