Practical no. 2

SQL Queries – all types of Join, Sub-Query and View: Write at least 10 SQL queries for suitable database application using following SQL statements.
1. Left Join
2. Right Join
3. Inner Join
4. Full Join
5. Subquery

```
CREATE TABLE Departments
    -> (
    -> dept_id INT PRIMARY KEY,
    -> dept_name VARCHAR(50) NOT NULL,
    -> location VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.03 sec)


CREATE TABLE Employees
    -> (
    -> emp_id INT PRIMARY KEY,
    -> emp_name VARCHAR(50) NOT NULL,
    -> dept_id INT,
    -> salary INT,
    -> FOREIGN KEY (dept_id) REFERENCES Departments(dept_id)
    -> );
Query OK, 0 rows affected (0.07 sec)


INSERT INTO Departments (dept_id, dept_name, location) VALUES
    -> (1, 'Sales', 'Mumbai'),
    -> (2, 'IT', 'Bengaluru'),
    -> (3, 'HR', 'Chennai'),
    -> (4, 'Marketing', 'Delhi');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0


INSERT INTO Employees (emp_id, emp_name, dept_id, salary) VALUES
    -> (101, 'Riya Sharma', 1, 60000),
    -> (102, 'Sanjay Verma', 2, 85000),
    -> (103, 'Aisha Khan', 1, 62000),
    -> (104, 'Vikram Singh', 2, 90000),
    -> (105, 'Priya Das', 3, 70000),
    -> (106, 'Karan Patel', 4, 75000);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0
```

```
SELECT * FROM Departments;
+---------+-----------+-----------+
| dept_id | dept_name | location  |
+---------+-----------+-----------+
|       1 | Sales     | Mumbai    |
|       2 | IT        | Bengaluru |
|       3 | HR        | Chennai   |
|       4 | Marketing | Delhi     |
+---------+-----------+-----------+
4 rows in set (0.00 sec)


SELECT * FROM Employees;
+--------+--------------+---------+--------+
| emp_id | emp_name     | dept_id | salary |
+--------+--------------+---------+--------+
|    101 | Riya Sharma  |       1 |  60000 |
|    102 | Sanjay Verma |       2 |  85000 |
|    103 | Aisha Khan   |       1 |  62000 |
|    104 | Vikram Singh |       2 |  90000 |
|    105 | Priya Das    |       3 |  70000 |
|    106 | Karan Patel  |       4 |  75000 |
+--------+--------------+---------+--------+
6 rows in set (0.00 sec)
```

1) Left Join:-
```
     SELECT
   -> e.emp_name,
   -> d.dept_name
   -> FROM Employees e
   -> LEFT JOIN Departments d ON e.dept_id = d.dept_id;
+--------------+-----------+
| emp_name     | dept_name |
+--------------+-----------+
| Riya Sharma  | Sales     |
| Sanjay Verma | IT        |
| Aisha Khan   | Sales     |
| Vikram Singh | IT        |
| Priya Das    | HR        |
| Karan Patel  | Marketing |
+--------------+-----------+
6 rows in set (0.00 sec)
```

2) Right Join:-
```
    SELECT
 -> e.emp_name,
 -> d.dept_name,
 -> d.location
 -> FROM Employees e
 -> RIGHT JOIN Departments d ON e.dept_id = d.dept_id;
```

```
+--------------+-----------+-----------+
| emp_name     | dept_name | location  |
+--------------+-----------+-----------+
| Riya Sharma  | Sales     | Mumbai    |
| Aisha Khan   | Sales     | Mumbai    |
| Sanjay Verma | IT        | Bengaluru |
| Vikram Singh | IT        | Bengaluru |
| Priya Das    | HR        | Chennai   |
| Karan Patel  | Marketing | Delhi     |
+--------------+-----------+-----------+
6 rows in set (0.00 sec)
```

3) Inner Join:-
```
    SELECT
 -> e.emp_name,
 -> d.dept_name,
 -> d.location
 -> FROM Employees e
 -> INNER JOIN Departments d ON e.dept_id = d.dept_id;
```

```
+--------------+-----------+-----------+
| emp_name     | dept_name | location  |
+--------------+-----------+-----------+
| Riya Sharma  | Sales     | Mumbai    |
| Aisha Khan   | Sales     | Mumbai    |
| Sanjay Verma | IT        | Bengaluru |
| Vikram Singh | IT        | Bengaluru |
| Priya Das    | HR        | Chennai   |
| Karan Patel  | Marketing | Delhi     |
+--------------+-----------+-----------+
6 rows in set (0.00 sec)
```

4) Full Join:-
```
SELECT e.emp_name, d.dept_name FROM Employees e
 -> LEFT JOIN Departments d ON e.dept_id = d.dept_id
 ->
 -> UNION
 ->
 -> SELECT e.emp_name, d.dept_name FROM Employees e
 -> RIGHT JOIN Departments d ON e.dept_id = d.dept_id
 -> WHERE e.dept_id IS NULL;
```

```
+--------------+-----------+
| emp_name     | dept_name |
+--------------+-----------+
| Riya Sharma  | Sales     |
| Sanjay Verma | IT        |
| Aisha Khan   | Sales     |
| Vikram Singh | IT        |
| Priya Das    | HR        |
| Karan Patel  | Marketing |
+--------------+-----------+
6 rows in set (0.01 sec)
```

5) Subquery:-
SELECT
    -> emp_name,
    -> salary
    -> FROM Employees
    -> WHERE dept_id =
    -> (
    -> SELECT dept_id
    -> FROM Departments
    -> WHERE location = 'Bengaluru'
    ->);
```
+--------------+--------+
| emp_name     | salary |
+--------------+--------+
| Sanjay Verma |  85000 |
| Vikram Singh |  90000 |
+--------------+--------+
2 rows in set (0.00 sec)
```