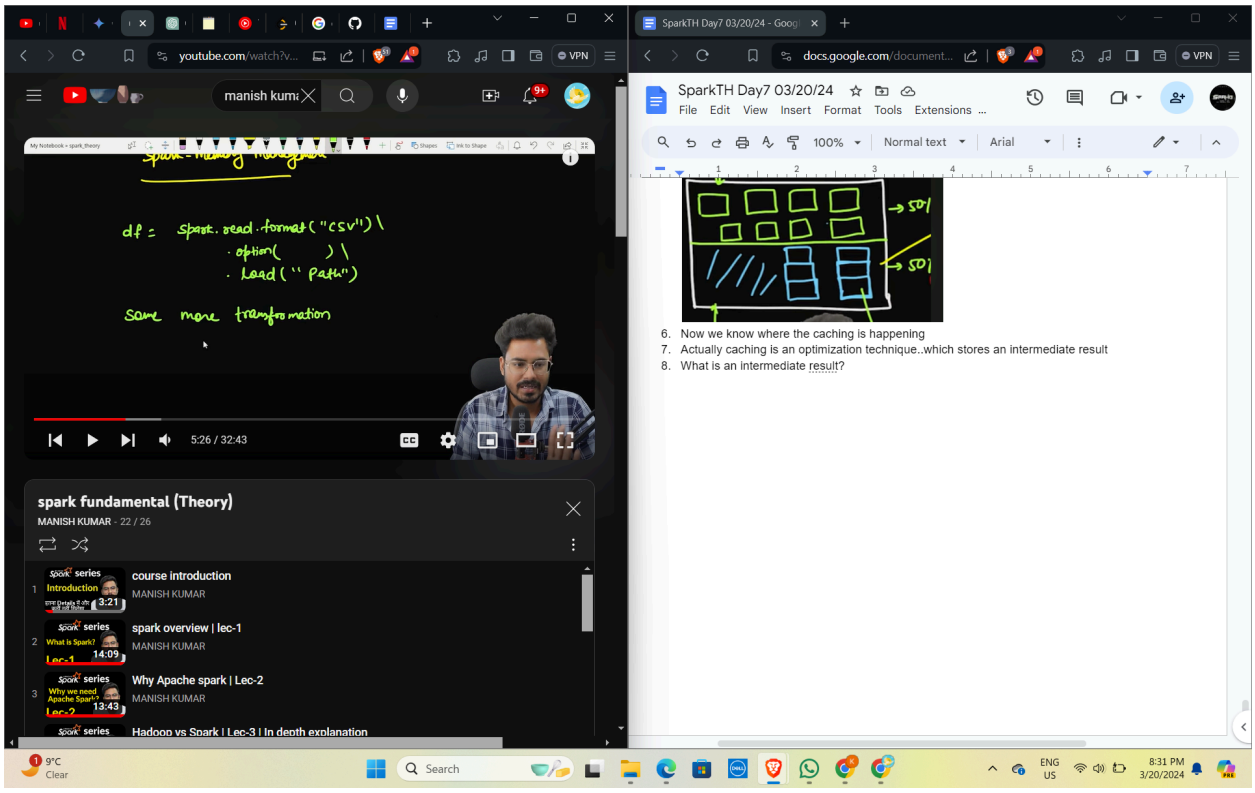
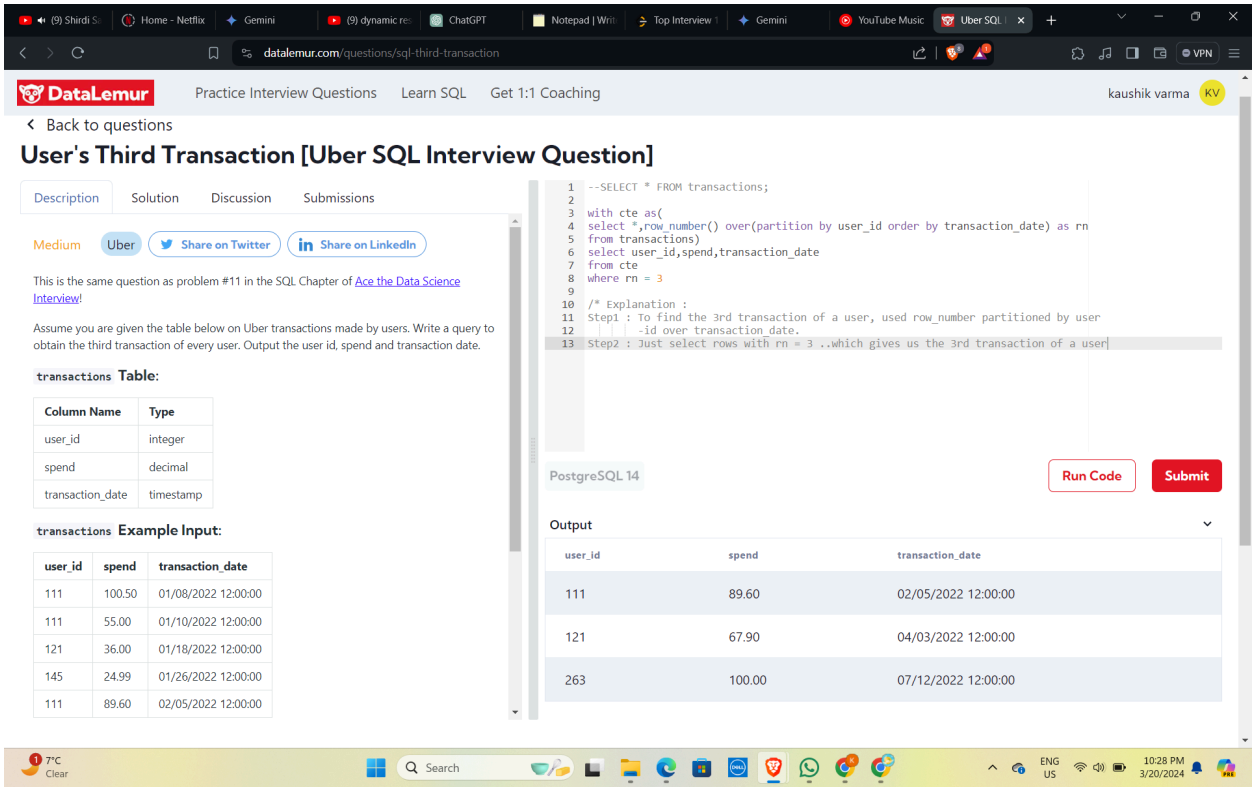
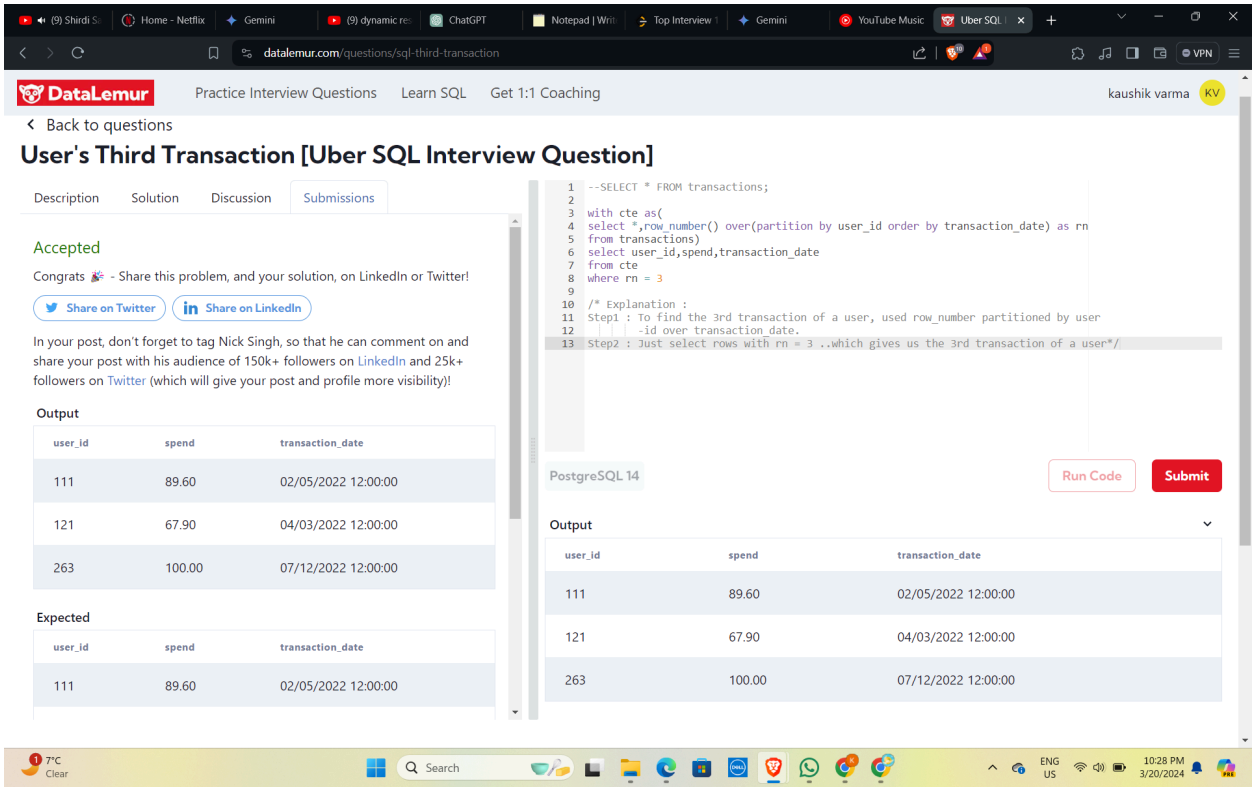
Day44 - March 20th 2024

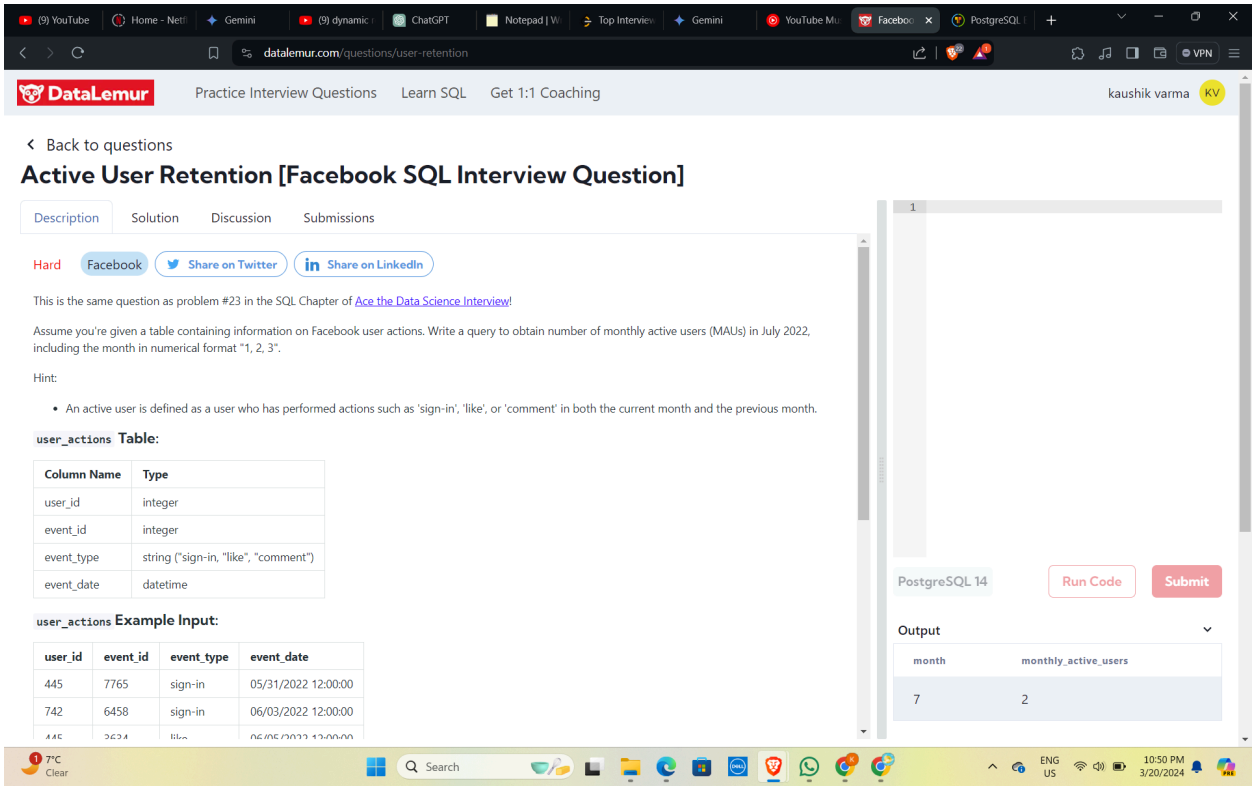
1. Solved one leetcode problem on stack concepts : DSA_03/20/2024_Stacks
2. PySpark theory learning is in progress



3. Ended my day by solving 2 interview questions from datalemur



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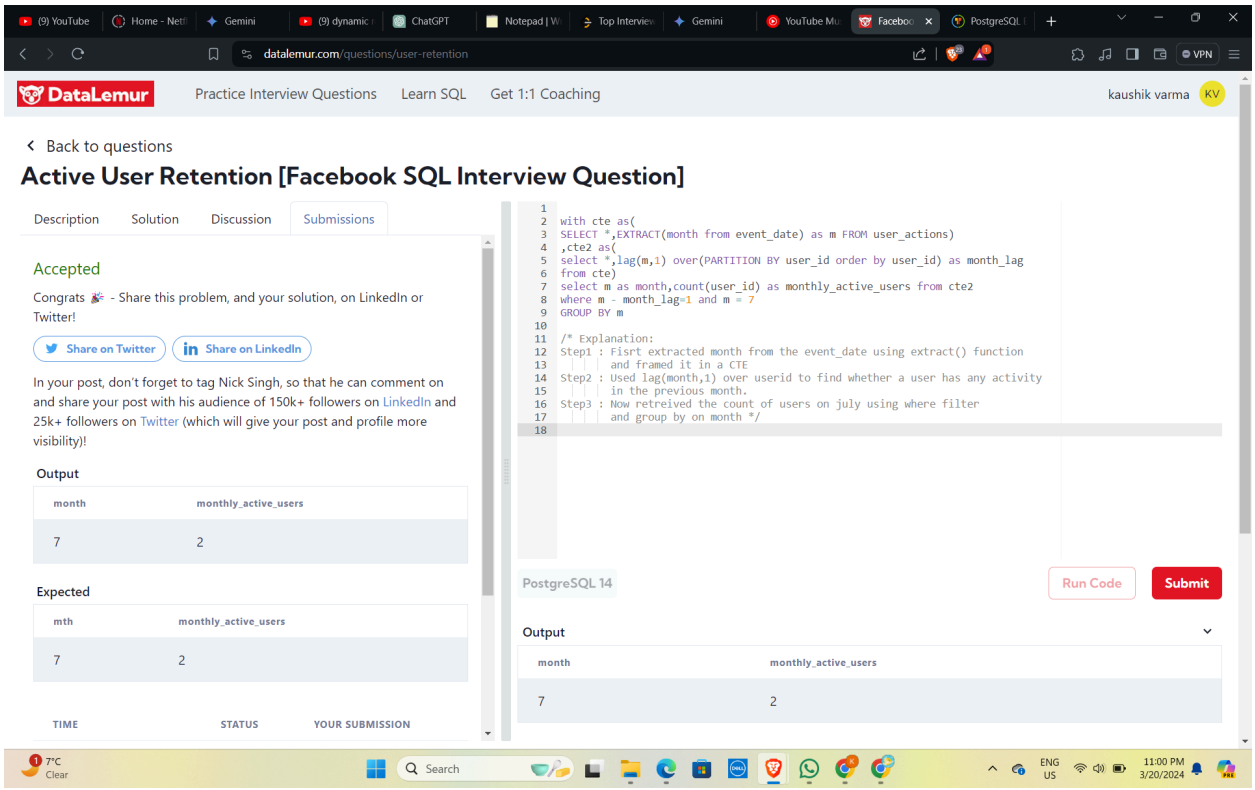
Active User Retention [Facebook SQL Interview Question]
Description
Solution
Discussion
Submissions
Hard
Facebook
Share on Twitter
Share on LinkedIn
This is the same question as problem #23 in the SQL Chapter of Ace the Data Science Interview!
Assume you're given a table containing information on Facebook user actions. Write a query to obtain number of monthly active users (MAUs) in July 2022, including the month in numerical format "1, 2, 3".
Hint:
An active user is defined as a user who has performed actions such as 'sign-in', 'like', or 'comment' in both the current month and the previous month.
user_actions Table:
Column Name
Type
user_id
integer
event_id
integer
event_type
string ("sign-in, "like", "comment")
event_date
datetime
user_actions Example Input:
user_id
event_id
event_type
event_date
445
7765
sign-in
05/31/2022 12:00:00
742
6458
sign-in
06/03/2022 12:00:00
PostgreSQL 14
Run Code
Submit
Output
month
monthly_active_users
7
2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Active User Retention [Facebook SQL Interview Question]
Description
Solution
Discussion
Submissions
Accepted
Congrats - Share this problem, and your solution, on LinkedIn or Twitter!
Share on Twitter
Share on LinkedIn
In your post, don't forget to tag Nick Singh, so that he can comment on and share your post with his audience of 150k+ followers on LinkedIn and 25k+ followers on Twitter (which will give your post and profile more visibility)!
Output
month
monthly_active_users
7
2
Expected
mth
monthly_active_users
7
2
TIME
STATUS
YOUR SUBMISSION
with cte as(
SELECT *,EXTRACT(month from event_date) as m FROM user_actions)
,cte2 as(
select *,lag(m,1) over(PARTITION BY user_id order by user_id) as month_lag
from cte)
select m as month,count(user_id) as monthly_active_users from cte2
where m - month_lag=1 and m = 7
GROUP BY m
/* Explanation:
Step1 : Fisrt extracted month from the event_date using extract() function
and framed it in a CTE
Step2 : Used lag(month,1) over userid to find whether a user has any activity
in the previous month.
Step3 : Now retreived the count of users on july using where filter
and group by on month */
PostgreSQL 14
Run Code
Submit
Output
month
monthly_active_users
7
2