

1. Given the following database schema

LECTURER(StaffNO, Title, FName, LName, Address, Salary, ResearchArea)

STUDENT(StudentNO, FName, LName, DOB, Address, StudentStatus)

(StudentStatus can be 'C' (current) or 'G' (graduated))

SUBJECT(SubjectCode, Name, Prerequisite, Credit)

LECTURE(LectureCode, SubjectCode, StaffNO, Semester, LectDay, LectTime, Venue)

(SubjectCode and StaffNO are foreign keys)

STUDENT_ENROLMENT(LectureCode, StudentNO)

(LectureCode and StudentNO are foreign keys)

Write SQL statement for (a)-(g)

- a. Create the following tables **LECTURER**, **SUBJECT**, **LECTURE**
- b. Return the list of all current student
- c. Return the list of lectures happened in Monday
- d. Return the list of students enrolled in Database course
- e. List the details of the lecturer(s) whose research area contains 'Network Management'.
- f. List the following information about all students who enrolled in the Database (subject's name): StudentNo, last name, first name, date-of-birth (DOB), status. The output must be given in alphabetical order based on the students' last names.
- g. List any lecturers who are not teaching.
- h. Calculate the average salary for a lecturer.
- i. List the staff number, first name and last name of all the lecturers that take three or more subjects.
- j. Calculate the number of student per subject taught by each lecturer. The output containing SubjectCode, Staff No and the total number of students.

2. Considering the following relational schema

Hotel (Hotel No, Name, Address)

Room (Room No, Hotel No, Type, Price)

Booking (Hotel No, Guest No, Date From, Date To, Room No)

Guest (Guest No, Name, Address)

Underlying attributes are primary keys. Italic attributes are foreign key.

Date_From < Date_To

Writing the following queries

- a. Creating relations Hotel, Room and Booking
- b. List full details of all hotels in London.
- c. List all double or family rooms with a price below USD 40.00 per night, in ascending order of price. Writing the algebraic expression and optimize it
- d. List the room having no booking between June 1 2016 and June 30 2016. Writing the algebraic expression and optimize it
- e. What is the average price of a room?
- f. How many different guests have made bookings for August 2016?
- g. List all guests currently staying at the GrosvenorHotel.
- h. What is the average number of bookings for each hotel in August?