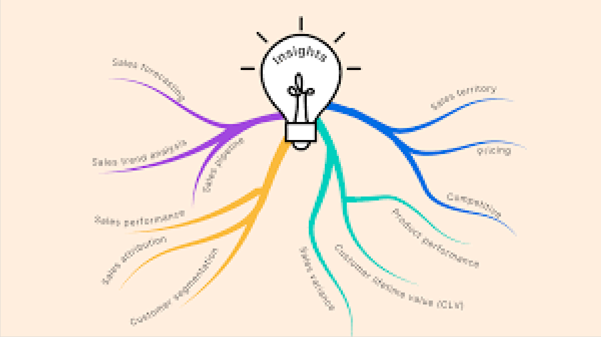
📊 SQL Questions Practice: Focused On Sales Analysis Using Mysql

Analyzed Sales Data From Scratch To Gain Insights Into Product Performance And Sales Trends



🔍 Overview

- Demonstrates a comprehensive analysis of sales data using SQL queries in MySQL. The goal is to perform data analysis and extract valuable insights from sales transactions. I’ve applied SQL window functions, aggregation, ranking, and filtering techniques to solve intermediate and advanced-level analytical questions that reflect real-world business scenarios.
- Key Objectives: Calculate total sales, rank products, and analyze top-performing products. Perform advanced analysis using window functions to compute running totals, sales differences, and top records. Extract meaningful insights that aid in decision-making, such as identifying top sales in specific time periods.
- Key SQL Techniques: Window Functions: Cumulative total sales per product. Ranking products based on total sales. Calculating sales differences between consecutive purchases for each customer.
- Aggregation: Grouping data by customer_id, product_id, and sale_date to calculate total sales and quantities.
- Filtering and Sorting: Retrieving top sales records for specific months. Filtering data based on dates and conditions like the year and month.

Objective

1. Identify Top-Performing Products:

•By calculating the **total sales amount for each product** and ranking them, the business can easily see which products generate the most revenue. This insight helps in understanding which products are performing well in terms of sales volume.

2. Support Decision-Making:

• This analysis supports decision-making processes related to product promotion, inventory management, and marketing strategies. For example, high-ranking products may be prioritized for promotion, while underperforming products may need further analysis or discounts to boost sales.

3. Track Sales Trends:

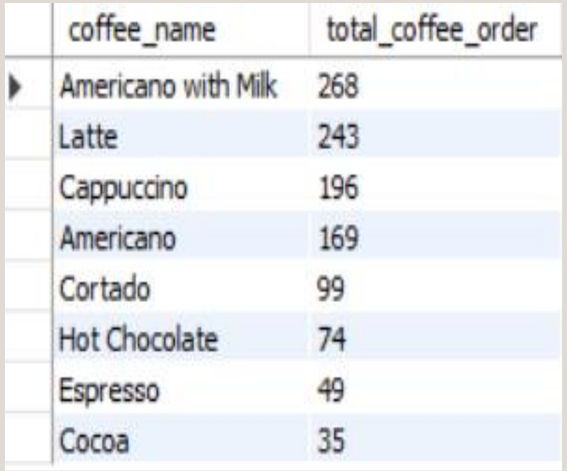
•Ranking products by total sales can also help track sales trends over time. By performing this analysis periodically, businesses can monitor if certain products maintain their top-ranking positions or if new trends emerge.

4. Optimize Inventory Management:

•With insights into which products are selling the most, businesses can ensure they stock enough of high-demand items while avoiding overstocking lower-performing products, improving the efficiency of supply chain and inventory management.

Q1 Calculate the Maximum Order Coffee Name?

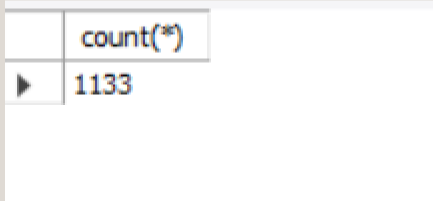
```
select coffee_name , count(*)  as total_coffee_order from coffee group by
coffee_name order by total_coffee_order desc;
```



coffee_name	total_coffee_order
Americano with Milk	268
Latte	243
Cappuccino	196
Americano	169
Cortado	99
Hot Chocolate	74
Espresso	49
Cocoa	35

Q2 calculate the total number of rows?

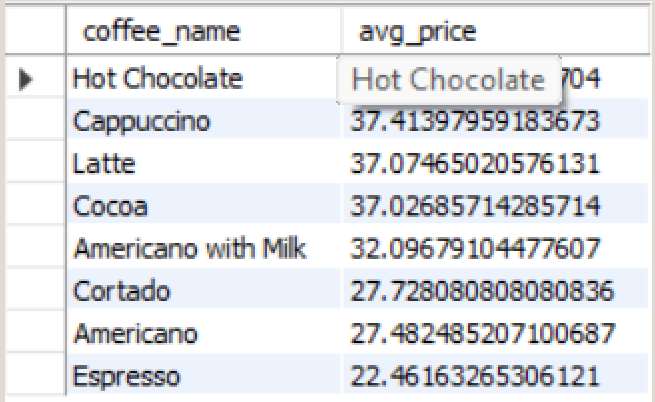
```
select count(*) from coffee;
```



```
count(*)
1133
```

Q3 calculate the average price of each coffee?

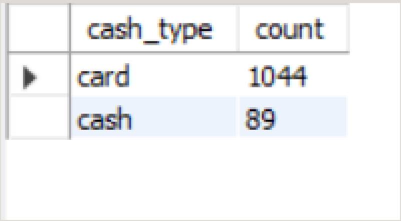
```
select coffee_name,avg(money) as avg_price  from coffee group by
coffee_name order by avg_price desc;
```



coffee_name	avg_price
Hot Chocolate	Hot Chocolate 704
Cappuccino	37.41397959183673
Latte	37.07465020576131
Cocoa	37.02685714285714
Americano with Milk	32.09679104477607
Cortado	27.728080808080836
Americano	27.482485207100687
Espresso	22.46163265306121

Q4 Define the Type of payment Methods ?

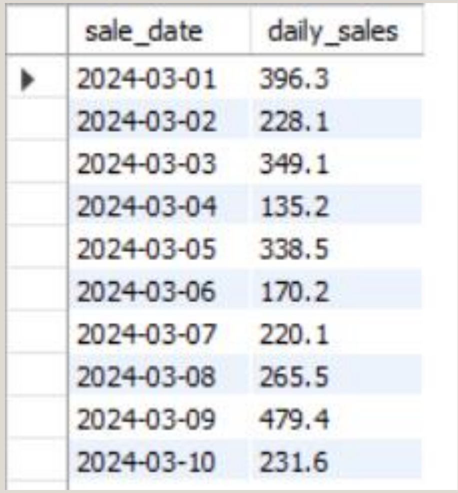
```
SELECT cash_type, COUNT(*) AS count FROM coffee GROUP BY cash_type;
```



cash_type	count
card	1044
cash	89

Q5 Calculate the daily sales according to sales date?

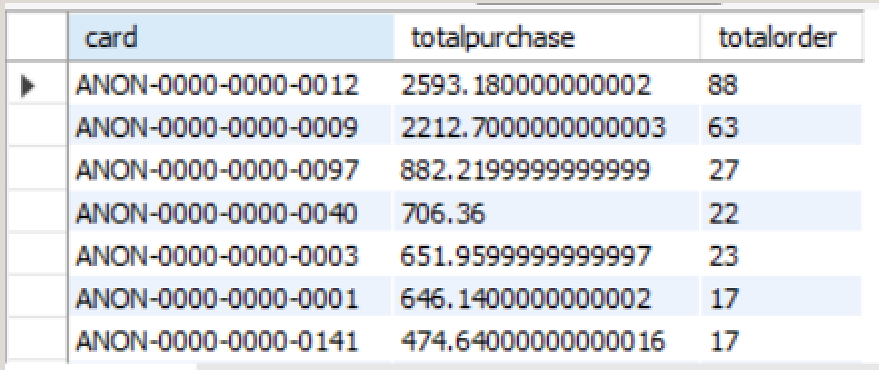
```
SELECT DATE(date) AS sale_date, round(SUM(money),2) AS daily_sales FROM coffee
GROUP BY sale_date ORDER BY sale_date;
```



sale_date	daily_sales
2024-03-01	396.3
2024-03-02	228.1
2024-03-03	349.1
2024-03-04	135.2
2024-03-05	338.5
2024-03-06	170.2
2024-03-07	220.1
2024-03-08	265.5
2024-03-09	479.4
2024-03-10	231.6

Q6 Calculate the number of order and total transaction whose payment method is card?

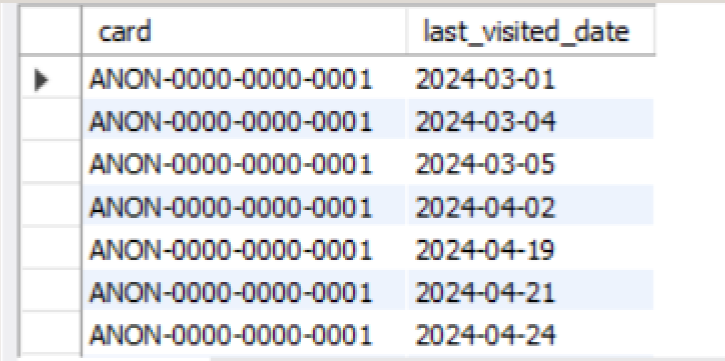
```
select card,sum(money) as totalpurchase, count(*) as totalorder from coffee
where cash_type = "card" group by card order by  totalpurchase desc;
```



card	totalpurchase	totalorder
ANON-0000-0000-0012	2593.18000000002	88
ANON-0000-0000-0009	2212.7000000000003	63
ANON-0000-0000-0097	882.2199999999999	27
ANON-0000-0000-0040	706.36	22
ANON-0000-0000-0003	651.9599999999997	23
ANON-0000-0000-0001	646.140000000002	17
ANON-0000-0000-0141	474.64000000000016	17

Q7 Calculate the last visited date of customers whose payment method is card?

```
select card,date as last_visited_date from coffee where cash_type = 'card' order by card,
last_visited_date;
```



card	last_visited_date
ANON-0000-0000-0001	2024-03-01
ANON-0000-0000-0001	2024-03-04
ANON-0000-0000-0001	2024-03-05
ANON-0000-0000-0001	2024-04-02
ANON-0000-0000-0001	2024-04-19
ANON-0000-0000-0001	2024-04-21
ANON-0000-0000-0001	2024-04-24