

# MySQL Assignment: Joins & Subqueries

## Objective:

This assignment will help you understand how to use **JOINS** and **SUBQUERIES** in MySQL to retrieve meaningful data from multiple tables.

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## Part 1: Database & Table Creation

1. Create a database named `CompanyDB`.
2. Inside `CompanyDB`, create the following tables:

### Database Schema Structure

#### Employees Table

Column Name	Data Type	Constraints
emp_id	INT	PRIMARY KEY, AUTO_INCREMENT
first_name	VARCHAR(50)	NOT NULL
last_name	VARCHAR(50)	NOT NULL
email	VARCHAR(100)	UNIQUE, NOT NULL
hire_date	DATE	NOT NULL
salary	DECIMAL(10,2)	NOT NULL
dept_id	INT	FOREIGN KEY (Departments)

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#### Departments Table

Column Name	Data Type	Constraints
dept_id	INT	PRIMARY KEY, AUTO_INCREMENT
dept_name	VARCHAR(50)	UNIQUE, NOT NULL

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#### Projects Table

Column Name	Data Type	Constraints
project_id	INT	PRIMARY KEY, AUTO_INCREMENT
project_name	VARCHAR(100)	NOT NULL
dept_id	INT	FOREIGN KEY (Departments)

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## Part 2: Data Insertion

Insert **at least 5 records** into each table with relevant values.

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## Part 3: Queries Using Joins

Write SQL queries for the following:

1. Retrieve a list of employees along with their department names (**INNER JOIN**).
  2. Retrieve all departments, including those that do not have employees (**LEFT JOIN**).
  3. Retrieve all employees, including those who are not assigned to any department (**RIGHT JOIN**).
  4. Retrieve employees who work on projects along with the project name (**JOIN with 3 tables**).
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## Part 4: Queries Using Subqueries

Write SQL queries for the following:

1. Find the employees earning the highest salary in each department.
2. Retrieve the names of employees who work in the "IT" department.
3. Find the department with the **highest number of employees**.
4. Retrieve employees who **earn more than the average salary** of all employees.