

Question:

A retail company wants to analyze the frequency of customer transactions. For each customer, determine the most frequent transaction day of the week (e.g., Monday, Tuesday, etc.) based on their purchase history. If multiple days have the same highest frequency, return the earliest day in the week (Monday < Tuesday < ... < Sunday).

Table: TRANSACTIONS

- CUSTOMER_ID (INT)
- TRANSACTION_DATE (DATE)

Expected Output:

- CUSTOMER_ID
- FREQUENT_TRANSACTION_DAY (VARCHAR)

**** QUERY:**

```
WITH DAY_FREQ AS(
SELECT CUSTOMER_ID, WEEKDAY(TRANSACTION_DATE) AS DAY, COUNT(*) AS COUNT_FOR_DAY
FROM TRANSACTIONS
GROUP BY CUSTOMER_ID, DAY
)
, MOST_FREQ AS(
SELECT *,
ROW_NUMBER() OVER (PARTITION BY CUSTOMER_ID ORDER BY COUNT_FOR_DAY DESC, DAY) AS RN
FROM DAY_FREQ
)
SELECT CUSTOMER_ID,
CASE
    WHEN DAY = 0 THEN "MONDAY"
    WHEN DAY = 1 THEN "TUESDAY"
    WHEN DAY = 2 THEN "WEDNESDAY"
    WHEN DAY = 3 THEN "THURSDAY"
    WHEN DAY = 4 THEN "FRIDAY"
    WHEN DAY = 5 THEN "SATURDAY"
    ELSE "SUNDAY"
END AS FREQUENT_TRANSACTION_DAY
FROM MOST_FREQ
WHERE RN=1;
```