COFFEE SHOP SALES PROJECT

Sales Performance Analysis done by using **SQL $ Power BI**

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DATA ANALYST

DATE – 06-06-2025

Hello

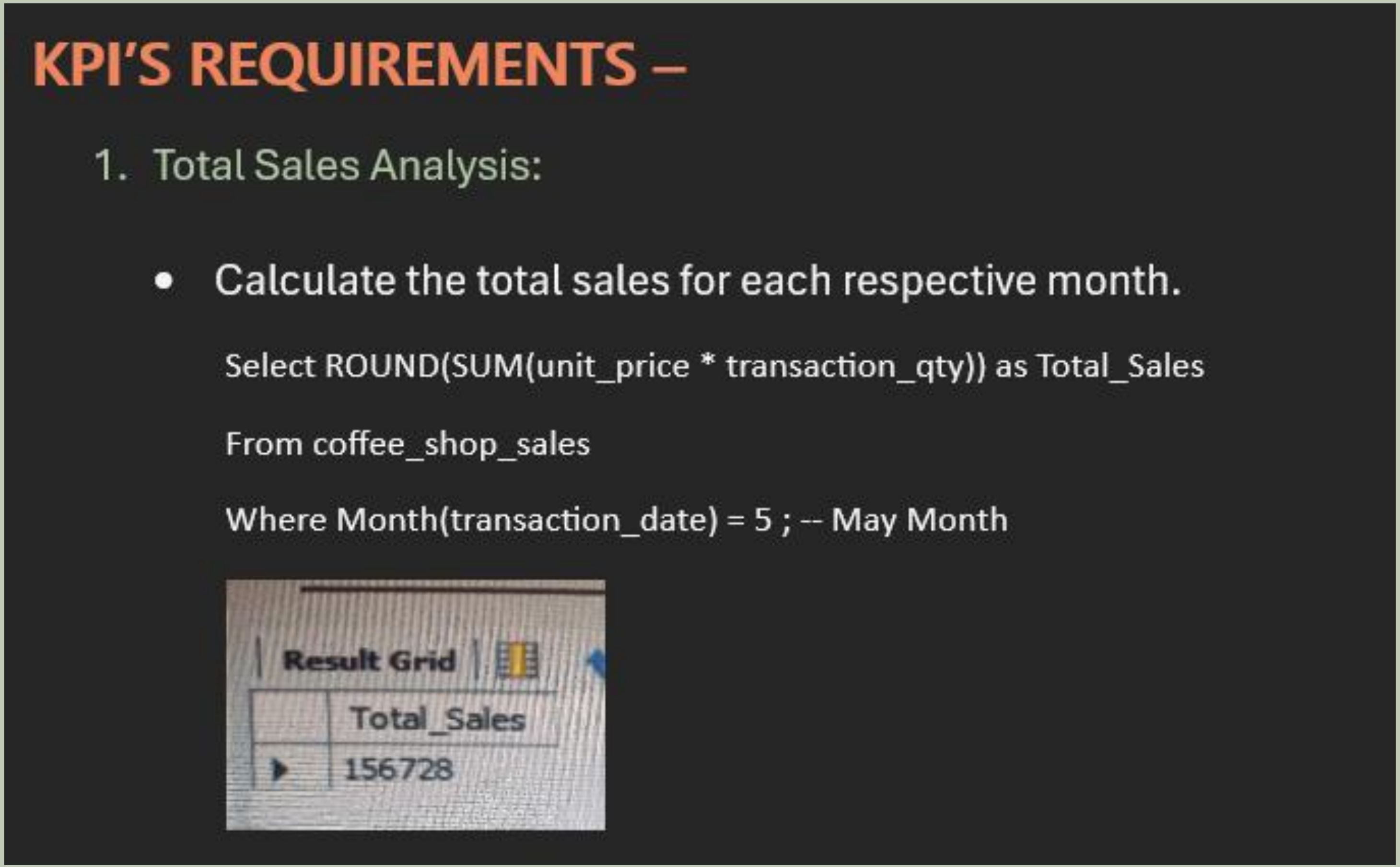
I am Jayanti Banik, presenting a project using SQL queries and Power BI which will demonstrate to analyse coffee sales data. Here I have used queries to solve questions that were related to coffee sales and have presented a dashboard which will give you quick insights of the sales performance.

DATA OVERVIEW

Dataset Details:

1. Source: SQL Database / CSV files
2. Tables : Coffee_Shop_Sales
3. Rows: 1,49,000+
4. Key Columns: Transaction_id, Transaction_date, Transaction_qty, Unit_price, Store_location, Product_category

SQL Data Preparation



KPI'S REQUIREMENTS –

1. Total Sales Analysis:

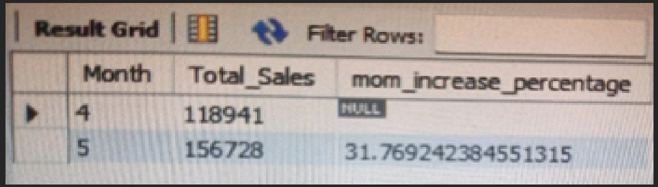
- Calculate the total sales for each respective month.

```
Select ROUND(SUM(unit_price * transaction_qty)) as Total_Sales

From coffee_shop_sales

Where Month(transaction_date) = 5 ; -- May Month
```

```
Total_Sales
156728
```

- Determine the month-on-month increase or decrease in sales.

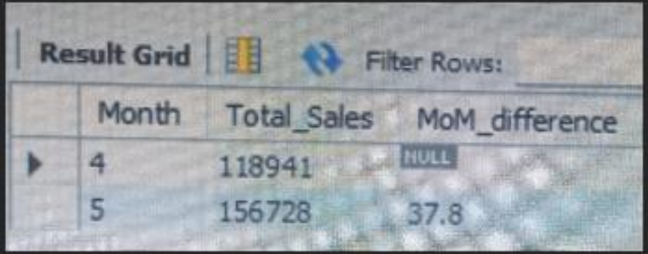
```
Select MONTH(transaction_date) as Month,

Round(SUM(unit_price * transaction_qty)) as Total_Sales,

(SUM(unit_price * transaction_qty)-LAG(SUM(unit_price * transaction_qty),1)

OVER(ORDER BY MONTH(transaction_date)))/

LAG(SUM(unit_price * transaction_qty),1) OVER(ORDER BY MONTH(transaction_date)) *

100 AS mom_increase_percentage

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5) – April,May

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```



Month	Total_Sales	mom_increase_percentage
4	118941	NULL
5	156728	31.769242384551315

- Calculate the difference in sales between the selected month and the previous month.

```
Select MONTH(transaction_date) as Month,

Round(SUM(unit_price * transaction_qty)) as Total_Sales,

ROUND((SUM(unit_price * transaction_qty)-LAG(SUM(unit_price * transaction_qty),1)

OVER(ORDER BY MONTH(transaction_date)))/1000,1) AS MoM_difference

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5) -- April,May

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```

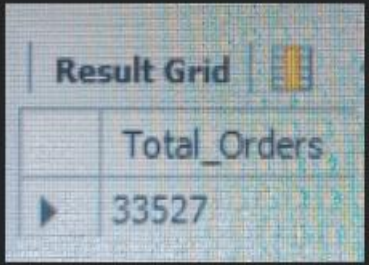


Month	Total_Sales	MoM_difference
4	118941	NULL
5	156728	37.8

2. Total Orders Analysis:

- Calculate the total number of orders for each respective month.

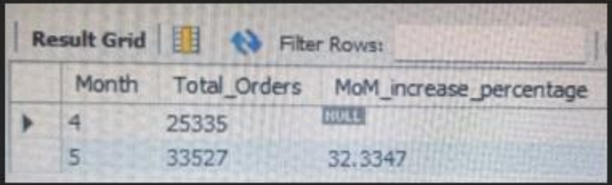
```
Select COUNT(transaction_id) as Total_Orders

From coffee_shop_sales

Where Month(transaction_date) = 5 ; -- May Month
```



```
Total_Orders
33527
```

- Determine the month-on-month increase or decrease in sales.

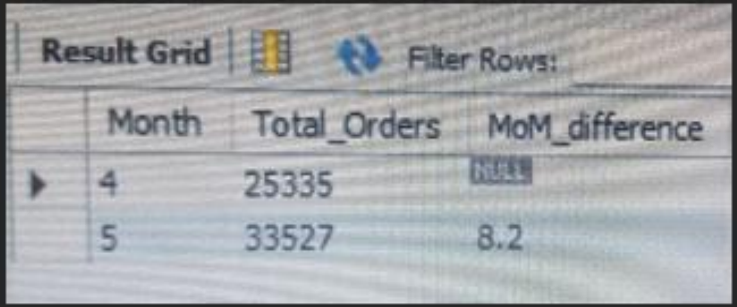
```
Select MONTH(transaction_date) as Month,

COUNT(transaction_id) as Total_Orders,

(COUNT(transaction_id) - LAG(COUNT(transaction_id), 1) OVER(ORDER BY
 MONTH(transaction_date)))/
LAG(COUNT(transaction_id), 1) OVER(ORDER BY MONTH(transaction_date)) * 100 AS

MoM_increase_percentage

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5)   --  April,May

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```



```
Month   Total_Orders   MoM_increase_percentage
4       25335          NULL
5       33527          32.3347
```

- Calculate the difference in sales between the selected month and the previous month.

```
Select MONTH(transaction_date) as Month,

COUNT(transaction_id) as Total_Orders,

ROUND((COUNT(transaction_id)-LAG(COUNT(transaction_id),1) OVER(ORDER BY

MONTH(transaction_date)))/1000,1) AS MoM_difference

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5)

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```

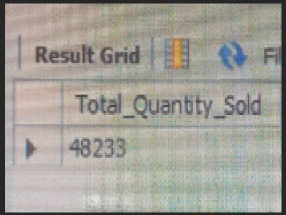


Month	Total_Orders	MoM_difference
4	25335	NULL
5	33527	8.2

3. Total Quantity Sold Analysis:

- Calculate the total quantity sold for each respective month.

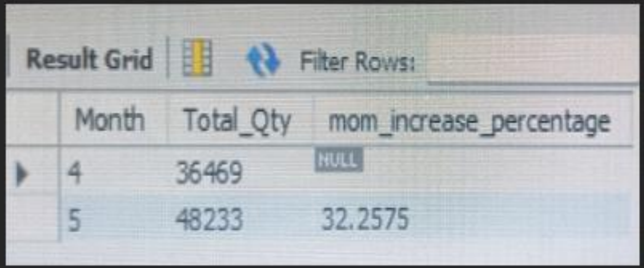
```
Select SUM(transaction_qty) as Total_Quantity_Sold

From coffee_shop_sales

Where Month(transaction_date) = 5 ; -- May Month
```



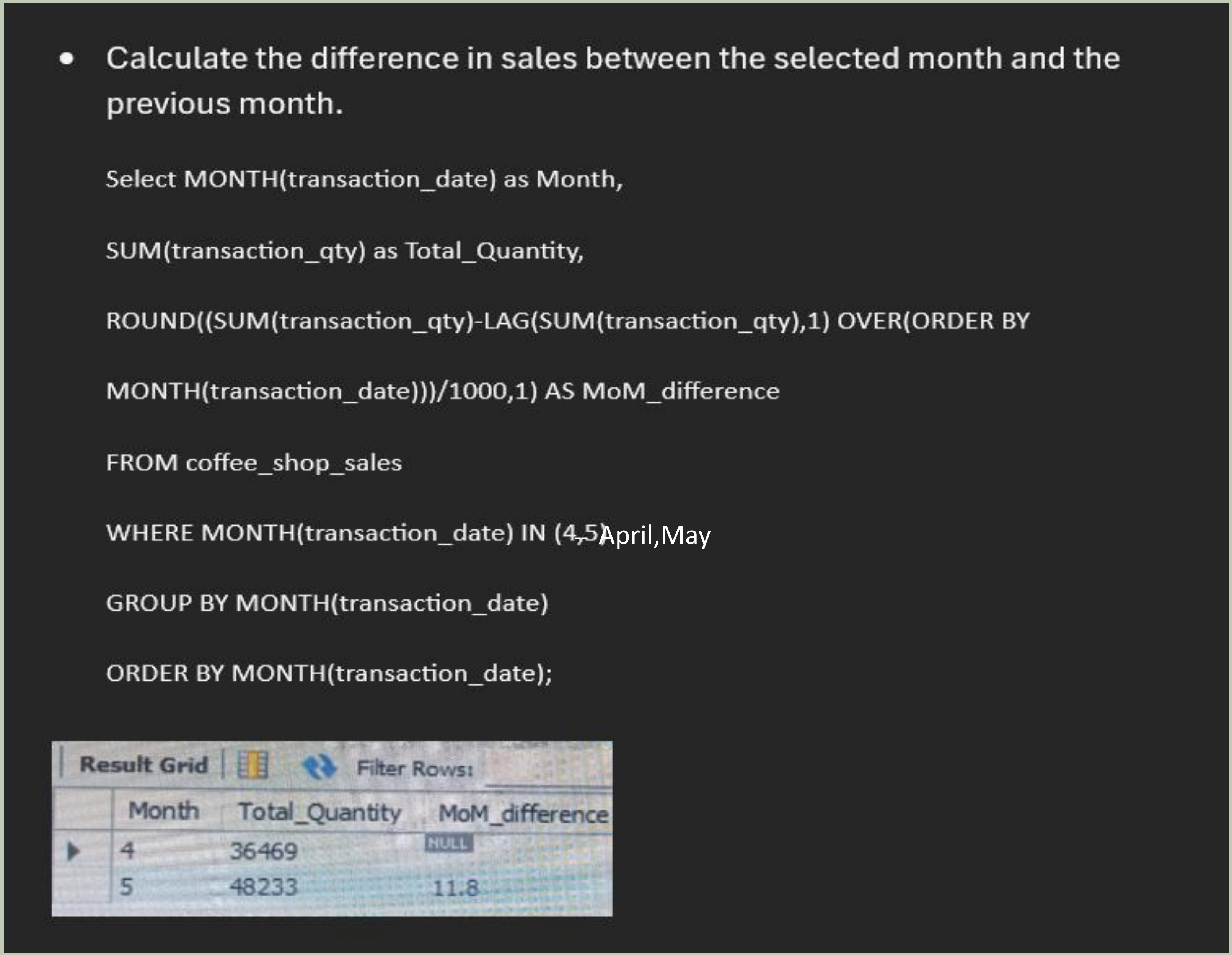
Total_Quantity_Sold
48233

- Determine the month-on-month increase or decrease in the total quantity sold.

```
Select MONTH(transaction_date) as Month,

SUM(transaction_qty) as Total_Qty,

(SUM(transaction_qty) - LAG(SUM(transaction_qty),1) OVER(ORDER BY

MONTH(transaction_date)))/

LAG(SUM(transaction_qty),1) OVER(ORDER BY MONTH(transaction_date)) * 100 AS

mom_increase_percentage

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5)    --  April,May

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```



Month	Total_Qty	mom_increase_percentage
4	36469	NULL
5	48233	32.2575



- Calculate the difference in sales between the selected month and the previous month.

```
Select MONTH(transaction_date) as Month,

SUM(transaction_qty) as Total_Quantity,

ROUND((SUM(transaction_qty)-LAG(SUM(transaction_qty),1) OVER(ORDER BY

MONTH(transaction_date)))/1000,1) AS MoM_difference

FROM coffee_shop_sales

WHERE MONTH(transaction_date) IN (4,5)April,May

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```

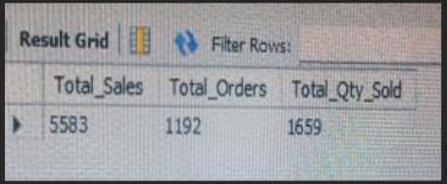
Month	Total_Quantity	MoM_difference
4	36469	NULL
5	48233	11.8

CHARTS REQUIREMENTS

1. Calendar Heat Map:

   - Implement tooltip to display detailed metrics (Sales, Orders, Quantity)

```
Select ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales,

COUNT(transaction_id) AS Total_Orders,

SUM(transaction_qty) AS Total_Qty_Sold

FROM coffee_shop_sales

WHERE transaction_date = '2023-05-18' ;
```

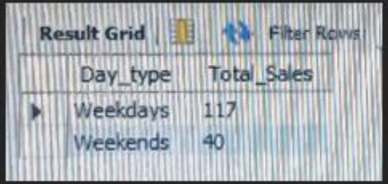


	Total_Sales	Total_Orders	Total_Qty_Sold
▶	5583	1192	1659

2. Sales Analysis by Weekdays and Weekends:

   - To determine total sales analysis by weekends and weekdays.

```
Select

Case

WHEN DAYOFWEEK(transaction_date) IN (1,7) THEN "Weekends"

ELSE "Weekdays"

END AS Day_type,

ROUND(SUM(unit_price * transaction_qty)/1000) as Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY Day_type;
```

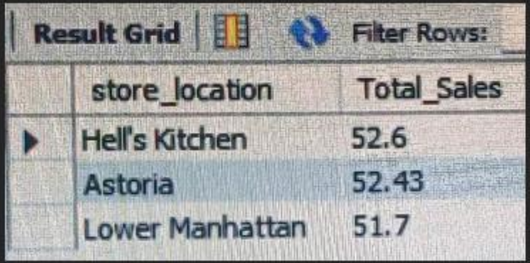


	Day_type	Total_Sales
▶	Weekdays	117
	Weekends	40

3. Sales Analysis by Store Location:

- To determine total sales by store location.

```
Select store_location, ROUND(SUM(unit_price * transaction_qty)/1000,2) AS Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY  store_location

ORDER BY Total_Sales DESC ;
```

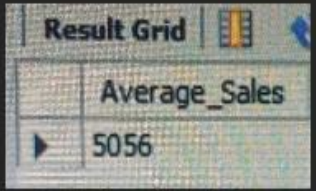


store_location	Total_Sales
Hell's Kitchen	52.6
Astoria	52.43
Lower Manhattan	51.7

4. Daily Sales Analysis with Average Line:

- To determine average daily sales for selected month.

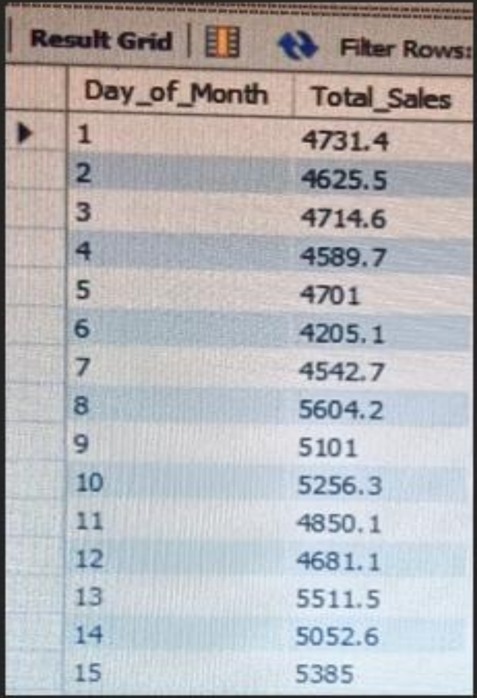
```
Select ROUND(AVG(Total_Sales)) AS Average_Sales

FROM (

Select SUM(unit_price * transaction_qty) as Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY Day(transaction_date) )

AS inner_query;
```

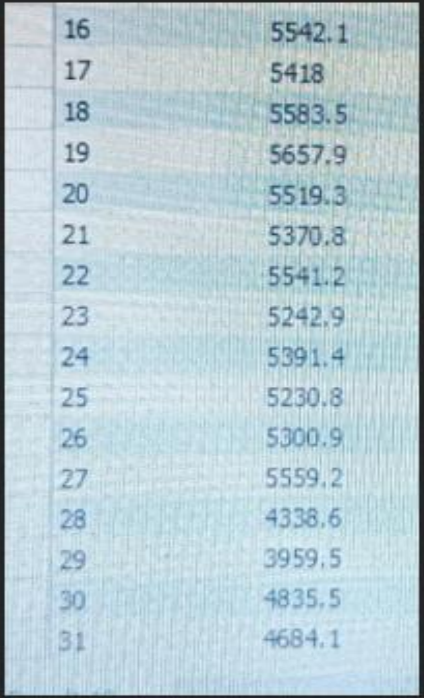


Average_Sales
5056

- Daily Sales for the selected month.

```
Select DAY(transaction_date) as Day_of_Month,

ROUND(SUM(unit_price * transaction_qty),1) as

Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY Day(transaction_date)

ORDER BY DAY(transaction_date) ;
```



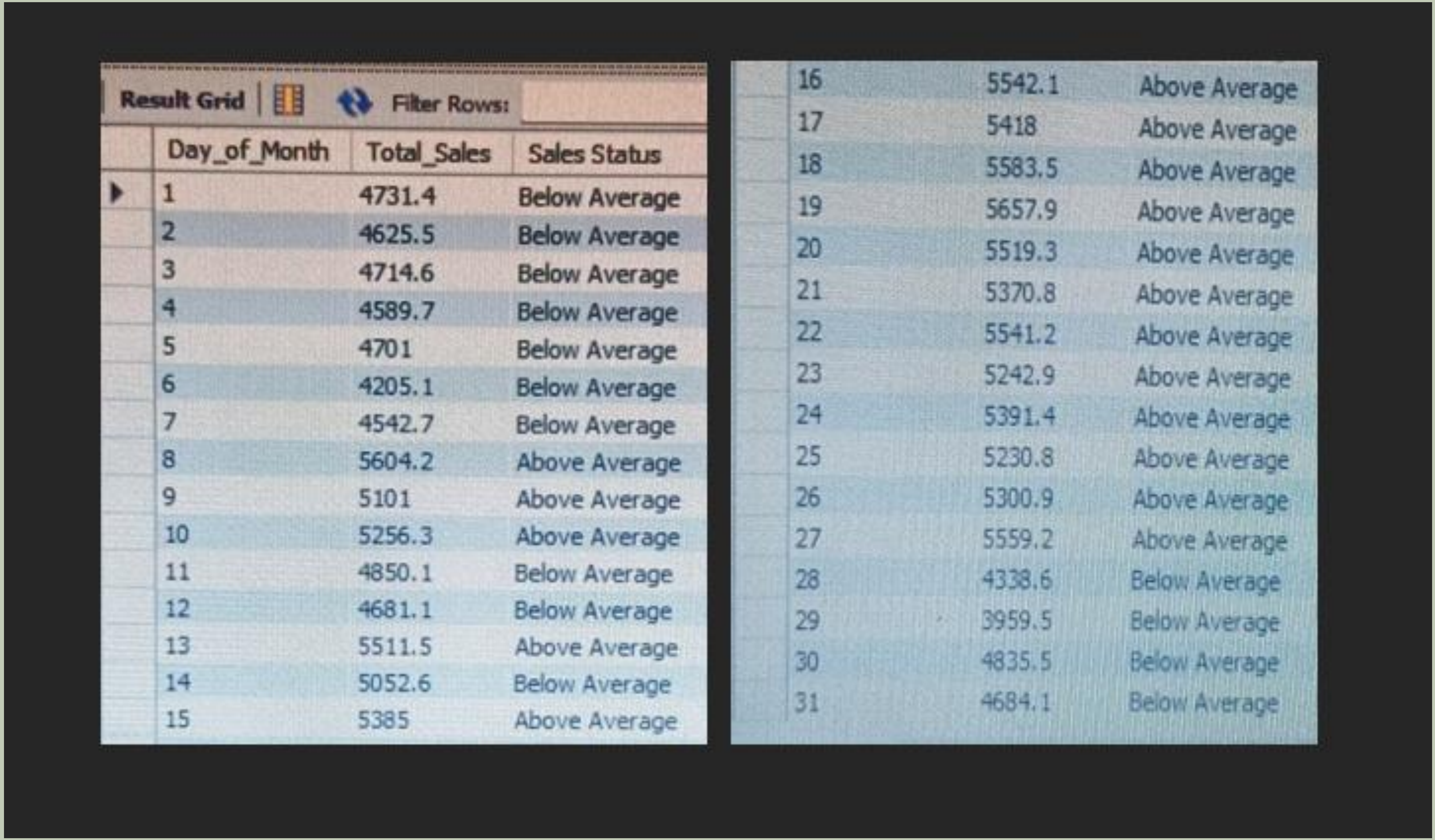


Day_of_Month	Total_Sales
1	4731.4
2	4625.5
3	4714.6
4	4589.7
5	4701
6	4205.1
7	4542.7
8	5604.2
9	5101
10	5256.3
11	4850.1
12	4681.1
13	5511.5
14	5052.6
15	5385
16	5542.1
17	5418
18	5583.5
19	5657.9
20	5519.3
21	5370.8
22	5541.2
23	5242.9
24	5391.4
25	5230.8
26	5300.9
27	5559.2
28	4338.6
29	3959.5
30	4835.5
31	4684.1

- Comparing daily sales with average sales – If greater then “Above Average” and lesser then “Below Average”.

```
Select

Day_of_Month,

Total_Sales,

 CASE

 WHEN Total_Sales > Average_Sales THEN "Above Average"

 WHEN Total_Sales < Average_Sales THEN "Below Average"

 ELSE "Average" END AS "Sales Status"
```

```
 FROM (

Select DAY(transaction_date) as Day_of_Month,

ROUND(SUM(unit_price * transaction_qty),1) as Total_Sales,

AVG(SUM(unit_price * transaction_qty)) OVER() AS average_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY Day(transaction_date)

ORDER BY DAY(transaction_date)

) AS Inner_query ;
```

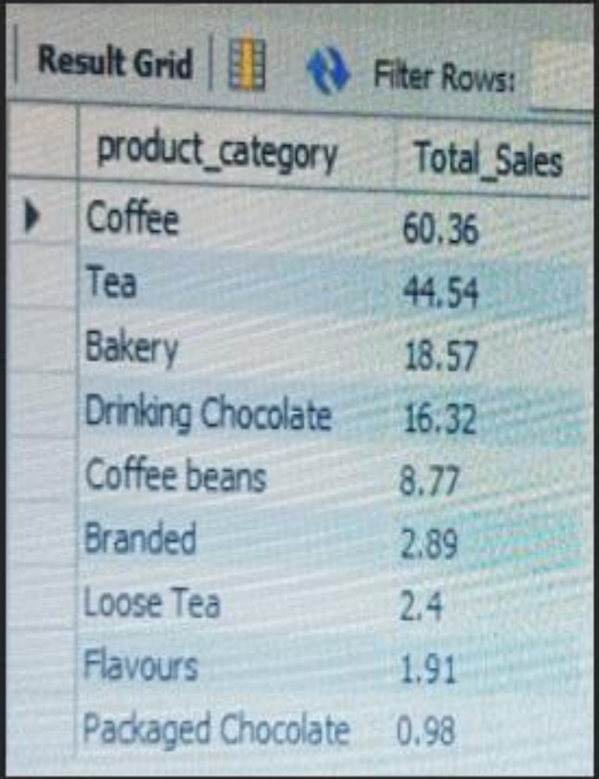


Day_of_Month	Total_Sales	Sales Status
1	4731.4	Below Average
2	4625.5	Below Average
3	4714.6	Below Average
4	4589.7	Below Average
5	4701	Below Average
6	4205.1	Below Average
7	4542.7	Below Average
8	5604.2	Above Average
9	5101	Above Average
10	5256.3	Above Average
11	4850.1	Below Average
12	4681.1	Below Average
13	5511.5	Above Average
14	5052.6	Below Average
15	5385	Above Average
16	5542.1	Above Average
17	5418	Above Average
18	5583.5	Above Average
19	5657.9	Above Average
20	5519.3	Above Average
21	5370.8	Above Average
22	5541.2	Above Average
23	5242.9	Above Average
24	5391.4	Above Average
25	5230.8	Above Average
26	5300.9	Above Average
27	5559.2	Above Average
28	4338.6	Below Average
29	3959.5	Below Average
30	4835.5	Below Average
31	4684.1	Below Average

5. Sales Analysis by Product Category:

- To determine total sales by product category.

```
Select product_category,

ROUND(SUM(unit_price * transaction_qty)/1000,2) as Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY  product_category

ORDER BY  Total_Sales DESC ;
```

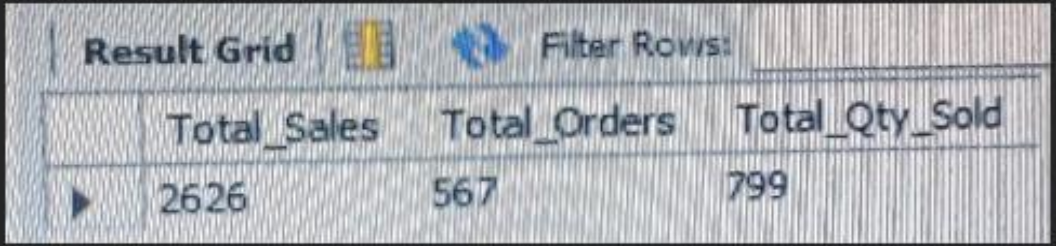


product_category	Total_Sales
Coffee	60.36
Tea	44.54
Bakery	18.57
Drinking Chocolate	16.32
Coffee beans	8.77
Branded	2.89
Loose Tea	2.4
Flavours	1.91
Packaged Chocolate	0.98

7. Sales Analysis by Days and Hours:

- To determine total sales, orders and quantity sold by hours.

```
Select ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales,

COUNT(transaction_id) AS Total_Orders,

SUM(transaction_qty) AS Total_Qty_Sold

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

AND DAYOFWEEK(transaction_date)=4 -- Wednesday

AND HOUR(transaction_time)=7 –Hour No 7;
```

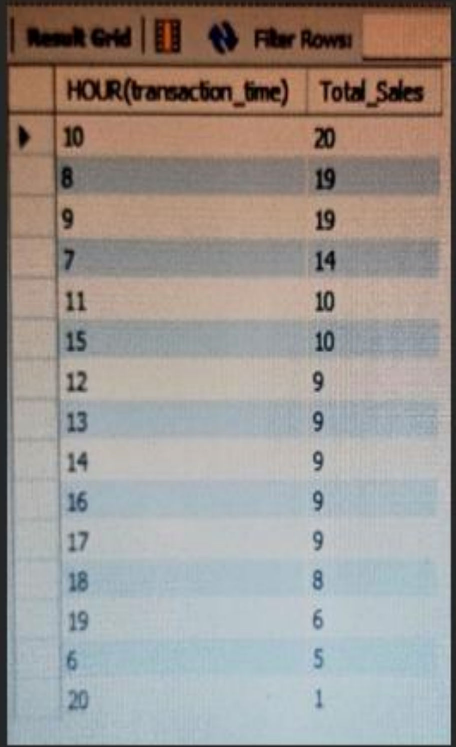


Total_Sales	Total_Orders	Total_Qty_Sold
2626	567	799

- Total Sales Analysis by Hours.

```
Select HOUR(transaction_time),

ROUND(SUM(unit_price * transaction_qty)/1000) AS Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May
```

```
GROUP BY HOUR(transaction_time)

ORDER BY  Total_Sales DESC;
```

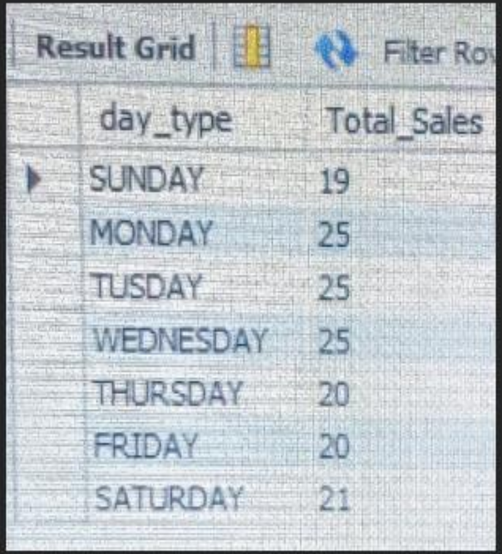


HOUR(transaction_time)	Total_Sales
10	20
8	19
9	19
7	14
11	10
15	10
12	9
13	9
14	9
16	9
17	9
18	8
19	6
6	5
20	1

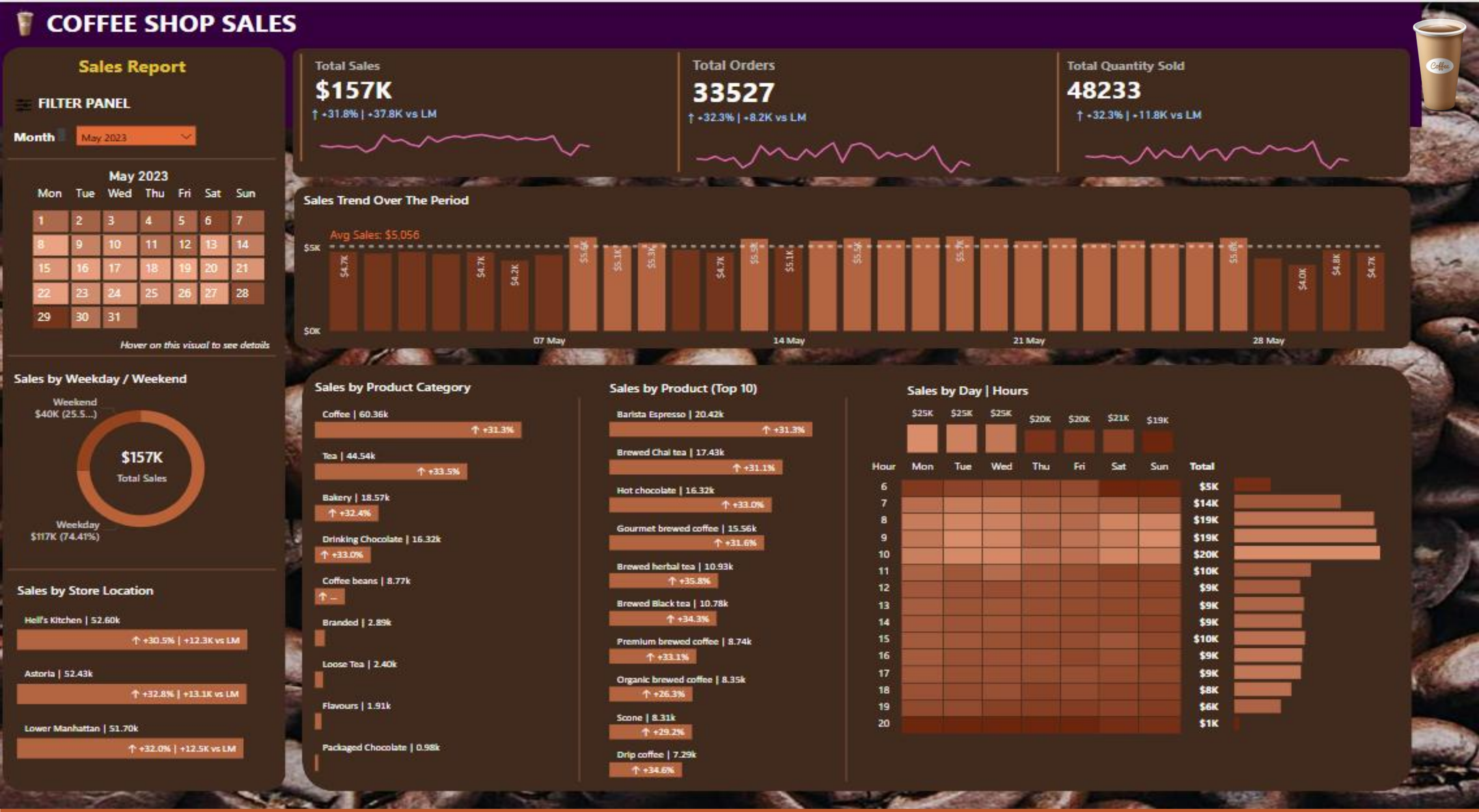
- To Get Sales from Monday to Sunday for Month of May.

```
Select

CASE

WHEN DAYOFWEEK(transaction_date)=1 THEN "SUNDAY"

WHEN DAYOFWEEK(transaction_date)=2 THEN "MONDAY"

WHEN DAYOFWEEK(transaction_date)=3 THEN "TUSDAY"

WHEN DAYOFWEEK(transaction_date)=4 THEN "WEDNESDAY"

WHEN DAYOFWEEK(transaction_date)=5 THEN "THURSDAY"

WHEN DAYOFWEEK(transaction_date)=6 THEN "FRIDAY"

WHEN DAYOFWEEK(transaction_date)=7 THEN "SATURDAY"

END AS day_type,

ROUND(SUM(unit_price * transaction_qty)/1000) AS Total_Sales

FROM coffee_shop_sales

WHERE MONTH(transaction_date) = 5 – May

GROUP BY day_type
```

```
ORDER BY

CASE

WHEN day_type= "SUNDAY" THEN 1

WHEN day_type= "MONDAY" THEN 2

WHEN day_type= "TUSDAY" THEN 3

WHEN day_type= "WEDNESDAY" THEN 4

WHEN day_type="THURSDAY" THEN 5

WHEN day_type="FRIDAY" THEN 6

WHEN day_type= "SATURDAY" THEN 7

END;
```



day_type	Total_Sales
SUNDAY	19
MONDAY	25
TUSDAY	25
WEDNESDAY	25
THURSDAY	20
FRIDAY	20
SATURDAY	21



COFFEE SHOP SALES

Sales Report

FILTER PANEL

Month: May 2023

Total Sales
$157K
↑ +31.8% | +37.8K vs LM

Total Orders
33527
↑ +32.3% | +8.2K vs LM

Total Quantity Sold
48233
↑ +32.3% | +11.8K vs LM

May 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Hover on this visual to see details

Sales Trend Over The Period

Sales by Weekday / Weekend

Sales by Store Location

Hell's Kitchen | 52.60k
↑ +30.5% | +12.3K vs LM

Astoria | 52.43k
↑ +32.8% | +13.1K vs LM

Lower Manhattan | 51.70k
↑ +32.0% | +12.5K vs LM

Sales by Product Category

Coffee | 60.36k
↑ +31.3%

Tea | 44.54k
↑ +33.5%

Bakery | 18.57k
↑ +32.4%

Drinking Chocolate | 16.32k
↑ +33.0%

Coffee beans | 8.77k
↑ –

Branded | 2.89k

Loose Tea | 2.40k

Flavours | 1.91k

Packaged Chocolate | 0.98k

Sales by Product (Top 10)

Barista Espresso | 20.42k
↑ +31.3%

Brewed Chai tea | 17.43k
↑ +31.1%

Hot chocolate | 16.32k
↑ +33.0%

Gourmet brewed coffee | 15.56k
↑ +31.6%

Brewed herbal tea | 10.93k
↑ +35.8%

Brewed Black tea | 10.78k
↑ +34.3%

Premium brewed coffee | 8.74k
↑ +33.1%

Organic brewed coffee | 8.35k
↑ +26.3%

Scone | 8.31k
↑ +29.2%

Drip coffee | 7.29k
↑ +34.6%

Sales by Day | Hours

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	$25K	$25K	$25K	$20K	$20K	$21K	$19K

Hour	Total
6	$5K
7	$14K
8	$19K
9	$19K
10	$20K
11	$10K
12	$9K
13	$9K
14	$9K
15	$10K
16	$9K
17	$9K
18	$8K
19	$6K
20	$1K

Thank You