

Course Code: CL2001	Course Name: Database Lab
Instructors: Mr. Shaheer Ahmad Khan	
Student Roll No: 21K-4547	Section: BSCS-5J

**Instructions:**

READ carefully the following instructions before attempting the paper.

- Except your Roll No and Section, **DO NOT WRITE** anything on this paper.
- The Exam consists of **2 questions on 2 pages**.
- In case of any ambiguity, you may make assumptions but your assumption must not contradict any statement in the question paper.
- Create a folder named according to Roll\_No. Files should be named according to Roll\_No e.g. k221234\_Q1.SQL, k221234\_Q2.SQL etc. Then ZIP/RAR the folder which includes all your .SQL files
- Submission on IP (Win + R): \\172.16.5.43\Exam Submission\Shaheer Ahmad\DB\_lab\Section

Time: 90 Minutes

Max Marks: 25 Marks

Question No.1 [LLO:4]

[Estimated Time: 35 Minutes]

[15 Marks]

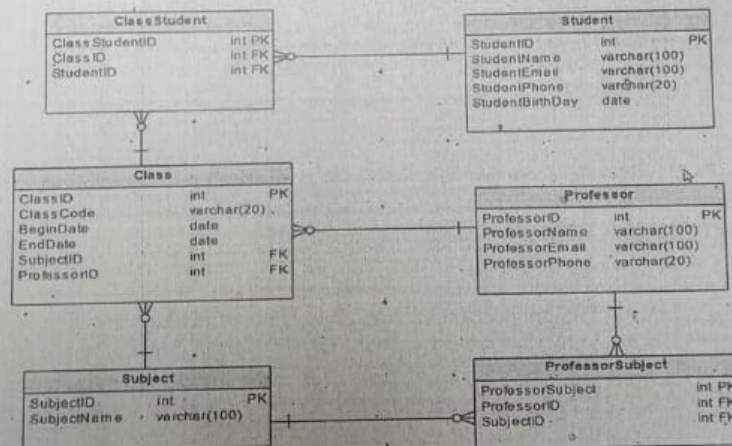


Figure:1

Using the above figure 1 of relational model do perform the following task:

1. Create DDL script.
2. Add all the necessary keys and other constraints in the script.
3. Add Constraints such that a student can't take more than 5 courses, a professor can't teach more than 3 courses, and a class can't have more than 35 students.
4. Delete the tables "Subject" and "Professor".

Question No.2 (SQL Queries) [LLO:5,6]

[Estimated Time: 45 Minutes]

[10 Marks]

1. Write a query to determine the total count of employees categorized by country and city.
2. Write a query to calculate the count of employees in each region.
3. Write a query to compute the average tenure period for each department from the Job History table.
4. Write a query to identify the state with the fewest employees.
5. Write a query to retrieve information about the five least senior employees, along with their respective durations of employment.
6. Write a query to retrieve details of all employees where the difference between their salary and the max salary of employees residing in Japan is greater than 5000.
7. Write a query to identify employees who have worked in only one department, displaying their start and end dates within that department.
8. Write a query to calculate the total and average salaries for employees in each state.
9. Write a query to retrieve details of employees that were part of the company for over a period of more than 6 months, had a min\_salary in range of 4000-10000, and belonged to department no 90.
10. Write a query determine which state has the highest number of employees.

GOOD LUCK... V