

# COFFEE SHOP SALES ANALYSIS

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# Project Overview

- **Objective:** Analyze coffee shop sales data to uncover trends, customer preferences, revenue insights, peak sales time frame, product wise sales generated, area wise sales etc.
- **Approach:** Data Cleaning, Data manipulation, and Visualization
- **Key Focus Area:** Hourly orders, Orders by days and hours, Monthly orders, Order by stores, Order by product category, Top 10 products by orders, Monthly revenue, Top 10 orders by revenue.

# Dataset Information

- **Dataset:** Coffee Shop Sales
- **Entries :** 14911 rows , 11 columns.
- **Key Columns:** Transaction date, Transaction time, Transaction quantity, Store location, Unit price, Product category, Product type, Product details.
- **Missing Data Handling :** No missing or null values in the dataset.

# Data Preprocessing

## Steps performed:

- **Handled missing values and checked dataset structure.**
- **Created new columns:**
  - **Total\_Cost = Quantity × Unit Price**
  - **Date/Time breakdown (Month, Day, Hour, Day Of the Month, Day of the week)**
  - **Ensures dataset is ready for meaningful analysis.**

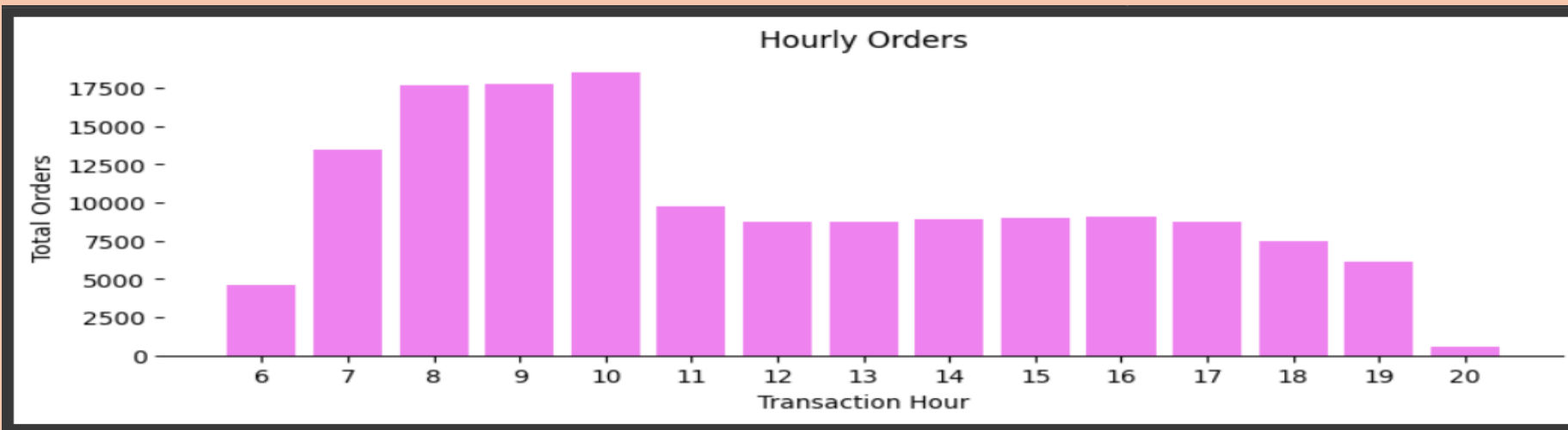
# KPI Dashboard

**Highlight calculated KPIs with visuals/icons:**

- **Total Orders - 149116**
- **Total Quantity Sold - 214470**
- **Number of Working Days - 180**
- **Average Orders Per Day – 828.43**
- **Total Revenue - 698812.33**
- **Average Order Value (AOV) - 4.686**

# Hourly Orders

- **Chart 1: Hourly orders (table)**
- **Chart 2: Hourly orders trend (bar chart).**
- **Insight: Peak hours when customers visit most is from 10.00am to 11.00am.**

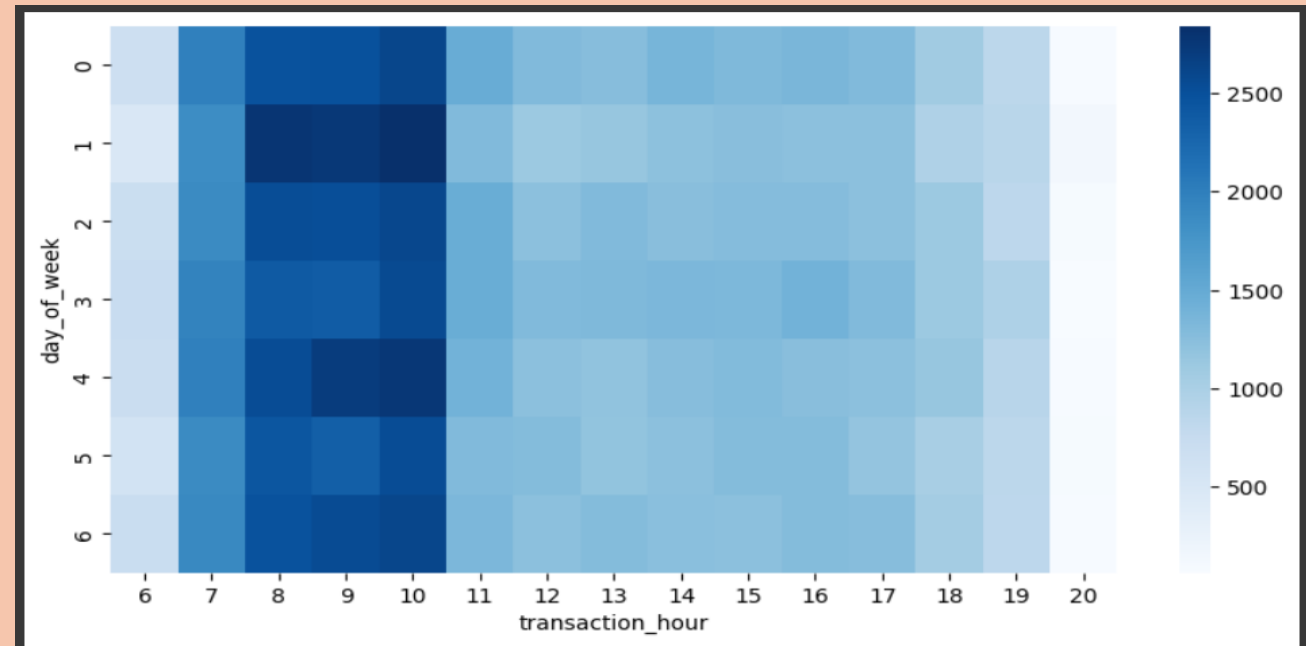


hourly_orders_table		
	transaction_hour	total_orders
0	6	4594
1	7	13428
2	8	17654
3	9	17764
4	10	18545
5	11	9766
6	12	8708
7	13	8714
8	14	8933
9	15	8979
10	16	9093
11	17	8745
12	18	7498
13	19	6092
14	20	603

# Orders by Day & Hour

- **Chart 1:** Order by day of week vs hour of the day (pivot table)
- **Chart 2:** Order by day of week vs hour of the day (heat map)
- **Insight:** Mondays are busiest with peak orders between 8.00am to 11.00am.

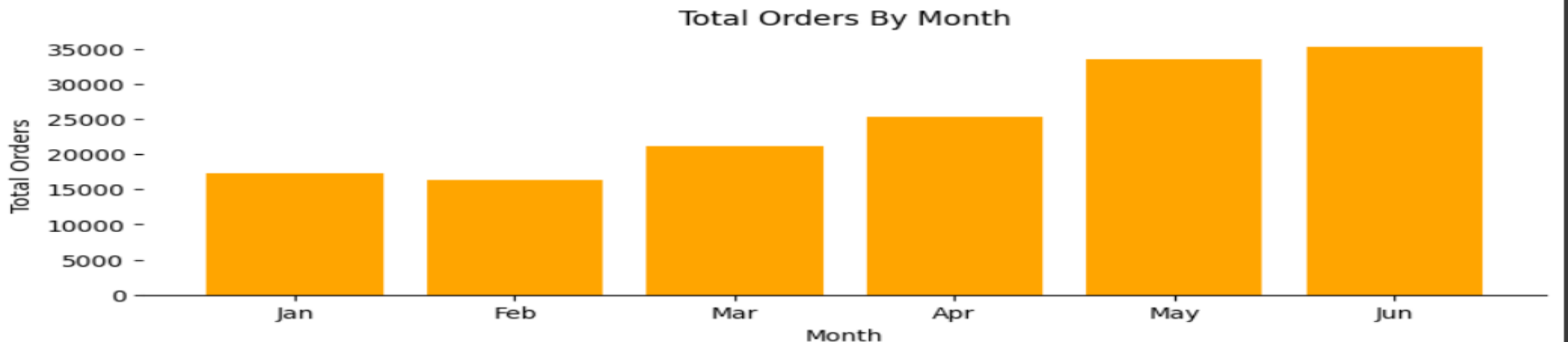
transaction_hour	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
day_of_week															
0	661	1992	2482	2494	2612	1478	1308	1267	1376	1319	1355	1302	1077	846	74
1	489	1846	2783	2753	2846	1301	1126	1152	1224	1254	1227	1232	957	872	140
2	698	1873	2540	2527	2596	1468	1226	1311	1257	1270	1272	1235	1118	836	83
3	731	1959	2389	2375	2570	1470	1307	1317	1341	1323	1406	1311	1125	970	60
4	707	1989	2544	2707	2761	1405	1231	1199	1265	1295	1257	1226	1149	886	80
5	592	1877	2438	2345	2551	1307	1279	1187	1226	1287	1287	1178	1019	846	91
6	716	1892	2478	2563	2609	1337	1231	1281	1244	1231	1289	1261	1053	836	75



# Monthly Orders

- **Chart 1: Order by months (table)**
- **Chart 2: Order by months (bar chart)**
- **Insight:** Peak orders are in the month of June and lowest in February.

	transaction_month	transaction_month_name	total_orders
0	1	January	17314
1	2	February	16359
2	3	March	21229
3	4	April	25335
4	5	May	33527
5	6	June	35352

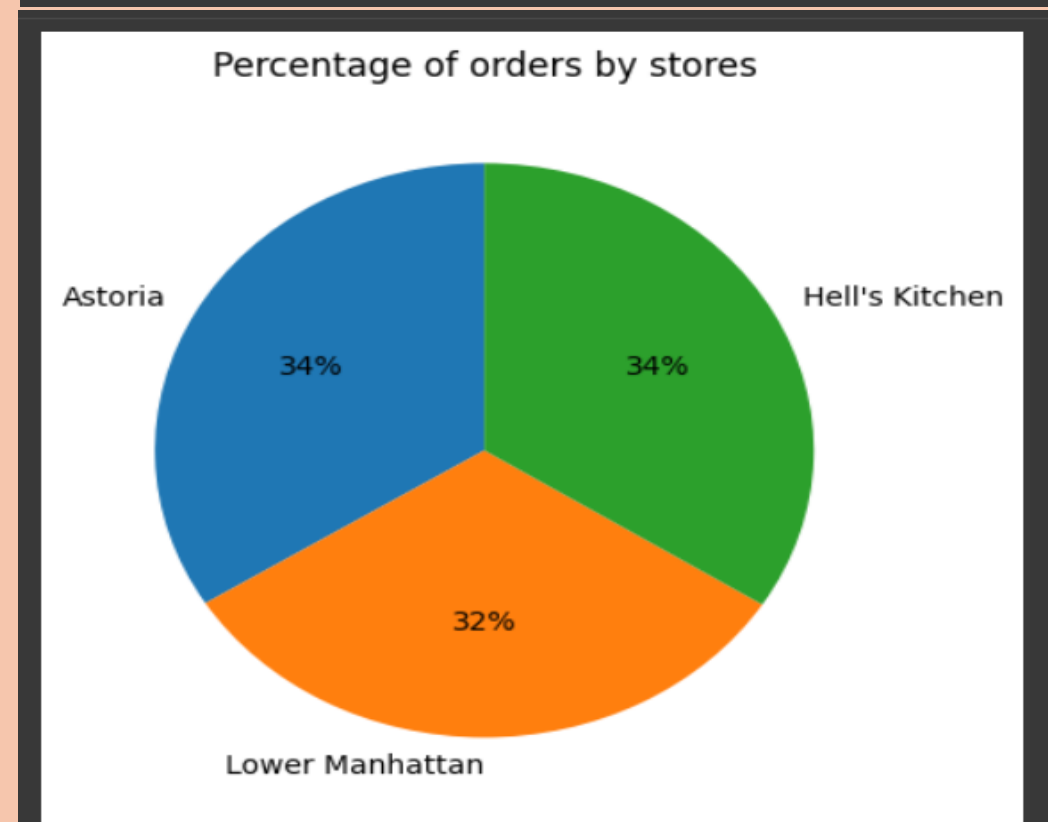




# Orders by Stores

- **Chart 1:** Order by store id and store location (table)
- **Chart 2:** Order by store location (pie chart)
- **Insight:** Hell's Kitchen store has most sales (50735).

	store_id	store_location	total_orders
0	3	Astoria	50599
1	5	Lower Manhattan	47782
2	8	Hell's Kitchen	50735



# Orders by Product Category

- **Chart** : Order by product category (table)
- **Insight**: Coffee has most orders of 58416, followed by tea and bakery. Packaged Chocolate has least orders of 487.

	product_category	total_orders
2	Coffee	58416
8	Tea	45449
0	Bakery	22796
4	Drinking Chocolate	11468
5	Flavours	6790
3	Coffee beans	1753
6	Loose Tea	1210
1	Branded	747
7	Packaged Chocolate	487

# Top 10 Products by Orders

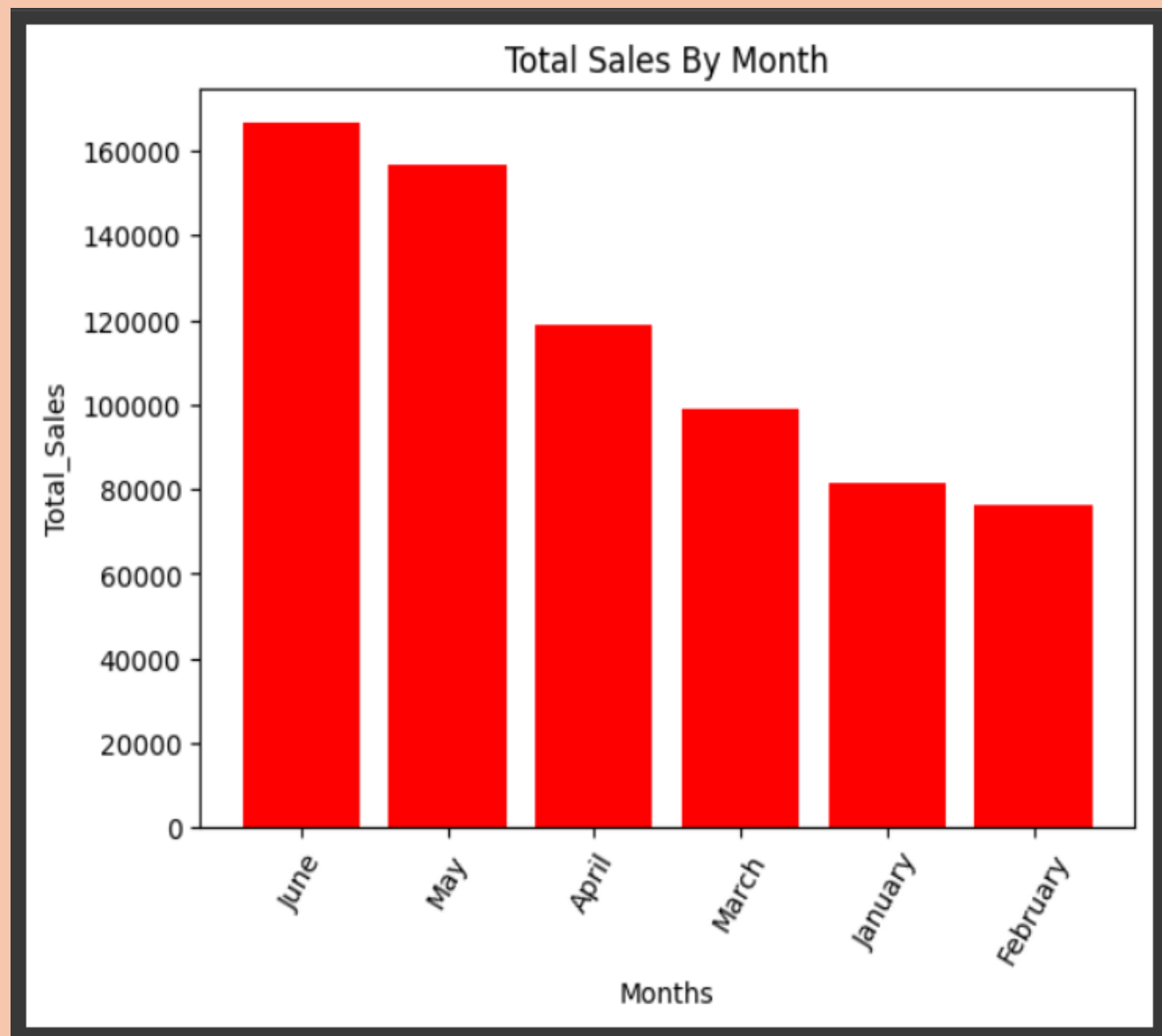
- **Chart** : Top 10 product order wise (table)
- **Insight**: Product Brewed Chai tea has maximum order of 17183 followed by Gourmet brewed coffee having order 16912 and so on.

top_10_products_by_order_table		
	product_type	total_orders
4	Brewed Chai tea	17183
13	Gourmet brewed coffee	16912
0	Barista Espresso	16403
17	Hot chocolate	11468
3	Brewed Black tea	11350
6	Brewed herbal tea	11245
27	Scone	10173
22	Organic brewed coffee	8489
10	Drip coffee	8477
25	Premium brewed coffee	8135

# Monthly Revenue

- **Chart 1:** Month wise total revenue (table)
- **Chart 2:** Month wise total revenue (bar chart)
- **Insight:** June has the maximum revenue collection and February lowest

transaction_month	transaction_month_name	total_revenue
5	June	166485.880000
4	May	156727.760000
3	April	118941.080000
2	March	98834.680000
0	January	81677.740000
1	February	76145.190000



# Top 10 Products by Revenue

- **Chart** : Top 10 prouct by revenue(table)
- **Insight**: Product Barista Espresso bags the maximum revenue of 91406.20 followed by Brewed Chai tea.

top_10_product_by_revenue_table		
	product_type	total_revenue
0	Barista Espresso	91406.200000
4	Brewed Chai tea	77081.950000
17	Hot chocolate	72416.000000
13	Gourmet brewed coffee	70034.600000
3	Brewed Black tea	47932.000000
6	Brewed herbal tea	47539.500000
25	Premium brewed coffee	38781.150000
22	Organic brewed coffee	37746.500000
27	Scone	36866.120000
10	Drip coffee	31984.000000

# Conclusion

- **Sales concentrated during specific hours and weekdays.**
- **Coffee and bakery items dominate orders.**
- **Certain products drive majority of revenue.**
- **Recommendations:**
  - \* **Run promotions during off-peak hours.**
  - \* **Focus inventory on best-selling products.**
  - \* **Special campaigns in high-revenue months.**

**THANK YOU.**