Experiment 3

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

1. Aim: To design and implement SQL queries for employee data analysis, which include:

a) Determining the second highest employee ID from the Employee table using subqueries and aggregate functions.

b) Retrieving the highest-paid employees in each department, ensuring all employees with the maximum salary are included.

c) Merging salary records from multiple HR systems to identify each unique employee (by EmpID) with their lowest recorded salary.

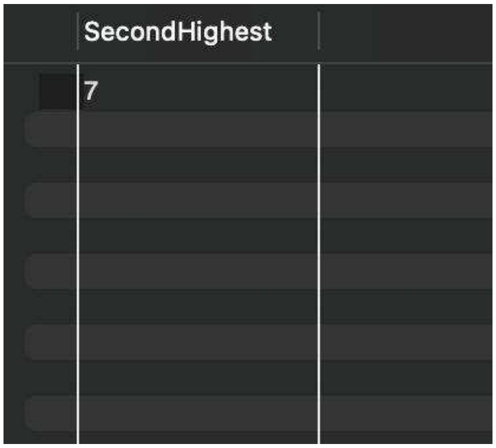
2. Objective:

- To create and manage employee data using SQL.
- To find the second highest employee ID using subqueries and aggregate functions.
- To retrieve the highest-paid employees from each department.
- To merge salary records from multiple HR systems.
- To identify each unique employee with their lowest recorded salary.

3. DBMS script and output:

Solution-(a)

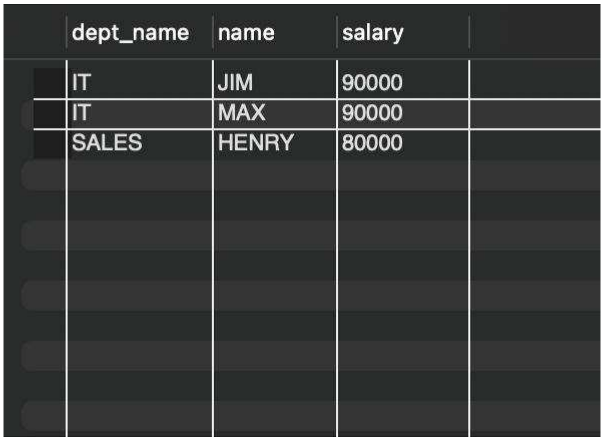
```
CREATE DATABASE CompanyDB;

USE CompanyDB;

CREATE TABLE Employee (

   EMP_ID INT

);


INSERT INTO Employee (EMP_ID) VALUES

(2),

(4),

(4),
(6),
(6),
(7),
(8),
(8),
(8);

SELECT MAX(EMP_ID) AS SecondHighest
FROM Employee
WHERE EMP_ID < (SELECT MAX(EMP_ID) FROM Employee);
```



```
SecondHighest
7
```

Solution-(b)

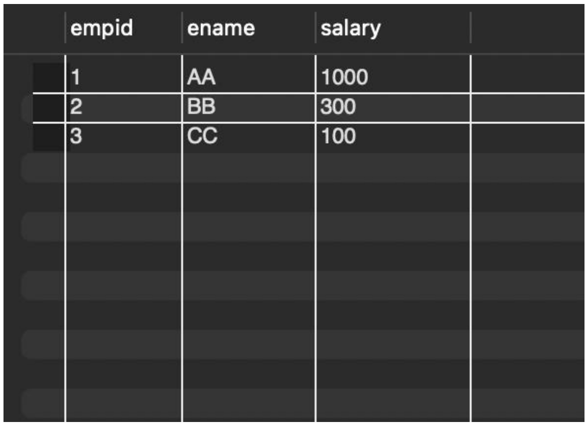
```
CREATE DATABASE CompanyDB2;
USE CompanyDB2;

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 d.dept_name, e.name, e.salary
FROM employee e
JOIN department d
ON e.department_id = d.id
WHERE e.salary=(
    SELECT MAX(salary)
    FROM employee
    WHERE department_id = e.department_id)
```



dept_name	name	salary
IT	JIM	90000
IT	MAX	90000
SALES	HENRY	80000

Solution-(c)

```
CREATE DATABASE CompanyDB3;
USE CompanyDB3;
CREATE TABLE a (
    empid INT,
    ename VARCHAR(50),
    salary INT
);

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

CREATE TABLE b (
    empid INT,
    ename VARCHAR(50),
    salary INT
);

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

select * from a;
select * from b;

SELECT empid, ename, MIN(salary) AS salary
FROM (
    SELECT * FROM a
    UNION ALL
    SELECT * FROM b
) s
GROUP BY empid, ename;
```



empid	ename	salary
1	AA	1000
2	BB	300
3	CC	100

4. Learning Outcomes (What I have Learnt):

- Understand how to create and manipulate tables in SQL.
- Gain skills in using subqueries and aggregate functions to solve analytical queries.
- Learn to retrieve top-performing employees based on salary within departments.
- Acquire knowledge of merging datasets from multiple sources in SQL.
- Develop the ability to derive meaningful insights like lowest salary or second highest ID from employee data.