Experiment 3

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Aim:

to understand and implement subqueries in sql for solving complex database queries

D.B.M.S. Code:

QUESTION 1 : easy (max value, excluding duplicates)---
/*
we are given with The Employee(EMP_ID)
2
3
4
5
6
7
8
TASK: FIND MAX VALUE FOR EMP_ID, BUT EXCLUDING DUPLICATES(WITH SUB QUERIES)
HINT: GROUP BY - GROUPS OF UNIQUE ELEMENTS
OUTPUT: 7
***/**

ANSWER :

```
create table employ (
   emp_id int,
   empname varchar(50),
   gender varchar(10),
   salary int,
   city varchar(50),
   dept_id int
);

insert into employ(emp_id, empname, gender, salary, city, dept_id)
values
(1, 'amit', 'male', 50000, 'delhi', 2),
```

```
(2, 'priya', 'female', 60000, 'mumbai', 1),
(3, 'rajesh', 'male', 45000, 'agra', 3),
(4, 'sneha', 'female', 55000, 'delhi', 4),
(5, 'anil', 'male', 52000, 'agra', 2),


(6, 'sunita', 'female', 48000, 'mumbai', 1),
(7, 'vijay', 'male', 47000, 'agra', 3),
(8, 'ritu', 'female', 62000, 'mumbai', 2),
(8, 'alok', 'male', 51000, 'delhi', 1),
(9, 'neha', 'female', 53000, 'agra', 4),
(9, 'simran', 'female', 33000, 'agra', 3);

select max(emp_id)
from (select emp_id from employ group by emp_id having count(emp_id) = 1
) as u;
```

Output:

```
id
-----------
          7
```

QUESTION 2 : In a bustling corporate organization, each department strives to retain the most talented (and well-compensated)
employees. You have access to two key records: one lists every employee along with their salary and department,
while the other details the names of each department. Your task is to identify the top earners in every department.

If multiple employees share the same highest salary within a department, all of them should be celebrated equally.
The final result should present the department name, employee name, and salary of these top-tier professionals
arranged by department.

ANSWER :

```
create table employees (
    id int,
    name varchar(50),
    salary int,
    dept_id int
);

create table departments (
```

```
    id int,
    dept_name varchar(50)
);

insert into employees values (1, 'joe', 70000, 1);
insert into employees values (2, 'jim', 90000, 1);


insert into employees values (3, 'henry', 80000, 2);
insert into employees values (4, 'sam', 60000, 2);
insert into employees values (4, 'max', 90000, 1);

insert into departments values (1, 'it');
insert into departments values (2, 'sales');

select d.dept_name, e.name, e.salary
from employees e
join departments d on e.dept_id = d.id
where e.salary = (select max(salary) from employees e2 where e2.dept_id = e.dept_id)
order by d.dept_name;
```

Output:

dept_name	name	salary
it	jim	90000
it	max	90000
sales	henry	80000

QUESTION 3 :legacy HR systems ,a and b, have seperate records of employee salaries. these records may overlap. management wnts to merge these 2 datasets and identify each unique employee(by empid) along with lowest recorded salary across both systems.

objective:
1) combine both tables a and b using join
2) return each empid with their lowest salary and corresponding ename

ANSWER :

```
create table A (
    EmpID int,
    Ename varchar(20),
    Salary int
```

```
);

create table B (
    EmpID int,
    Ename varchar(20),
    Salary int
);



insert into A values (1, 'qwe', 1000);
insert into A values (2, 'rty', 300);

insert into B values (2, 'rty', 400);
insert into B values (1, 'qwe', 100);

select EmpID, Ename, min(Salary) as Salary
from (select * from A union all select * from B) merged
group by EmpID, Ename
order by EmpID;
```

Output:

EmpID	Ename	Salary
1	qwe	100
2	rty	300