



University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT : 3

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BRANCH : BE-CSE

SECTION/GROUP : KRG-1-A

SEMESTER : 5TH

SUBJECT CODE : 23CSP-339

SUBJECT NAME : ADBMS

1. Aim Of The Practical :

[EASY] :

1. Basic table creation and Duplicate handling:
 - Generate an employee relation with single attribute ID.
 - Retrieve the maximum ID value while excluding duplicates.
- 2 .Product Sales Analysis:
 - Select products which have never been sold.
 - Calculate the total quantity sold for each respective product.

[MEDIUM] :

- 1 . 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.

[HARD] :

- 1 . To merge the datasets and identify each unique employee (by EmpID) along with their lowest recorded salary across both systems.
 - Combine two tables A and B.
 - Return each EmpID with their lowest salary, and the corresponding Ename.

2. Tools Used : Microsoft SQL Server

3. Code :

EASY:

Q_1:

```
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;
```

Q_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,
    quantitysold int
)
```

```
insert into tbl_products values ('tv','52 inch black color led tv')
insert into tbl_products values ('laptop','very thin 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 where tbl_products.id not in (select distinct productid from tbl_productsales);
```

```
select name, (select sum(tbl_productsales.quantitysold) from tbl_productsales where productid =
tbl_products.id) as [product sales] from tbl_products;
```

MEDIUM :

Q_1 :

```
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 department as d  
inner join  
employee as e  
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
```

HARD :

Q_1 :

```
create table table_a (  
    empid int primary key,  
    ename varchar(50),  
    salary int  
);  
  
create table table_b (  
    empid int primary key,  
    ename varchar(50),  
    salary int  
);  
  
insert into table_a(empid, ename, salary) values
```

```

(1, 'aa', 1000),
(2, 'bb', 300);

insert into table_b(empid, ename, salary) values
(2, 'bb', 400),
(3, 'cc', 100);

select empid, ename, min(salary) as minsalary
from (
select *from table_a
union all
select *from table_b
) as combined
group by empid, ename;

```

4. Output:

[EASY] :

Q_1 :

Output:

```

max_distinct_id
-----
6

```

Q_2 :

Output:

id	name	description
1	tv	52 inch black color lcd tv
	name	product sales
	tv	NULL
	laptop	7
	desktop	18

[MEDIUM] :

Q_1 :

Output:

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

[HARD] :

Q_1 :

Output:

empid	ename	minsalary
1	aa	1000
2	bb	300
3	cc	100

5. Learning Outcomes :

- Understood how to create a basic table and remove duplicates while retrieving values.
- Understood how to analyze product sales data by finding unsold products and calculating total quantities.
- Understood how to identify top earners in each department, including handling ties fairly.
- Understood how to merge datasets from multiple sources to get unified employee records.
- Understood how to use aggregate functions to find the lowest salary for each employee across systems.