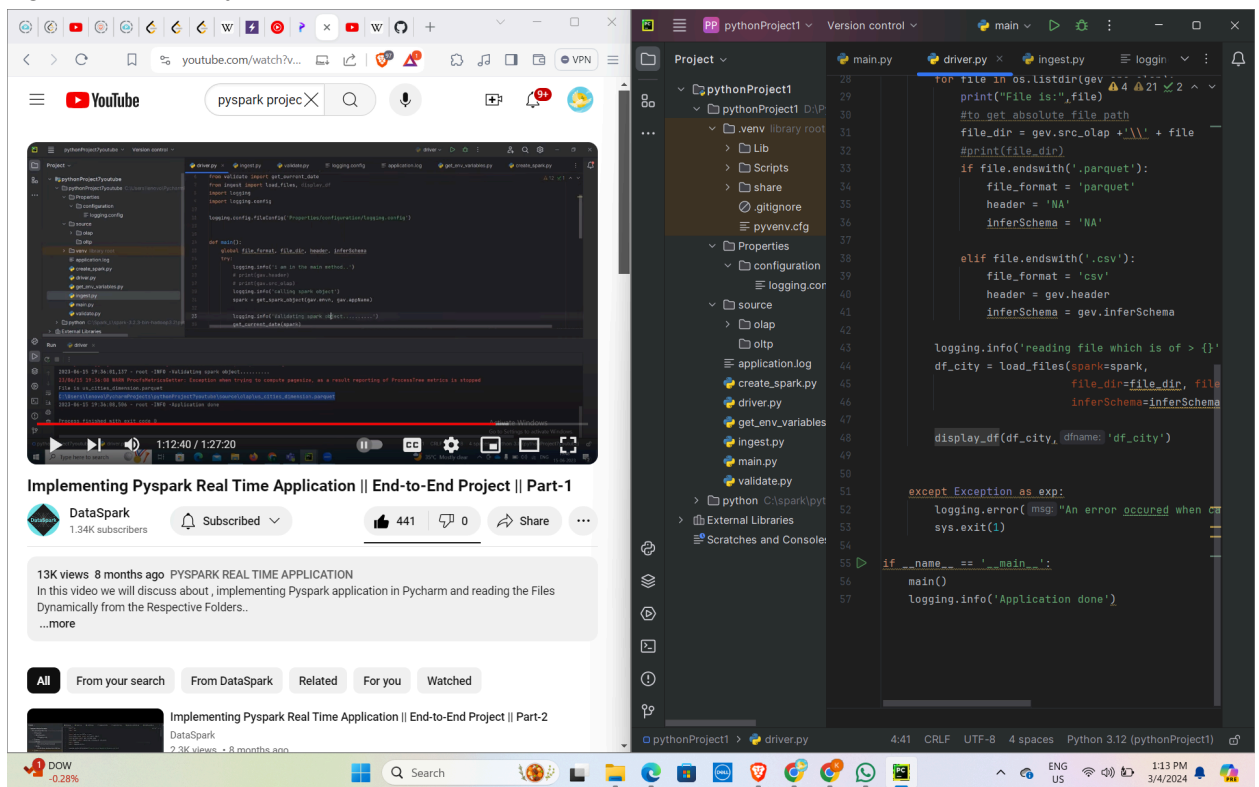
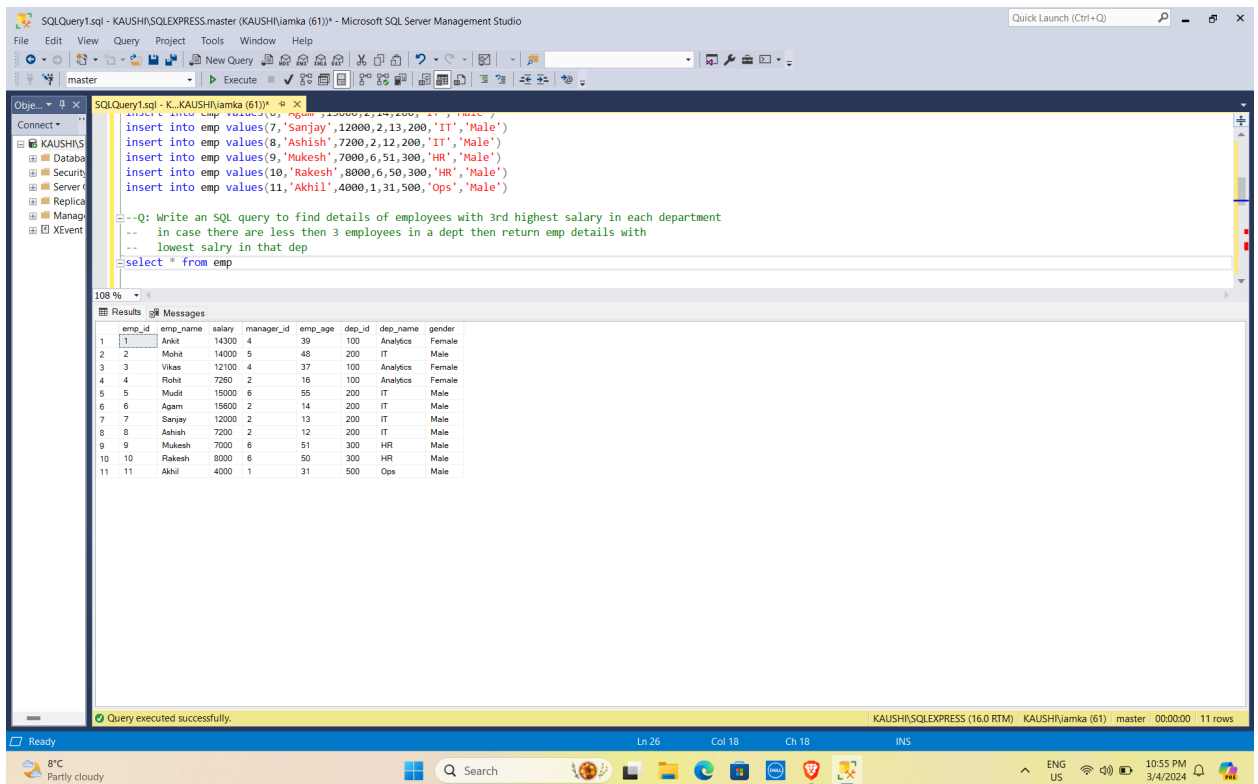


Day28 - March4th 2024

1. Started my day as usual
2. Solved one medium leetcode problem
3. Started working on pyspark project..made some transformations on data..which I have ingested manually



#### 4. Ended my day by solving two SQL complex questions from Ankit's YT



SQLQuery1.sql - KAUSHI\SQLEXPRESS:master (KAUSHI\jamka (61)) - Microsoft SQL Server Management Studio

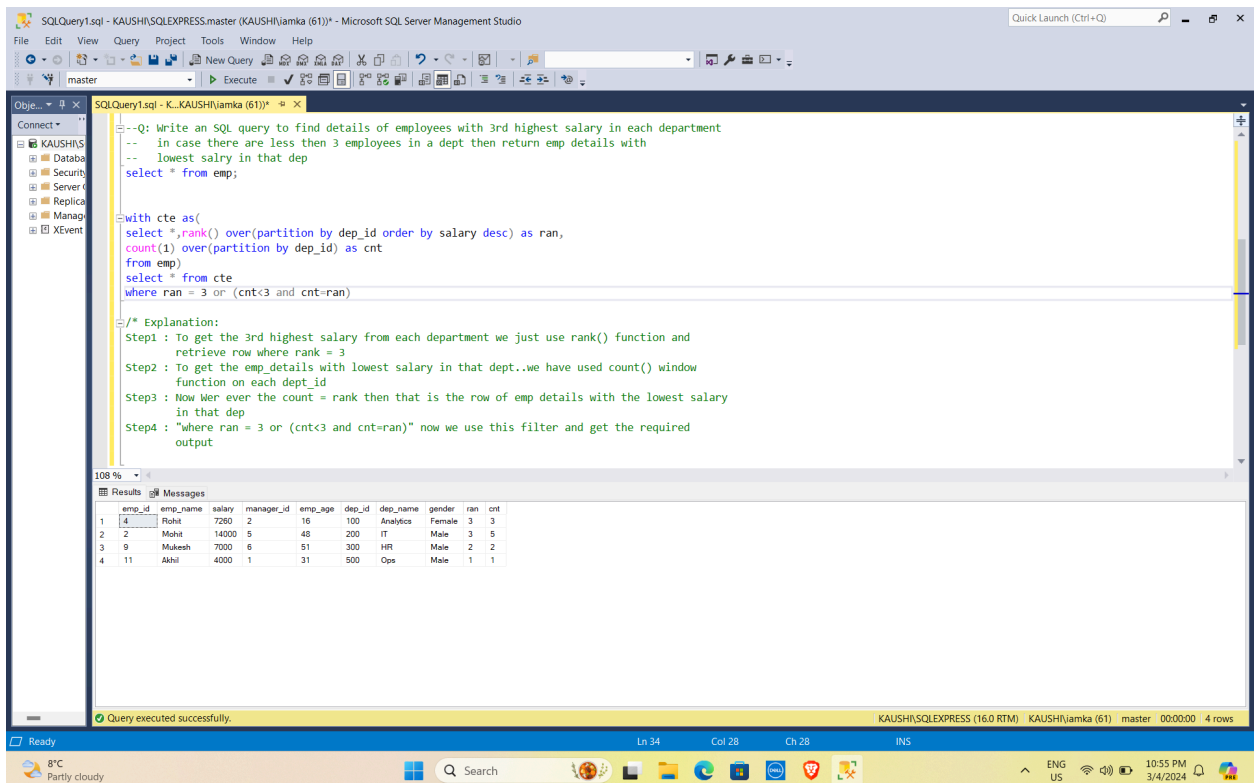
```
insert into emp values(9,'Rohit',12000,2,16,100,'Male')
insert into emp values(7,'Sanjay',12000,2,13,200,'IT','Male')
insert into emp values(8,'Ashish',7200,2,12,200,'IT','Male')
insert into emp values(9,'Mukesh',7000,6,51,300,'HR','Male')
insert into emp values(10,'Rakesh',8000,6,50,300,'HR','Male')
insert into emp values(11,'Akshil',4000,1,31,500,'Ops','Male')

--Q: Write an SQL query to find details of employees with 3rd highest salary in each department
-- in case there are less then 3 employees in a dept then return emp details with
-- lowest salary in that dep
select * from emp
```

Results

| emp_id | emp_name | salary | manager_id | emp_age | dep_id | dep_name  | gender |
|--------|----------|--------|------------|---------|--------|-----------|--------|
| 1      | Ankit    | 14300  | 4          | 39      | 100    | Analytics | Female |
| 2      | Mohit    | 14000  | 5          | 48      | 200    | IT        | Male   |
| 3      | Vikas    | 12100  | 4          | 37      | 100    | Analytics | Female |
| 4      | Rohit    | 7200   | 2          | 16      | 100    | Analytics | Female |
| 5      | Mudit    | 15000  | 6          | 55      | 200    | IT        | Male   |
| 6      | Agam     | 15600  | 2          | 14      | 200    | IT        | Male   |
| 7      | Sanjay   | 12000  | 2          | 13      | 200    | IT        | Male   |
| 8      | Ashish   | 7200   | 2          | 12      | 200    | IT        | Male   |
| 9      | Mukesh   | 7000   | 6          | 51      | 300    | HR        | Male   |
| 10     | Rakesh   | 8000   | 6          | 50      | 300    | HR        | Male   |
| 11     | Akshil   | 4000   | 1          | 31      | 500    | Ops       | Male   |

Query executed successfully.



SQLQuery1.sql - KAUSHI\SQLEXPRESS:master (KAUSHI\jamka (61)) - Microsoft SQL Server Management Studio

```
--Q: Write an SQL query to find details of employees with 3rd highest salary in each department
-- in case there are less then 3 employees in a dept then return emp details with
-- lowest salary in that dep
select * from emp;

with cte as(
select *,rank() over(partition by dep_id order by salary desc) as ran,
count(1) over(partition by dep_id) as cnt
from emp)
select * from cte
where ran = 3 or (cnt<3 and cnt-ran)
```

/\* Explanation:  
Step1 : To get the 3rd highest salary from each department we just use rank() function and retrieve row where rank = 3  
Step2 : To get the emp details with lowest salary in that dept..we have used count() window function on each dept\_id  
Step3 : Now Where ever the count = rank then that is the row of emp details with the lowest salary in that dep  
Step4 : "where ran = 3 or (cnt<3 and cnt-ran)" now we use this filter and get the required output

Results

| emp_id | emp_name | salary | manager_id | emp_age | dep_id | dep_name  | gender | ran | cnt |
|--------|----------|--------|------------|---------|--------|-----------|--------|-----|-----|
| 4      | Rohit    | 7200   | 2          | 16      | 100    | Analytics | Female | 3   | 3   |
| 2      | Mohit    | 14000  | 5          | 48      | 200    | IT        | Male   | 3   | 5   |
| 9      | Mukesh   | 7000   | 6          | 51      | 300    | HR        | Male   | 2   | 2   |
| 11     | Akshil   | 4000   | 1          | 31      | 500    | Ops       | Male   | 1   | 1   |

Query executed successfully.

SQLQuery2.sql - KAUSHI\SQLEXPRESS.master (KAUSHI\jamka (73)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Connect -> KAUSHI\SQLEXPRESS.master (KAUSHI\jamka (73))

```

id int,
visit_date date,
no_of_people int
);

insert into stadium
values (1,'2017-07-01',10)
,(2,'2017-07-02',109)
,(3,'2017-07-03',150)
,(4,'2017-07-04',99)
,(5,'2017-07-05',145)
,(6,'2017-07-06',1455)
,(7,'2017-07-07',199)
,(8,'2017-07-08',188);

--Q: Write a query to display the records which have 3 or more consecutive
-- rows with the amount of people more than 1
select * from stadium;

```

Results

|   | id | visit_date | no_of_people |
|---|----|------------|--------------|
| 1 | 1  | 2017-07-01 | 10           |
| 2 | 2  | 2017-07-02 | 109          |
| 3 | 3  | 2017-07-03 | 150          |
| 4 | 4  | 2017-07-04 | 99           |
| 5 | 5  | 2017-07-05 | 145          |
| 6 | 6  | 2017-07-06 | 1455         |
| 7 | 7  | 2017-07-07 | 199          |
| 8 | 8  | 2017-07-08 | 188          |

Query executed successfully.

KAUSHI\SQLEXPRESS (16.0 RTM) KAUSHI\jamka (73) master 00:00:00 8 rows

Ready 8°C Partly cloudy 11:42 PM 3/4/2024

SQLQuery2.sql - KAUSHI\SQLEXPRESS.master (KAUSHI\jamka (73)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Connect -> KAUSHI\SQLEXPRESS.master (KAUSHI\jamka (73))

```

with cte as(
select *, row_number() over(order by id) as rn,
id-ROW_NUMBER() over(order by id) as rn_d
from stadium
where no_of_people >= 100)
select id,visit_date,no_of_people from cte
where rn_d =
(select rn_d
from cte
group by rn_d
having count(2) >= 3)

/* Explanation:
Step1 : Here we will make use of id column
Step2 : We will use row_number() over id and generate row numbers
where no_of people >= 100
Step3 : After that we will subtract id and row_number( if there is a
common difference then they are consecutive) and frame it in CTE
Step4 : Now we will select rows where count(1)[count of consecutive days]
>= 3..see the code and get intuition

```

Results

|   | id | visit_date | no_of_people |
|---|----|------------|--------------|
| 1 | 5  | 2017-07-05 | 145          |
| 2 | 6  | 2017-07-06 | 1455         |
| 3 | 7  | 2017-07-07 | 199          |
| 4 | 8  | 2017-07-08 | 188          |

Query executed successfully.

KAUSHI\SQLEXPRESS (16.0 RTM) KAUSHI\jamka (73) master 00:00:00 4 rows

Ready 8°C Partly cloudy 11:42 PM 3/4/2024