Name:Saachee Kothari
Selected for :SQL
Duration:4 weeks
CODTECH IT SOLUTION
Intern ID:CTIS0376

```sql
1   -- TASK 1: SQL JOINS
2
3   CREATE TABLE Students (
4        student_id INT,
5        student_name TEXT,
6        course_id INT
7   );
8
9   CREATE TABLE Courses (
10       course_id INT,
11       course_name TEXT
12  );
13
14  INSERT INTO Students VALUES
15  (1, 'Amit', 101),
16  (2, 'Neha', 102),
17  (3, 'Rahul', 103),
18  (4, 'Priya', NULL);
19
20  INSERT INTO Courses VALUES
21  (101, 'SQL'),
22  (102, 'Python'),
23  (104, 'Java');
24
25  -- INNER JOIN
26  SELECT student_name, course_name
27  FROM Students
28  INNER JOIN Courses
29  ON Students.course_id = Courses.course_id;
30
31  -- LEFT JOIN
32  SELECT student_name, course_name
33  FROM Students
34  LEFT JOIN Courses
35  ON Students.course_id = Courses.course_id;
36
37  -- RIGHT JOIN
38  SELECT student_name, course_name
39  FROM Students
40  RIGHT JOIN Courses
41  ON Students.course_id = Courses.course_id;
```

**Status :** Successfully executed

**Time:**
0.0000 secs

**Memory:**
4.408 Mb

**Your Output**

```
Amit|SQL
Neha|Python
Amit|SQL
Neha|Python
Rahul|
Priya|
Amit|SQL
Neha|Python
|Java
```

```sql
-- TASK 2: ADVANCED QUERIES

CREATE TABLE Sales (
    emp_id INT,
    emp_name TEXT,
    department TEXT,
    sales INT
);

INSERT INTO Sales VALUES
(1, 'Amit', 'IT', 5000),
(2, 'Neha', 'IT', 7000),
(3, 'Rahul', 'HR', 4000),
(4, 'Priya', 'HR', 6000);

-- WINDOW FUNCTION
SELECT emp_name, department, sales,
RANK() OVER (PARTITION BY department ORDER BY sales DESC) AS dept_rank
FROM Sales;

-- SUBQUERY
SELECT emp_name, sales
FROM Sales
WHERE sales > (SELECT AVG(sales) FROM Sales);

-- CTE
WITH DeptAvg AS (
    SELECT department, AVG(sales) AS avg_sales
    FROM Sales
    GROUP BY department
)
SELECT s.emp_name, s.sales, d.avg_sales
FROM Sales s
JOIN DeptAvg d
ON s.department = d.department;
```

**Status :** Successfully executed

**Time:**
0.0000 secs

**Memory:**
4.448 Mb

**Your Output**

```
Priya|HR|6000|1
Rahul|HR|4000|2
Neha|IT|7000|1
Amit|IT|5000|2
Neha|7000
Priya|6000
Amit|5000|6000.0
Neha|7000|6000.0
Rahul|4000|5000.0
Priya|6000|5000.0
```