



<b>Branch:</b> MCA (Data Science) Kargil	<b>Semester:</b> 2
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<b>Subject Name:</b> Technical Training - I Lab	<b>Subject Code:</b> 25CAP-652
<b>Section/Group:</b> A	<b>Date of Performance:</b> 13-01-2026

## Experiment No. 1.2

### **1. Aim/Overview of the practical:**

To analyze student performance data using SQL aggregate functions, grouping, and conditional logic to compute city-wise topper counts and average topper percentages.

### **2. Software Requirement:** Oracle Database Express Edition and pgAdmin

### **3. Objective:**

To gain practical experience in writing and executing SQL queries using aggregate functions, conditional expressions, and grouping clauses to perform meaningful data analysis and derive insights from relational data.

### **4. Task:**

An academic institution wants to analyze student performance data to identify city-wise toppers. The task is to write SQL queries that compute topper counts and average topper percentages using aggregate functions, grouping, and conditional logic.

### **5. Queries for Practical:**

```
create table students(
```

```
    studID int primary key,  
    studName varchar(30) not null,  
    city varchar(30),
```



);

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);
```

-- All Toppers(percentage>95) in each city without using case statement

```
select city,count(studID) as topper_count  
from students  
where percentage>95  
group by city;
```

-- All Toppers(percentage>95) in each city with case statement

```
select city,sum(case when percentage>95 then 1 else 0 end)  
from students  
group by city;
```

-- Average percentage of toppers city-wise

```
select city, avg(case when percentage > 95 then percentage else NULL end)  
as average_toppers  
from students  
group by city  
order by average_toppers desc;
```

## 6. Output:

### a) Topper Count without using case statement

	city character varying (30)	topper_count bigint
1	Delhi	2
2	Mumbai	1
3	Chandigarh	2

### b) Topper Count using case statement

	city character varying (30)	sum bigint
1	Mumbai	1
2	Delhi	2
3	Chandigarh	2

### c) Average percentage of toppers

Showing rows: 1 to 3 |  | Page No:

	city character varying (30)	average_toppers numeric
1	Mumbai	98.10000000000000
2	Delhi	97.15000000000000
3	Chandigarh	95.90000000000000

## 7. Learning outcomes (What I have learnt):

- Applied SQL aggregate functions such as COUNT and AVG to summarize student performance data.
- Used GROUP BY and conditional filtering to perform city-wise data analysis.
- Implemented CASE expressions for conditional aggregation in SQL queries.