

LAB REPORT

CSE312: Database Management System Lab

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| 05 [Report Number] |

**Topic:** **Implementing SQL Join Operations**

Submitted To

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| Experiment No: 05 | Mapping: CO1 and CO2 |
| Experiment Name | Implementing SQL Join Operations |

**Experiment Details**

**Objective:**

* To learn and practice SQL Join operations, including INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL OUTER JOIN, to combine data from multiple tables effectively.

**Equipment:**

1. Create two tables:

* Employees (EmployeeID, Name, DepartmentID, Salary)
* Departments (DepartmentID, DepartmentName)

1. Insert sample data into the tables.
2. Perform the following Join operations:

* **INNER JOIN**: Retrieve employees and their respective department names.
* **LEFT JOIN**: Retrieve all employees, including those without a department.
* **RIGHT JOIN**: Retrieve all departments, including those without employees.
* **FULL OUTER JOIN**: Combine results of LEFT JOIN and RIGHT JOIN.

**Database Schema and Table Creation Code:**

A computer screen shot of a computer code

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**Department table:**

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**Employee Table:**

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* **Join Operation:**

**INNER JOIN:**

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**Output:**

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**LEFT JOIN:**

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**Output:**

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**RIGHT JOIN:**

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**Output:**

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**FULL OUTER JOIN (simulated in MySQL with UNION):**

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**Output:**

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**Alternative Steps/Solution (If any):**

* None required for the above operations.

**Observation/ Comments:**

* **INNER JOIN** provides matching data from both tables.
* **LEFT JOIN** ensures all records from the left table are included, even if no match is found.
* **RIGHT JOIN** mirrors LEFT JOIN for the right table.
* **FULL OUTER JOIN** combines results of both LEFT and RIGHT JOINs, useful for comprehensive data analysis.

**Appendix:**

Course Outcomes, Complex Engineering Problems (EP), and Complex Engineering Activities (EA) Addressing.

**COs Mapped:**

* Mapping CO1 and CO2 through practical implementation of SQL join operations.