# COFFEE SHOP SALES ANALYSIS

-- **Create and Use Database**

CREATE DATABASE IF NOT EXISTS coffee_shop_sales_db;

USE coffee_shop_sales_db;

**-- Data Type Conversions**

-- Convert transaction_date to proper format

UPDATE coffee_shop_sales

SET transaction_date = STR_TO_DATE(transaction_date, '%d-%m-%Y');

ALTER TABLE coffee_shop_sales

MODIFY COLUMN transaction_date DATE;

**-- Convert transaction_time to proper format**

UPDATE coffee_shop_sales

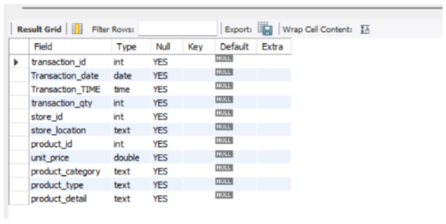
SET transaction_time = STR_TO_DATE(transaction_time, '%H:%i:%s');

ALTER TABLE coffee_shop_sales

MODIFY COLUMN transaction_time TIME;

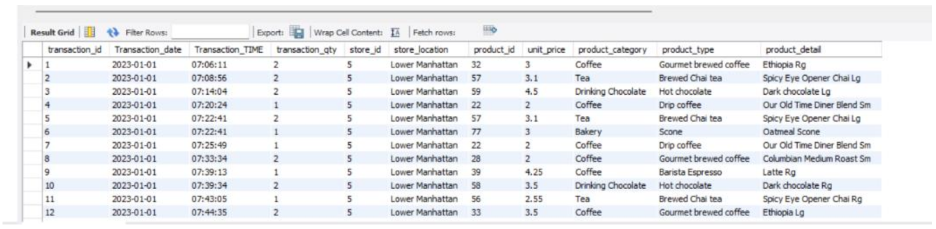
**-- Basic Queries**

DESCRIBE coffee_shop_sales;



| Field | Type | Null | Key | Default | Extra |
|---|---|---|---|---|---|
| transaction_id | int | YES | | NULL | |
| Transaction_date | date | YES | | NULL | |
| Transaction_TIME | time | YES | | NULL | |
| transaction_qty | int | YES | | NULL | |
| store_id | int | YES | | NULL | |
| store_location | text | YES | | NULL | |
| product_id | int | YES | | NULL | |
| unit_price | double | YES | | NULL | |
| product_category | text | YES | | NULL | |
| product_type | text | YES | | NULL | |
| product_detail | text | YES | | NULL | |

SELECT * FROM coffee_shop_sales;

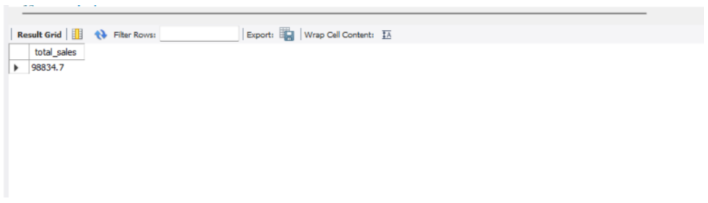

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

| transaction_id | Transaction_date | Transaction_TIME | transaction_qty | store_id | store_location | product_id | unit_price | product_category | product_type | product_detail |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2023-01-01 | 07:06:11 | 2 | 5 | Lower Manhattan | 32 | 3 | Coffee | Gourmet brewed coffee | Ethiopia Rg |
| 2 | 2023-01-01 | 07:08:56 | 2 | 5 | Lower Manhattan | 57 | 3.1 | Tea | Brewed Chai tea | Spicy Eye Opener Chai Lg |
| 3 | 2023-01-01 | 07:14:04 | 2 | 5 | Lower Manhattan | 59 | 4.5 | Drinking Chocolate | Hot chocolate | Dark chocolate Lg |
| 4 | 2023-01-01 | 07:20:24 | 1 | 5 | Lower Manhattan | 22 | 2 | Coffee | Drip coffee | Our Old Time Diner Blend Sm |
| 5 | 2023-01-01 | 07:22:41 | 2 | 5 | Lower Manhattan | 57 | 3.1 | Tea | Brewed Chai tea | Spicy Eye Opener Chai Lg |
| 6 | 2023-01-01 | 07:22:41 | 1 | 5 | Lower Manhattan | 77 | 3 | Bakery | Scone | Oatmeal Scone |
| 7 | 2023-01-01 | 07:25:49 | 1 | 5 | Lower Manhattan | 22 | 2 | Coffee | Drip coffee | Our Old Time Diner Blend Sm |
| 8 | 2023-01-01 | 07:33:34 | 2 | 5 | Lower Manhattan | 28 | 2 | Coffee | Gourmet brewed coffee | Columbian Medium Roast Sm |
| 9 | 2023-01-01 | 07:39:13 | 1 | 5 | Lower Manhattan | 39 | 4.25 | Coffee | Barista Espresso | Latte Rg |
| 10 | 2023-01-01 | 07:39:34 | 2 | 5 | Lower Manhattan | 58 | 3.5 | Drinking Chocolate | Hot chocolate | Dark chocolate Rg |
| 11 | 2023-01-01 | 07:43:05 | 1 | 5 | Lower Manhattan | 56 | 2.55 | Tea | Brewed Chai tea | Spicy Eye Opener Chai Rg |
| 12 | 2023-01-01 | 07:44:35 | 2 | 5 | Lower Manhattan | 33 | 3.5 | Coffee | Gourmet brewed coffee | Ethiopia Lg |

**-- Sales Analysis**

**-- Total Sales for March month**

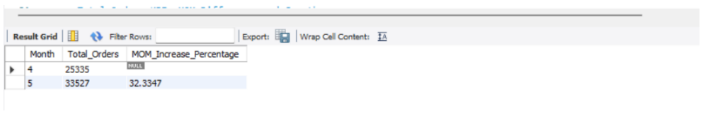
```
SELECT ROUND(SUM(unit_price * transaction_qty), 1) AS total_sales

FROM coffee_shop_sales

WHERE MONTH(Transaction_date) = 3;
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| total_sales |
|---|
| 98834.7 |

**-- Month over Month Analysis**

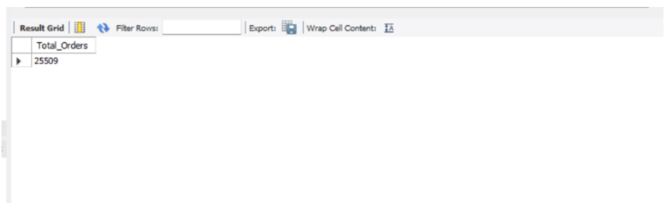
```
SELECT

   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)

GROUP BY MONTH(Transaction_date)

ORDER BY MONTH(Transaction_date);
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| Month | Total_Orders | MOM_Increase_Percentage |
|---|---|---|
| 4 | 25335 | NULL |
| 5 | 33527 | 32.3347 |

**-- Total Orders for June**

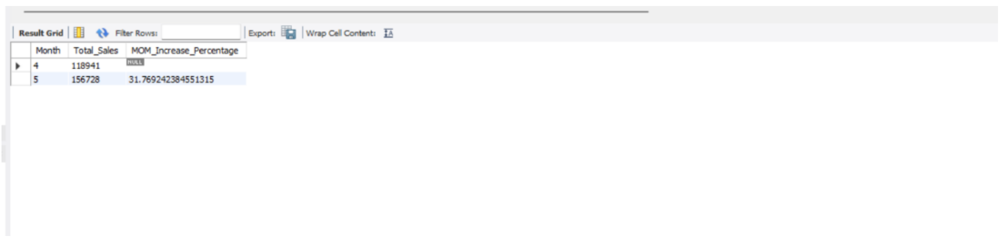
```sql
SELECT COUNT(Transaction_id) AS Total_Orders

FROM coffee_shop_sales

WHERE MONTH(Transaction_date) = 6;
```



| | Total_Orders |
|---|---|
| ▶ | 25509 |

**-- Sales Trend Analysis**

```sql
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)

GROUP BY MONTH(Transaction_date)

ORDER BY MONTH(Transaction_date);
```

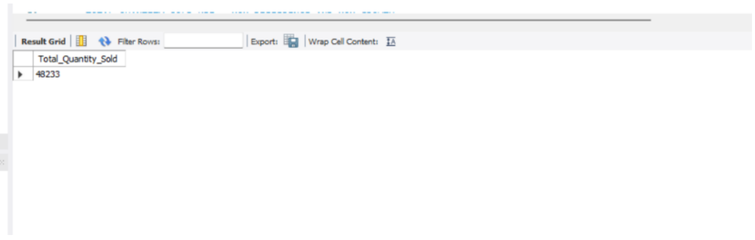


| | Month | Total_Sales | MOM_Increase_Percentage |
|---|---|---|---|
| ▶ | 4 | 118941 | NULL |
| | 5 | 156728 | 31.769242384551315 |

**-- Quantity Analysis**

```sql
SELECT SUM(transaction_qty) AS Total_Quantity_Sold
```

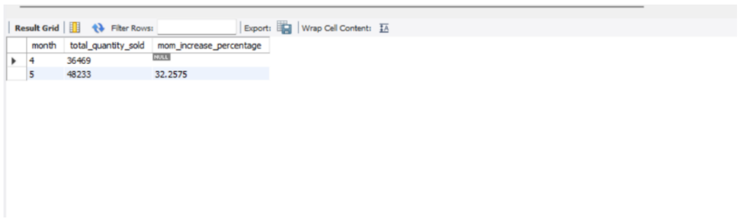
```
FROM coffee_shop_sales

WHERE MONTH(Transaction_date) = 5;
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| | Total_Quantity_Sold |
|---|---|
| ▶ | 48233 |

**---Quantity Comparison between two months**

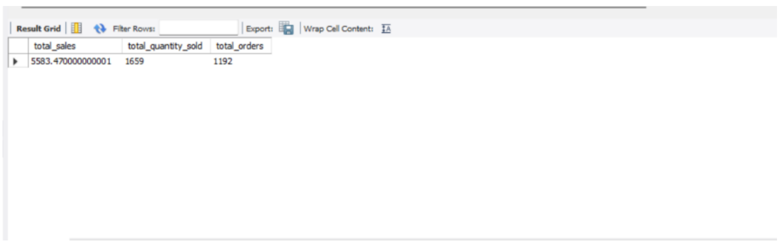
```
SELECT

    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_sale

WHERE MONTH(transaction_date) IN (4, 5)

GROUP BY MONTH(transaction_date)

ORDER BY MONTH(transaction_date);
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| | month | total_quantity_sold | mom_increase_percentage |
|---|---|---|---|
| ▶ | 4 | 36469 | NULL |
| | 5 | 48233 | 32.2575 |

**-- Daily Sales Analysis**

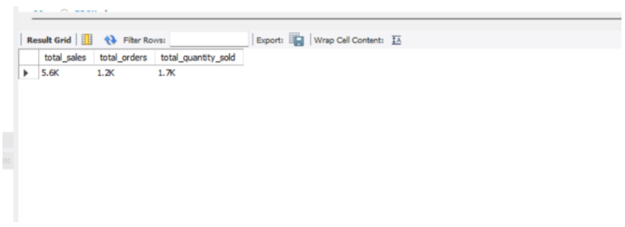
```
SELECT

    SUM(unit_price * transaction_qty) AS total_sales,

    SUM(transaction_qty) AS total_quantity_sold,

    COUNT(transaction_id) AS total_orders

FROM coffee_shop_sales

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



| total_sales | total_quantity_sold | total_orders |
|---|---|---|
| 5583.470000000001 | 1659 | 1192 |

**---To get exact rounded off values**

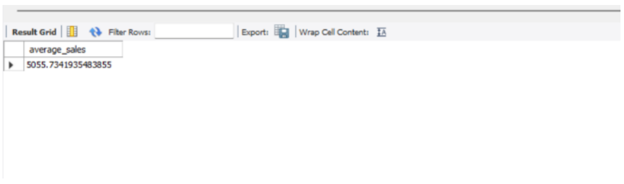
```
SELECT
    CONCAT(ROUND(SUM(unit_price * transaction_qty) / 1000, 1), 'K') AS total_sales,
    CONCAT(ROUND(COUNT(transaction_id) / 1000, 1), 'K') AS total_orders,
    CONCAT(ROUND(SUM(transaction_qty) / 1000, 1), 'K') AS total_quantity_sold
FROM coffee_shop_sales
WHERE transaction_date = '2023-05-18';
```



| total_sales | total_orders | total_quantity_sold |
|---|---|---|
| 5.6K | 1.2K | 1.7K |

**-- Sales Trends and Averages**

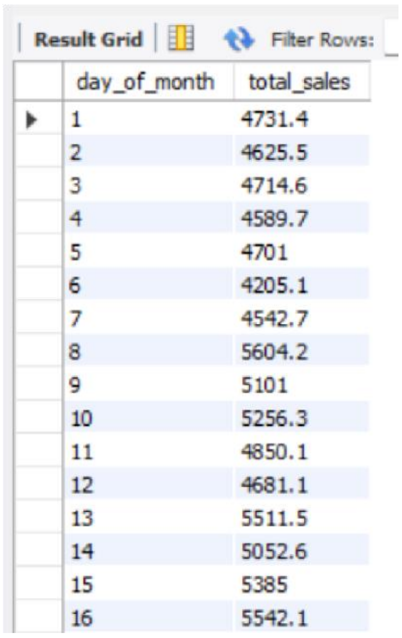
```
SELECT AVG(total_sales) AS average_sales
FROM (
    SELECT SUM(unit_price * transaction_qty) AS total_sales
    FROM coffee_shop_sales
    WHERE MONTH(transaction_date) = 5
    GROUP BY transaction_date
) AS internal_query;
```

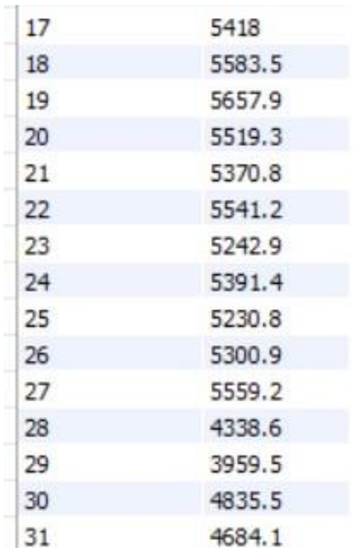


| average_sales |
|---|
| 5055.7341935483855 |

**-- Daily Sales by 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
GROUP BY DAY(transaction_date)
ORDER BY DAY(transaction_date);
```

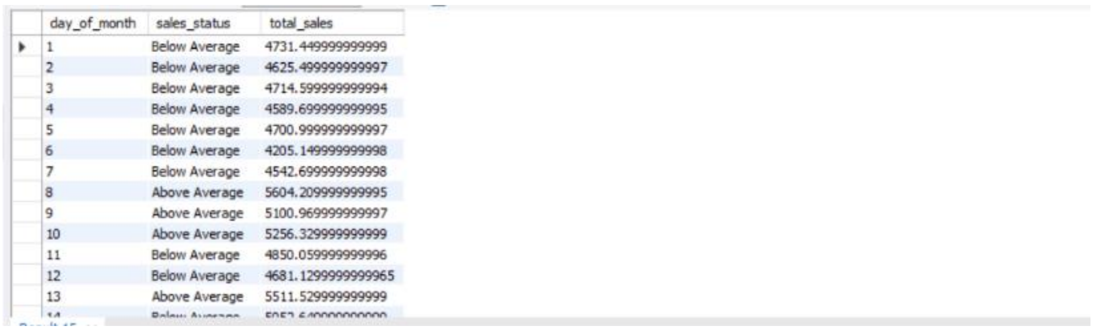




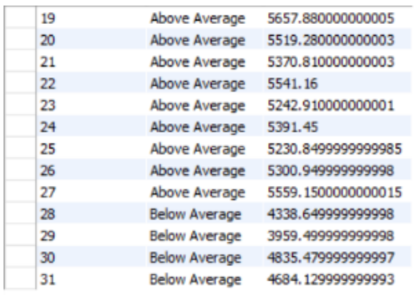
| day_of_month | total_sales |
|---|---|
| 1 | 4731.4 |
| 2 | 4625.5 |
| 3 | 4714.6 |
| 4 | 4589.7 |
| 5 | 4701 |
| 6 | 4205.1 |
| 7 | 4542.7 |
| 8 | 5604.2 |
| 9 | 5101 |
| 10 | 5256.3 |
| 11 | 4850.1 |
| 12 | 4681.1 |
| 13 | 5511.5 |
| 14 | 5052.6 |
| 15 | 5385 |
| 16 | 5542.1 |
| 17 | 5418 |
| 18 | 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 |

**---Comparison of Daily Sales with Average Sales**

```
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
    GROUP BY transaction_date
) AS sales_data
ORDER BY day_of_month;
```



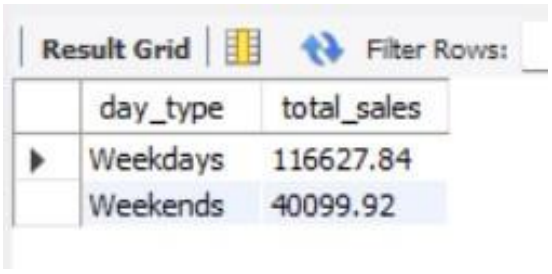
| day_of_month | sales_status | total_sales |
|---|---|---|
| 1 | Below Average | 4731.449999999999 |
| 2 | Below Average | 4625.499999999997 |
| 3 | Below Average | 4714.599999999994 |
| 4 | Below Average | 4589.699999999995 |
| 5 | Below Average | 4700.999999999997 |
| 6 | Below Average | 4205.149999999998 |
| 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 | [illegible] |



| | | |
|---|---|---|
| 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 |

```
-- Weekday vs Weekend Analysis
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
GROUP BY
    CASE
```

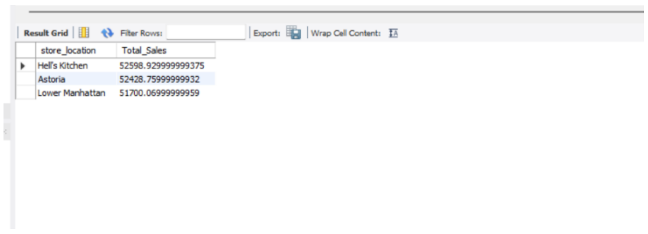
```
        WHEN DAYOFWEEK(transaction_date) IN (1, 7) THEN 'Weekends'
        ELSE 'Weekdays'
    END;
```



| day_type | total_sales |
|---|---|
| Weekdays | 116627.84 |
| Weekends | 40099.92 |

**--Sales by Store Location**

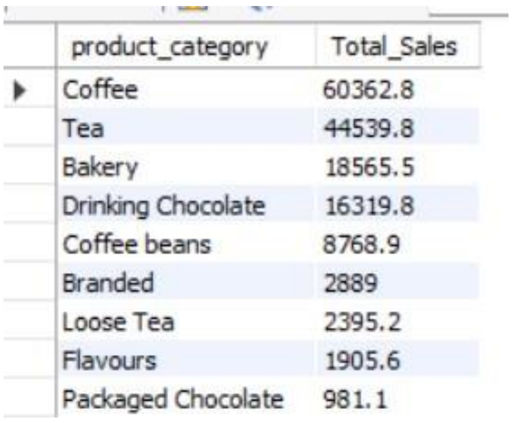
```
SELECT
    store_location,
    SUM(unit_price * transaction_qty) AS Total_Sales
FROM coffee_shop_sales
WHERE MONTH(transaction_date) = 5
GROUP BY store_location
ORDER BY Total_Sales DESC;
```



| store_location | Total_Sales |
|---|---|
| Hell's Kitchen | 52598.929999999375 |
| Astoria | 52428.75999999932 |
| Lower Manhattan | 51700.06999999959 |

**--Sales by Product Analysis**

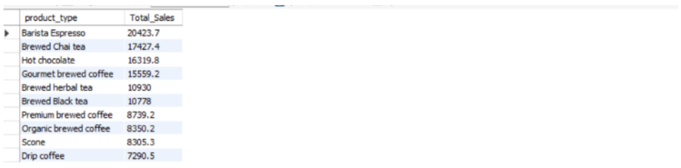
```
SELECT
    product_category,
    ROUND(SUM(unit_price * transaction_qty), 1) AS Total_Sales
FROM coffee_shop_sales
WHERE MONTH(transaction_date) = 5
GROUP BY product_category
ORDER BY Total_Sales DESC;
```



| | 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 |

**-- Top 10 Products**

```
SELECT
   product_type,
   ROUND(SUM(unit_price * transaction_qty), 1) AS Total_Sales
FROM coffee_shop_sales
WHERE
   MONTH(transaction_date) = 5
GROUP BY product_type
ORDER BY Total_Sales DESC
LIMIT 10;
```

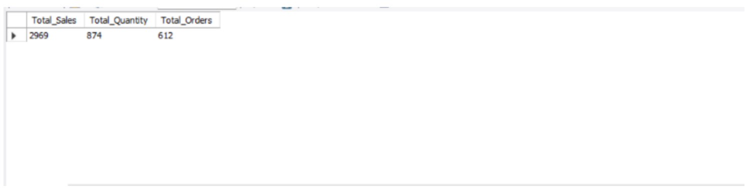


| | product_type | Total_Sales |
|---|---|---|
| ▶ | Barista Espresso | 20423.7 |
| | Brewed Chai tea | 17427.4 |
| | Hot chocolate | 16319.8 |
| | Gourmet brewed coffee | 15559.2 |
| | Brewed herbal tea | 10930 |
| | Brewed Black tea | 10778 |
| | Premium brewed coffee | 8739.2 |
| | Organic brewed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

**--Sales by 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
```

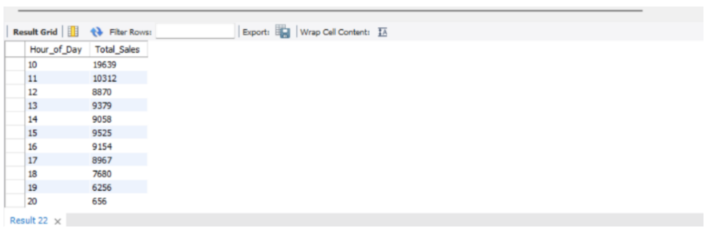
```
WHERE
    DAYOFWEEK(transaction_date) = 3
    AND HOUR(transaction_time) = 8
    AND MONTH(transaction_date) = 5;
```



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

**--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;
```



| Hour_of_Day | Total_Sales |
|---|---|
| 10 | 19639 |
| 11 | 10312 |
| 12 | 8870 |
| 13 | 9379 |
| 14 | 9058 |
| 15 | 9525 |
| 16 | 9154 |
| 17 | 8967 |
| 18 | 7680 |
| 19 | 6256 |
| 20 | 656 |