**;Table Structure Example:**

Let’s assume we have the following two tables:

**1. employees table:**

CREATE TABLE employees (

   employee\_id INT PRIMARY KEY,

   first\_name VARCHAR(50),

   last\_name VARCHAR(50),

   hire\_date DATE,

   department\_id INT,

   salary DECIMAL(10, 2)

);

**2. departments table:**

CREATE TABLE departments (

   department\_id INT PRIMARY KEY,

   department\_name VARCHAR(100)

);

**INSERT INTO departments (department\_id, department\_name)**

**VALUES**

**(1, 'Sales'),**

**(2, 'Marketing'),**

**(3, 'Engineering'),**

**(4, 'HR'),**

**(5, 'Finance');**

**INSERT INTO employees (employee\_id, first\_name, last\_name, hire\_date, department\_id, salary) VALUES**

**(1, 'John', 'Doe', '2015-06-23', 1, 55000.00),**

**(2, 'Jane', 'Smith', '2018-02-10', 2, 62000.00),**

**(3, 'Samuel', 'Adams', '2012-11-04', 3, 90000.00),**

**(4, 'Emily', 'Clark', '2020-03-15', 1, 45000.00),**

**(5, 'Daniel', 'Harris', '2016-07-19', 4, 49000.00),**

**(6, 'Rachel', 'Baker', '2019-10-01', 3, 95000.00),**

**(7, 'Paul', 'Jones', '2017-09-13', 2, 55000.00),**

**(8, 'Sophia', 'Taylor', '2014-12-21', 5, 73000.00),**

**(9, 'Michael', 'Lee', '2011-08-14', 4, 47000.00),**

**(10, 'Olivia', 'King', '2022-01-30', 3, 98000.00);**

1. To concat the first\_name and last\_name of employees into a single column named full\_name.

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1. Query that retrieves the first and last names of employees, as well as their department names by using a subquery inside the SELECT statement.

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1. Query counts the number of employees in each department.

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1. Query to lists all departments and counts the number of employees in each department .

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1. To find employees with salary greater than average salary of their department

Select first\_name from employees

Where first\_name in (

Select first\_name from employees e

where salary>

Select avg(salary) from employees

group by department\_id

);

1. To get all employee names in each department.

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1. Subquery to find the employee with the highest salary in each department.

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1. Group employees by hire year and calculate the total salary for each year

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1. Group departments and count the number of employees in each department

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1. Find the highest salary in each department

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1. Group employees by department and show the average salary in each department.

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1. Find departments with more than 5 employees

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1. List departments where the average salary is greater than 50,000.

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1. List employees who earn more than 60,000 and belong to a department with more than 3 employees.

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1. Show departments where there is more than one employee with a salary over 100,000.

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1. Delete an employee with a specific employee\_id (e.g., 5)

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1. Delete employees who have a salary lower than 30,000

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