

# Lab 4: SQL Evaluation

CSL303: Database Management Systems

August 26, 2025

## Objective

To gain experience with advanced SQL features, including various join types, subqueries, set operations, and data manipulation language (DML). This lab uses a pre-populated SQLite database that you will create.

## Setup

You must first create the SQLite database from the provided SQL script. Run the following command in your terminal from the same directory where `lab4_data.sql` is located:

```
sqlite3 lab4.db < lab4_data.sql
```

This command will execute the SQL script, creating the necessary tables (**Students**, **Courses**, **Enrolled**) and populating them with data. You can now open the database to run the queries for the exercises below.

```
sqlite3 lab4.db
```

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## Exercises

For each question, write a single SQL query that produces the required result. Every question carries equal points.

1. Create a new table “enrolled” where there is no “enroll\_id” and primary key is (“student\_id”, “course\_id”).
2. Insert all the data that is existing in “Enrolment” table into “enrolled” table.
3. Update the department of students with character ‘i’ in their name to ‘Philosophy’.
4. Add a new column email to the Students table.
5. Update the email for all students as “name@iitbhillai.ac.in”.
6. Select all students in the “Computer Science” department.
7. Find names that exist both as student names and as course names.
8. List student names and their enrolled course names in a course name wise. The course name should appear in ascending order.
9. List all students and their enrolled courses (including students with no enrollments).
10. List all students whose name starts with “A”.
11. Find students who are enrolled in at least one course worth more than 3 credits.
12. Find students who have never enrolled in any course.