

Experiment 3

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Subject Name: ADBMS Subject Code: 23CSP-333

Medium-Level

1. Problem Title: Department Salary Champions

- 2. Problem Description: 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.
- 3. **SQL Commands:**
 - a. Create table and insert values:

```
☐ CREATE TABLE department (

id INT PRIMARY KEY,

dept_name VARCHAR(50)

);

-- Create Employee Table

☐ CREATE TABLE employee (

id INT,

name VARCHAR(50),

salary INT,

department_id INT,

FOREIGN KEY (department_id) REFERENCES department(id)

);
```

```
-- Insert into Department Table

DINSERT INTO department (id, dept_name) VALUES

(1, 'IT'),
(2, 'SALES');

-- Insert into Employee Table

DINSERT 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);
```

b. Writing the Solution using Subquery

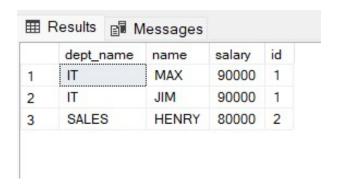
```
Felect D.dept_name,e.name,e.salary,D.id
from employee as e
INNER JOIN
Department as d
on e.department_id = D.id
where e.salary IN(
Select max(E2.salary)
from employee as E2
where E2.department_id = E.department_id
)
order by D.dept_name;
```

Outputs:

department and employee table:

	id dept_name		ne	
1	1	IT		
2	2	SALES		
	id	name	salary	department_id
1	1	JOE	70000	1
2	2	JIM	90000	1
3	3	HENRY	80000	2
4	4	SAM	60000	2
5	5	MAX	90000	1

result after subquery:



Learning Outcome:

- a. I learned how to perform joini with subquery
- b. I learned how joins work with subqueries
- c. Learnt the working and order of implementation of subqueries

Hard - Level

- 1. Problem Title: Merging Employee Histories: Who Earned Least?
- 2. **Problem Description:** 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.

SQL Commands:

a. Create table and insert values:

```
----hard level----

create table A(
    empId int,
    E_name varchar(20),
    salary int
);

insert into A values(1, 'AA', 1000);
insert into A values(2, 'BB', 300);

□create table B(
    empId int,
    E_name varchar(20),
    salary int
);

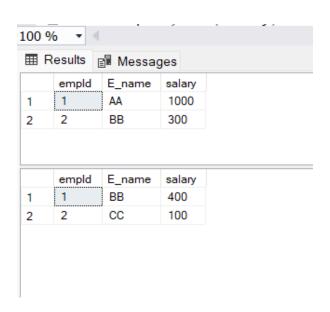
insert into B values(1, 'BB', 400);
insert into B values(2, 'CC', 100);
```

b. Writing the solution with Subqueries:

```
SELECT E_name, MIN(salary) AS Salary
FROM (
SELECT empId, E_name, salary FROM A
UNION
SELECT empId, E_name, salary FROM B
) AS inter_result
GROUP BY E_name;
```

Outputs:

table A and table B



result after subquery:

	E_name	Salary
1	AA	1000
2	BB	300
3	CC	100

Learning Outcome:

- a. I learned how to perfrom union with the subquery.
- b. I learned how to store the intermediate result and then perfrom queries on it