SQL Server Assignment: Company Database

# Scenario:

You need to design a database for a company that stores information about employees, departments, projects, and salaries. After designing this database, you will write queries to analyze the company's data.

**Step 1: Design the Database**

Tables and Columns:

**Employees**

EmployeeID (int, Primary Key)

FirstName (varchar(50))

LastName (varchar(50))

Email (varchar(100))

DepartmentID (int, Foreign Key referencing Departments)

HireDate (date)

Salary (decimal(10,2))

**Departments**

DepartmentID (int, Primary Key)

DepartmentName (varchar(100))

ManagerID (int, Foreign Key referencing Employees)

**Projects**

ProjectID (int, Primary Key)

ProjectName (varchar(100))

StartDate (date)

EndDate (date)

EmployeeProjects (Many-to-many relationship between Employees and Projects)

EmployeeID (int, Foreign Key referencing Employees)

ProjectID (int, Foreign Key referencing Projects)

AssignedDate (date)

**Step 2: Write SQL Queries**

Questions:

1. DDL: Create the above tables with appropriate primary and foreign keys.
2. DML: Insert at least 5 employees into the Employees table.
3. Insert at least 3 departments into the Departments table.
4. Insert at least 3 projects into the Projects table.
5. Assign employees to projects by inserting records into EmployeeProjects (at least 7 records).
6. Update the salary of an employee.
7. Delete a project from the Projects table (only if no employees are assigned).
8. Write a query to list all employees along with their department names (use INNER JOIN).
9. List all employees and the projects they are assigned to (use LEFT JOIN to include employees with no projects).
10. Find the names of employees who are managers of any department.
11. Find employees who are not assigned to any project.
12. Calculate the total salary paid in each department.
13. Find the average salary of all employees.
14. Find the maximum and minimum salaries in the company.
15. Count how many projects each employee is working on.
16. Write a query to find the employee with the highest salary.
17. Write a query to find projects that have no employees assigned.

**Notes**

Make sure to add constraints for primary and foreign keys.

Add meaningful comments explaining each query.

Use proper formatting for readability.