EXPERIMENT- 03

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Branch: BE-CSE **Section/Group: KRG 1(B)**

Semester: 05 **Date of Performance: 19/08/25**

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

Department Salary Champions (Medium)

1. **Aim:** In a bustling corporate organization, each department strives to retain the most talented (and well-compensated) employees. You have access to two key records: one lists every employee along with their salary and department, while the other details the names of each department. Your task is to identify the top earners in every department.
   If multiple employees share the same highest salary within a department, all of them should be celebrated equally. The final result should present the department name, employee name, and salary of these top-tier professionals arranged by department.

2. **Objective:**
   - **Understanding Subqueries:** Learned how to use subqueries to perform intermediate calculations (like finding the maximum salary per department) and use that result in the main query.
   - **Handling Ties and Multiple Results:** Gained the skill to fetch all employees sharing the top salary within a department, not just one, ensuring accurate and fair results.
   - **Data Integration & Presentation:** Practiced joining multiple tables (employees and departments) and arranging results logically, which reinforces skills in combining and presenting relational data efficiently.

3. **DBMS script:**

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

```
CREATE TABLE employee3 (
    id INT PRIMARY KEY,
    name VARCHAR(50),
    salary INT,
    department_id INT,
    FOREIGN KEY (department_id) REFERENCES deptt(id)
);

INSERT INTO deptt VALUES
(1, 'IT'),
(2, 'SALES');

INSERT INTO employee3 VALUES
(1, 'JOE', 70000, 1),
(2, 'JIM', 90000, 1),
(3, 'HENRY', 80000, 2),
(4, 'ABC', 90000, 1);
```

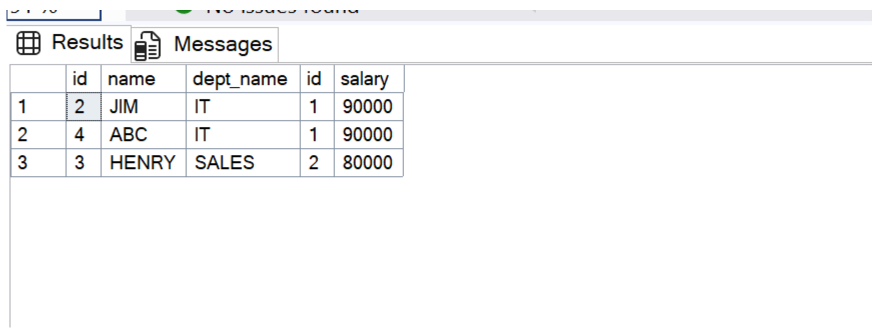
i. **Query Using Subquery with GROUP BY**

```
SELECT e.id, e.name, d.dept_name, e.salary
FROM deptt AS d
JOIN employee3 AS e
ON d.id = e.department_id
WHERE e.salary IN
(
    SELECT MAX(salary)
    FROM employee3
    GROUP BY department_id
);
```

ii. **Query Using Correlated Subquery**

```
SELECT e.id, e.name, d.dept_name, e.salary
FROM deptt AS d
JOIN employee3 AS e
ON d.id = e.department_id
WHERE e.salary =
(
    SELECT MAX(e2.salary)
    FROM employee3 AS e2
    WHERE e2.department_id = e.department_id
);
```

4. Output:



Results | Messages

	id	name	dept_name	id	salary
1	2	JIM	IT	1	90000
2	4	ABC	IT	1	90000
3	3	HENRY	SALES	2	80000

Merging Employee Histories: Who Earned Least? (Hard)

1. Aim: Two legacy HR systems (A and B) have separate records of employee salaries. These records may overlap. Management wants to **merge these datasets** and identify **each unique employee (**by EmpID) along with their **lowest recorded salary** across both systems.

i. Combine two tables A and B.
ii. Return each EmpID with their **lowest salary,** and the corresponding **Ename.**

2. Objective:

- **Merging Data:** Learned how to combine multiple tables using UNION to handle overlapping employee records.
- **Finding Minimum Salary:** Practiced using aggregation to determine the lowest salary for each employee.
- **Handling Duplicates & Retrieval:** Reinforced skills in managing duplicate entries and retrieving associated information like employee name accurately.

3. DBMS script:

```
CREATE TABLE A(

EmpID int primary key,

Ename varchar(50),

Salary int

);


CREATE TABLE B(

EmpID int primary key,

Ename varchar(50),

Salary int

);
```

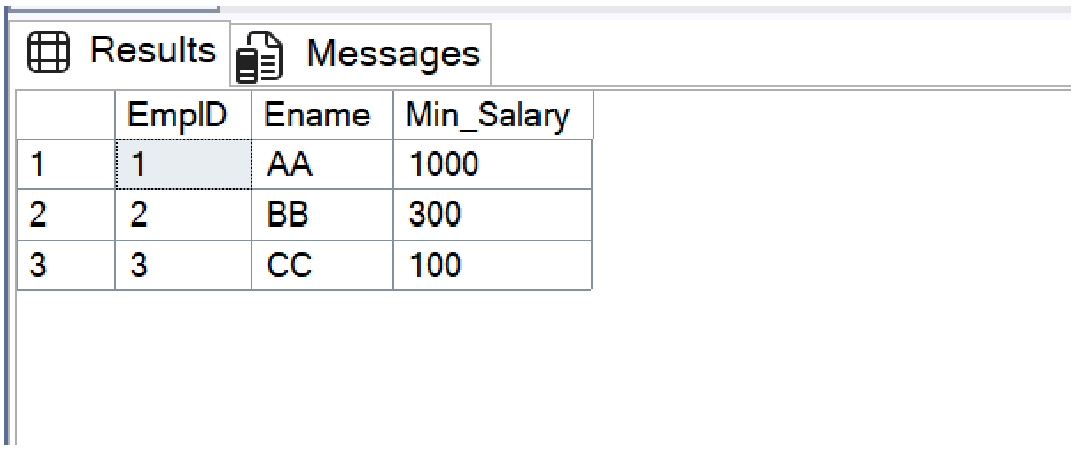
```
INSERT INTO A VALUES
(1,'AA',1000),
(2,'BB',300);

INSERT INTO B VALUES
(2,'BB',400),
(3,'CC',100);



SELECT EmpID, Ename, min(Salary) as Min_Salary
FROM
(SELECT* FROM A
UNION
SELECT* FROM B) AS X
 GROUP BY EmpID, Ename;
```

4. Output:



Results Messages

```
   EmpID  Ename  Min_Salary
1  1      AA     1000
2  2      BB     300
3  3      CC     100
```