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Branch: MCA (Data Science)	**Semester:** 2nd
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Subject Name: Technical Training - I Lab	**Subject Code**: 25CAP-652
Section/Group: 25MCD-1(A)	**Date of Performance:** 13-Jan-2026

Experiment No.: 1.2

1. **Aim:** You are given a database table named Students that stores academic and personal information of students in an institution. Each record includes Student ID, Student Name, City, and Percentage.

2. **Objectives:**

   Your task is to:

   i. Count of students with percentage > 95 Using Case Statement and Without Case Statement

   ii. Find the average percentage of students in each city whose percentage is greater than 95 Using Case Statement and Order by percentage in Descending Order.

   Assumption:

   - Each city has 3 students in total
   - Out of those, 2 students have percentage > 95
   - Average should be calculated only on students with percentage > 95

   This analysis helps the institution identify cities with high-performing students.

3. **S/W Requirement:** Oracle Database Express Edition or PGAdmin

4. **Sample Tables:**

	student_id integer	name character varying (50)	city character varying (50)	percentage numeric (5,2)
1	1	Amit	Delhi	96.50
2	2	Riya	Mumbai	94.20
3	3	Rahul	Delhi	97.80
4	4	Sneha	Mumbai	98.10
5	5	Ankit	Chandigarh	95.60
6	6	Pooja	Delhi	93.40
7	7	Karan	Chandigarh	96.20

5. **Code:**

```
CREATE TABLE Students (
   student_id INT,
   name VARCHAR(50),
   city VARCHAR(50),
   percentage DECIMAL(5,2)
);
INSERT INTO Students VALUES
(1, 'Amit', 'Delhi', 96.5),
(2, 'Riya', 'Mumbai', 94.2),
(3, 'Rahul', 'Delhi', 97.8),
(4, 'Sneha', 'Mumbai', 98.1),
(5, 'Ankit', 'Chandigarh', 95.6),
(6, 'Pooja', 'Delhi', 93.4),
(7, 'Karan', 'Chandigarh', 96.2);
---Without Case Statement
SELECT CITY , COUNT(*) AS STUDET_COUNT FROM Students
WHERE percentage> 95
GROUP BY city
```

- **Output:**

	city character varying (50)	studet_count bigint
1	Delhi	2
2	Mumbai	1
3	Chandigarh	2

```
-- With CASE Statement

SELECT CITY, SUM(CASE WHEN percentage> 95 THEN 1

ELSE 0 END) AS STUDENT_COUNTS  FROM Students

GROUP BY city
```

- **Output:**

	city character varying (50)	studet_count bigint
1	Delhi	2
2	Mumbai	1
3	Chandigarh	2

```
-- (II)

SELECT CITY, AVG(CASE WHEN PERCENTAGE>95 THEN PERCENTAGE ELSE
NULL END) AS STUDENT_AVG  FROM Students
GROUP BY city
ORDER BY STUDENT_AVG DESC;
```

- **Output:**

	city character varying (50)	student_avg numeric
1	Mumbai	98.1000000000000000
2	Delhi	97.1500000000000000
3	Chandigarh	95.9000000000000000

- **Learning Outcomes:**
  - I learned how to use a **CASE statement inside aggregate functions** to conditionally count and calculate values without filtering rows beforehand.
  - Understood the difference between using **WHERE clauses and CASE statements** for grouping and analyzing data across all categories.
  - I learned how **CASE with SUM and AVG** helps perform flexible, condition-based analysis while still keeping all groups in the result set.