

HOMEWORK of DATABASE

Q1. Write out the basic syntax for a INNER JOIN operation in SQL. Include the key components such as the SELECT statement, the tables involved, and the ON clause. Additionally, provide a simple example using hypothetical tables to demonstrate how an INNER JOIN works.

Q2. Compare and contrast the syntax of a LEFT JOIN and a RIGHT JOIN in SQL. Give an example scenario where you might prefer to use a LEFT JOIN over a RIGHT JOIN and vice versa. Provide sample queries for both types of JOINS to highlight their differences, and explain the significance of the tables' arrangement in the query.

Q3.

Employees Table:

Columns: EmployeeID (Primary Key), FirstName, LastName, DepartmentID, Position, Salary

Departments Table:

Columns: DepartmentID (Primary Key), DepartmentName

Projects Table:

Columns: ProjectID (Primary Key), ProjectName, DepartmentID

Tasks Table:

Columns: TaskID (Primary Key), TaskDescription, ProjectID, Deadline, Status

Questions

- ✓ Retrieve a list of employees with their full names, departments, and project names they are currently working on. Use INNER JOINS to connect the Employees, Departments, and Projects tables.
- ✓ Find the average salary of employees in each department. Display the result with distinct department names.
- ✓ Clear all data from the Projects table using the TRUNCATE TABLE statement.

- ✓ Insert a new project into the Projects table named "New Website Development" for the department with DepartmentID 2. Then, retrieve a list of employees who work on this project, including their names and positions.
- ✓ Delete all tasks with a status of "Completed" from the Tasks table.