University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT:3

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BRANCH : BE-CSE **SECTION : KRG_1A**
SEMESTER : 5TH **SUBJECT : 23CSP-339**
SUBJECT NAME : ADBMS

1. AIM:-

[EASY]
You are given an EMP table that contains a list of employee IDs (EMP_ID). Some employee IDs may appear multiple times, representing duplicate entries.
Write an SQL query (using **subqueries**) to:

- Identify and exclude all employee IDs that appear more than once in the table.
- From the remaining unique employee IDs, find the **highest employee ID**.

Return the result as a single column named single_heghest.

[MEDIUM]
Given tables:

- department(id, dept_name)
- employee(id, name, salary, department_id)

Write a SQL query to retrieve employees with the **highest salary in each department**, displaying their name, salary, and department name, sorted by department name.

[HARD]
Given tables:

- TABLE1(EMPID, Ename, Salary)
- TABLE2(EMPID, Ename, Salary)

Write a SQL query to combine the records from both tables, and for each EMPID, select the employee name and salary with the **minimum values**. The result should display one row per EMPID.

2.TOOLS USED :-

SQL server management studio.

3.CODE:-

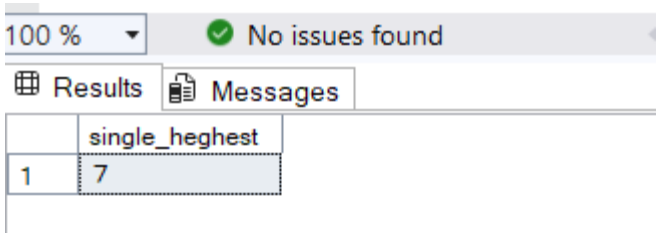
```
--EASY--
use subqueries
CREATE TABLE EMP(
EMP_ID INT
)
INSERT INTO EMP (EMP ID)
VALUES (2), (4), (4), (6), (6), (7), (8), (8);

--SELECT *FROM EMP;


SELECT MAX(EMP_ID)  AS  [single_heghest]FROM EMP
WHERE EMP ID NOT IN(
SELECT EMP_ID FROM EMP
GROUP BY EMP_ID
HAVING COUNT(EMP_ID)>1
--MEDIUM—
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
INSERT INTO department (id, dept_name) VALUES
(1, 'IT'),
(2, 'SALES');

-- Insert into Employee Table
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 E.name,E.salary,D.dept_name
FROM employee AS E
LEFT 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
```

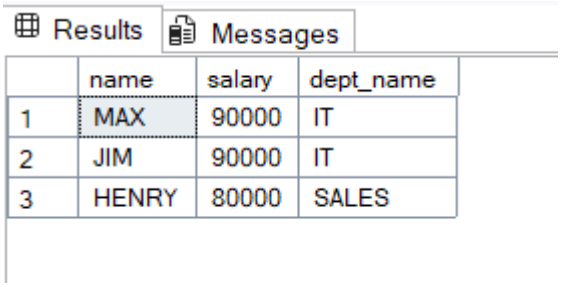
--HARD—

```
CREATE TABLE TABLE1(
 EMPID INT,
 Ename VARCHAR(20),
 Salary INT
)
CREATE TABLE TABLE2(
 EMPID INT,
 Ename VARCHAR(20),
 Salary INT
)

INSERT INTO TABLE1(EMPID,Ename,Salary) VALUES
(1,'AA',1000),
(2,'BB',300);

INSERT INTO TABLE2(EMPID,Ename,Salary) VALUES
(2,'BB',400),
(3,'CC',100);


SELECT EMPID,min(Ename) as Ename,MIN(Salary) as Salary
FROM
(
SELECT *FROM TABLE1
UNION
SELECT *FROM TABLE2
) AS RES
GROUP BY EMPID
```

4.OUTPUT:-
[EASY]



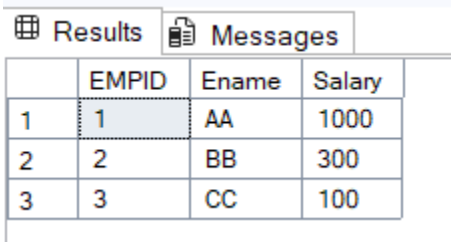
[MEDIUM]



Results Messages

	name	salary	dept_name
1	MAX	90000	IT
2	JIM	90000	IT
3	HENRY	80000	SALES

[HARD]



Results Messages

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

5. LEARNING OUTCOMES:-

1.Learned to create tables and insert data in SQL.
2.Practiced using subqueries to filter and aggregate data.
3.Gained experience with JOINs to combine related tables.
4.Learned to handle duplicates and consolidate data using UNION and aggregation.
5.Developed problem-solving skills for retrieving specific information from databases.