SQL Practice - Day-31 - 20250310

Problem Statement:

Given a table, DAILY_STEPS, that tracks users' daily step counts. Your task is to identify instances where a user's step count on a given day has dropped by at least 40% compared to their previous recorded day.

Table: USER_STEPS

USER_ID → Unique identifier for each user

STEP_DATE → Date of recorded steps

STEP_COUNT → Number of steps taken on that day

Expected Output:

Return a list of instances where a user's step count has dropped by 40% or more compared to their previous recorded day.

The output should contain:

USER_ID
STEP_DATE (the date when the drop occurred)
PREV_STEP_COUNT (step count on the previous recorded day)
CURR_STEP_COUNT (step count on the current STEP_DATE)
DROP_PERCENTAGE (percentage decrease from the previous day)

The output should be sorted by USER_ID and STEP_DATE.

** QUERY:

```
WITH BASE AS(
SELECT *,
LAG(STEP_COUNT) OVER (PARTITION BY USER_ID ORDER BY STEP_DATE) AS
LG_COUNT
FROM USER_STEPS
WHERE STEP_DATE >= CURRENT_DATE() - INTERVAL 60 DAY
ORDER BY USER_ID, STEP_DATE
)
```

```
, CALCULATIONS AS(
SELECT *,
ROUND(((LG_COUNT-STEP_COUNT)/LG_COUNT),3) *100 AS DIFF_PERCENT
FROM BASE
)
SELECT USER_ID, STEP_DATE, LG_COUNT AS PREVIOUS_STEP_COUNT, STEP_COUNT
AS CURRENT_STEP_COUNT, DIFF_PERCENT AS DROP_PERCENTAGE
FROM CALCULATIONS
WHERE DIFF_PERCENT >= 40
ORDER BY USER_ID, STEP_DATE
;
```