



Coffee Shop Sales Analysis

Introduction



Maven Roasters, a coffee shop chain with three branches in New York City, aims to enhance its understanding of customer purchasing behavior and optimize operational efficiency. The objective is to analyze coffee shop data to identify trends, patterns, and provide actionable recommendations for improvement.

Maven Roasters is a fictitious coffee shop that runs in New York City. It has branches in three locations: Astoria, Hell's Kitchen and Lower Manhattan. The shop sells nine categories of products: Bakery, Branded items, Coffee, Coffee Beans, Drinking Chocolate, Flavours, Loose Tea, Tea and Packaged Chocolate.

ABOUT DATASET

The dataset comprises of three tables namely, Transaction_data, Product_data and Store_data

The data specifications are mentioned below:

Transaction_data

Field Name	Data Type
Transaction_id	Int
Transaction_date	Text
Store_id	Int
Product_id	Int
Revenue	Double
Time	Time

Product_data

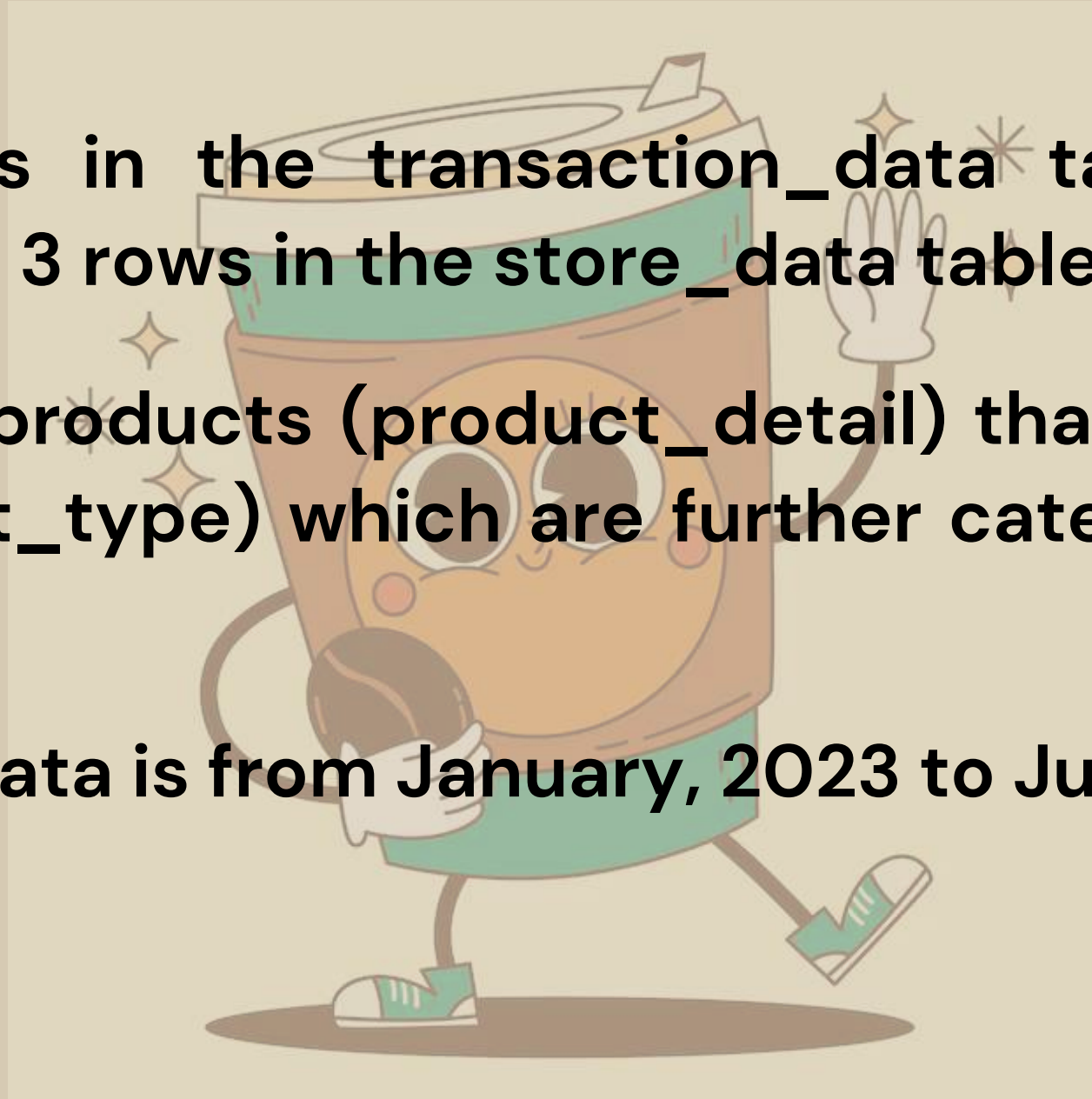
Field Name	Data Type
Product_id	Int
Product_Category	Text
Product_type	text
Product_detail	text
Unit_price	Double

Store_data

Field Name	Data Type
Store_id	Int
store_location	Text

About Dataset

- There are 1,49,116 rows in the transaction_data table, 87 rows in the product_data table and 3 rows in the store_data table.
- There are a total of 87 products (product_detail) that are sub-categorized into 29 groups (product_type) which are further categorized into 9 groups (product_category).
- The time period of the data is from January, 2023 to June, 2023.



Sales Trend Analysis



Analyse the hourly sales trend

```
SELECT
    HOUR(transactions.time) AS hour_Sales,
    COUNT(transactions.transaction_id) AS count_of_transactions
FROM
    transactions
GROUP BY
    hour_Sales
ORDER BY
    count_of_transactions DESC;
```

➤ From the results we can say that the peak hour of sales is **10:00 AM**

hour_Sales	count_of_transactions
10	18545
9	17764
8	17654
7	13428
11	9766
16	9093
15	8979
14	8933
17	8745
13	8714
12	8708
18	7498
19	6092
6	4594
20	603



Sales Trend Analysis

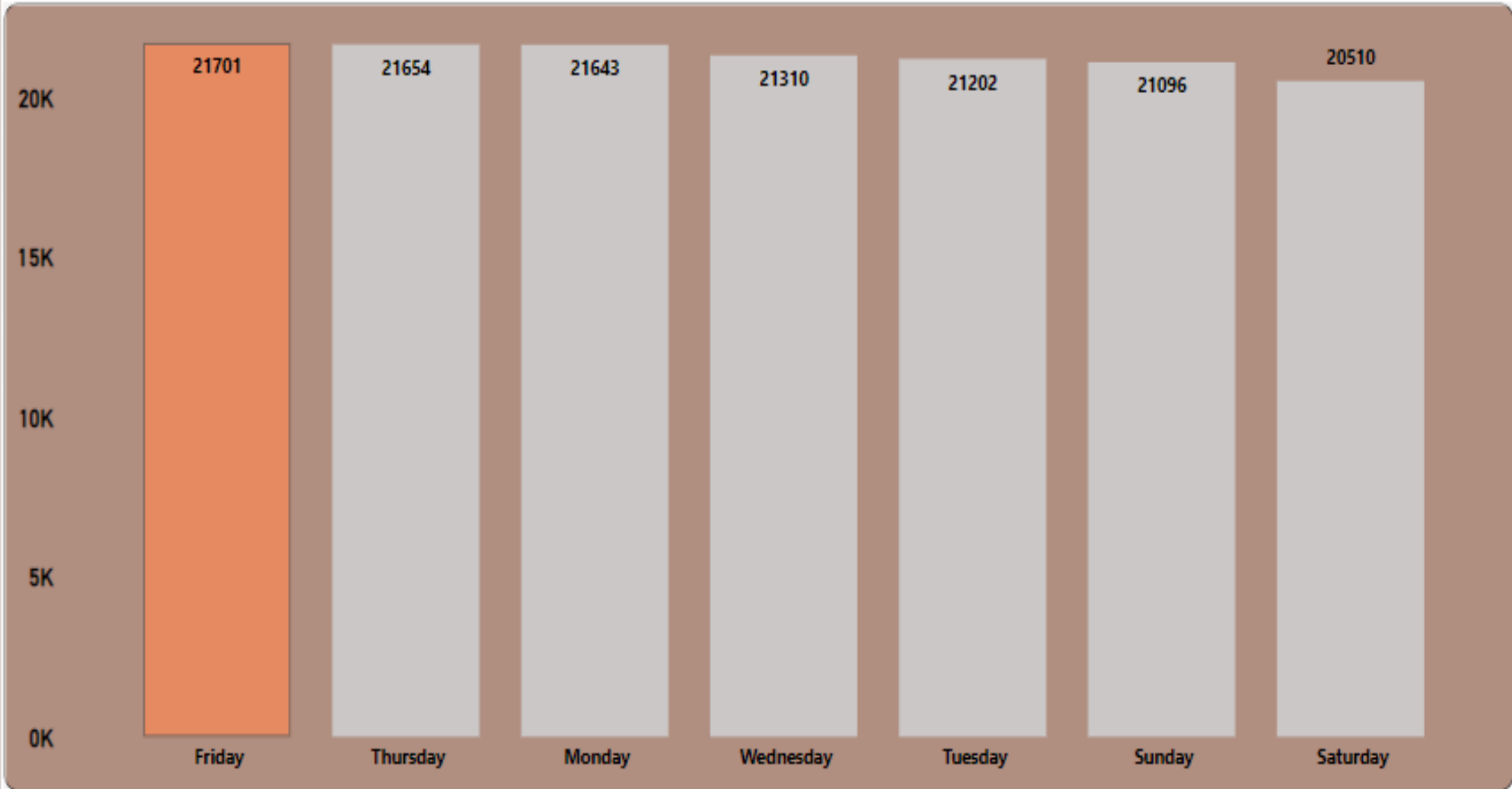


Analyse the daily sales trend

```
SELECT
    DAYNAME(transactions.transaction_date) AS day_name,
    COUNT(transactions.transaction_id) AS count_of_transactions
FROM
    transactions
GROUP BY
    day_name
ORDER BY
    count_of_transactions DESC;
```

➤ From the results we can say that the **Friday** is the busiest day of the week

day_name	count_of_transactionn
Friday	21701
Thursday	21654
Monday	21643
Wednesday	21310
Tuesday	21202
Sunday	21096
Saturday	20510



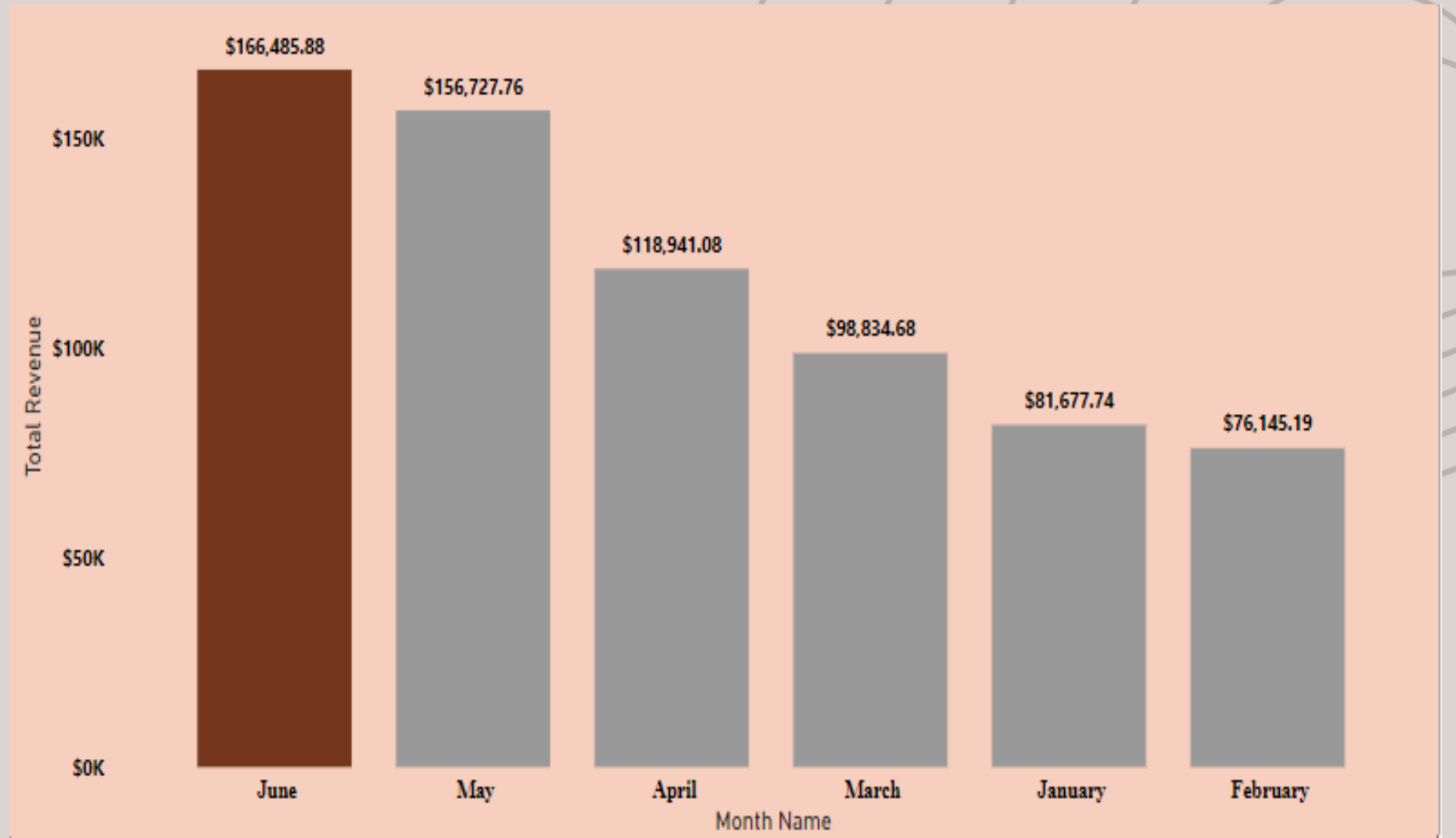
Sales Trend Analysis

↪ **total revenue generated for each month.**

```
SELECT
    MONTHNAME(transaction_date) AS month_name,
    ROUND(SUM(transactions.Revenue),2) AS total_revenue
FROM
    transactions
GROUP BY
    month_name
ORDER BY
    total_revenue DESC;
```

➤ From the results we can say that the peak hour of sales is **10:00 AM**

month_name	total_revenue
June	166485.88
May	156727.76
April	118941.08
March	98834.68
January	81677.74
February	76145.19



➤ The results suggest that **June** month has highest revenue compared to other months

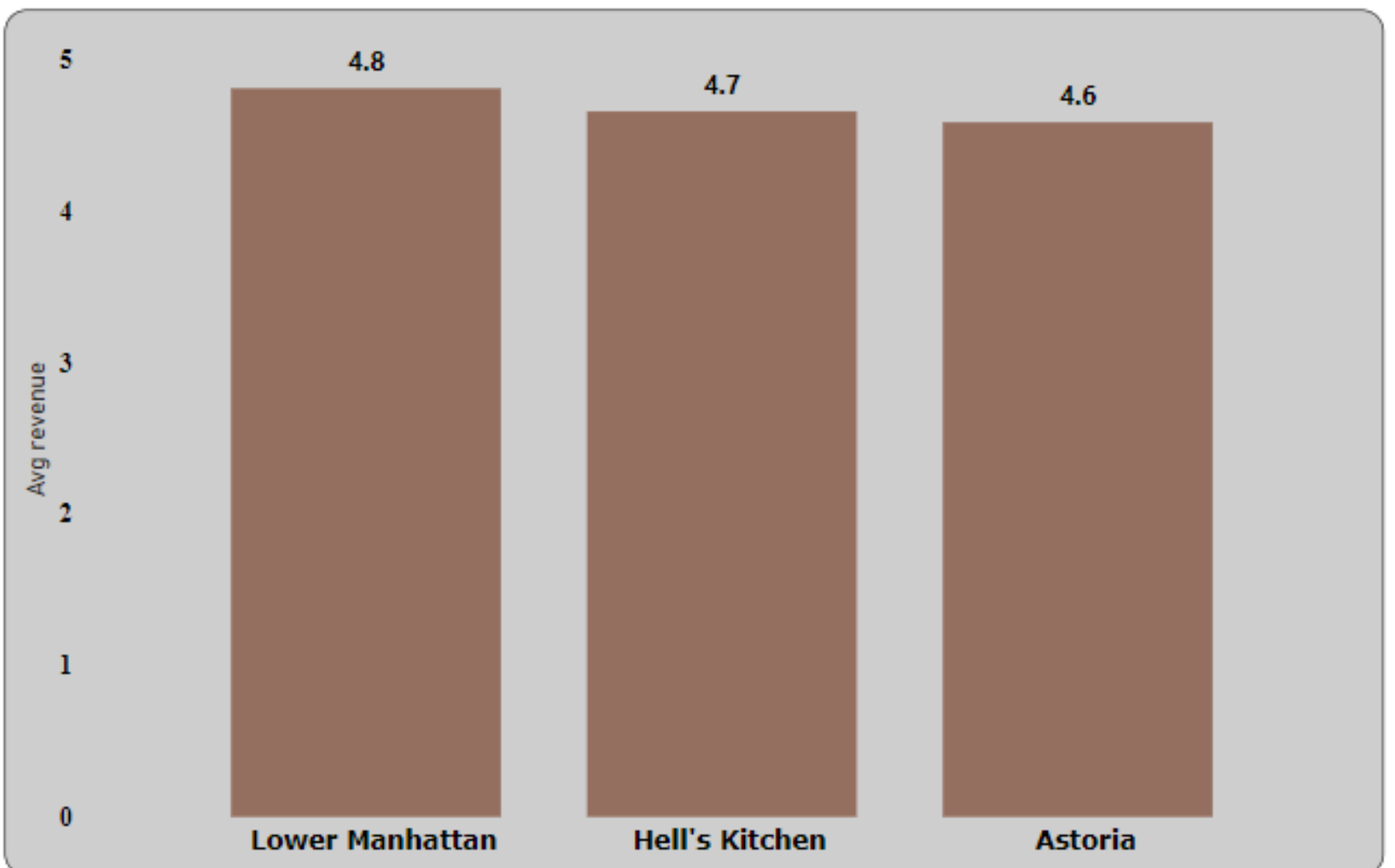
Store Wise Analysis

- Analyse the Average Revenue Generated by each store in each location

```
SELECT
    store.store_location,
    Round(AVG(transactions.Revenue),2) AS avg_revenue
FROM
    transactions
RIGHT JOIN
    store
ON
    transactions.store_id=store.store_id
GROUP BY
    store.store_location
ORDER BY
    avg_revenue DESC;
```

- The results suggest that **LOWER MANHATTAN** store has the highest revenue

store_location	avg_revenue
"Lower Manhattan"	4.81
"Hell's Kitchen"	4.66
Astoria	4.59



- find out the top3 best selling product categories in each store

```
WITH cte AS(
SELECT
    store.store_location,
    products.product_category,
    COUNT(transactions.transaction_id) AS num_transactions,
    DENSE_RANK() OVER(PARTITION BY store.store_location ORDER BY COUNT(transactions.transaction_id)DESC) AS rn
FROM
    transactions
INNER JOIN
    products
ON
    transactions.product_id=products.product_id
INNER JOIN
    store
ON
    transactions.store_id=store.store_id
GROUP BY
    store.store_location,
    products.product_category
ORDER BY
    num_transactions DESC)
SELECT
    store_location,
    product_category,
    num_transactions
FROM
    cte
WHERE
    rn<=3;
```


Lower Manhattan

Product_Category	Transactions	Rank
Coffee	18204	1
Tea	13912	2
Bakery	7890	3

Hells Kitchen

Product_Category	Transactions	Rank
Coffee	20187	1
Tea	15277	2
Bakery	7617	3

Astroia

Product_Category	Transactions	Rank
Coffee	20025	1
Tea	16260	2
Bakery	7289	3

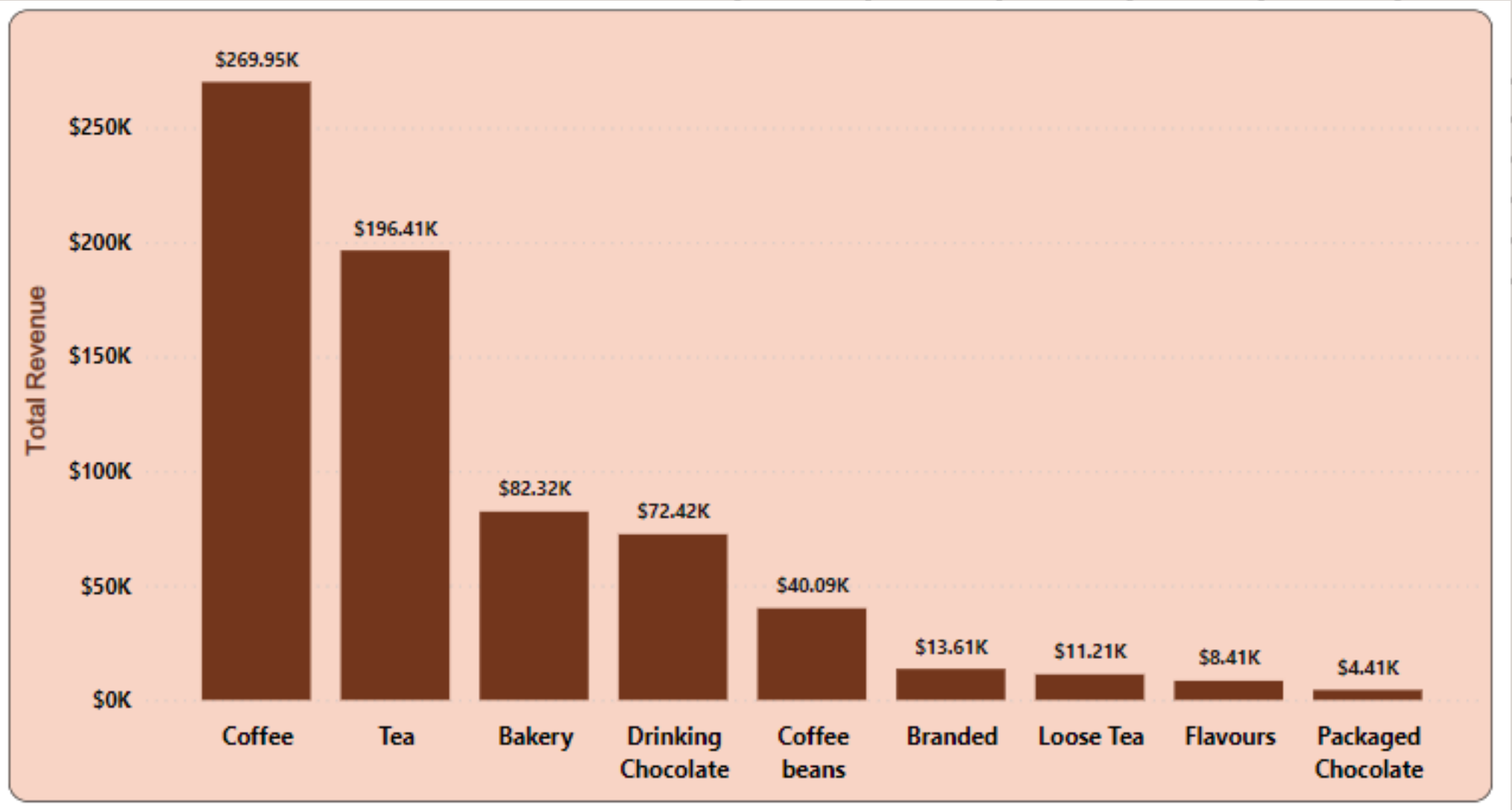
Product Sales Analysis

- List the best-selling product categories along with their total revenue.

```
SELECT
    products.product_category,
    ROUND(SUM(transactions.Revenue),2) AS Total_revenue
FROM
    products
LEFT JOIN
    transactions
ON
    products.product_id=transactions.product_id
GROUP BY
    products.product_category
ORDER BY
    Total_revenue DESC;
```

- From the results we can say that **Coffee** has generated highest revenue and **Packaged Choclates** has generated Lowest revenue

product_category	Total_revenue
Coffee	269952.45
Tea	196405.95
Bakery	82315.64
"Drinking Chocolate"	72416
"Coffee beans"	40085.25
Branded	13607
"Loose Tea"	11213.6
Flavours	8408.8
"Packaged Chocolate"	4407.64



- Find out the top 5 best selling products of all times

```
SELECT
    products.product_category,
    products.product_detail,
    COUNT(transactions.transaction_id) AS no_of_transactions
FROM
    products
LEFT JOIN
    transactions
ON
    products.product_id=transactions.product_id
GROUP BY
    products.product_category,
    products.product_detail
ORDER BY
    no_of_transactions DESC
LIMIT 5;
```

product_category	product_detail	no_of_transactions
Bakery	"Chocolate Croissant"	3076
Tea	"Earl Grey Rg"	3053
"Drinking Chocolate"	"Dark chocolate Lg"	3029
Tea	"Morning Sunrise Chai Rg"	3026
Coffee	"Columbian Medium Roast Rg"	3013

Chocolate Croissant Product from the product_Categroy **Bakery** is the highest selling product

➤ **Bottom 5 selling products of all times**

```
#Are there any product that has performed low and need to be reevaluated
SELECT
    products.product_category,
    products.product_detail,
    COUNT(transactions.transaction_id) AS no_of_transactions
FROM
    products
LEFT JOIN
    transactions
ON
    products.product_id=transactions.product_id
GROUP BY
    products.product_category,
    products.product_detail
ORDER BY
    no_of_transactions ASC
LIMIT 5;
```

BUSINESS GROWTH ANALYSIS

- Analyzing the Overall growth of the business from January 2023 to June 2023
- The average growth rate of 17.32% indicates that there is a positive trend in the revenue of the coffee shop over the specified time period.
- This may include initiatives such as expanding product offerings, improving marketing campaigns, enhancing customer experience, or targeting specific customer segments.

```
CREATE VIEW revenue AS
(SELECT
    MONTHNAME(transactions.transaction_date) AS month_name,
    ROUND(SUM(transactions.Revenue)) AS Total_rev
FROM
    transactions
GROUP BY month_name);
```

```
WITH avg_growth AS(
WITH cte AS(
    SELECT
        Total_rev AS curr_rev,
        LEAD(Total_rev) OVER(
            ORDER BY field(month_name,'january','febraury','march','april','may','june')) AS next_rev
        FROM
            revenue)
    SELECT
        (next_rev-curr_rev)/(curr_rev)*100 AS growth_rate
        FROM
            cte)
    SELECT
        ROUND(AVG(growth_rate),2) AS avg_growth_rate
        FROM
            avg_growth;
```



DASHBOARD



Coffee Shop Sales Dashboard



Total Revenue

\$698,812

Total Transaction

149116

Store_Location

Astoria

Hell's Kitchen

Lower Manhatt...

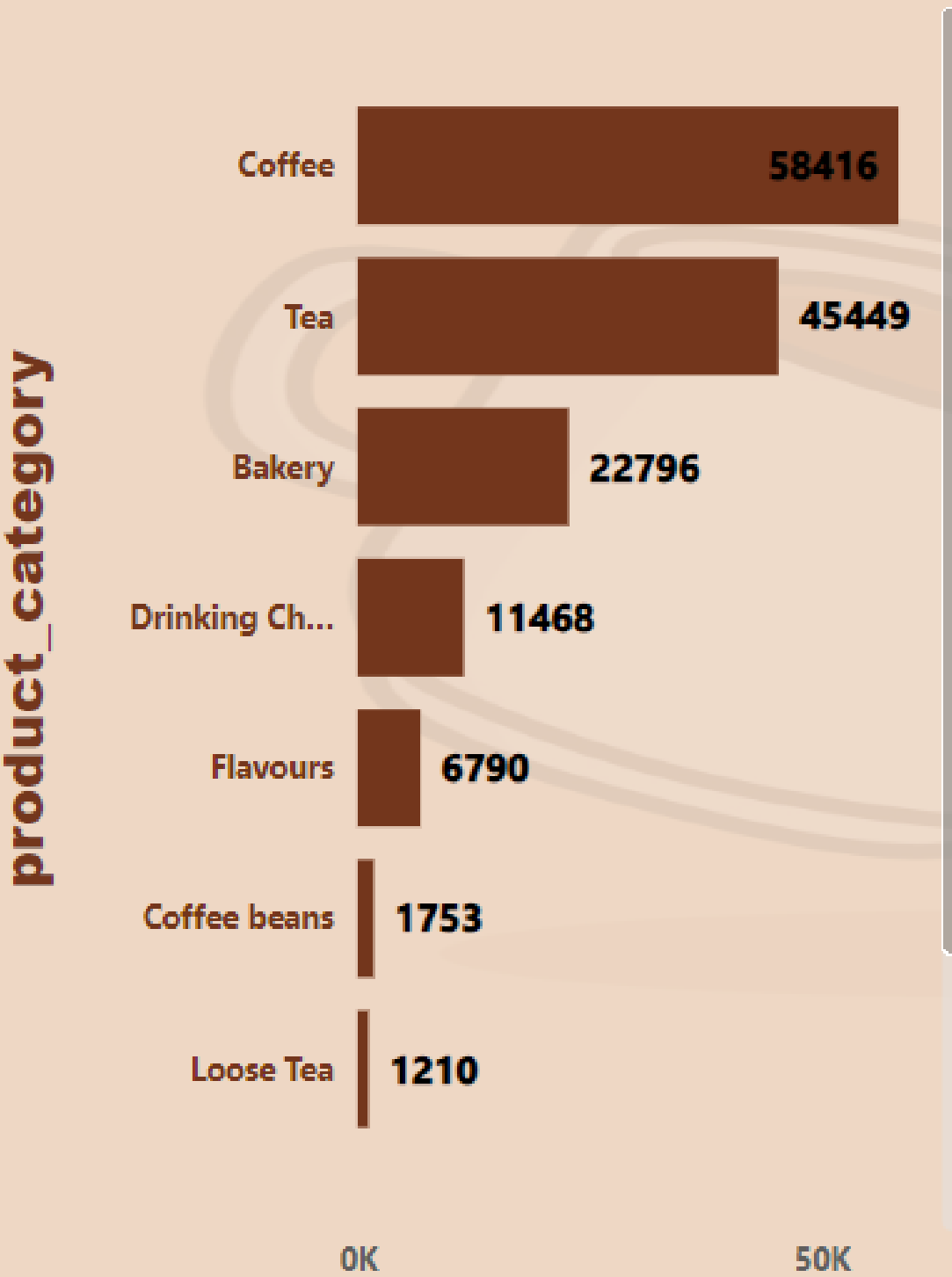
Day Name

All

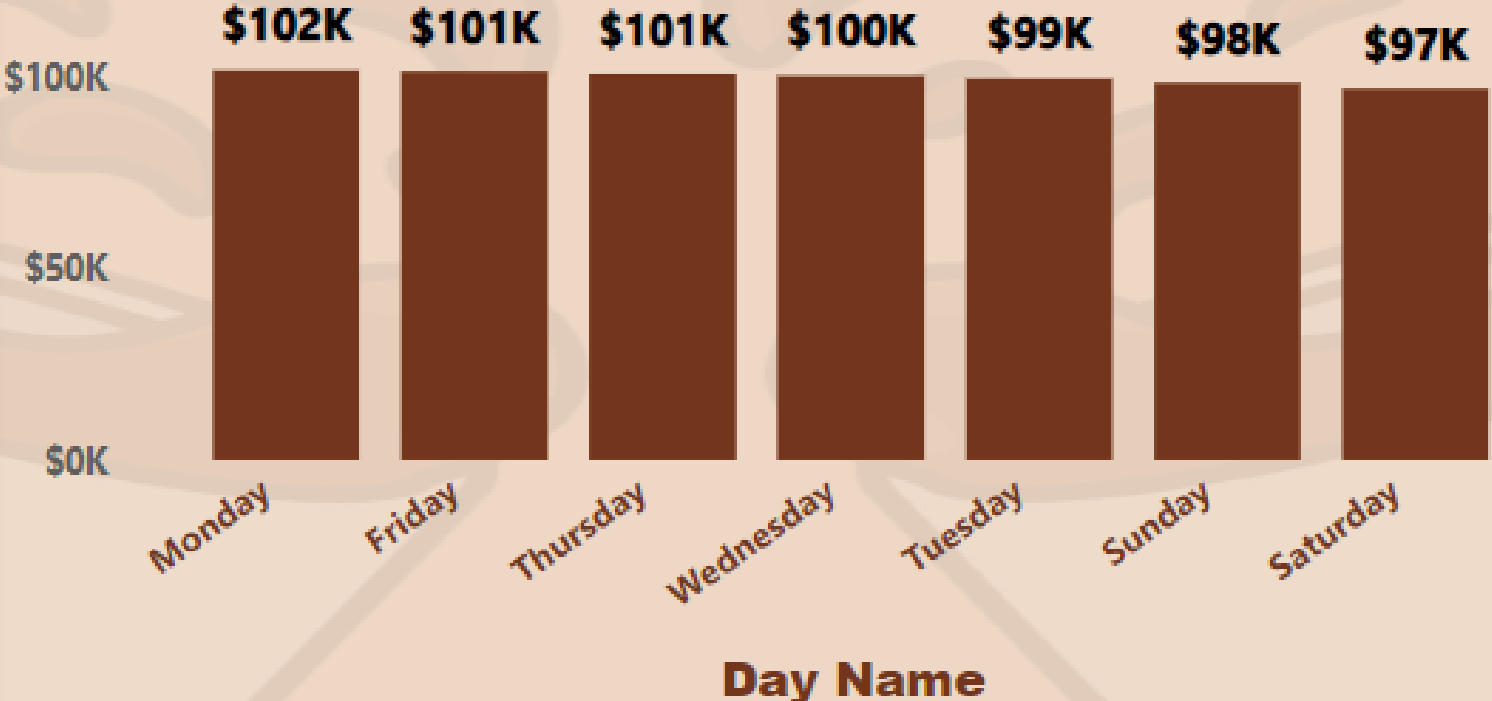
MonthName

All

Transactions per Product Categories



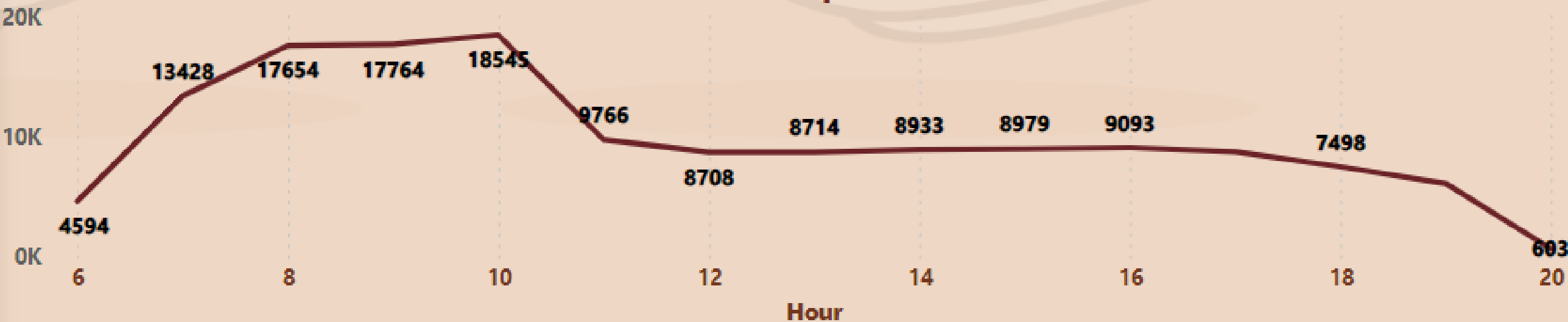
Revenue per Day of Week



Over the past six months, coffee has emerged as the top-performing product, closely trailed by tea. This exceptional performance has remained steadfast across all three store locations.

Across all the three store location the 10:00 Am is the busiest hour.

Transactions per Hour



A photograph of a wooden table with a blue cup of coffee, a spiral notebook, and a pen. The text "THANK YOU" is overlaid in the center. The word "THANK" is in blue, and "YOU" is in grey with a 3D effect.

THANK YOU