University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT:3

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BRANCH : BE-CSE	**SECTION : KRG_3B**
SEMESTER : 5TH	**SUBJECT : 23CSP-339**
SUBJECT NAME : ADBMS	

1. AIM:-

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:

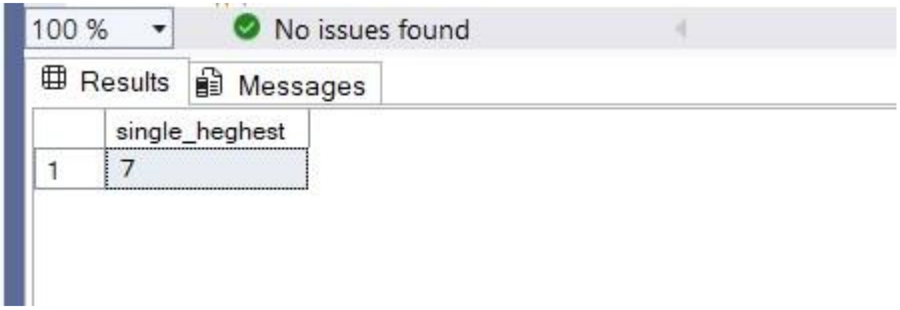
- Identify and exclude all employee IDs that appear more than once in the table.
- From the remaining unique employee IDs, find the **highest employee ID**.

Return the result as a single column named single_heghest.

Software Used -SQL Management Studio **Source Code**

```
create database subquery;


use subquery; create table
Emp(Emp_id int); insert into
Emp(Emp_id) values
(2),
(4),
(4),
(6),
(6),
(7),
(8),
(8);
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)
```

Output



	single_heghest
1	7

Medium Level

Aim- 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.

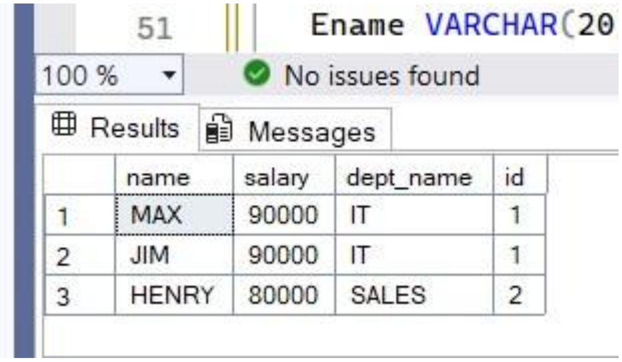
Software Used-SQL Management Studio

Source Code

```
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 E.name,E.salary,D.dept_name,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
```

Output



```
Ename VARCHAR(20
```

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

Hard Level

Aim

Given tables:

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

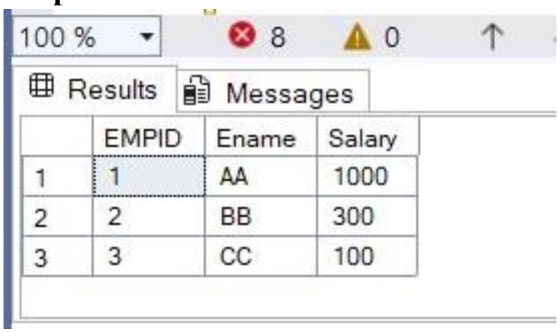
Write a SQL query to combine the records from both tables, and for each EMPID, select the employeename and salary with the minimum values. The result should display one row per EMPID.

Software Used-SQL Management Studio

Source Code

```
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
```

Output



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

Learning Outcomes

- Acquired hands-on experience in **creating databases, tables, and inserting data**.
- Practiced writing **subqueries** for advanced filtering and data aggregation.
- Gained proficiency in using **JOINs** to combine and analyze data from multiple tables.
- Learned techniques to manage **duplicates** and consolidate results using **UNION** and **aggregate functions**.
- Strengthened **problem-solving skills** in retrieving, interpreting, and presenting specific information from datasets.