Group A

Assignment No 3

Title of the Assignment: SQL Queries - all types of Join, Sub-Query and View:

a. Write at least 10 SQL queries for suitable database application using SQL DML statements.

b. design the queries which demonstrate the use of concepts like all types of Join, Sub-Query

Objective: To understand and demonstrate DDL statements and joins and its types on various SQL object

Outcome: Students will be able to learn and understand various joins queries and subqueries.

Theory:

A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

Different Types of SQL JOINs

1. (INNER) JOIN: Returns records that have matching values in both tables

2. LEFT (OUTER) JOIN: Returns all records from the left table, and the matched records from the right table

3. RIGHT (OUTER) JOIN: Returns all records from the right table, and the matched records from the left table

4. FULL (OUTER) JOIN: Returns all records when there is a match in either left or right table

1. INNER JOIN

The INNER JOIN keyword selects records that have matching values in both tables.

INNER JOIN
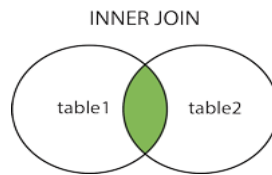
table1   table2

Syntax: SELECT column_name(s)
FROM table1
INNER JOIN table2
ON table1.column_name = table2.column_name;

Example: SELECT Orders.OrderID, Customers.CustomerName FROM Orders
INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID;

2. LEFT (OUTER) JOIN

Returns all records from the left table, and the matched records from the right table

LEFT JOIN
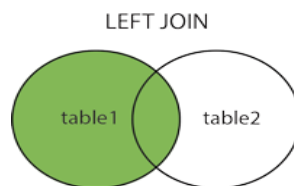
table1   table2

Syntax: SELECT column_name(s)
FROM table1
LEFT JOIN table2
ON table1.column_name = table2.column_name;

Example: SELECT Customers.CustomerName, Orders.OrderID
FROM Customers
LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID
ORDER BY Customers.CustomerName;

3. RIGHT (OUTER) JOIN

The RIGHT (OUTER) JOIN keyword returns all records from the right table (table2), and the matching records from the left table (table1). The result is 0 records from the left side, if there is no match.
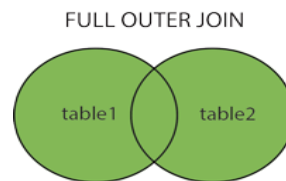
RIGHT JOIN
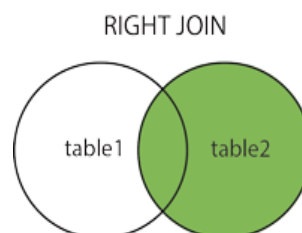
table1   table2

Syntax: SELECT column_name(s)
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name;

Example: SELECT Orders.OrderID, Employees.LastName, Employees.FirstName
FROM Orders
RIGHT JOIN Employees ON Orders.EmployeeID=Employees.EmployeeID
ORDER BY Orders.OrderID;

4. **Full Join**
The FULL OUTER JOIN keyword returns all records when there is a match in left (table1) or right (table2) table records.

FULL OUTER JOIN

Syntax: SELECT column_name(s)
FROM table1
FULL OUTER JOIN table2
ON table1.column_name = table2.column_name
WHERE condition;

Example: SELECT Customers.CustomerName, Orders.OrderID
FROM Customers
FULL OUTER JOIN Orders ON Customers.CustomerID=Orders.CustomerID
ORDER BY Customers.CustomerName;

❖ Subqueries with the SELECT Statement

Syntax : SELECT column_name [, column_name]
FROM   table1 [, table2]
WHERE column_name OPERATOR
(SELECT column_name [, column_name]
FROM table1 [, table2]
[WHERE])

Example : SELECT * FROM CUSTOMERS WHERE ID IN (SELECT ID
FROM CUSTOMERS
WHERE SALARY > 4500) ;

Conclusion: In this assignment, we have studied and demonstrated various types of joins and its types and subquery.

Viva Questions:

- What is joins and its types?
- What is subquery?
- What is full join and write syntax?
- What is left join and write syntax?
- Write any one subquery with example?

Date:	
Marks obtained:	
Sign of course coordinator:	
Name of course Coordinator:	