Experiment 3

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Subject Name: ADBMS **Subject Code: 23CSP-333**

1. Aim:

a) To use SQL sub-queries to identify and display the top-earning employees from each department by retrieving their department name, employee name, and salary, ensuring all employees with the highest salary in a department are included.

b) To merge employee records from two different HR systems and retrieve each unique employee's lowest recorded salary along with their name, ensuring accurate consolidation of employee salary histories.

2. Objective:

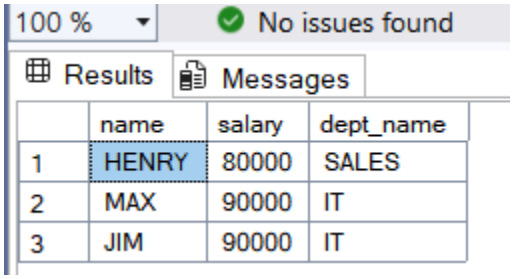
- To apply SQL sub-queries and aggregation techniques for identifying top earners within each department and retrieving their details.
- To practice data consolidation and filtering by merging employee salary records from multiple sources and extracting the lowest salary for each unique employee.
- To develop problem-solving skills in handling real-world database scenarios involving grouping, comparison, and record deduplication.

3. DBMS script and output:

Q1:

```
CREATE TABLE department (
   id INT PRIMARY KEY,
   dept_name VARCHAR(50)
);

--Employee Table
CREATE TABLE employee (
   id INT,
   name VARCHAR(50),
```

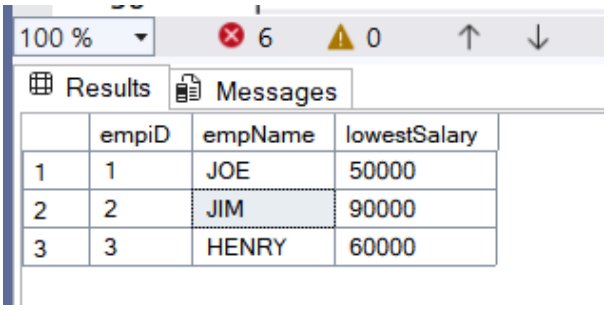
```
 salary INT,
   department_id INT,
   FOREIGN KEY (department_id) REFERENCES department(id)
);

INSERT INTO department (id, dept_name) VALUES
(1, 'IT'),
(2, 'SALES');

INSERT INTO employee (id, name, salary, department_id) VALUES
(1, 'JOE', 70000, 1),
(2, 'JIM', 90000, 1),
(3, 'HENRY', 80000, 2),
(4, 'SAM', 60000, 2),
(5, 'MAX', 90000, 1);

SELECT E.name, E.salary,d.dept_name
FROM employee AS E
INNER JOIN
department AS D
ON E.department_id = D.id
WHERE E.salary IN
(SELECT MAX(E2.salary)
FROM employee as E2
WHERE E2.department_id = E.department_id);
```



	name	salary	dept_name
1	HENRY	80000	SALES
2	MAX	90000	IT
3	JIM	90000	IT

Q2:

```
CREATE TABLE tbl_A(
empiD INT PRIMARY KEY,
empName VARCHAR(50),
empSalary INT
)

CREATE TABLE tbl_B(
empiD INT PRIMARY KEY,
empName VARCHAR(50),
empSalary INT
)


INSERT INTO tbl_A (empiD, empName, empSalary) VALUES
(1, 'JOE', 70000),
(2, 'JIM', 90000),
(3, 'HENRY', 80000);


INSERT INTO tbl_B(empiD, empName, empSalary) VALUES
(1, 'MAX', 50000),
(2, 'JIM', 95000),
(3, 'SAM', 60000);


SELECT empiD, MIN(empName) AS empName, MIN(empSalary) AS lowestSalary
FROM (
   SELECT * FROM tbl_A
   UNION ALL
   SELECT * FROM tbl_B
) AS INTER
GROUP BY empiD;
```



	empiD	empName	lowestSalary
1	1	JOE	50000
2	2	JIM	90000
3	3	HENRY	60000

4. Learning Outcomes:

a) Learned how to use sub-queries and aggregate functions to identify maximum and minimum values within groups.
b) Gained experience in merging and consolidating data from multiple tables to derive meaningful insights.
c) Understood how to handle duplicate or overlapping records while ensuring accurate results.
d) Developed skills in writing efficient SQL queries for solving real-world business problems.