Experiment 3

Student Name:Khushi Khemka
Branch: BE CSE
Semester: 5
Subject Name: ADBMS

UID: 23BCS10652
Section/Group: KRG-3-A
Date of Performance: 14-8-25
Subject Code: 23CSP-333

1. **Aim:**
   1. Generate an employee relation with only one attribute i.e., EMP_ID. Then, find the max EMP_ID, but excluding the duplicates.
   2. Create two tables, Department(ID, name) and Employees(ID, name, salary, deptID). Then output the highest earners from each department.
   3. Create two tables A and B with the attributes (EmpID, EmpName, Salary) and output the lowest salary of each employee across the two tables.

2. **Requirements (Hardware/Software):**
   Microsoft SQL server

3. **Procedure:**

Q.1. Code:

```
Create Table Tbl_Employee( Emp_Id Int
);
Insert Into Tbl_Employee Values (2),(4),(4),(6),(6),(7),(8),(8);

Select Max(Emp_Id) As [Greatest Unique Id] From Tbl_Employee Where Emp_Id In
(Select Emp_Id From Tbl_Employee Group By Emp_Id Having Count(Emp_Id)=1);
```

Q.2. Code:

```
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 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(Salary) From Employee Group By Department_Id);
```

Q.3. Code:

```
create table tbl_A (
 empid int PRIMARY key,
 empname varchar(20),
 salary int
)
```

```
insert into tbl_A values (1,'AA',1000), (2, 'BB',300);
create table tbl_B (
 empid int PRIMARY key,
 empname varchar(20),
 salary int
)
insert into tbl_B values (2, 'BB',400), (3,'CC',100);

select empid, min(empname) as empname, min(salary) as min_salary from
(select * FROM
tbl_A
UNION
select * from
tbl_b) as UNI
group by empid;
```

4. Output:

Q.1.

```
Output:

Greatest Unique ID
------------------
                 7
```

Q.2.

```
Output:
Dept_Name                                  Name                                       Salary      Id
------------------------------------------ ------------------------------------------ ----------- -----------
IT                                         JIM                                             90000           1
IT                                         MAX                                             90000           1
SALES                                      HENRY                                           80000           2
```

Q.3.

```
Output:

empid       empname              min_salary
----------- -------------------- -----------
          1 AA                          1000
          2 BB                           300
          3 CC                           100
```

5. Learning Outcome:

- Understand the role of sub-queries in simplifying complex SQL operations.
- Apply sub-queries in SELECT, WHERE, and FROM clauses to retrieve specific data.
- Utilize sub-queries for filtering, aggregation, and conditional logic.
- Analyze query performance implications when using sub-queries versus joins.