SQL MODULE

LAB - 5

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Questions

Day9- Lab

(PN: ChatGPT exercise is mandatory)

Lab: Use the Student Management System Database and table from previous lab.Perform the following commands on the table Student and Enrollment.

1. Let's consider a scenario where you have a database tracking student enrollments and some students may not be enrolled in any courses.

John Doe (StudentID: 1) is enrolled in courses with EnrollmentIDs 101 and 102.

Jane Smith (StudentID: 2) is enrolled in courses with EnrollmentIDs 103 and 104.

Bob Johnson (StudentID: 3) is not enrolled in any courses.

Now,run RIGHT OUTER JOIN query to retrieve data.

2. Assume a university where students can enroll in various courses. Here are some fictional details:

Student Information:

Student with ID 1: John, email: john@email.com

Student with ID 2: Jane, email: jane@email.com

Student with ID 3: Bob, email: bob@email.com

Enrollment Information:

Enrollment with ID 101: John (StudentID: 1) enrolls in Math (CourseID: MATH101).

Enrollment with ID 102: John (StudentID: 1) enrolls in History (CourseID: HIST201).

Enrollment with ID 103: Jane (StudentID: 2) enrolls in Physics (CourseID: PHYS301).

Enrollment with ID 104: Bob (StudentID: 3) enrolls in Chemistry (CourseID: CHEM401).

Enrollment with ID 105: Alice (StudentID: 4) enrolls in English (CourseID: ENG501).

Now, write a LEFT JOIN query to retrieve the data.

Submission:

Create an SQL script file containing your solutions for all tasks (queries). Name the file "lab_assignment1.sql" Provide comments above each query to indicate the query's purpose.

ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem .

Scenario 1:You have two tables, employees and departments. Retrieve a list of employees along with their department names using an inner join.

Scenario 2:In an employee database, join the employees table with itself to display each employee along with their manager, including employees without managers, using a left join.

We have an "Employee" table with the following columns: EmployeeID,EmployeeName,ManagerID(Foreign Key) and "Manager" table with following columns:ManagerID,ManagerName.You want to retrieve each employee along with your manager.Generate a chatGPT prompt for the scenario.

ASSIGNMENT -1&2

TASK 1→

```
mysql> SELECT
    -> e.EnrollmentId,
    ->  s.StudentId,
    -> s.FirstName,
    -> s.LastName,
    -> e.CourseId
    -> FROM
    -> Enrollment_N e
    -> RIGHT JOIN
    -> student_new s ON e.StudentId = s.StudentId;
+--------------+-----------+-----------+----------+----------+
| EnrollmentId | StudentId | FirstName | LastName | CourseId |
+--------------+-----------+-----------+----------+----------+
|          101 |         1 | John      | Doe      | MATH101  |
|          102 |         1 | John      | Doe      | HIST201  |
|          103 |         2 | Jane      | Smith    | HIST001  |
|          104 |         3 | Bob       | Johnson  | HTM301   |
|          105 |         4 | Alice     | Brown    | Eng501   |
+--------------+-----------+-----------+----------+----------+
5 rows in set (0.10 sec)
```

TASK 2→

```
mysql> SELECT
    ->  s.StudentId,
    -> s.FirstName,
    ->  s.Email,
    -> e.EnrollmentId,
    -> e.CourseId
    -> FROM
    -> student_new s
    -> LEFT JOIN
    -> Enrollment_N e ON s.StudentId = e.StudentId;
+-----------+-----------+-----------------+--------------+----------+
| StudentId | FirstName | Email           | EnrollmentId | CourseId |
+-----------+-----------+-----------------+--------------+----------+
|         1 | John      | john@email.com  |          101 | MATH101  |
|         1 | John      | john@email.com  |          102 | HIST201  |
|         2 | Jane      | jane@email.com  |          103 | HIST001  |
|         3 | Bob       | bob@email.com   |          104 | HTM301   |
|         4 | Alice     | alice@email.com |          105 | Eng501   |
+-----------+-----------+-----------------+--------------+----------+
5 rows in set (0.00 sec)
```

SCENARIO-1:

→

```
mysql> SELECT
    -> e.employee_id AS EmployeeID,
    -> e.employee_name AS EmployeeName,
    ->  e.department AS Department,
    ->  e.salary AS Salary,
    ->  d.DepartmentName
    -> FROM
    -> employee e
    -> INNER JOIN
    ->  departments d ON e.department = d.DepartmentName;
Empty set (0.00 sec)
```

Scenario -2
→

```
mysql> SELECT
    -> e.employee_id AS EmployeeID,
    -> e.employee_name AS EmployeeName,
    -> e.department AS Department,
    -> e.salary AS Salary,
    -> m.ManagerName AS ManagerName
    ->
    -> FROM
    -> employee e
    -> LEFT JOIN
    -> manager m ON e.department = m.DepartmentID;
+------------+--------------+------------+--------+-------------+
| EmployeeID | EmployeeName | Department | Salary | ManagerName |
+------------+--------------+------------+--------+-------------+
|          1 | Alice        | IT         |  60000 | NULL        |
|          2 | Bob          | HR         |  45000 | NULL        |
|          3 | Charlie      | IT         |  70000 | NULL        |
|          4 | David        | Sales      |  50000 | NULL        |
|          5 | Eve          | IT         |  30000 | NULL        |
+------------+--------------+------------+--------+-------------+
5 rows in set, 1 warning (0.02 sec)

mysql>
```