DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment 1.3

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Subject Name: ADBMS Subject Code: 23CSP-333

1. Experiment Name: SUBQUERY
2. Objective:

---Medium-Level Problem ---

Problem Title: Department Salary Champions

(Step-by-Step):

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.

---Hard-Level Problem ---

Problem Title: Merging Employee Histories: Who Earned Least?:

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.Code:

----MEDIUM LEVEL PROBLEM CODE----

```
CREATE TABLE Department (
   ID INT PRIMARY KEY,
   DEPT_NAME VARCHAR(50)
);

CREATE TABLE Employee (
   ID INT,
   NAME VARCHAR(50),
   SALARY INT,
   DEPT_ID INT,
   FOREIGN KEY (DEPT_ID) REFERENCES Department(ID)
);

INSERT INTO Department (ID, DEPT_NAME) VALUES
(1, 'IT'),
(2, 'SALES');
INSERT INTO Employee (ID, NAME, SALARY, DEPT_ID) VALUES
(1, 'JOE', 70000, 1),
(2, 'JIM', 90000, 1),
(3, 'HENRY', 80000, 2),
(4, 'SAM', 60000, 2),
(5, 'MAX', 90000, 1);
SELECT d.DEPT_NAME, e.NAME, e.SALARY
FROM Employee e
JOIN Department d ON e.DEPT_ID = d.ID
```

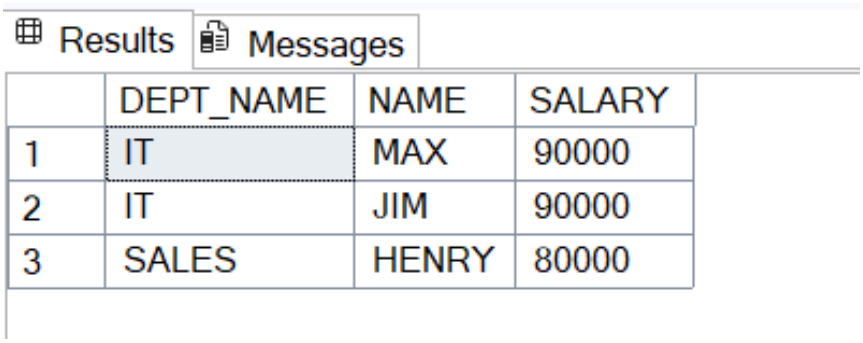
```
WHERE e.SALARY = (
    SELECT MAX(SALARY)
    FROM Employee
    WHERE DEPT_ID = e.DEPT_ID
)
ORDER BY d.DEPT_NAME;
```

----HARD LEVEL PROBLEM CODE----

```
 CREATE TABLE TableA (
    EmpID INT,
    Ename VARCHAR(50),
    Salary INT
);
INSERT INTO TableA (EmpID, Ename, Salary) VALUES
(1, 'AA', 1000),
(2, 'BB', 300);

CREATE TABLE TableB (
    EmpID INT,
    Ename VARCHAR(50),
    Salary INT
);

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 Combined
GROUP BY EmpID, Ename
ORDER BY EmpID;
```

4.Output:

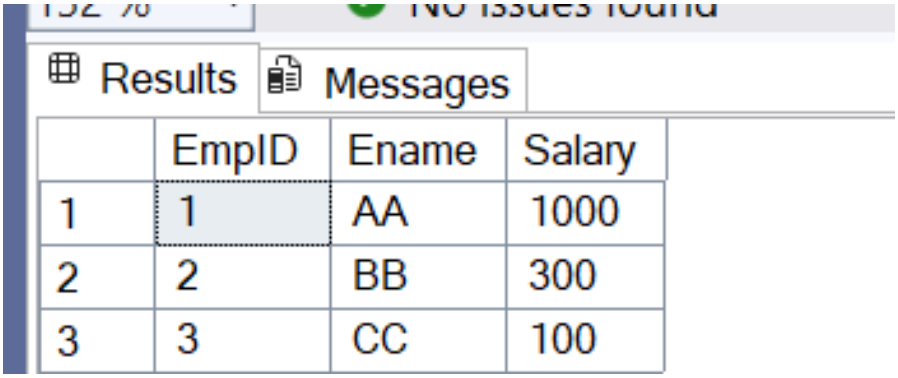
----MEDIUM level problem output----



Results Messages

	DEPT_NAME	NAME	SALARY
1	IT	MAX	90000
2	IT	JIM	90000
3	SALES	HENRY	80000

----HARD level problem output----



Results Messages

	EmpID	Ename	Salary
1	1	AA	1000
2	2	BB	300
3	3	CC	100

4.Learning Outcomes:

- Understanding of Relational Database Concepts.
- Proficiency in Query Writing
- Data Aggregation and Analysis Skills
- Problem-Solving with Advanced SQL Features
- Application of SQL in Business Use-Cases