R2C3

**Objective:**

Net gain or lose for the most active merchant

Trap: beware of fluctuation of wealth

Only a query that correctly calculates the final balance will reveal the key to the treasury.

**Workflow:**

1. Identify the most active merchant

We first count the number of transactions per merchant.

(Merchant A)

1. Calculate the Net gain or lose for merchant A.

Calculate the adjusted amount by adding up the fluctuation and transaction amount for merchant A.

By follow all the steps above, we can identify the final balance of merchant A .

Creating table in SQL:

1. Merchants Table
2. Transactions Table
3. Fluctuations Table
4. Merchant\_Groups Table

Final answer:

(500+300-100)-50+25-10 = 665

Below is using SQL to solve the problem

A computer screen shot of a computer screen

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Query:

WITH Most\_Active\_Merchant AS (

    -- Step 1: Find the most active merchant

    SELECT

        t.Merchant\_ID,

        COUNT(t.Transaction\_ID) AS Transaction\_Count

    FROM

        Transactions t

    GROUP BY

        t.Merchant\_ID

    ORDER BY

        Transaction\_Count DESC

    LIMIT 1

),

Merchant\_Transactions AS (

    -- Step 2: Sum up the transactions and apply fluctuations

    SELECT

        t.Merchant\_ID,

        t.Transaction\_Amount,

        COALESCE(f.Fluctuation\_Amount, 0) AS Fluctuation\_Amount,

        (t.Transaction\_Amount + COALESCE(f.Fluctuation\_Amount, 0)) AS Adjusted\_Amount

    FROM

        Transactions t

    LEFT JOIN

        Fluctuations f

    ON

        t.Transaction\_ID = f.Transaction\_ID

),

Final\_Balance AS (

    -- Step 3: Calculate the final balance for the most active merchant

    SELECT

        mt.Merchant\_ID,

        SUM(mt.Adjusted\_Amount) AS Final\_Balance

    FROM

        Merchant\_Transactions mt

    JOIN

        Most\_Active\_Merchant mam ON mam.Merchant\_ID = mt.Merchant\_ID

    GROUP BY

        mt.Merchant\_ID

)

SELECT

    fb.Merchant\_ID,

    m.Name,

    fb.Final\_Balance

FROM

    Final\_Balance fb

JOIN

    Merchants m ON m.Merchant\_ID = fb.Merchant\_ID;