Lab Report

Course Title: Advance Database management System Lab

Course Code: CSE – 436

Submitted By	Submitted To
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❑ Experiment No:- 02
❑ Experiment Name: Implementing Basic SELECT Queries in SQL.

➢ Create table
❖ Code:
```
CREATE TABLE Employee (
    EmployeeID INT PRIMARY KEY,
    Name VARCHAR(50),
    Department VARCHAR(30),
    Position VARCHAR(30),
    Salary DECIMAL(10, 2),
    HireDate DATE);
```

➢ Insert the following record into the Student table
❖ Code:
```
INSERT INTO Employee
VALUES (101, 'Alice Roy', 'HR', 'Manager', 65000, '2018-
06-01'),
(102, 'Babu Khan', 'IT', 'Developer',50000, '2019-03-15'),
(103,'Chadni Akter ','Finance','Analyst',47000, '2020-01-10'),
 (104,'Dipon Das ', 'IT', 'Developer',52000, '2021-11-12 '),
(105,'Esha Rani ', 'HR', 'Executive', 40000, '2022-08-30'),
(106,'Farid Ahmed', 'Finance', 'Manager',68000, '2017-02-
01'),
(107, 'Gulshan Ara', 'IT', 'Manager', 70000, '2016-12-20');
```

❖ Output:

	EmployeeID	Name	Department	Position	Salary	HireDate
1	101	Alice Roy	HR	Manager	65000.00	2018-06-01
2	102	Babu Khan	IT	Developer	50000.00	2019-03-15
3	103	Chadni Akter	Finance	Analyst	47000.00	2020-01-10
4	104	Dipon Das	IT	Developer	52000.00	2021-11-12
5	105	Esha Rani	HR	Executive	40000.00	2022-08-30
6	106	Farid Ahmed	Finance	Manager	68000.00	2017-02-01
7	107	Gulshan Ara	IT	Manager	70000.00	2016-12-20

➢ Question-1:
❖ Code:
```
--Show employees whose names start with 'A'.
SELECT * FROM Employee WHERE Name LIKE
'A%';

--Display the employee name and department where
position ends with 'er'.
SELECT Name, Department FROM Employee
WHERE Position LIKE '%er';

--Show the first three characters of each employee's name.
SELECT SUBSTRING(name, 1,3) As first_three_char
FROM Employee;
```

❖ Output:

	EmployeeID	Name	Department	Position	Salary	HireDate
1	101	Alice Roy	HR	Manager	65000.00	2018-06-01

	Name	Department
1	Alice Roy	HR
2	Babu Khan	IT
3	Dipon Das	IT
4	Farid Ahmed	Finance
5	Gulshan Ara	IT

	first_three_char
1	Ali
2	Bab
3	Cha
4	Dip
5	Esh
6	Far
7	Gul

➢ Question-2:
❖ Code:
```
--List all employees ordered by salary in descending order..
SELECT * FROM Employee  ORDER BY Salary
DESC;
```

❖ Output:

	EmployeeID	Name	Department	Position	Salary	HireDate
1	107	Gulshan Ara	IT	Manager	70000.00	2016-12-20
2	106	Farid Ahmed	Finance	Manager	68000.00	2017-02-01
3	101	Alice Roy	HR	Manager	65000.00	2018-06-01
4	104	Dipon Das	IT	Developer	52000.00	2021-11-12
5	102	Babu Khan	IT	Developer	50000.00	2019-03-15
6	103	Chadni Akter	Finance	Analyst	47000.00	2020-01-10
7	105	Esha Rani	HR	Executive	40000.00	2022-08-30

➤ Question-3:

❖ Code:	❖ Output:
--Write a query to list the names of employees from HR and Finance. SELECT Name FROM Employee WHERE Department ='Hr' UNION SELECT Name FROM Employee WHERE Department ='Finance'; --Write a query to find names common to both IT and Finance departments using SELECT Name FROM Employee WHERE Department = 'IT' INTERSECT SELECT Name FROM Employee WHERE Department = 'Finance'; --Write a query to find names of employees in IT but not in HR using. SELECT Name FROM Employee WHERE Department = 'IT' EXCEPT SELECT Name FROM Employee WHERE Department = 'HR';	**Name** 1 Alice Roy 2 Chadni Akter 3 Esha Rani 4 Farid Ahmed Name **Name** 1 Babu Khan 2 Dipon Das 3 Gulshan Ara

➤ Question-4:

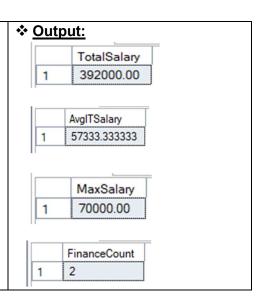| ❖ Code:	❖ Output:
--Find the total salary of all employees. SELECT SUM(Salary) AS TotalSalary FROM Employee; --Find the average salary in the IT department. SELECT AVG(Salary) AS AvgITSalary FROM Employee WHERE Department = 'IT'; --Find the highest salary among employees. SELECT MAX(Salary) AS MaxSalary FROM Employee; --Count the number of employees in the Finance department. SELECT COUNT(*) AS FinanceCount FROM Employee WHERE Department = 'Finance';	**TotalSalary** 1 392000.00 **AvgITSalary** 1 57333.333333 **MaxSalary** 1 70000.00 **FinanceCount** 1 2

➤ Question-5:

❖ Code:	❖ Output:
--Display each department along with the average salary of its employees. SELECT Department, AVG(Salary) AS AvgSalary FROM Employee GROUP BY Department; --Show departments where the average salary is greater than 50,000. SELECT Department, AVG(Salary) AS AvgSalary FROM Employee GROUP BY Department HAVING AVG(Salary) > 50000; --Find how many employees are there in each position.. SELECT Position, COUNT(*) AS EmployeeCount FROM Employee GROUP BY Position;	**Department AvgSalary** 1 Finance 57500.000000 2 HR 52500.000000 3 IT 57333.333333 **Department AvgSalary** 1 Finance 57500.000000 2 HR 52500.000000 3 IT 57333.333333 **Position EmployeeCount** 1 Analyst 1 2 Developer 2 3 Executive 1 4 Manager 3

Question-6:

❖ Code:

--Find employees who earn more than the average salary.
```sql
SELECT * FROM Employee WHERE Salary > (SELECT AVG(Salary) FROM Employee);
```

-- Display the names of employees who joined earlier than all HR employees.
```sql
SELECT Name FROM Employee WHERE HireDate < (SELECT MIN(HireDate) FROM Employee WHERE Department = 'HR');
```

-- Show the names of employees who have the same salary as someone in the Finance department.
```sql
SELECT Name FROM Employee WHERE Salary IN (SELECT Salary FROM Employee WHERE Department = 'Finance');
```

-- Find the employee(s) who has the second highest salary..
```sql
SELECT * FROM Employee WHERE Salary = (SELECT MAX(Salary) FROM Employee WHERE Salary < (SELECT MAX(Salary) FROM Employee));
```

❖ Output:

	EmployeeID	Name	Department	Position	Salary	HireDate
1	101	Alice Roy	HR	Manager	65000.00	2018-06-01
2	106	Farid Ahmed	Finance	Manager	68000.00	2017-02-01
3	107	Gulshan Ara	IT	Manager	70000.00	2016-12-20

	Name
1	Farid Ahmed
2	Gulshan Ara

	Name
1	Chadni Akter
2	Farid Ahmed

	EmployeeID	Name	Department	Position	Salary	HireDate
1	106	Farid Ahmed	Finance	Manager	68000.00	2017-02-01