### 1. Find all types of Joins (Inner, Left, Right, Full Outer Join)

* **Inner Join** (returns only matching records from both tables):

sql

Copy code

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

INNER JOIN Course c ON s.CourseID = c.CourseID;

* **Left Join** (returns all records from the Student table and matching records from the Course table):

sql

Copy code

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

LEFT JOIN Course c ON s.CourseID = c.CourseID;

* **Right Join** (returns all records from the Course table and matching records from the Student table):

sql

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SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

RIGHT JOIN Course c ON s.CourseID = c.CourseID;

* **Full Outer Join** (returns all records when there is a match in either Student or Course table):

sql

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SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

FULL OUTER JOIN Course c ON s.CourseID = c.CourseID;

Note: Some SQL databases (like MySQL) do not support full outer join directly. In that case, you can use a *UNION* of *LEFT JOIN* and *RIGHT JOIN* as shown below:

sql

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SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

LEFT JOIN Course c ON s.CourseID = c.CourseID

UNION

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

RIGHT JOIN Course c ON s.CourseID = c.CourseID;

### 2. Create different Views and Display them

* **View for Students and their Courses (Inner Join)**:

sql

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CREATE VIEW StudentCourses AS

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

INNER JOIN Course c ON s.CourseID = c.CourseID;

-- Display the view

SELECT \* FROM StudentCourses;

* **View for All Students with Course Information (Left Join)**:

sql

Copy code

CREATE VIEW AllStudentCourses AS

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

LEFT JOIN Course c ON s.CourseID = c.CourseID;

-- Display the view

SELECT \* FROM AllStudentCourses;

* **View for All Courses with Enrolled Students (Right Join)**:

sql

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CREATE VIEW CourseStudents AS

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

RIGHT JOIN Course c ON s.CourseID = c.CourseID;

-- Display the view

SELECT \* FROM CourseStudents;

* **View for All Student and Course Information (Full Outer Join)**:

sql

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CREATE VIEW FullStudentCourseInfo AS

SELECT s.StudentID, s.StudentName, s.CourseID, c.CourseName

FROM Student s

FULL OUTER JOIN Course c ON s.CourseID = c.CourseID;

-- Display the view

SELECT \* FROM FullStudentCourseInfo;