DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING
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Experiment 1.3

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Semester: 5th **Date of Performance: 19/08/25**
Subject Name: ADBMS **Subject Code: 23CSP-333**

1. **Aim**: To develop SQL queries that integrate multiple employee and department datasets in order to accurately identify the top earners within each department while also merging historical salary records from different HR systems to determine the lowest recorded salary for every employee, thereby ensuring a unified and consistent view of organizational compensation data.
2. **Requirements(Hardware/Software):** MySQL, PostgreSQL, Oracle, or SQL Server
3. **DBMS script and output:**

Medium Level Problem

Problem Title: Department Salary Champions

Procedure (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.

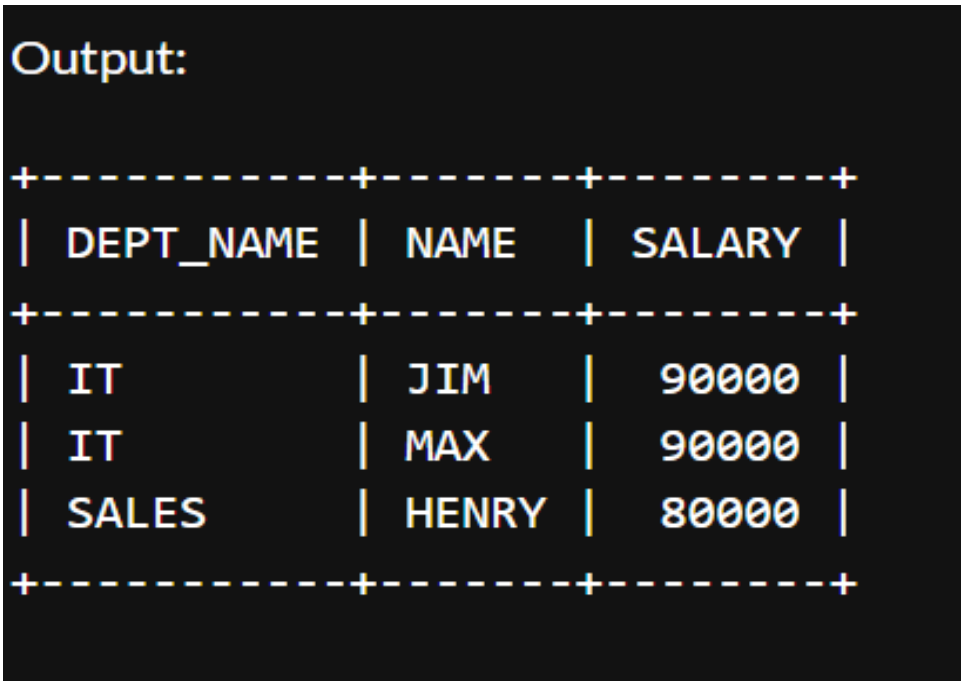
```
CREATE TABLE DEPARTMENT (
   ID INT PRIMARY KEY,
   DEPT_NAME VARCHAR(50)
);

INSERT INTO DEPARTMENT (ID, DEPT_NAME) VALUES
(1, 'IT'),
(2, 'SALES');

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

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(E2.SALARY)
   FROM EMPLOYEE E2
   WHERE E2.DEPT_ID = E.DEPT_ID
)
ORDER BY D.DEPT_NAME, E.NAME;
```



Hard-Level Problem

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

Procedure (Step-by-Step):

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.**

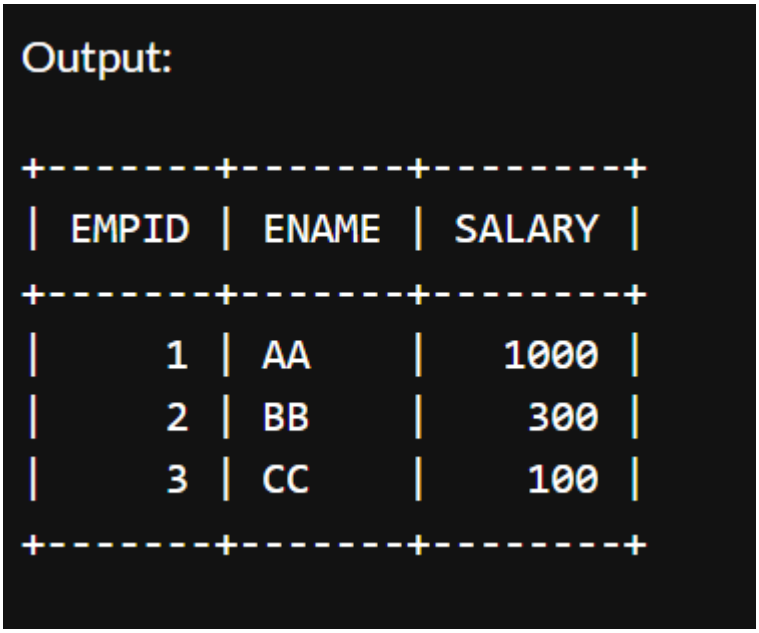
```
CREATE TABLE A (
   EMPID INT,
   ENAME VARCHAR(50),
   SALARY INT
);

INSERT INTO A (EMPID, ENAME, SALARY) VALUES
(1, 'AA', 1000),
(2, 'BB', 300);

CREATE TABLE B (
   EMPID INT,
   ENAME VARCHAR(50),
   SALARY INT
);

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

SELECT EMPID, ENAME, MIN(SALARY) AS SALARY
FROM (
   SELECT * FROM A
   UNION ALL
   SELECT * FROM B
) AS MERGED
GROUP BY EMPID, ENAME;
```



4. Learning Outcomes :

- Learned how to join tables to get useful information.
- Learned how to use MAX and MIN with GROUP BY to find highest and lowest salaries.
- Understood how to include all employees if more than one has the same top salary.
- Learned how to combine data from two systems using UNION ALL.
- Understood how to make queries that give a clear and complete result.