



# SQL COFFEE SHOP PROJECT



# INTRODUCTION

In this project, I explored the sales data of a coffee shop using SQL. The goal was to perform in-depth analysis by writing queries that uncover key business insights. By calculating total revenue, identifying the most popular and high-revenue products, and analyzing order patterns, this project provides a comprehensive understanding of the shop's sales performance. This kind of data-driven analysis is crucial for making informed business decisions.

# 1. RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED.

```
SELECT COUNT(transaction_id) as total_orders FROM coffee_shop_sales;
```

	total_orders
▶	59684



## 2. CALCULATE TOTAL REVENUE GENERATED FROM SALES.

**SELECT**

```
ROUND(SUM(transaction_qty * unit_price), 2) AS total_revenue
```

**FROM**

```
coffee_shop_sales;
```

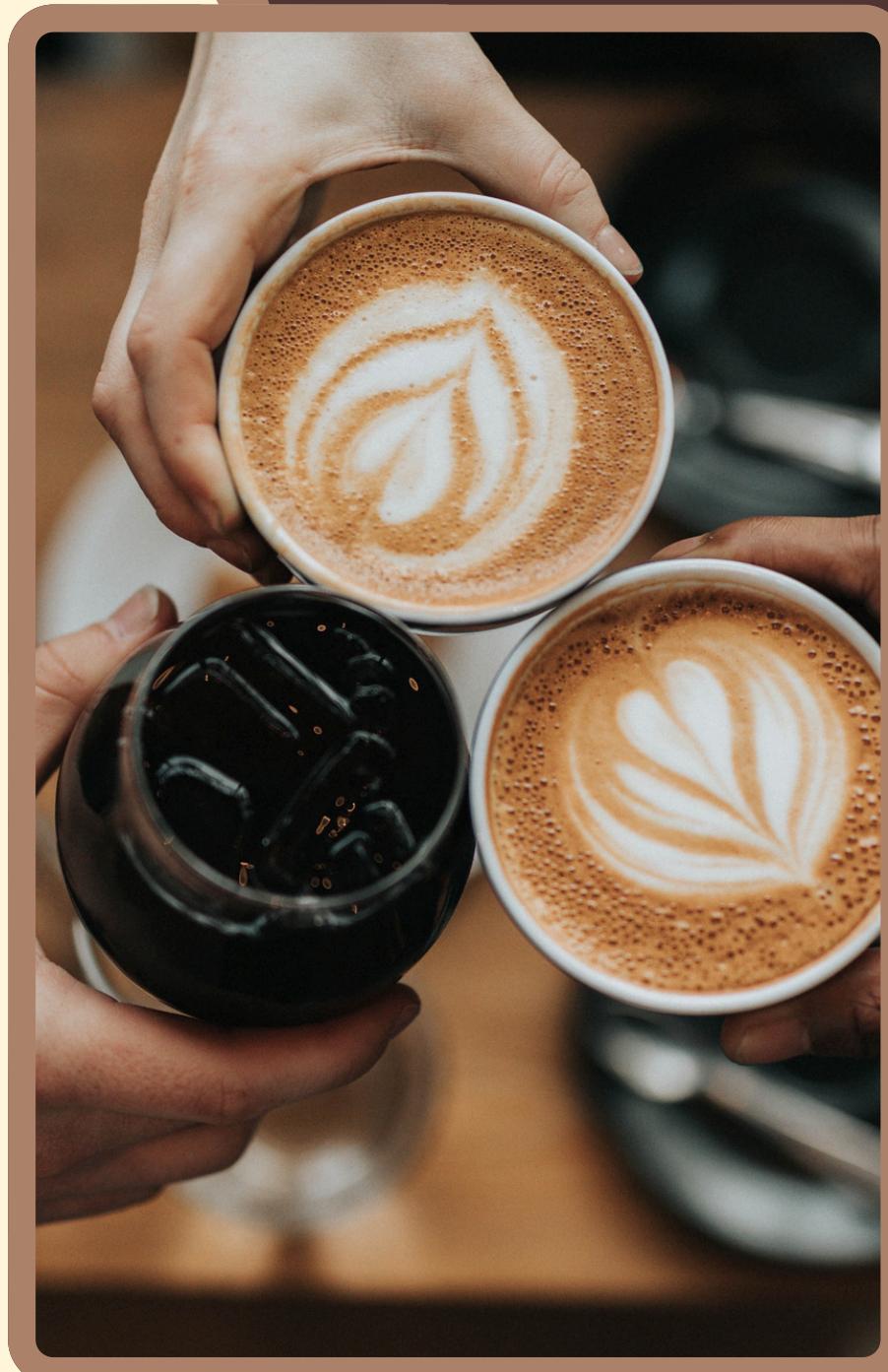
	<b>total_revenue</b>
▶	<b>277806.61</b>



### 3. IDENTIFY THE HIGHEST-PRICED PRODUCT.

```
SELECT  
    product_type, product_id, product_category, unit_price  
FROM  
    coffee_shop_sales  
ORDER BY unit_price DESC  
LIMIT 1;
```

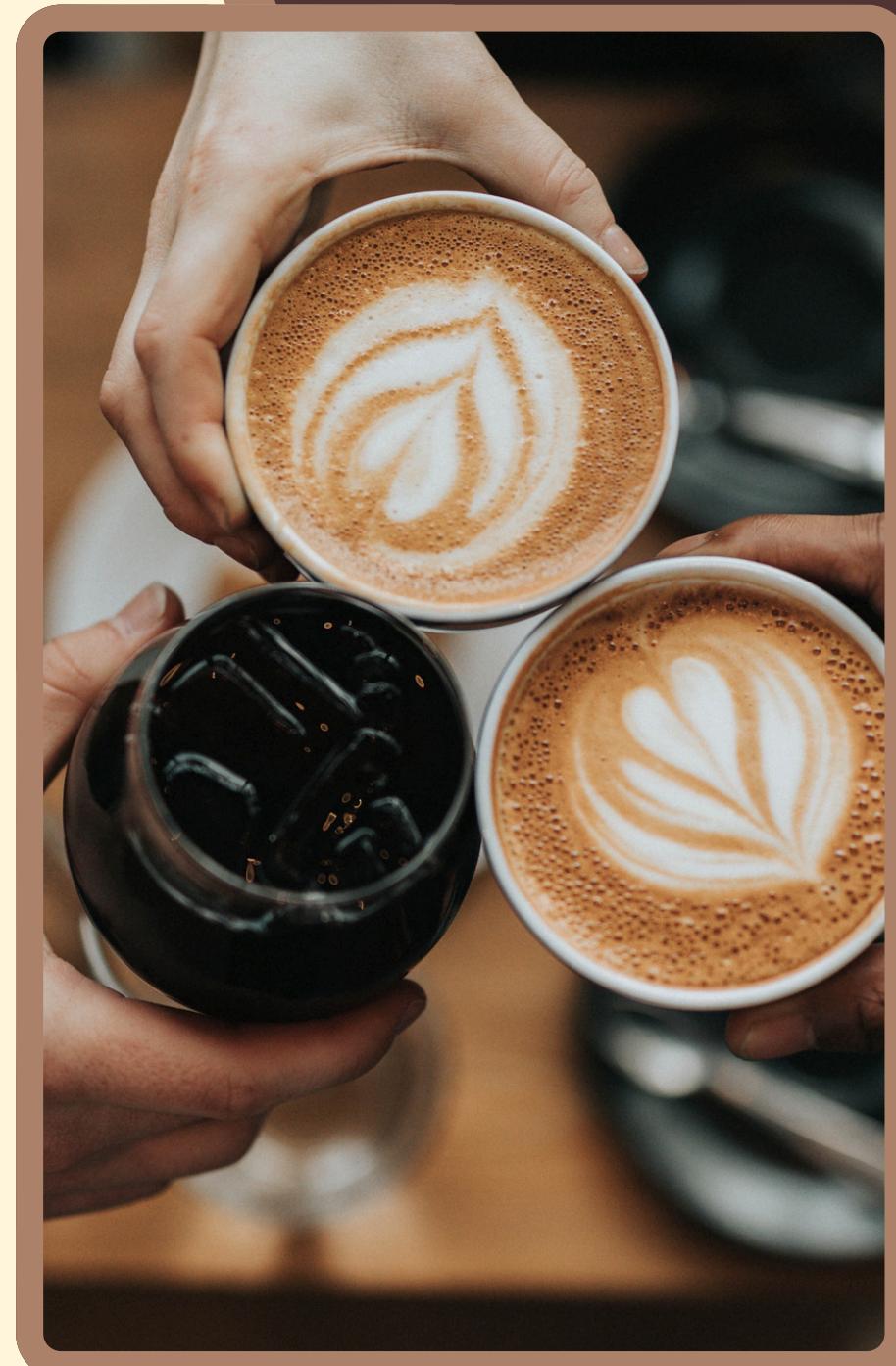
	product_type	product_id	product_category	unit_price
▶	Premium Beans	8	Coffee beans	45



## 4. IDENTIFY THE MOST COMMON COFFEE TYPE ORDERED.

```
SELECT  
    COUNT(transaction_qty) AS transaction_count, product_type  
FROM  
    coffee_shop_sales  
GROUP BY product_type  
ORDER BY transaction_count DESC  
LIMIT 1;
```

	transaction_count	product_type
▶	6943	Brewed Chai tea



1. Retrieve the total number of orders placed:

\* Query used to count all order records.

→ Helps understand overall business activity.

2. Calculate total revenue generated from sales:

\* Query calculated the sum of all sales.

→ Measures the business's financial performance.

3. Identify the highest-priced product:

\* Query used to find the maximum priced product.

→ Useful for pricing and inventory strategy.

4. Identify the most common coffee type ordered:

\* Query counted orders grouped by coffee type and found the maximum.

→ Helps target popular products for promotions.

## 5. LIST THE TOP 5 MOST ORDERED COFFEE TYPES ALONG WITH THEIR QUANTITIES.

```
SELECT  
    product_type AS coffee_type,  
    SUM(transaction_qty) AS quantity  
FROM  
    coffee_shop_sales  
GROUP BY coffee_type  
ORDER BY quantity DESC  
LIMIT 5;
```

	coffee_type	quantity
▶	Brewed Chai tea	10564
	Gourmet brewed coffee	10349
	Barista Espresso	10016
	Brewed Black tea	7138
	Hot chocolate	7085



## 6. DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

```
SELECT  
    HOUR(transaction_time) AS transaction_hour,  
    COUNT(transaction_qty) AS order_count  
FROM  
    coffee_shop_sales  
GROUP BY transaction_hour;
```

	transaction_hour	order_count
▶	7	5142
	8	6832
	9	6865
	10	7038
	11	4016
	12	3680
	13	3582
	14	3716
	15	3744
	16	3816
	17	3712
	18	3085



## 7. FIND THE CATEGORY-WISE DISTRIBUTION OF PRODUCTS.

```
SELECT  
    product_category, COUNT(transaction_qty)  
FROM  
    coffee_shop_sales  
GROUP BY product_category;
```

	product_category	COUNT(transaction_qty)
▶	Coffee	23450
	Tea	18401
	Drinking Chocolate	4672
	Bakery	9129
	Flavours	2470
	Loose Tea	457
	Coffee beans	665
	Packaged Chocolate	173
	Branded	267

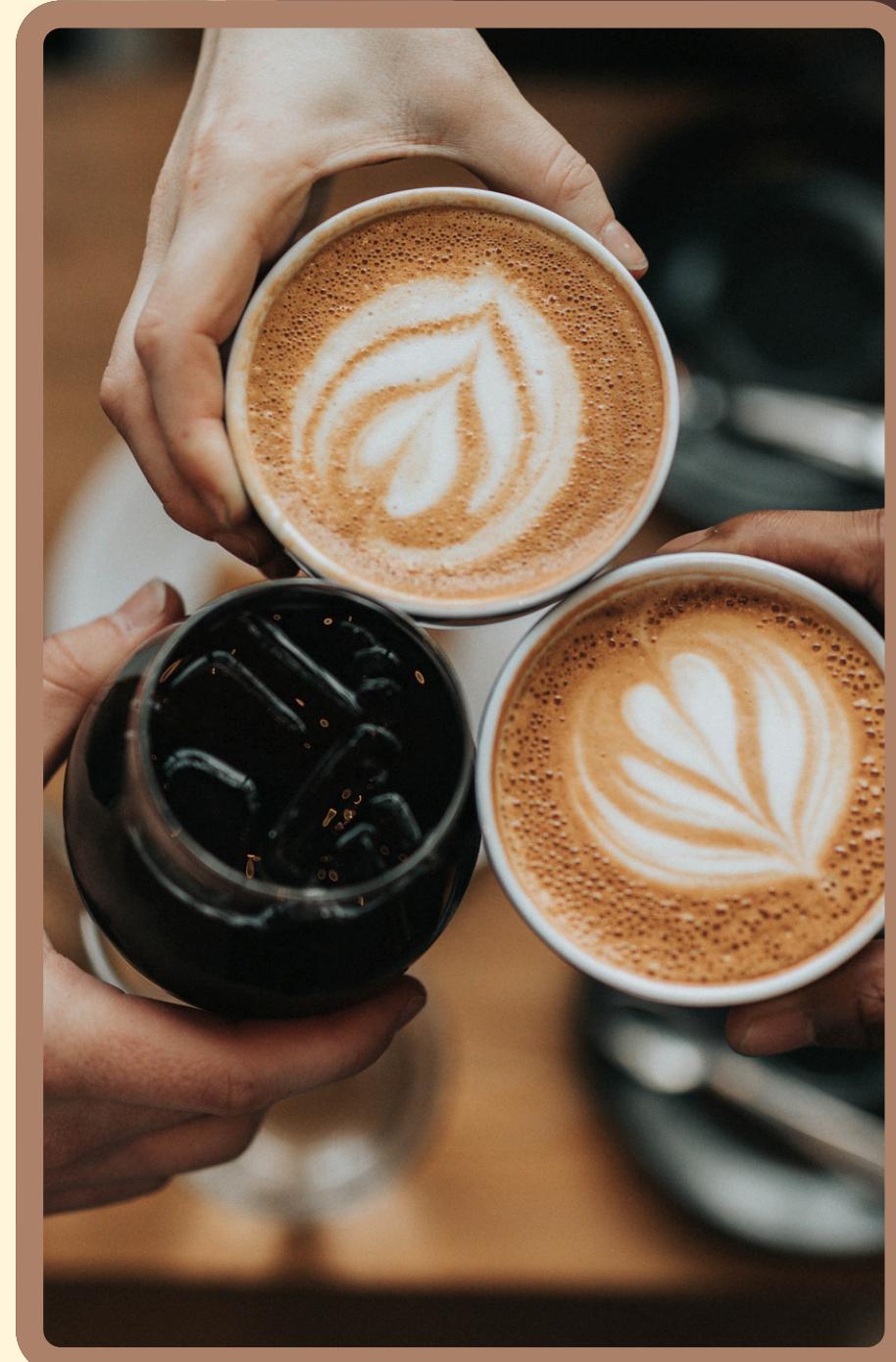


## 8. GROUP THE ORDERS BY DATE AND CALCULATE THE AVERAGE NUMBER OF ORDERS PER DAY.

```
SELECT  
    ROUND(AVG(order_count),0) as average_order_per_day  
FROM  
    (SELECT  
        SUM(transaction_qty) AS order_count, transaction_date  
    FROM  
        coffee_shop_sales  
    GROUP BY transaction_date) AS order_quantity;
```

order_count	transaction_date
802	2023-01-01
790	2023-01-02
823	2023-01-03
726	2023-01-04
778	2023-01-05
736	2023-01-06
799	2023-01-07
806	2023-01-08
742	2023-01-09
855	2023-01-10
782	2023-01-11
759	2023-01-12

	average_order_per_day
▶	883



5. List the top 5 most ordered coffee types along with their quantities:

\* Query sorted coffee types by quantity ordered and limited results.

→ Identifies best-selling products for stock management.

6. Determine the distribution of orders by hour of the day:

\* Query grouped orders by the hour.

→ Shows peak business hours for staffing and marketing.

7. Find the category-wise distribution of products:

\* Query grouped products by their category.

→ Gives insight into inventory categories that are more popular.

8. Group the orders by date and calculate the average number of orders per day:

\* Query grouped by order date and calculated average orders.

→ Helps measure consistency of daily business.

## 9. DETERMINE THE TOP 3 MOST ORDERED PRODUCT TYPE BASED ON REVENUE.

**SELECT**

```
product_type, ROUND(SUM((transaction_qty * unit_price)),2) AS revenue
```

**FROM**

```
coffee_shop_sales
```

**GROUP BY** product\_type

**ORDER BY** revenue **DESC**

**LIMIT** 3;

	product_type	revenue
▶	Barista Espresso	36678.05
	Brewed Chai tea	30911.25
	Hot chocolate	29346



## 10. ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

```
SELECT transaction_date, ROUND(sum(revenue) over(order by transaction_date),2) as cum_revenue
FROM (SELECT transaction_date, sum(transaction_qty*unit_price) as revenue
FROM coffee_shop_sales
GROUP BY transaction_date
ORDER BY revenue) as sales;
```

	transaction_date	cum_revenue
▶	2023-01-01	2508.2
	2023-01-02	4911.55
	2023-01-03	7476.55
	2023-01-04	9696.65
	2023-01-05	12115.5
	2023-01-06	14389.35
	2023-01-07	17009
	2023-01-08	19647.53
	2023-01-09	22324.14
	2023-01-10	25009.79
	2023-01-11	27565.54
	2023-01-12	29893.24

## 11. DETERMINE THE TOP 3 MOST ORDERED PRODUCT TYPE BASED ON REVENUE FOR EACH PRODUCT CATEGORY.

```
SELECT product_type, product_category, revenue
FROM
(SELECT product_category, product_type, revenue, rank() over(partition by product_category order by revenue desc) as Product_Rank
FROM (SELECT product_category, product_type,
ROUND(sum(transaction_qty*unit_price),2) as revenue
FROM coffee_shop_sales
GROUP BY product_category, product_type
ORDER BY revenue DESC) as a) as b
WHERE Product_Rank<=3;
```

	product_type	product_category	revenue
▶	Scone	Bakery	14700.97
	Pastry	Bakery	10120.83
	Biscotti	Bakery	8053.1
	Housewares	Branded	2635
	Clothing	Branded	2291
	Barista Espresso	Coffee	36678.05
	Gourmet brewed coffee	Coffee	27874.2
	Premium brewed coffee	Coffee	15478.4
	Premium Beans	Coffee beans	4773
	Organic Beans	Coffee beans	3200
	Gourmet Beans	Coffee beans	2526
	Hot chocolate	Drinking Chocolate	29346

9. Determine the top 3 most ordered product types based on revenue:

- \* Query sorted product types by total revenue.
- Focuses marketing on high-revenue products.

10. Analyze the cumulative revenue generated over time:

- \* Query calculated running total of revenue.
- Shows how revenue builds up, tracking growth trends.

11. Determine the top 3 most ordered product types based on revenue for each product category:

- \* Query found top revenue-generating products within each category.
- Identifies category-wise best performers.

# RESULT

In this SQL project, we uncovered several important insights about the coffee shop's business performance. We calculated the total number of orders placed, giving a clear idea of overall customer engagement. We determined the total revenue generated from sales, helping measure the financial health of the shop. By identifying the highest-priced product, we gained understanding of premium offerings. We also found the most commonly ordered coffee type, highlighting customer preferences.

Further, we listed the top 5 most ordered coffee types along with their quantities, providing valuable information for stock and marketing strategies. We analyzed the distribution of orders by hour of the day, which revealed the peak business hours for better staff and inventory planning. Through a category-wise distribution of products, we understood which types of items were more popular among customers.

Additionally, we calculated the average number of orders per day, reflecting consistency and trends in daily business operations. We identified the top 3 most ordered product types based on revenue, allowing focus on the highest-earning items. By analyzing cumulative revenue over time, we observed the overall growth pattern of the coffee shop. Finally, we determined the top 3 most ordered product types based on revenue for each product category, offering a deep dive into category-specific sales performance.

# CONCLUSION

This project analyzes a coffee shop's sales data using SQL. Various queries were used to find insights such as total orders, revenue generated, best-selling products, customer preferences, and revenue trends over time. The analysis helps understand sales performance and customer behavior.

Through this project, I gained hands-on experience in analyzing business data using SQL. By running various analytical queries, I successfully derived meaningful insights that can help optimize business strategies, improve inventory management, and boost revenue. This project enhanced my SQL skills and my ability to perform real-world business analysis.

THANK  
YOU