**Question: 2. Transaction Frequency Analysis**

**Scenario:** The finance team wants to analyze how often customers transact to segment them (e.g., frequent vs. occasional users).

**Task:** Calculate the average number of transactions per customer per month and categorize them:

* "High Frequency" (≥10 transactions/month)
* "Medium Frequency" (3-9 transactions/month)
* "Low Frequency" (≤2 transactions/month)  
    
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Question 2: Transaction Frequency Analysis

Categorizes customers by monthly transaction frequency

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-- First CTE: Calculates monthly transaction counts per user

WITH monthly\_transactions AS (

SELECT

u.id AS owner\_id,

-- Format transaction date as 'YYYY-MM' for monthly grouping

DATE\_FORMAT(ss.transaction\_date, '%Y-%m') AS month,

COUNT(\*) AS transaction\_count

FROM

users\_customuser u

JOIN

savings\_savingsaccount ss ON u.id = ss.owner\_id

WHERE

ss.transaction\_status = 'success' -- Only successful transactions

AND ss.confirmed\_amount > 0 -- Only transactions with positive amounts

GROUP BY

u.id, DATE\_FORMAT(ss.transaction\_date, '%Y-%m') -- Group by user and month

),

-- Second CTE: Categorizes users based on their average monthly transaction frequency

frequency\_categories AS (

SELECT

owner\_id,

AVG(transaction\_count) AS avg\_transactions, -- Calculate average transactions per month

CASE

WHEN AVG(transaction\_count) >= 10 THEN 'High Frequency'

WHEN AVG(transaction\_count) >= 3 THEN 'Medium Frequency'

ELSE 'Low Frequency'

END AS frequency\_category -- Categorize users based on transaction frequency

FROM

monthly\_transactions

GROUP BY

owner\_id -- Group by user to calculate their average

)

-- Main query: Aggregates results by frequency category

SELECT

frequency\_category,

COUNT(DISTINCT owner\_id) AS customer\_count, -- Count unique users in each category

ROUND(AVG(avg\_transactions), 1) AS avg\_transactions\_per\_month -- Display average transactions with 1 decimal

FROM

frequency\_categories

GROUP BY

frequency\_category

ORDER BY

-- Custom ordering to display High Frequency first, then Medium, then Low

CASE frequency\_category

WHEN 'High Frequency' THEN 1

WHEN 'Medium Frequency' THEN 2

ELSE 3

END;