Experiment 3

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Branch: BE-CSE **Section/Group: 803-A**
Semester: 5th **Date of Performance: 19.8.25**
Subject Name: Database management systems **Subject Code: 23CSP-333**

1. Aim:

To understand and apply fundamental SQL concepts for database design, data manipulation, and advanced querying techniques

2. Objective:

i) Problem Title: max value (Easy)

we are given with The Employee(EMP_ID) :
2
3
4
5
6
7
8
TASK: FIND MAX VALUE FOR EMP_ID, BUT EXCLUDING DUPLICATES(WITH SUB QUERIES)
HINT: GROUP BY - GROUPS OF UNIQUE ELEMENTS
OUTPUT: 7

ii) Problem Title: Department Salary Champions

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.

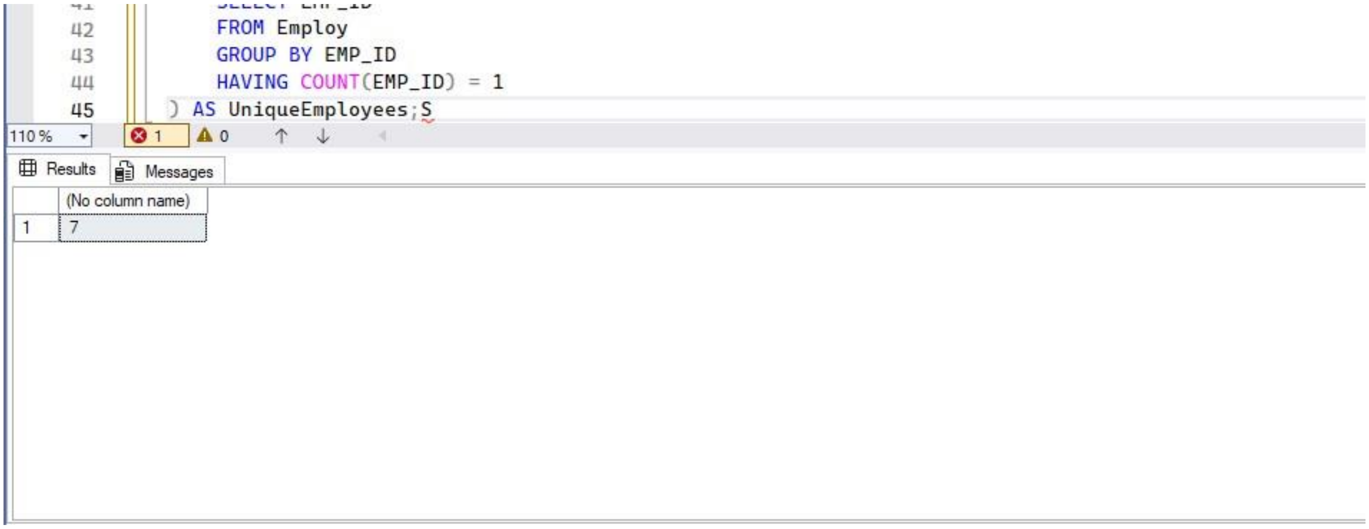
iii) Problem Title: Merging Employee Histories: Who Earned Least? (Hard)

1. 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.
   Objective
   1. Combine two tables A and B.
   2. Return each EmpID with their **lowest salary,** and the corresponding **Ename.**

3. DBMS script and output:

i)
```
CREATE TABLE Employ (
    EMP_ID INT,
    EmpName VARCHAR(50),
    Gender VARCHAR(10),
    Salary INT,
    City VARCHAR(50),
    Dept_id INT
);
INSERT INTO Employ(EMP_ID, EmpName, Gender, Salary, City, Dept_id)
VALUES
(1, 'Amit', 'Male', 50000, 'Delhi', 2),
(2, 'Priya', 'Female', 60000, 'Mumbai', 1),
(3, 'Rajesh', 'Male', 45000, 'Agra', 3),
(4, 'Sneha', 'Female', 55000, 'Delhi', 4),
(5, 'Anil', 'Male', 52000, 'Agra', 2),
(6, 'Sunita', 'Female', 48000, 'Mumbai', 1),
(7, 'Vijay', 'Male', 47000, 'Agra', 3),
(8, 'Ritu', 'Female', 62000, 'Mumbai', 2),
(8, 'Alok', 'Male', 51000, 'Delhi', 1),
(9, 'Neha', 'Female', 53000, 'Agra', 4),
(9, 'Simran', 'Female', 33000, 'Agra', 3);

SELECT MAX(EMP_ID)
FROM (
    SELECT EMP_ID
    FROM Employ
    GROUP BY EMP_ID
    HAVING COUNT(EMP_ID) = 1
) AS UniqueEmployees;
```



```
    SELECT EMP_ID
    FROM Employ
    GROUP BY EMP_ID
    HAVING COUNT(EMP_ID) = 1
) AS UniqueEmployees;S
```

	(No column name)
1	7

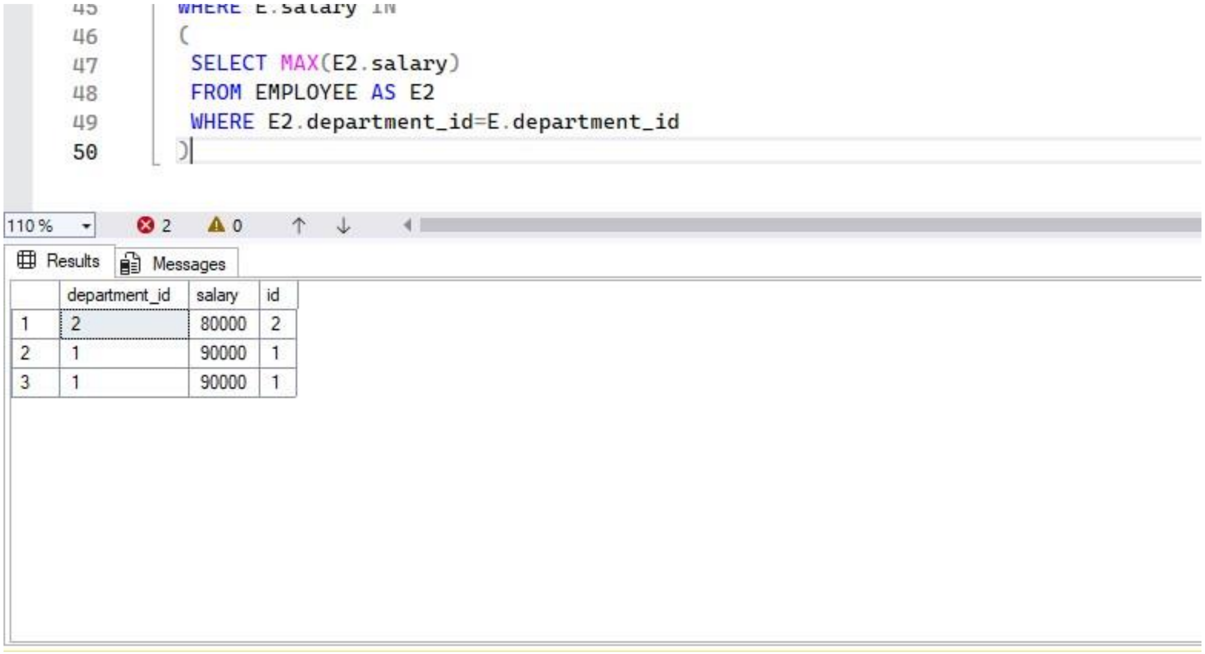
ii)
```
CREATE TABLE department (
id INT PRIMARY KEY,
    dept_name VARCHAR(50)
);

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 * FROM employee;
SELECT * FROM department;

SELECT E.department_id, E.salary, D.id
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
              )
```



```
WHERE E.salary IN
(
 SELECT MAX(E2.salary)
 FROM EMPLOYEE AS E2
 WHERE E2.department_id=E.department_id
)
```

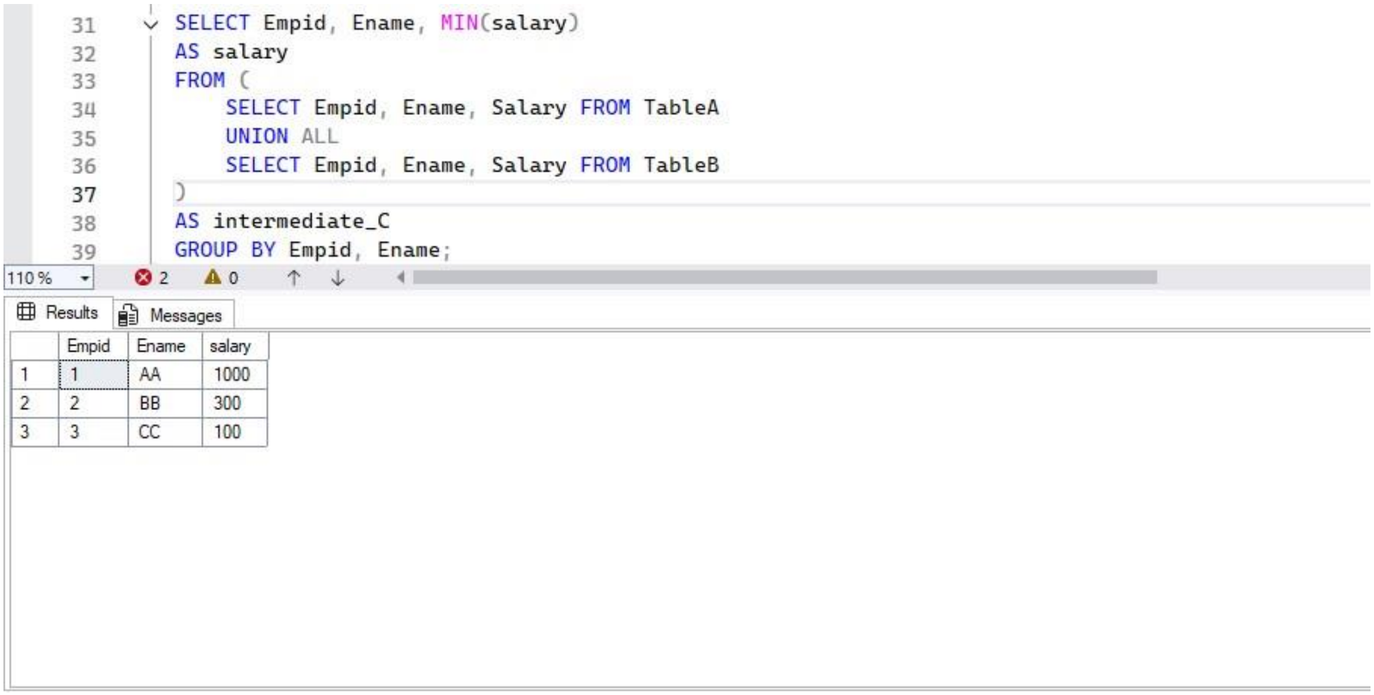
	department_id	salary	id
1	2	80000	2
2	1	90000	1
3	1	90000	1

```
          iii) CREATE TABLE TableA (
    Empid INT PRIMARY KEY,
    Ename VARCHAR(50),
    salary INT
);

CREATE TABLE TableB (
    Empid INT PRIMARY KEY,
    Ename VARCHAR(50),
    salary INT
);

INSERT INTO TableA(Empid, Ename, salary) VALUES (1, 'AA', 1000), (2, 'BB', 300)
INSERT INTO TableB(Empid, Ename, salary) VALUES (2, 'BB', 400), (3, 'CC', 100)

SELECT Empid, Ename, MIN(salary)
AS salary
FROM (
    SELECT Empid, Ename, Salary FROM TableA
    UNION ALL
    SELECT Empid, Ename, Salary FROM TableB
)
AS intermediate_C
              GROUP BY Empid, Ename;
```



```
SELECT Empid, Ename, MIN(salary)
AS salary
FROM (
    SELECT Empid, Ename, Salary FROM TableA
    UNION ALL
    SELECT Empid, Ename, Salary FROM TableB
)
AS intermediate_C
GROUP BY Empid, Ename;
```

	Empid	Ename	salary
1	1	AA	1000
2	2	BB	300
3	3	CC	100