1. Based on *Student database*, you are expected to implement each query that carries out the operations given below.

**Faculty(FacultyID, Name, DeanRegNo)**

**Department(DepartmentID, Name, HeadRegNo, FacultyNo)**

**Student(StudentNo, Name, Surname, Sex, DateofBirth, EduPeriod, DepartmentNo)**

**Instructor(InstructorRegNo, Name, Surname, Sex, Position, DepartmentNo)**

**Course(CourseID, CourseName, THour, PHour, Credit, DepartmentNo)**

**Section(CourseID, SectionID, Inst\_inCharge)**

**Stu\_Course(StudentNo, CourseID, SectionID, MO, Grade)**

1. Find out the number, name, and surname of the students who have taken all courses offered by “Computer” department.

*select StudentNo, StudentName,StudentSurname from student where StudentNo in (select student\_StudentNo from student\_course where student\_course.course\_CourseID in (select CourseID from course, department where course.department\_DepartmentID=department.DepartmentID and department.DepartmentName='Computer') group by student\_StudentNo having count(\*)=(select count(\*) from course, department where course.department\_DepartmentID=department.DepartmentID and department.DepartmentName='Computer'))*

1. For each department stored in database, find out the summation of difference between theorical and practical hours of the course offered by that department.

*select department.DepartmentName, sum(CourseTheoreticalH-CoursePracticalH) as Difference from course, department where course.department\_DepartmentID =department.DepartmentID group by DepartmentName*

1. Find out the number, name, and surname of the students whose average grade is over 50 (include 50) and department is either *Computer* or *Electric.* Note: Consider only mandatory courses taken for calculation of average grade. (Mandatory is abbreviated as *M* in database).

*select StudentNo,StudentName,StudentSurname from student,department where (department.DepartmentName="Computer" or department.DepartmentName="Electric") and student.department\_DepartmentID=department.DepartmentID and student.StudentNo in (select student\_StudentNo from student\_course where Man\_or\_Opt="M" group by student\_StudentNo having avg(grade)>=50);*

1. Find out id and name of the courses whose all sections are given by only one research assistant. In other words, find out such a course’s id and name that its sections are not taught by more than one research assistant. Note: A course having a single section should also be displayed if it is provided by a research assitant. (Research assistant is abbreviated as *RA* in database)

*select CourseID, CourseName from course where CourseID in (select course\_CourseID from (select course\_CourseID,count(\*) from section,ınstructor group by course\_CourseID, ınstructor\_InstructorRegNo) as temptbl group by course\_CourseID having count(course\_CourseID)=1 ) and CourseID in (select distinct(course\_CourseID) from section, ınstructor where ınstructor.InstructorPosition="RA" and section.ınstructor\_InstructorRegNo=ınstructor.InstructorRegNo)*