COFFEE SHOP SALES PROJECT

QUERIES VS OUTPUT

Prepared by :

ANARANYA CHAKRABORTY

ROLL - 2022UGPI042

SQL FUNCTIONS USED

- STR TO DATE
- HOUR
- ROUND
- ALTER TABLE
- SUM
- UPDATE TABLE
- COUNT
- CHANGE COLUMN
- AVG
- WHERE
- LAG
- GROUP BY
- MONTH
- CASE
- DAY
- ORDER BY
- DAYOFWEEK
- LIMIT
- SELECT
- WINDOW FUNCTIONS
- ALIAS
- JOINS
- MAX/ MIN
- SUBQUERIES

PROBLEM STATEMENT

"KPI'S REQUIREMENTS

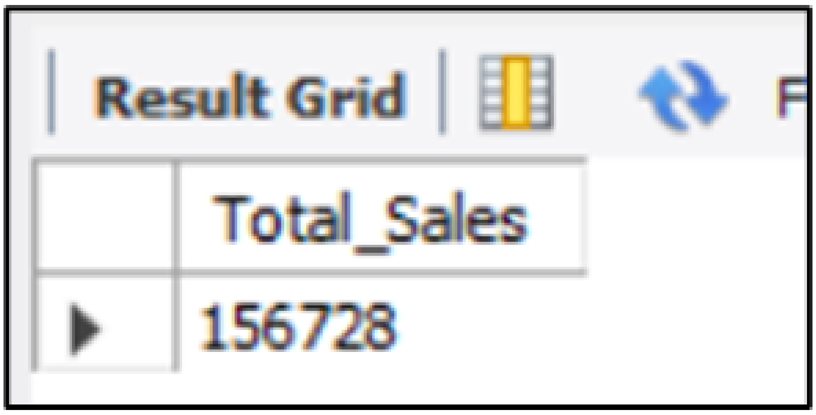
A) Total Sales Analysis:

1. Calculate the total sales for each respective month.

QUERY-

```
#TOTAL SALES
SELECT
   ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales
FROM
   coffee_shop_sales
WHERE
   MONTH(transaction_date) = 5;    -- for current month = May (month = 5)
```

OUTPUT-



```
Total_Sales
156728
```

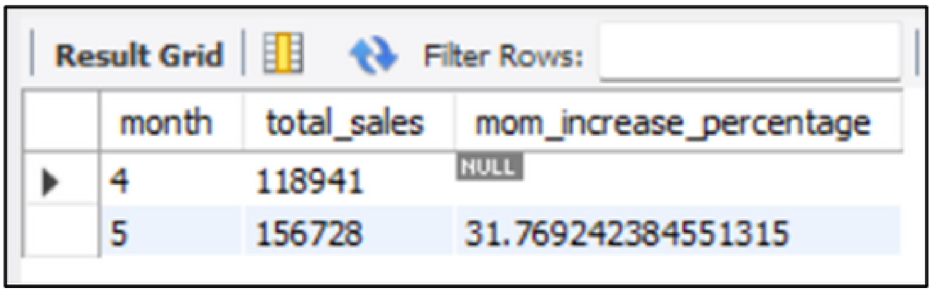
2. Determine the month-on-month increase or decrease in sales.

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

QUERY-

```
# TOTAL SALES KPI - MONTH ON MONTH (MOM) DIFFERENCE AND MONTH ON MONTH
GROWTH :
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)   -- month
sales difference
   OVER (ORDER BY MONTH(transaction_date))) / LAG(SUM(unit_price * transaction_qty), 1)
-- division by previous month
   OVER (ORDER BY MONTH(transaction_date)) * 100 AS mom_increase_percentage   --
converting into percentage
FROM
   coffee_shop_sales
WHERE
   MONTH(transaction_date) IN (4, 5)   -- for April(MONTH = 4) and May(MONTH = 5)
GROUP BY
   MONTH(transaction_date)
ORDER BY
   MONTH(transaction_date);
```

OUTPUT-



month	total_sales	mom_increase_percentage
4	118941	NULL
5	156728	31.769242384551315

B) Total Order Analysis

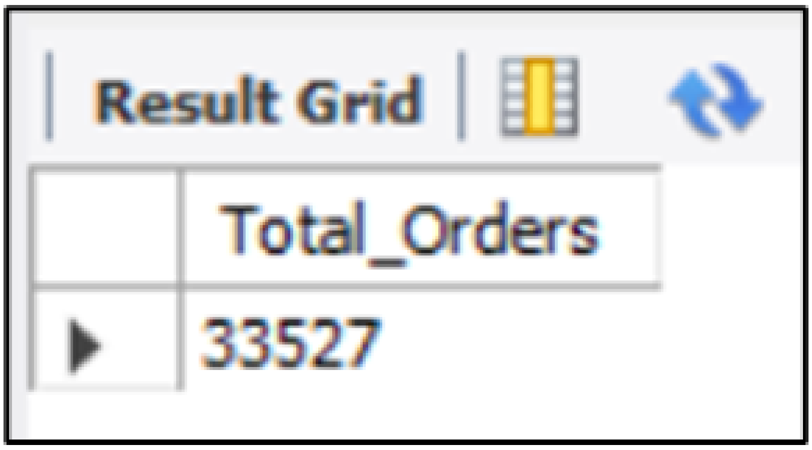
:

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

QUERY-

```
# TOTAL ORDERS :
SELECT
    COUNT(transaction_id) AS Total_Orders
FROM
    coffee_shop_sales
WHERE
    MONTH(transaction_date) = 5;  -- for current month = May (month = 5)
```

OUTPUT-



	Total_Orders
▶	33527

2. Determine the month-on-month increase or decrease in the number of orders

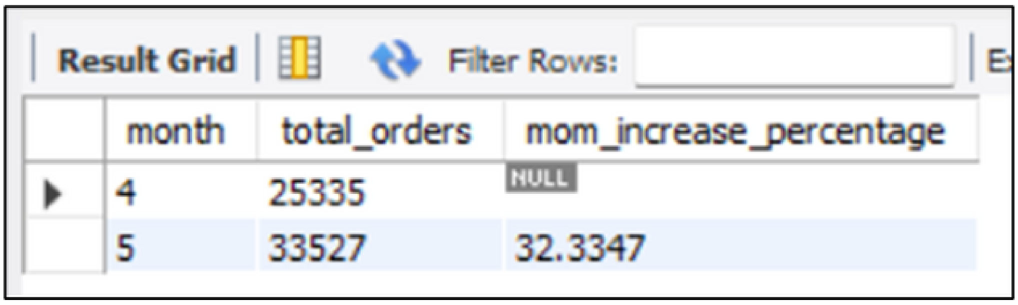
3. Calculate the difference in the number of orders between the selected month and the previous month.

.

QUERY-

```
# TOTAL ORDERS KPI - MONTH ON MONTH (MOM) DIFFERENCE AND MONTH ON MONTH
GROWTH :
SELECT
   MONTH(transaction_date) AS month,
   ROUND(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)  -- for April and May
GROUP BY
   MONTH(transaction_date)
ORDER BY
   MONTH(transaction_date);
```

OUTPUT-



```
month  total_orders  mom_increase_percentage
4      25335         NULL
5      33527         32.3347
```

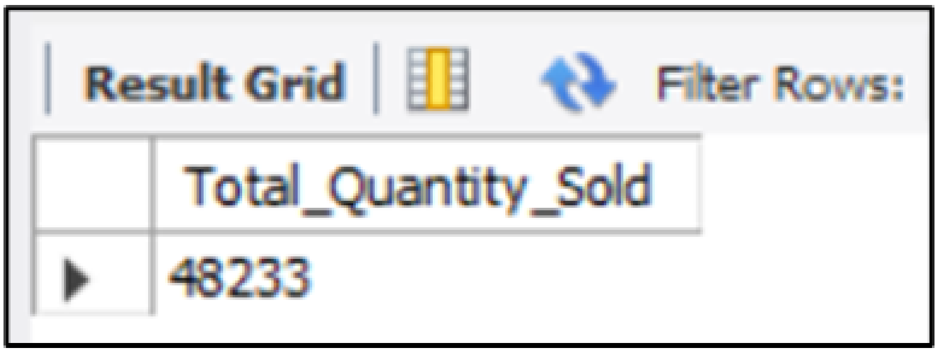
C) Total Quantity Sold Analysis:

1. Calculate the total quantity sold for each respective month.

QUERY-

```
#TOTAL QUANTITY SOLD
SELECT
   SUM(transaction_qty) AS Total_Quantity_Sold
FROM
   coffee_shop_sales
WHERE
   MONTH(transaction_date) = 5;  -- for May(month = 5)
```

OUTPUT-



```
Total_Quantity_Sold
48233
```

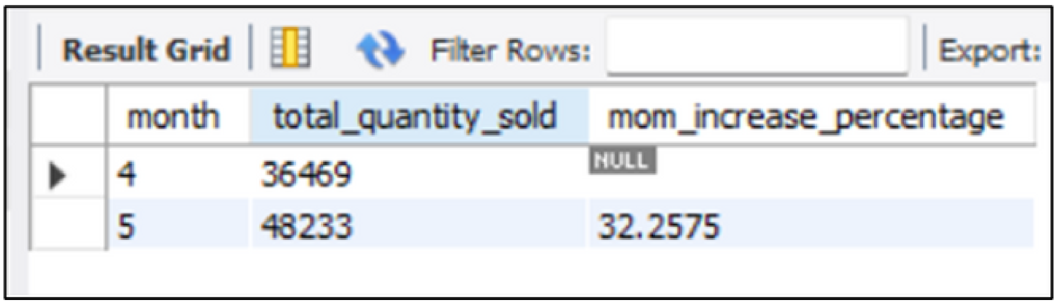
2. Determine the month-on-month increase or decrease in the total quantity sold.

3. Calculate the difference in the total quantity sold between the selected month and the previous month.

QUERY-

```
#TOTAL QUANTITY SOLD KPI - MONTH ON MONTH (MOM) DIFFERENCE AND MONTH ON
MONTH GROWTH :
SELECT
    MONTH(transaction_date) AS month,
    ROUND(SUM(transaction_qty)) AS total_quantity_sold,
    (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)   -- for April and May
GROUP BY
    MONTH(transaction_date)
ORDER BY
    MONTH(transaction_date);
```

OUTPUT-



month	total_quantity_sold	mom_increase_percentage
4	36469	NULL
5	48233	32.2575

CHARTS REQUIREMENTS

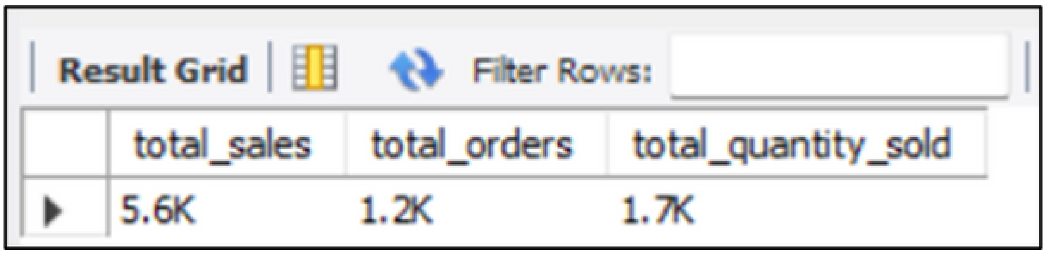
A) Calendar Heat Map:

1. Calculate Total Sales, Total Orders, Total Quantity Sold for any day of a selected month :

QUERY-

```
# TO GET EXACT ROUNDED OFF VALUES THEN USE BELOW QUERY TO GET THE RESULT :
SELECT
    CONCAT(ROUND(SUM(unit_price * transaction_qty) / 1000, 1),'K') AS total_sales,
    CONCAT(ROUND(COUNT(transaction_id) / 1000, 1),'K') AS total_orders,
    CONCAT(ROUND(SUM(transaction_qty) / 1000, 1),'K') AS total_quantity_sold
FROM
    coffee_shop_sales
WHERE
    transaction_date = '2023-05-18';  -- For 18 May 2023
```

OUTPUT-



total_sales	total_orders	total_quantity_sold
5.6K	1.2K	1.7K

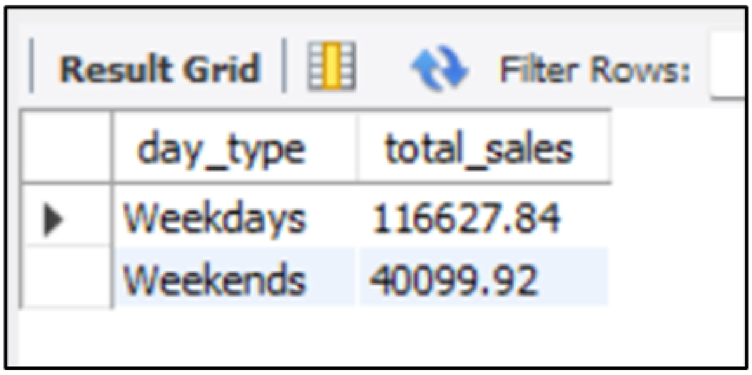
B) Sales Analysis by Weekdays and Weekends:

1. Calculate Total Sales on WEEKDAYS & WEEKENDS :

QUERY-

```
# SALES BY WEEKDAY / WEEKEND :

# (SUNDAY - 1, MONDAY - 2, TUESDAY - 3, WEDNESDAY - 4, THURSDAY - 5, FRIDAY - 6,

SATURDAY - 7)

# WEEKDAY - (2-6) WEEKEND - (1 & 7)


SELECT

   CASE

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

      ELSE 'Weekdays'

   END AS day_type,

   ROUND(SUM(unit_price * transaction_qty),2) AS total_sales

FROM

   coffee_shop_sales

WHERE

   MONTH(transaction_date) = 5  -- Filter for May

GROUP BY

   CASE

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

      ELSE 'Weekdays'

   END;
```

OUTPUT-



day_type	total_sales
Weekdays	116627.84
Weekends	40099.92

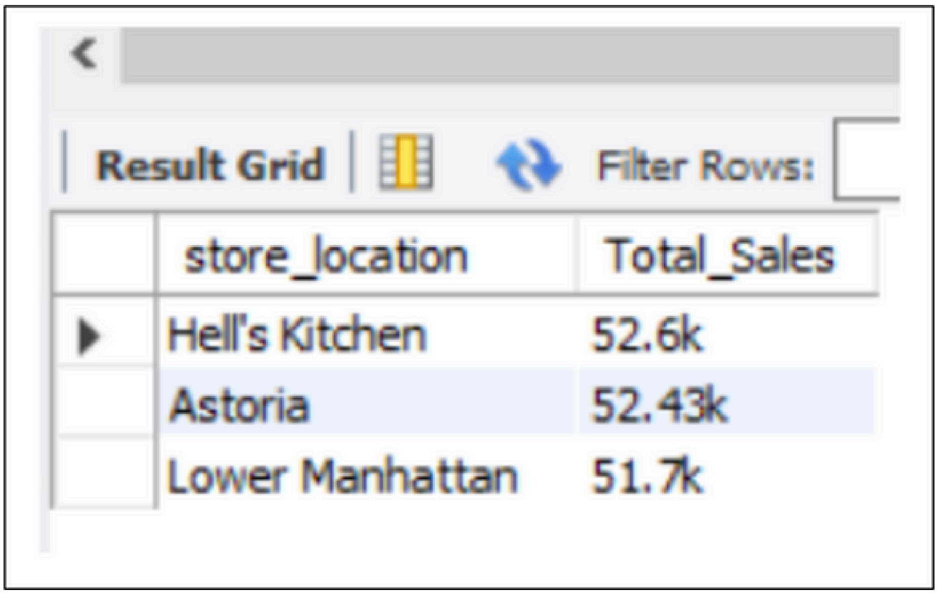
C) Sales Analysis by Store Location:

1. Calculate Total Sales oF different Store Locations :

QUERY-

```
# SALES BY STORE LOCATION :
SELECT
    store_location,
    CONCAT(ROUND(SUM(unit_price * transaction_qty)/1000,2), "k") as Total_Sales
FROM coffee_shop_sales
WHERE
    MONTH(transaction_date) =5
GROUP BY store_location
ORDER BY  SUM(unit_price * transaction_qty) DESC;
```

OUTPUT-



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

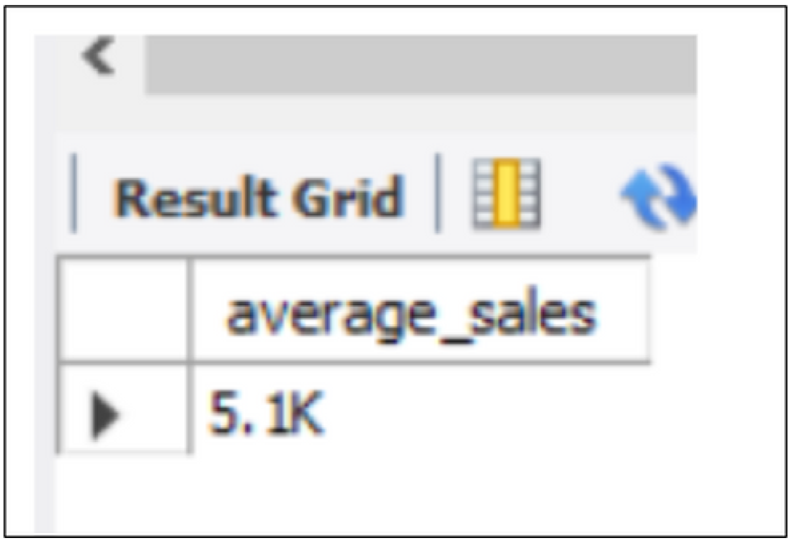
D) Daily Sales Analysis with Average Line:

1. Calculate Total Sales oF different Store Locations :

QUERY-

```
# SALES TREND OVER PERIOD :
SELECT CONCAT(ROUND(AVG(total_sales)/1000, 1), "K") AS average_sales
FROM (
   SELECT
      SUM(unit_price * transaction_qty) AS total_sales
   FROM
      coffee_shop_sales
 WHERE
      MONTH(transaction_date) = 5   -- filter for May
   GROUP BY
      transaction_date
) AS internal_query;
```

OUTPUT-



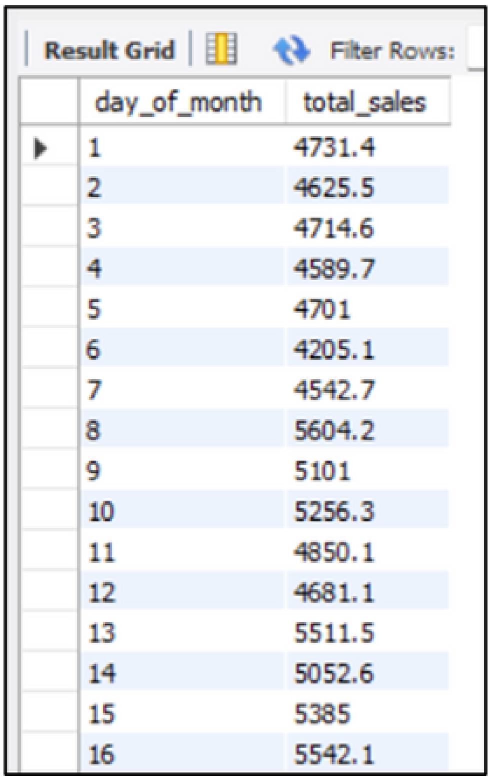
```
average_sales
5.1K
```

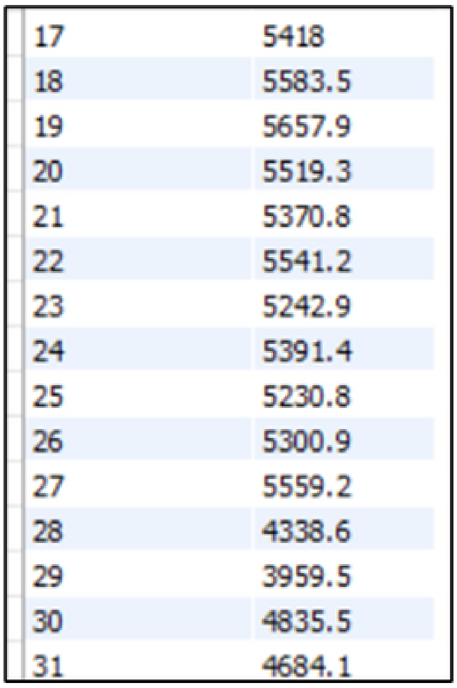
2.Calculate Daily Sales for a Month selected :

QUERY-

```
# DAILY SALES FOR MONTH SELECTED :
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 -- Filter for May
GROUP BY
 DAY(transaction_date)
ORDER BY
 DAY(transaction_date);
```

OUTPUT-





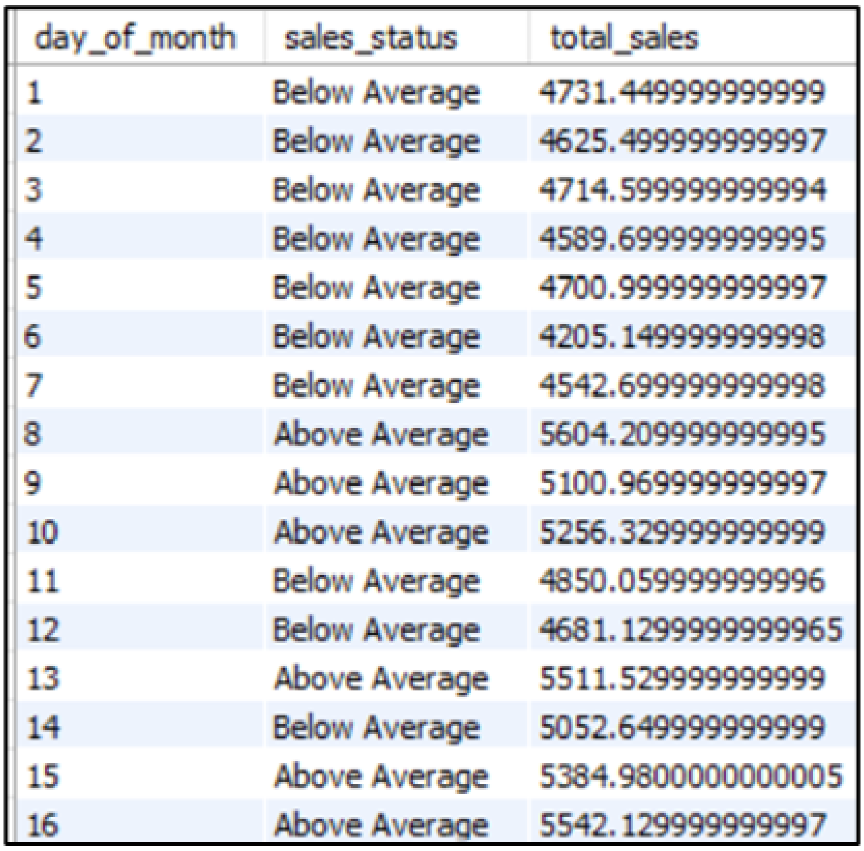
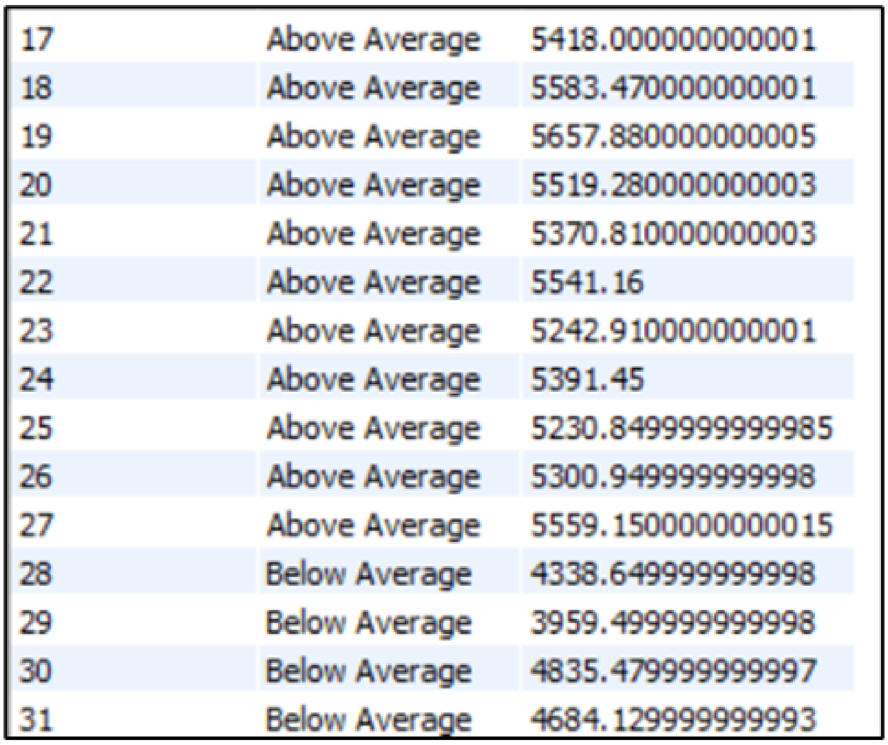
day_of_month	total_sales
1	4731.4
2	4625.5
3	4714.6
4	4589.7
5	4701
6	4205.1
7	4542.7
8	5604.2
9	5101
10	5256.3
11	4850.1
12	4681.1
13	5511.5
14	5052.6
15	5385
16	5542.1
17	5418
18	5583.5
19	5657.9
20	5519.3
21	5370.8
22	5541.2
23	5242.9
24	5391.4
25	5230.8
26	5300.9
27	5559.2
28	4338.6
29	3959.5
30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

3. Compare the Daily Sales with Average Sales i.e. “Above Average” or “Below Average .”

QUERY-

```
# COMPARING DAILY SALES WITH AVERAGE SALES – IF GREATER THAN “ABOVE AVERAGE”
and LESSER THAN “BELOW AVERAGE” :
SELECT
    day_of_month,
    CASE
        WHEN total_sales > avg_sales THEN 'Above Average'
        WHEN total_sales < avg_sales THEN 'Below Average'
        ELSE 'Average'
    END AS sales_status,
    total_sales
FROM (
    SELECT
        DAY(transaction_date) AS day_of_month,
        SUM(unit_price * transaction_qty) AS total_sales,
        AVG(SUM(unit_price * transaction_qty)) OVER () AS avg_sales
    FROM
        coffee_shop_sales
    WHERE
        MONTH(transaction_date) = 5  -- Filter for May
    GROUP BY
        DAY(transaction_date)
) AS sales_data
ORDER BY
    day_of_month;
```

OUTPUT-

day_of_month	sales_status	total_sales
1	Below Average	4731.449999999999
2	Below Average	4625.499999999997
3	Below Average	4714.599999999994
4	Below Average	4589.699999999995
5	Below Average	4700.999999999997
6	Below Average	4205.149999999998
7	Below Average	4542.699999999998
8	Above Average	5604.209999999995
9	Above Average	5100.969999999997
10	Above Average	5256.329999999999
11	Below Average	4850.059999999996
12	Below Average	4681.1299999999965
13	Above Average	5511.529999999999
14	Below Average	5052.649999999999
15	Above Average	5384.9800000000005
16	Above Average	5542.129999999997
17	Above Average	5418.000000000001
18	Above Average	5583.470000000001
19	Above Average	5657.880000000005
20	Above Average	5519.280000000003
21	Above Average	5370.810000000003
22	Above Average	5541.16
23	Above Average	5242.910000000001
24	Above Average	5391.45
25	Above Average	5230.8499999999985
26	Above Average	5300.949999999998
27	Above Average	5559.1500000000015
28	Below Average	4338.649999999998
29	Below Average	3959.499999999998
30	Below Average	4835.479999999997
31	Below Average	4684.129999999993

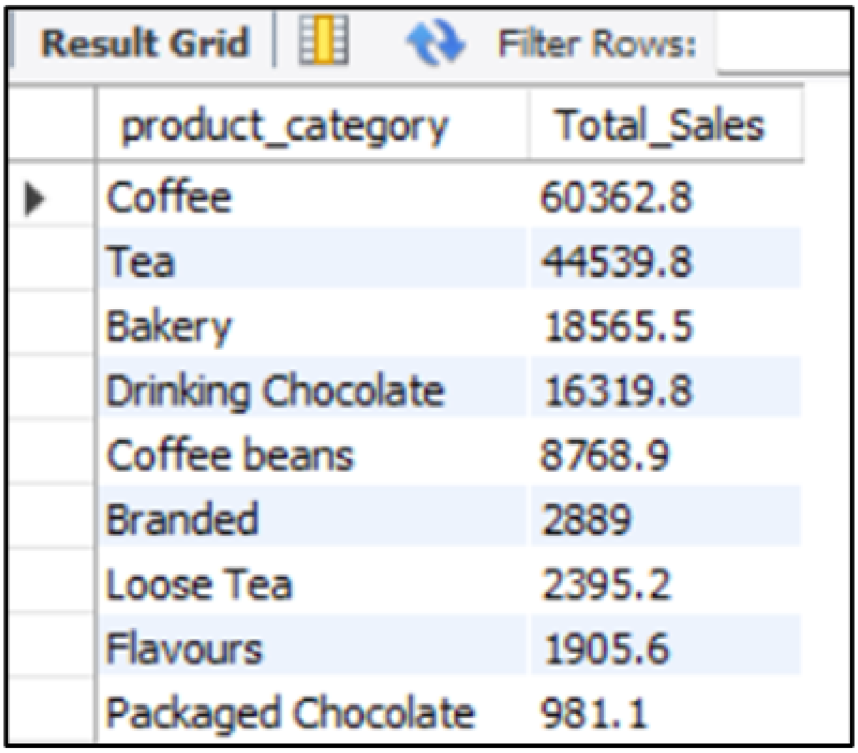
E) Sales Analysis by Product Category:

1. Calculate Total Sales of each Product Category from highest to lowest selling product category :

QUERY-

```
SELECT
    product_category,
    CONCAT(ROUND(SUM(unit_price * transaction_qty)/1000,1),"K") as Total_Sales
FROM coffee_shop_sales
WHERE
    MONTH(transaction_date) = 5
GROUP BY product_category
ORDER BY SUM(unit_price * transaction_qty) DESC;
```

OUTPUT-



product_category	Total_Sales
Coffee	60362.8
Tea	44539.8
Bakery	18565.5
Drinking Chocolate	16319.8
Coffee beans	8768.9
Branded	2889
Loose Tea	2395.2
Flavours	1905.6
Packaged Chocolate	981.1

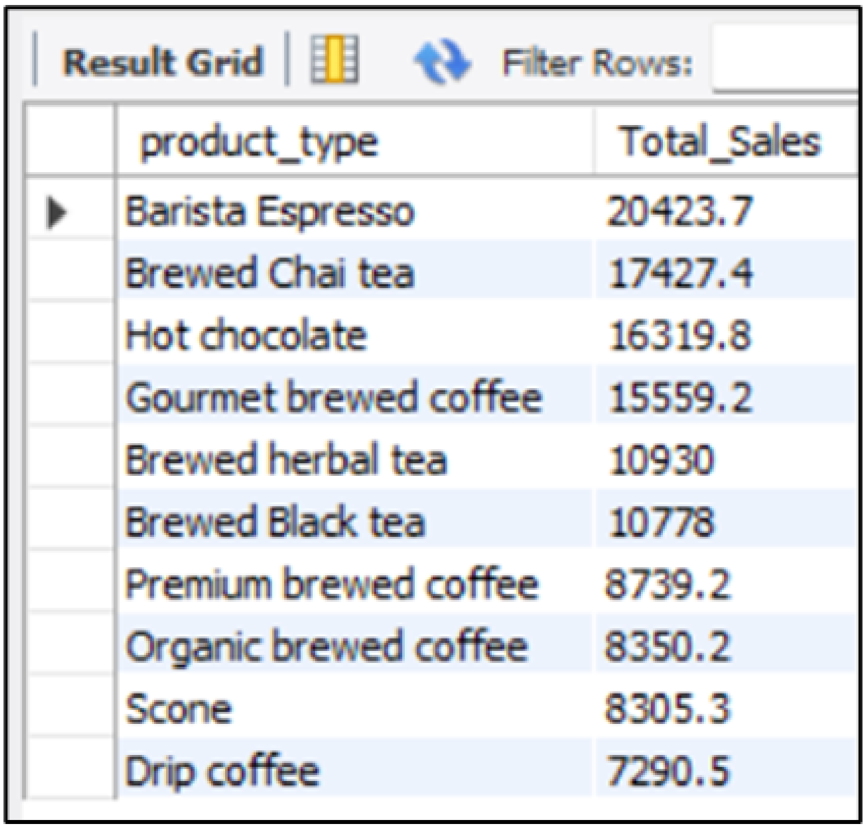
F) Top 10 Products by Sales:

1. Calculate the Total Sales of TOP 10 most selling products :

QUERY-

```
# SALES BY PRODUCTS (TOP 10) :
SELECT
 product_type,
 CONCAT(ROUND(SUM(unit_price * transaction_qty)/1000,1),"K") as Total_Sales
FROM coffee_shop_sales
WHERE
 MONTH(transaction_date) = 5
GROUP BY product_type
ORDER BY SUM(unit_price * transaction_qty) DESC
LIMIT 10 ;
```

OUTPUT-



product_type	Total_Sales
Barista Espresso	20423.7
Brewed Chai tea	17427.4
Hot chocolate	16319.8
Gourmet brewed coffee	15559.2
Brewed herbal tea	10930
Brewed Black tea	10778
Premium brewed coffee	8739.2
Organic brewed coffee	8350.2
Scone	8305.3
Drip coffee	7290.5

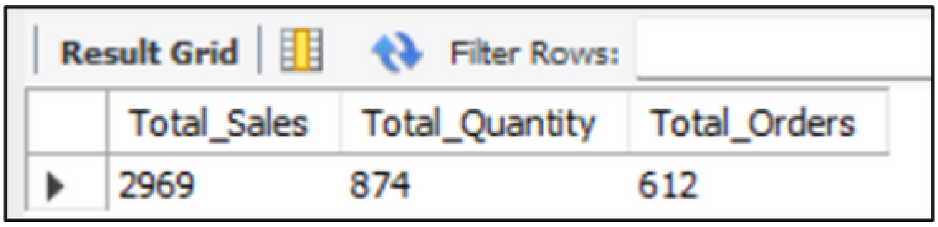
F) Top 10 Products by Sales:

1. Calculate the Total Sales in a Day by hour :

QUERY-

```
# SALES BY DAY PER HOUR :
SELECT
    ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales,
    SUM(transaction_qty) AS Total_Quantity,
    COUNT(*) AS Total_Orders
FROM
    coffee_shop_sales
WHERE
    DAYOFWEEK(transaction_date) = 3  -- filter for Tuesday (1 is Sunday, 2 is Monday, ...,
7 is Saturday)
    AND HOUR(transaction_time) = 8  -- filter for hour number 8
    AND MONTH(transaction_date) = 5;  -- filter for May (month = 5)
```

OUTPUT-



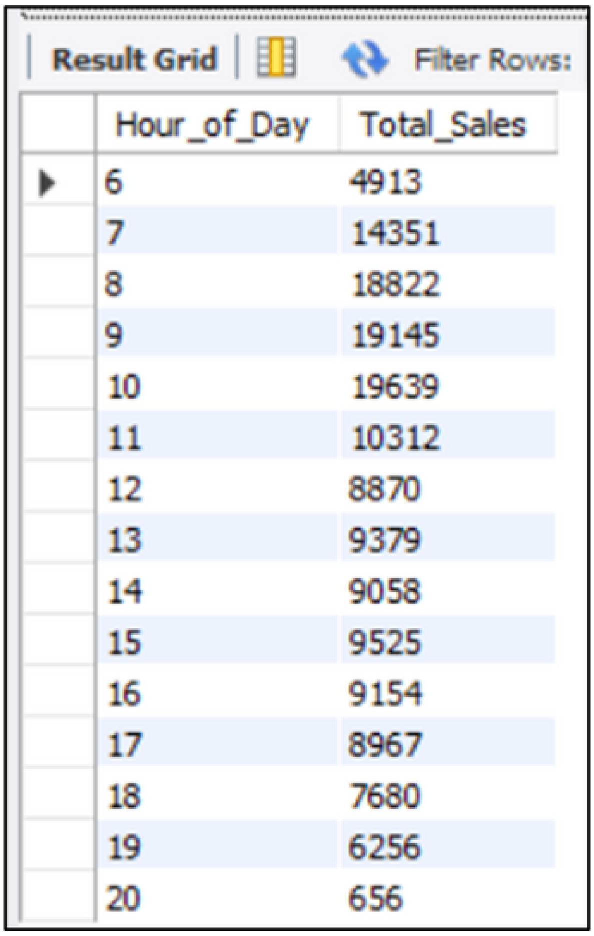
```
   Total_Sales  Total_Quantity  Total_Orders
▶  2969         874             612
```

2. Calculate Total Sales by hours of a day in a month :

QUERY-

```
# TO GET SALES FOR ALL HOURS FOR MONTH OF MAY :
SELECT
    HOUR(transaction_time) AS Hour_of_Day,
    ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales
FROM
    coffee_shop_sales
WHERE
    MONTH(transaction_date) = 5  -- filter for May (month number 5)
GROUP BY
    HOUR(transaction_time)
ORDER BY
    HOUR(transaction_time);
```

OUTPUT-



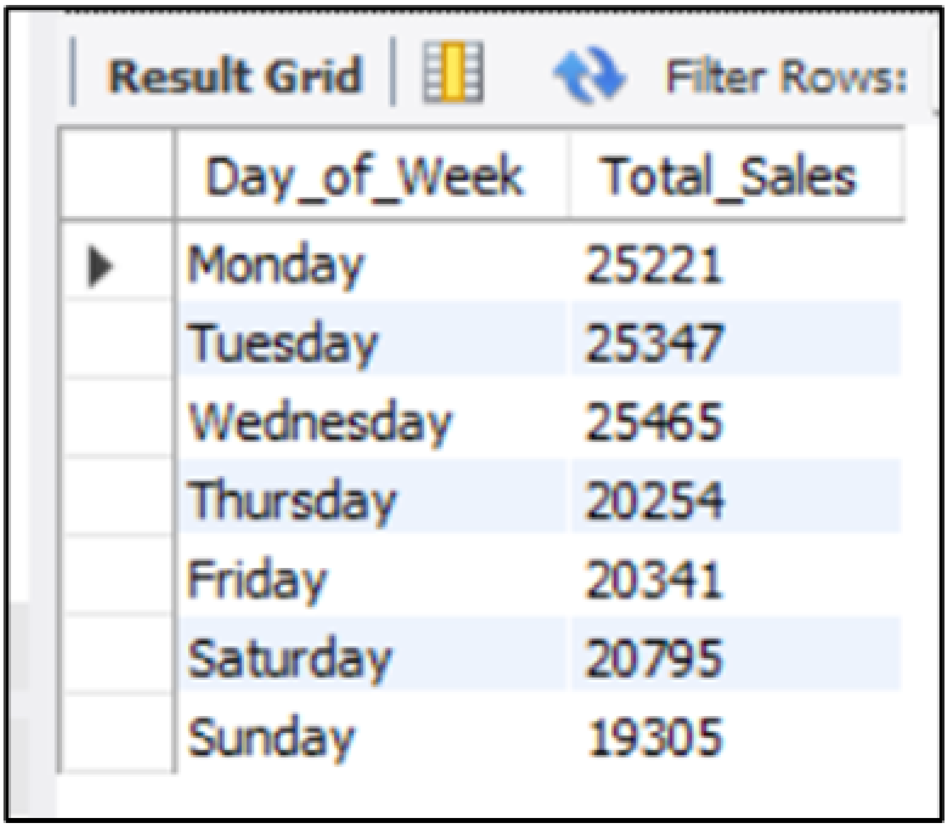
Hour_of_Day	Total_Sales
6	4913
7	14351
8	18822
9	19145
10	19639
11	10312
12	8870
13	9379
14	9058
15	9525
16	9154
17	8967
18	7680
19	6256
20	656

2. Calculate Total Sales by days in a month :

QUERY-

```
# TO GET SALES FROM MONDAY TO SUNDAY FOR MONTH OF MAY :
SELECT
    CASE
        WHEN DAYOFWEEK(transaction_date) = 2 THEN 'Monday'
        WHEN DAYOFWEEK(transaction_date) = 3 THEN 'Tuesday'
        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'
        ELSE 'Sunday'
    END AS Day_of_Week,
    ROUND(SUM(unit_price * transaction_qty)) AS Total_Sales
FROM
    coffee_shop_sales
WHERE
    MONTH(transaction_date) = 5  -- filter for May (month number 5)
GROUP BY
    CASE
        WHEN DAYOFWEEK(transaction_date) = 2 THEN 'Monday'
        WHEN DAYOFWEEK(transaction_date) = 3 THEN 'Tuesday'
        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'
        ELSE 'Sunday'
    END;
```

OUTPUT-



Day_of_Week	Total_Sales
Monday	25221
Tuesday	25347
Wednesday	25465
Thursday	20254
Friday	20341
Saturday	20795
Sunday	19305