SQL Lab 5

Q1: 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.

SELECT s.StudentID, s.FirstName, s.LastName, e.EnrollmentID

FROM Student s

RIGHT JOIN Enrollment e ON s.StudentID = e.StudentID;

**Student Table (Student)**

| **StudentID** | **FirstName** | **LastName** |
| --- | --- | --- |
| 1 | John | Doe |
| 2 | Jane | Smith |
| 3 | Bob | Johnson |

**Enrollment Table (Enrollment)**

| **EnrollmentID** | **StudentID** | **CourseID** |
| --- | --- | --- |
| 101 | 1 | MATH101 |
| 102 | 1 | HIST201 |
| 103 | 2 | PHYS301 |
| 104 | 3 | CHEM401 |
| 105 | 4 | ENG501 |

**Output of the Query**

| **StudentID** | **FirstName** | **LastName** | **EnrollmentID** |
| --- | --- | --- | --- |
| 1 | John | Doe | 101 |
| 1 | John | Doe | 102 |
| 2 | Jane | Smith | 103 |
| 3 | Bob | Johnson | 104 |
| NULL | NULL | NULL | 105 |

Q 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](mailto:john@email.com)

Student with ID 2: Jane, email: [jane@email.com](mailto:jane@email.com)

Student with ID 3: Bob, email: [bob@email.com](mailto: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.

SELECT Student.StudentID, Student.FirstName, Student.Email, Enrollment.EnrollmentID, Enrollment.CourseID

FROM Student

LEFT JOIN Enrollment ON Student.StudentID = Enrollment.StudentID;

**Expected Output:**

| **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 | PHYS301 |
| 3 | Bob | bob@email.com | 104 | CHEM401 |
| 4 | Alice | alice@email.com | 105 | ENG501 |
| 5 | Charlie | charlie@email.com | NULL | NULL |