University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT : 3

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BRANCH : BE-CSE

SECTION/GROUP : KRG_2A

SEMESTER : 5TH

SUBJECT CODE : 23CSP-339

SUBJECT NAME : ADBMS

1. Aim Of The Practical :

[EASY]

You are given with employee relation having only the attributes named as EMP_ID.
Your task is to fetch the maximum EMP_ID , But Excluding the duplicate values.

[EASY]

Find id name and description of product which has not been sold for once.

[EASY]

Find the total quantity sold with respect to each product name

[LEETCODE 1890]

Write a solution to report the **latest** login for all users in the year 2020. Do **not** include the users who did not login in 2020.

2. Tools Used : SQL Server Management Studio

3. Code :

---------- EASY----------

```
CREATE TABLE Employee (
   emp_id INT
);
```

```
INSERT INTO Employee (emp_id)
VALUES (1), (2), (3), (4), (5), (5), (6), (7), (8), (9), (9), (3);

select max(emp_id)
from Employee
where emp_id not in

(select emp_id
from Employee
group by emp_id
having count(emp_id)>1)
```

---------- EASY----------

```
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 ID,[NAME],[DESCRIPTION] from TBL_PRODUCTS
where ID not in
(select distinct PRODUCTID from TBL_PRODUCTSALES)
```

---------- EASY----------

```
select P.[NAME],
(select SUM(S.QUALTITYSOLD) from TBL_PRODUCTSALES S where S.PRODUCTID = P.ID)
as [QTY_SOLD]
from TBL_PRODUCTS P;
```

---------- LEETCODE----------

```
SELECT user_id, MAX(time_stamp) as 'last_stamp'
FROM Logins

WHERE YEAR(time_stamp)='2020'
GROUP BY user_id
```

4. Output :

[EASY]

	emp_id
1	1
2	2
3	3
4	4
5	5
6	5
7	6
8	7
9	8
10	9
11	9
12	3

	MAX
1	8

[EASY]

	ID	NAME	DESCRIPTION
1	1	TV	52 INCH BLACK COLOR LCD TV
2	2	LAPTOP	VERY THIIN BLACK COLOR ACER LAPTOP
3	3	DESKTOP	HP HIGH PERFORMANCE DESKTOP

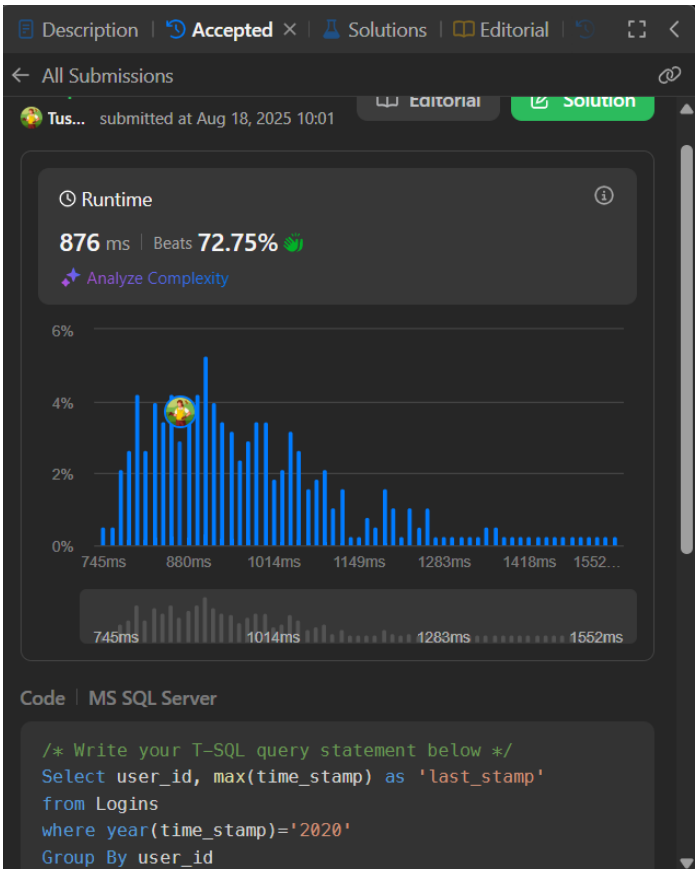
	ID	PRODUCTID	UNITPRICE	QUALTITYSOLD
1	1	3	450	5
2	2	2	250	7
3	3	3	450	4
4	4	3	450	9

	ID	NAME	DESCRIPTION
1	1	TV	52 INCH BLACK COLOR LCD TV

[EASY]

	NAME	QTY_SOLD
1	TV	NULL
2	LAPTOP	7
3	DESKTOP	18

[LEETCODE 1890]



5. Learning Outcomes :

- **Understand and implement subqueries** to model hierarchical relationships within a single table (e.g., finding employees who report to a specific manager using a subquery).
- **Construct relational subqueries** to fetch meaningful information such as employee–manager relationships, including handling cases where no manager exists by using correlated subqueries.
- **Design and populate tables** using CREATE TABLE and INSERT INTO statements, and practice writing subqueries for real-world hierarchical and time-series data scenarios.
- **Use subqueries in place of multi-table joins** to retrieve and match data across datasets, such as comparing actual vs. requested values (e.g., NPV values for specific years).
- **Handle missing data in subqueries** using functions like ISNULL() or COALESCE() to substitute default values when queried values are not found.
- **Apply conditional subqueries with multiple criteria** (e.g., filtering based on both ID and YEAR inside a subquery) to ensure accurate data mapping.
- **Develop problem-solving approaches using subqueries** (both correlated and non-correlated) to derive insights from HR records and financial datasets in enterprise applications.