

## **Experiment No: 6**

### **Title : Study & Implementation of:-**

- **Group by & Having Clause**
- **Order by Clause**
- **Indexing Objective: To learn the concept of group functions**

### **LAB PRACTICE ASSIGNMENT:**

Create a relation and implement the following queries.

1. Display total salary spent for each job category.
2. Display lowest paid employee details under each manager.
3. Display number of employees working in each department and their department name.
4. Display the details of employees sorting the salary in increasing order.
5. Show the record of employee earning salary greater than 16000 in each department.
6. Write queries to implement and practice the above clause.

## CODE:-

```
mysql> create database Sourish_CSBS_Roll09;
```

Query OK, 1 row affected (0.02 sec)

```
mysql> use Sourish_CSBS_Roll09;
```

Database changed

```
mysql> CREATE TABLE Department (DeptID INT PRIMARY KEY, DeptName VARCHAR(50));
```

Query OK, 0 rows affected (0.08 sec)

```
mysql> CREATE TABLE Employee (EmpID INT PRIMARY KEY, EmpName VARCHAR(50), Salary  
DECIMAL(10, 2), JobCategory VARCHAR(50), ManagerID INT, DeptID INT, FOREIGN KEY  
(DeptID) REFERENCES Department(DeptID));
```

Query OK, 0 rows affected (0.09 sec)

```
mysql> INSERT INTO Department (DeptID, DeptName) VALUES (1, 'HR'), (2, 'Finance'), (3,  
'Engineering');
```

Query OK, 3 rows affected (0.02 sec)

Records: 3 Duplicates: 0 Warnings: 0

```
mysql> INSERT INTO Employee (EmpID, EmpName, Salary, JobCategory, ManagerID, DeptID)  
VALUES (1, 'Alice', 20000, 'Manager', NULL, 1), (2, 'Bob', 15000, 'HR', 1, 1), (3, 'Charlie',  
18000, 'Manager', NULL, 2), (4, 'David', 16000, 'Finance', 3, 2), (5, 'Eve', 17000, 'Engineer', 3,  
3), (6, 'Frank', 12000, 'Engineer', 3, 3), (7, 'Grace', 9000, 'Intern', 1, 1);
```

Query OK, 7 rows affected (0.02 sec)

Records: 7 Duplicates: 0 Warnings: 0

```
mysql> SELECT JobCategory, SUM(Salary) AS TotalSalary FROM Employee GROUP BY  
JobCategory;
```

```
+-----+-----+
```

```
| JobCategory | TotalSalary |
```

```

+-----+-----+
| Manager | 38000.00 |
| HR      | 15000.00 |
| Finance | 16000.00 |
| Engineer | 29000.00 |
| Intern  | 9000.00  |
+-----+-----+

```

5 rows in set (0.01 sec)

```

mysql> SELECT e1.EmpID, e1.EmpName, e1.Salary, e1.JobCategory, e1.ManagerID FROM
Employee e1 JOIN (SELECT ManagerID, MIN(Salary) AS MinSalary FROM Employee WHERE
ManagerID IS NOT NULL GROUP BY ManagerID) e2 ON e1.ManagerID = e2.ManagerID AND
e1.Salary = e2.MinSalary;

```

```

+-----+-----+-----+-----+-----+
| EmpID | EmpName | Salary | JobCategory | ManagerID |
+-----+-----+-----+-----+-----+
| 6 | Frank | 12000.00 | Engineer | 3 |
| 7 | Grace | 9000.00 | Intern | 1 |
+-----+-----+-----+-----+-----+

```

2 rows in set (0.00 sec)

```

mysql> SELECT * FROM Employee ORDER BY Salary ASC;

```

```

+-----+-----+-----+-----+-----+-----+
| EmpID | EmpName | Salary | JobCategory | ManagerID | DeptID |
+-----+-----+-----+-----+-----+-----+
| 7 | Grace | 9000.00 | Intern | 1 | 1 |
| 6 | Frank | 12000.00 | Engineer | 3 | 3 |
| 2 | Bob | 15000.00 | HR | 1 | 1 |
| 4 | David | 16000.00 | Finance | 3 | 2 |
| 5 | Eve | 17000.00 | Engineer | 3 | 3 |

```

	3		Charlie		18000.00		Manager		NULL		2	
	1		Alice		20000.00		Manager		NULL		1	

+-----+-----+-----+-----+-----+-----+

7 rows in set (0.00 sec)

```
mysql> SELECT d.DeptName, COUNT(e.EmpID) AS EmployeeCount FROM Department d LEFT
JOIN Employee e ON d.DeptID = e.DeptID GROUP BY d.DeptName;
```

+-----+-----+

	DeptName		EmployeeCount	
--	----------	--	---------------	--

+-----+-----+

	HR		3	
--	----	--	---	--

	Finance		2	
--	---------	--	---	--

	Engineering		2	
--	-------------	--	---	--

+-----+-----+

3 rows in set (0.00 sec)

```
mysql> SELECT e.EmpID, e.EmpName, e.Salary, d.DeptName FROM Employee e JOIN
Department d ON e.DeptID = d.DeptID WHERE e.Salary > 16000;
```

+-----+-----+-----+-----+

	EmpID		EmpName		Salary		DeptName	
--	-------	--	---------	--	--------	--	----------	--

+-----+-----+-----+-----+

	1		Alice		20000.00		HR	
--	---	--	-------	--	----------	--	----	--

	3		Charlie		18000.00		Finance	
--	---	--	---------	--	----------	--	---------	--

	5		Eve		17000.00		Engineering	
--	---	--	-----	--	----------	--	-------------	--

+-----+-----+-----+-----+

3 rows in set (0.00 sec)