University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT:3

NAME : Aditya Chandra   **UID : 23BCS12981**
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)
```
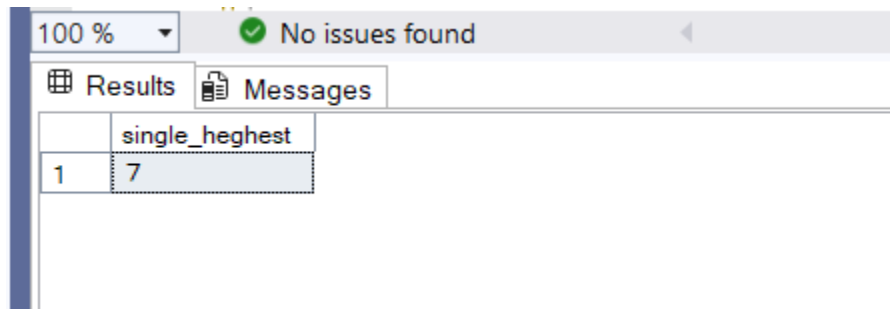
Output

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
```
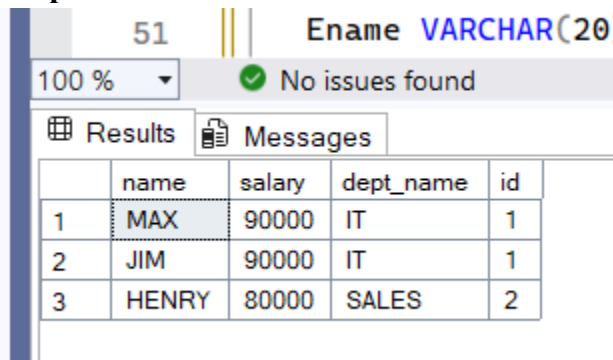
On
E.department_id=D.id
WHERE E.salary IN
(
   SELECT MAX(E2.SALARY)
   FROM employee as E2
   WHERE E2.department_id =E.department_id
)

ORDER BY D.dept_name

Output

	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.

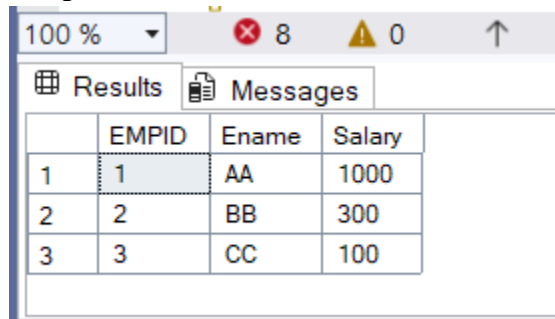**Software Used**-SQL Management Studio

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.