Experiment 3

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Branch: BE-CSE **Section/Group:** KRG - 1A

Semester: 5th Date of Performance: 14 August, 2025

Course Name: ADBMS Course Code: 23CSP-333

1. AIM

- 1. Max Value without Duplicates [EASY]
 - o Create a table of Employee IDs.
 - o Insert sample IDs (with duplicates).
 - Write a query to return the maximum EmpID excluding duplicate values using subqueries.
- 2. Department Salary Champions [MEDIUM]
 - Create dept and employee tables with a relationship.
 - o Insert sample department and employee data.
 - Use subqueries to find the employee(s) with the highest salary in each department.
 - o If multiple employees share the max salary in a department, include all.
- 3. Merging Employee Histories: Who Earned Least? [HARD]
 - Create two legacy tables (TableA and TableB).
 - o Insert sample records (some overlapping).
 - Merge both tables and find the minimum salary per employee using subqueries.

2. Tool Used

- 1. MS SQL Server
- 2. Data Grip

3. SQL Code

```
-- Easy Task
-- Generate employee relation with only 1 attribute ( ID )
-- Find the max id but excluding the duplicates

create table employees_tbl(
    e_id int
);

insert into employees_tbl values
(1), (1), (2), (3), (3), (4), (5), (5), (6), (7), (7);
```

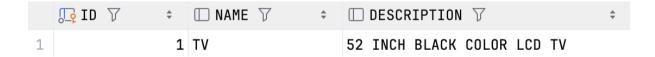
```
select max(a.e id) as max distinct id from (select e id, count(e id)
as id cnt from employees tbl group by e id) as a where a.id cnt = 1;
---- Task 2:
-- select product which has not been sold once
-- find the total quantity of sold for each respective product
CREATE TABLE TBL PRODUCTS
(
     ID INT PRIMARY KEY IDENTITY,
     [NAME] NVARCHAR(50),
     [DESCRIPTION] NVARCHAR(250)
)
CREATE TABLE TBL PRODUCTSALES
(
     ID INT PRIMARY KEY IDENTITY,
     PRODUCTID INT FOREIGN KEY REFERENCES TBL PRODUCTS (ID),
     UNITPRICE INT,
     QUALTITYSOLD INT
)
INSERT INTO TBL PRODUCTS VALUES ('TV','52 INCH BLACK COLOR LCD TV')
INSERT INTO TBL_PRODUCTS VALUES ('LAPTOP','VERY THIIN BLACK COLOR
ACER LAPTOP')
INSERT INTO TBL PRODUCTS VALUES ('DESKTOP', 'HP HIGH PERFORMANCE
DESKTOP')
INSERT INTO TBL PRODUCTSALES VALUES (3,450,5)
INSERT INTO TBL PRODUCTSALES VALUES (2,250,7)
INSERT INTO TBL PRODUCTSALES VALUES (3,450,4)
INSERT INTO TBL PRODUCTSALES VALUES (3,450,9)
select * from TBL PRODUCTS
select * from TBL PRODUCTSALES
select * from TBL PRODUCTS where TBL PRODUCTS.ID not in (select
distinct PRODUCTID from TBL PRODUCTSALES);
```

```
select Name, (select SUM(TBL PRODUCTSALES.QUALTITYSOLD) from
TBL PRODUCTSALES where PRODUCTID = TBL PRODUCTS.ID) as [PRODUCT
SALES] from TBL PRODUCTS;
-----EXPERIMENT 03: (MEDIUM LEVEL)
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.salary, e.name, t.m salary, t.dept name
FROM employee e
JOIN (
   SELECT e.department id, d.dept name, max(e.salary) AS m salary
   FROM employee e
    JOIN department d
    ON e.department id = d.id
    GROUP BY e.department id, d.dept name
ON t.department id = e.department id
   AND t.m salary = e.salary;
```

-- Hard level

```
create table emp a tbl(
    empid int,
    empname varchar(255),
    salary int
);
create table emp b tbl(
    empid int,
    empname varchar(255),
    salary int
);
insert into emp_a_tbl values
(1, 'AA', 1000),
(2, 'BB', 300);
insert into emp b tbl values
(2, 'BB', 400),
(3, 'CC', 100);
SELECT t.empid, min(t.empname), min(t.salary)
FROM (
    SELECT *
    FROM emp a tbl
   UNION (SELECT * FROM emp_b_tbl)
) t
GROUP BY t.empid;
```

4. Output



	□ Name	∇	\$		[PRODUCT	SALES] 7		\$
1	TV							<nu< td=""><td>ıll></td></nu<>	ıll>
2	LAPT0P								7
3	DESKTOP	•							18
	□ salary 🏻	\$	\square name $ egthinspace$	‡	□ m_salary	₹ •	□ dept_name	e 7	\$
1		90000	JIM			90000	IT		
2		80000	HENRY			80000	SALES		
3		90000	MAX			90000	IT		
	\square empid $ egthinspace \emptise 7$	\$	□ <anon< td=""><td>ymous</td><td>> 7</td><td>‡</td><td>onymous> 🏹</td><td>,</td><td>\$</td></anon<>	ymous	> 7	‡	onymous> 🏹	,	\$
1			1 AA						1000
2	2 BB								300
3			3 CC						100