**Part 3**

1. Given two tables created as follows with the following examples of data:

A screenshot of a computer

Description automatically generated

And the following calculation which is used to compute the vwap for each symbol on a given trade date:

sum (trade\_price \* trade\_qty ) / sum(trade\_qty)

Write a SQL query to find the VWAP value for all symbols for the date “2024-01-01”

**Please find below the response for part3.**

To calculate the VWAP (Volume-Weighted Average Price) for each symbol on the given date (2024-01-01), we need to join the two tables (trade\_prices and trade\_volumes) on the symbol and trade\_id columns, then apply the VWAP formula:

**SQL Query:**

SELECT tp.symbol, SUM(tp.trade\_price \* tv.trade\_volume) / SUM(tv.trade\_volume) AS vwap FROM trade\_prices tp JOIN trade\_volumes tv ON tp.symbol = tv.symbol AND tp.trade\_id = tv.trade\_id WHERE tp.trade\_date = '2024-01-01' GROUP BY tp.symbol;

**Results:**

The query will return the VWAP for all symbols on the date 2024-01-01. For example:

| **Symbols** | **Vwap value** |
| --- | --- |
| EURUSD | 13.09 |
| EURJPY | 13.54 |

**Explanation**

The query will return the VWAP for each symbol (EURUSD, EURJPY) on 2024-01-01.

1. Example Calculation (For EURUSD on 2024-01-01):

For the symbol **EURUSD:**

* The data in trade\_prices on 2024-01-01 for EURUSD is:
  + Trade\_id 1 has trade\_price = 12.34
  + Trade\_id 2 has trade\_price = 13.34
* The data in trade\_volumes on 2024-01-01 for EURUSD is:
  + Trade\_id 1 has trade\_volume = 100
  + Trade\_id 2 has trade\_volume = 300

Step 1: Calculate trade\_price \* trade\_volume for each trade:

* For Trade\_id 1: 12.34 \* 100 = 1234
* For Trade\_id 2: 13.34 \* 300 = 4002

Step 2: Sum of trade\_price \* trade\_volume:

* 1234 + 4002 = 5236

Step 3: Sum of trade\_volume:

* 100 + 300 = 400

Step 4: VWAP Calculation:

VWAP = 5236\400 =13.09

**The VWAP for EURUSD on 2024-01-01 would be 13.09.**

1. Example Calculation (For EURJPY on 2024-01-01):

For the symbol **EURJPY**:

* The data in trade\_prices on 2024-01-01 for EURJPY is:
  + Trade\_id 1 has trade\_price = 13.54
* The data in trade\_volumes on 2024-01-01 for EURJPY is:
  + Trade\_id 1 has trade\_volume = 200

Step 1: Calculate trade\_price \* trade\_volume for each trade:

* For Trade\_id 1: 13.54 \* 200 = 2708

Step 2: Sum of trade\_price \* trade\_volume:

* 2708

Step 3: Sum of trade\_volume:

* 200

Step 4: VWAP Calculation:

VWAP = 2708\200 =13.54

**The VWAP for EURJPY on 2024-01-01 would be 13.54.**