**Pizza Sales Analysis**

**Problem Statement**

**KPI’s REQUIREMENT**

We need to analyze key indicators for our pizza sales data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

1. Total Revenue: The sum of the total price of all pizza orders.
2. Average Order Value: The average amount spent per order, calculated by dividing the total revenue by the total number of orders.
3. Total Pizzas Sold: The sum of the quantities of all pizzas sold.
4. Total Orders: The total number of orders placed.
5. Average Pizzas Per Order: The average number of pizzas sold per order, calculated by dividing the total number of pizzas sold by the total number of orders.

**CHARTS REQUIREMENT**

We would like to visualize various aspects of our pizza sales data to gain insights and understand key trends. We have identified the following requirements for creating charts:

**1. Hourly Trend for Total Pizzas Sold:** Create a stacked bar chart that displays the hourly trend of total orders over a specific time period. This chart will help us identify any patterns or fluctuations in order volumes on a hourly basis.

**2. Weekly Trend for Total Orders:** Create a line chart that illustrates the weekly trend of total orders throughout the year. This chart will allow us to identify peak weeks or periods of high order activity.

**3. Percentage of Sales by Pizza Category:** Create a pie chart that shows the distribution of sales across different pizza categories. This chart will provide insights into the popularity of various pizza categories and their contribution to overall sales.

**4. Percentage of Sales by Pizza Size:** Generate a pie chart that represents the percentage of sales attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.

**5. Total Pizzas Sold by Pizza Category:** Create a funnel chart that presents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.

**6. Top 5 Best Sellers by Revenue, Total Quantity and Total Orders:** Create a bar chart highlighting the top 5 best-selling pizzas based on the Revenue, Total Quantity, Total Orders. This chart will help us identify the most popular pizza options.

**7. Bottom 5 Best Sellers by Revenue, Total Quantity and Total Orders:** Create a bar chart showcasing the bottom 5 worst-selling pizzas based on the Revenue, Total Quantity, Total Orders. This chart will enable us to identify underperforming or less popular pizza options.

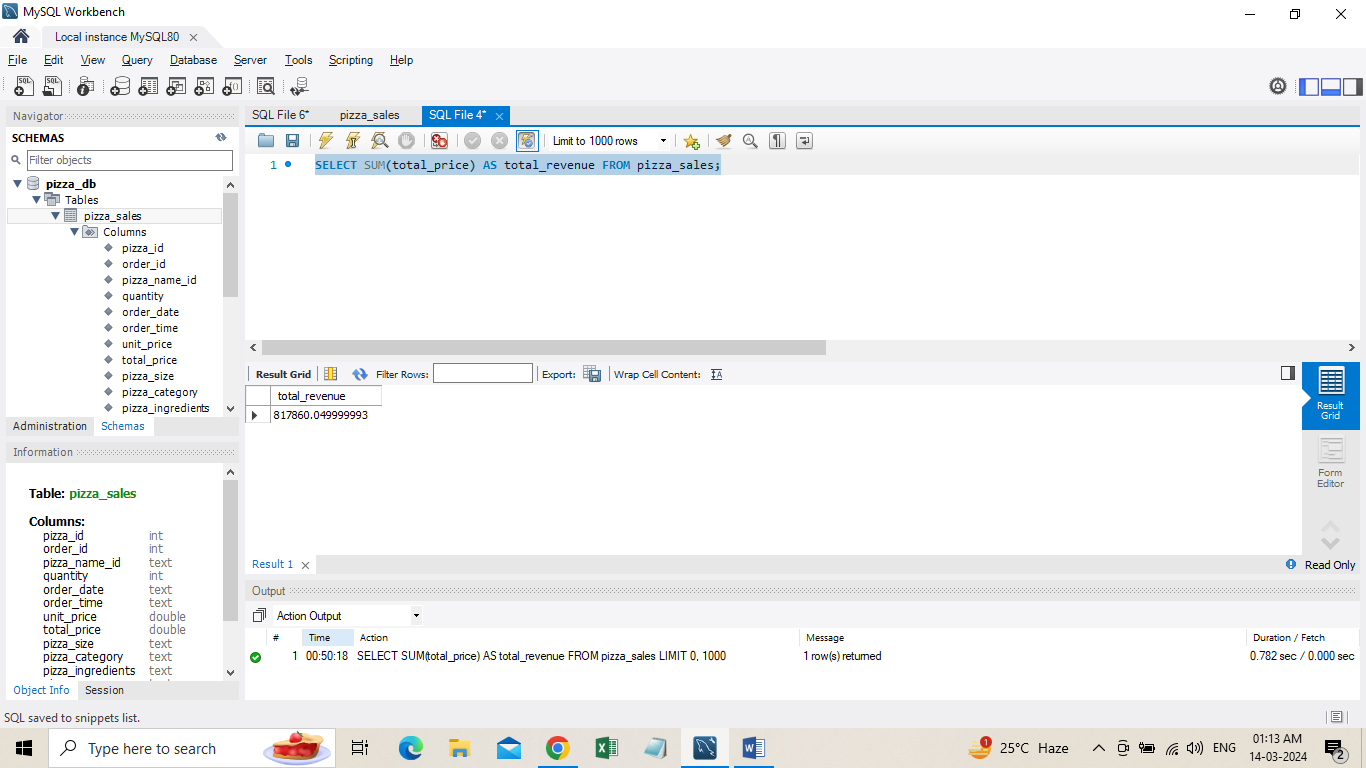
**Data Analysis using MySQL**

Utilized MySQL for data extraction and calculation of key metrics such as Total Revenue, Average Order Value, Total Pizzas Sold, Total Orders, and Average Pizzas Per Order.

ANALYSIS OF DIFFERENT SQL STATEMENT ON DATA BASE

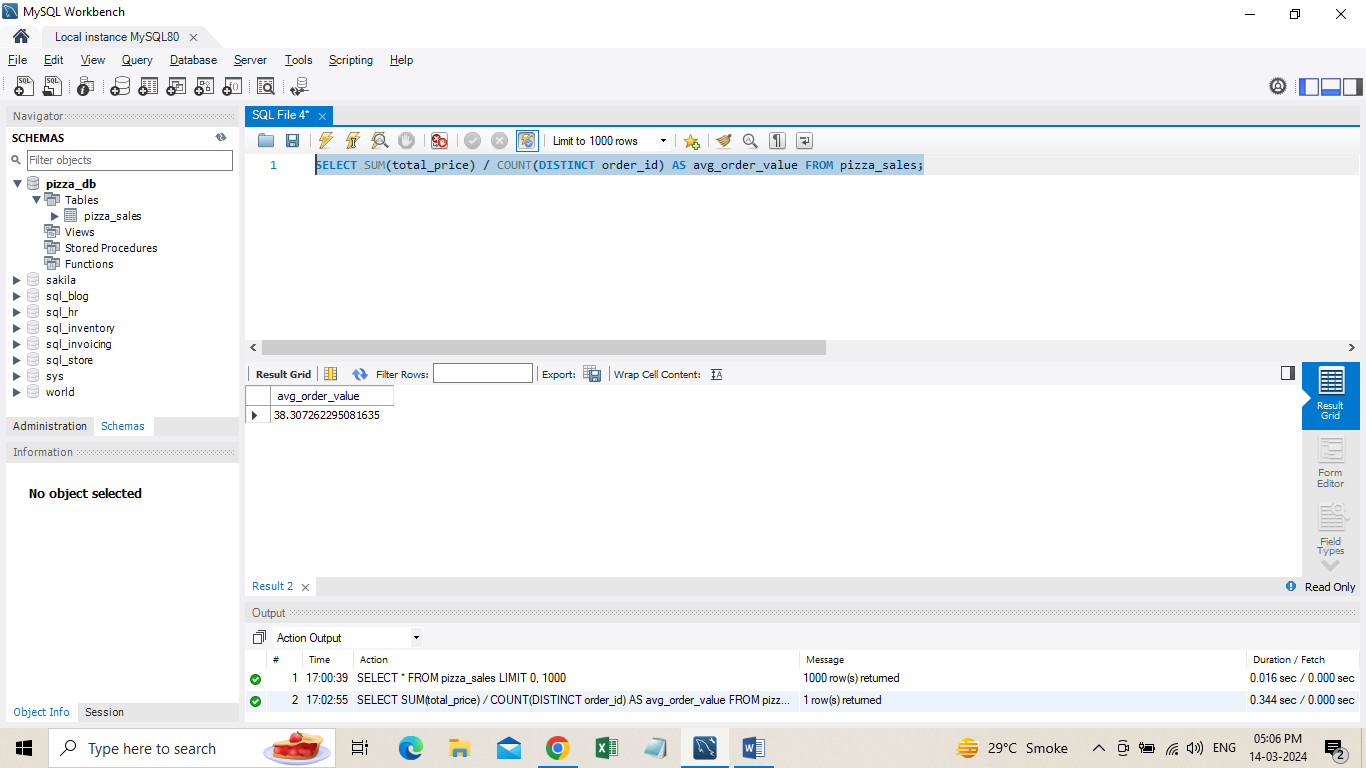
1. **KPI’s**
2. **Total Revenue:**

SELECT SUM(total\_price) AS total\_revenue FROM pizza\_sales;



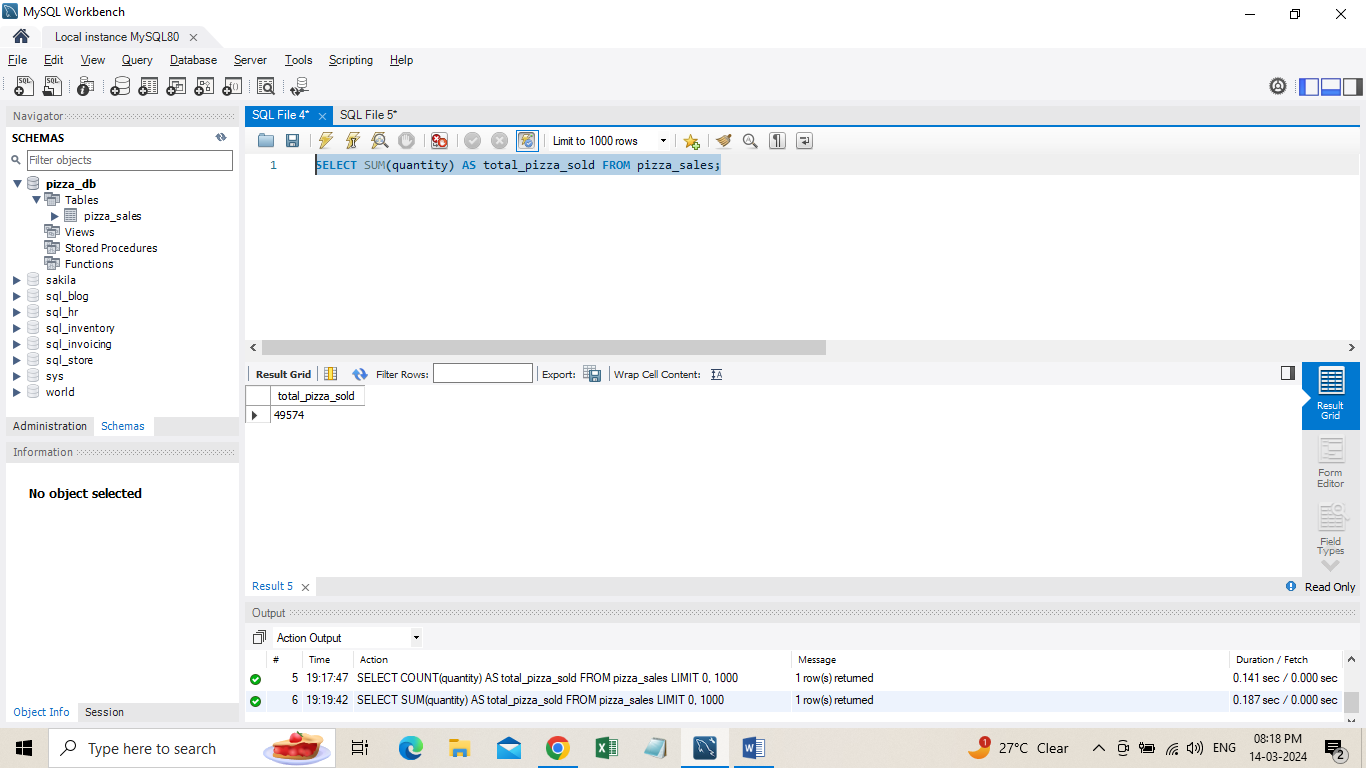
**2**. **Average Order Value:**

SELECT SUM(total\_price) / COUNT(DISTINCT order\_id) AS avg\_order\_value FROM pizza\_sales;



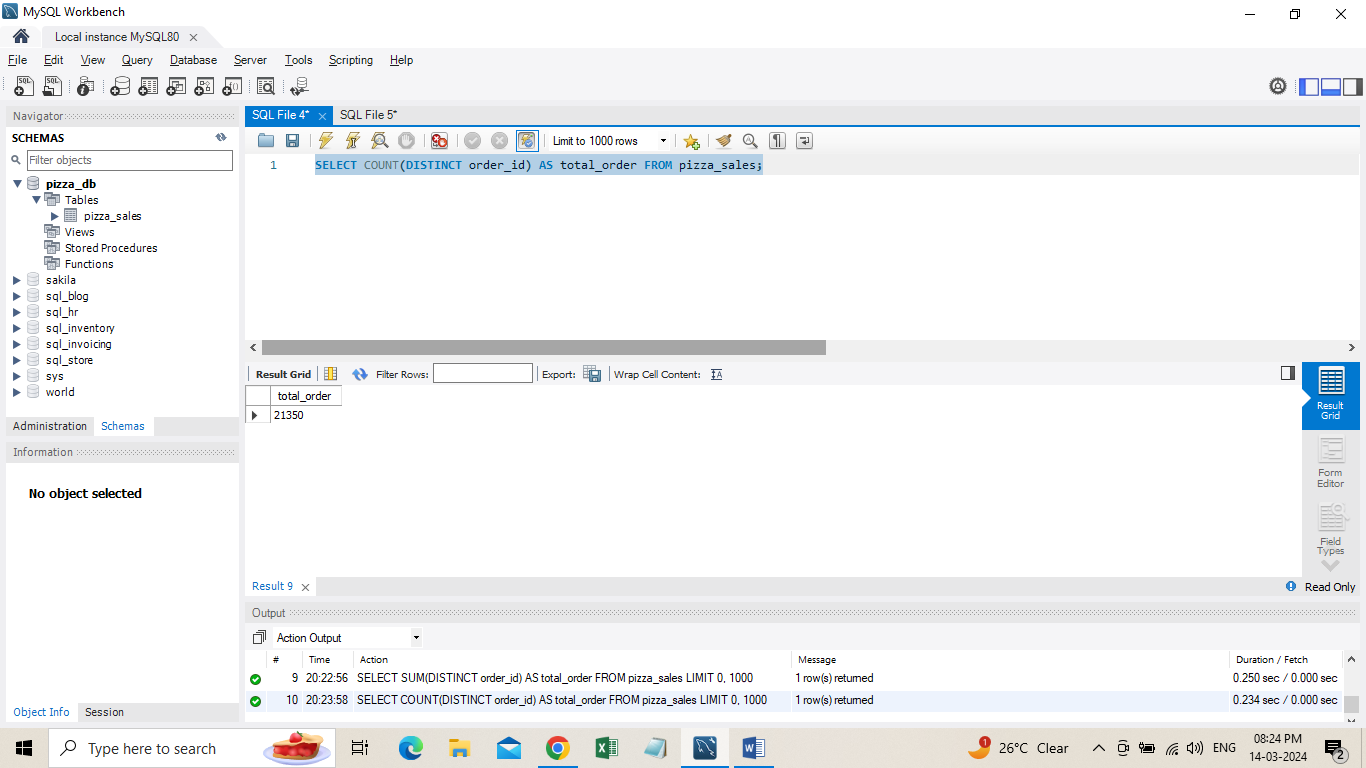
1. **Total Pizza Sold**

SELECT SUM(quantity) AS total\_pizza\_sold FROM pizza\_sales;



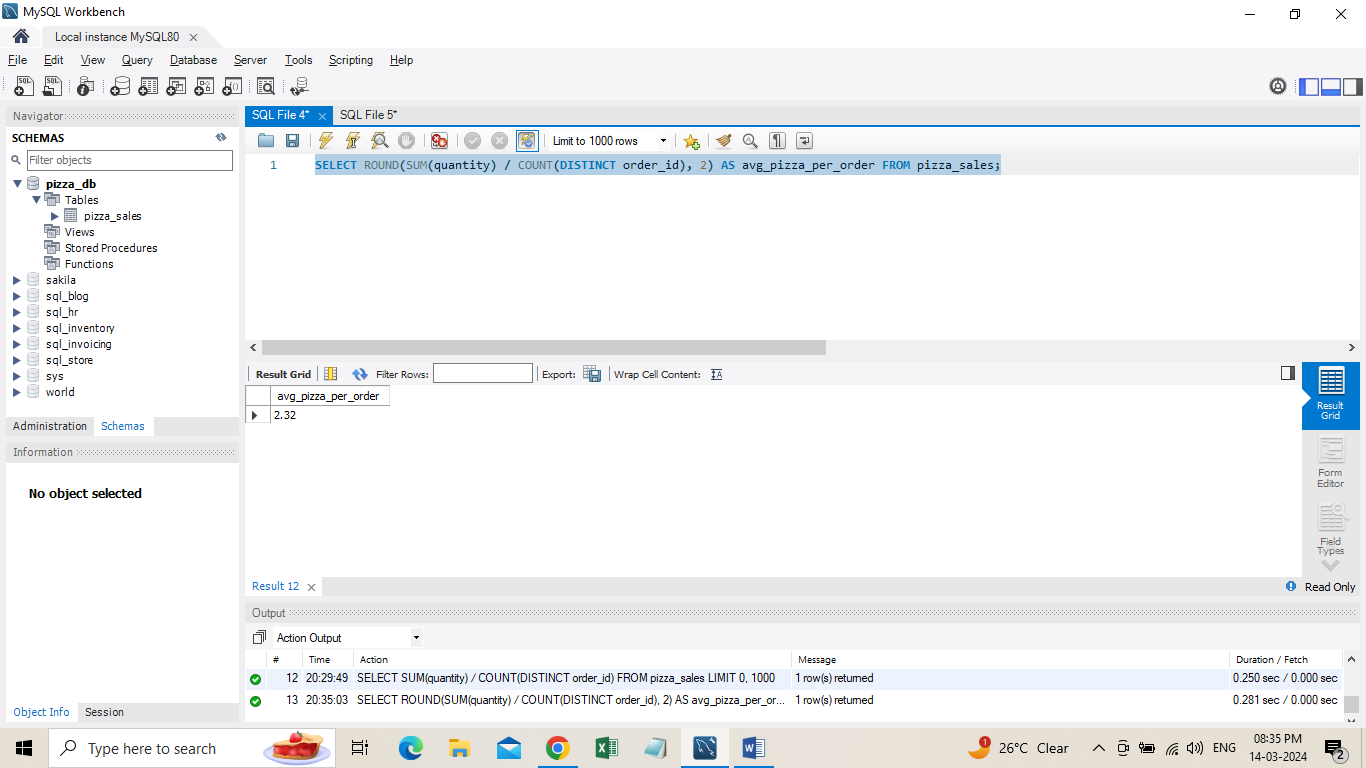
1. **Total Orders**

SELECT COUNT(DISTINCT order\_id) AS total\_order FROM pizza\_sales;



1. **Average Pizzas Per Order**

SELECT ROUND(SUM(quantity) / COUNT(DISTINCT order\_id), 2) AS avg\_pizza\_per\_order FROM pizza\_sales;



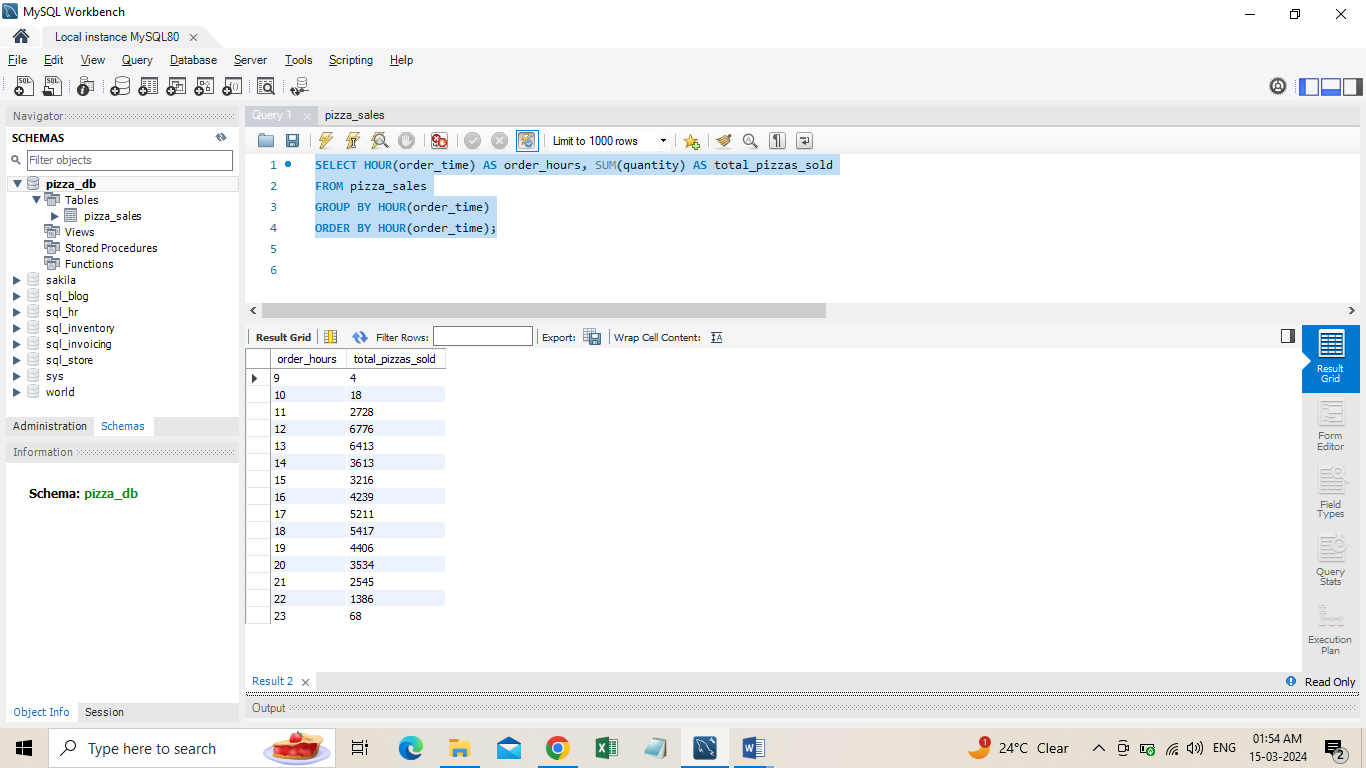
**B. Hourly Trend for Total Pizzas Sold**

SELECT HOUR(order\_time) AS order\_hours, SUM(quantity) AS total\_pizzas\_sold

FROM pizza\_sales

GROUP BY HOUR(order\_time)

ORDER BY HOUR(order\_time);



1. **Weekly Trend for Orders**

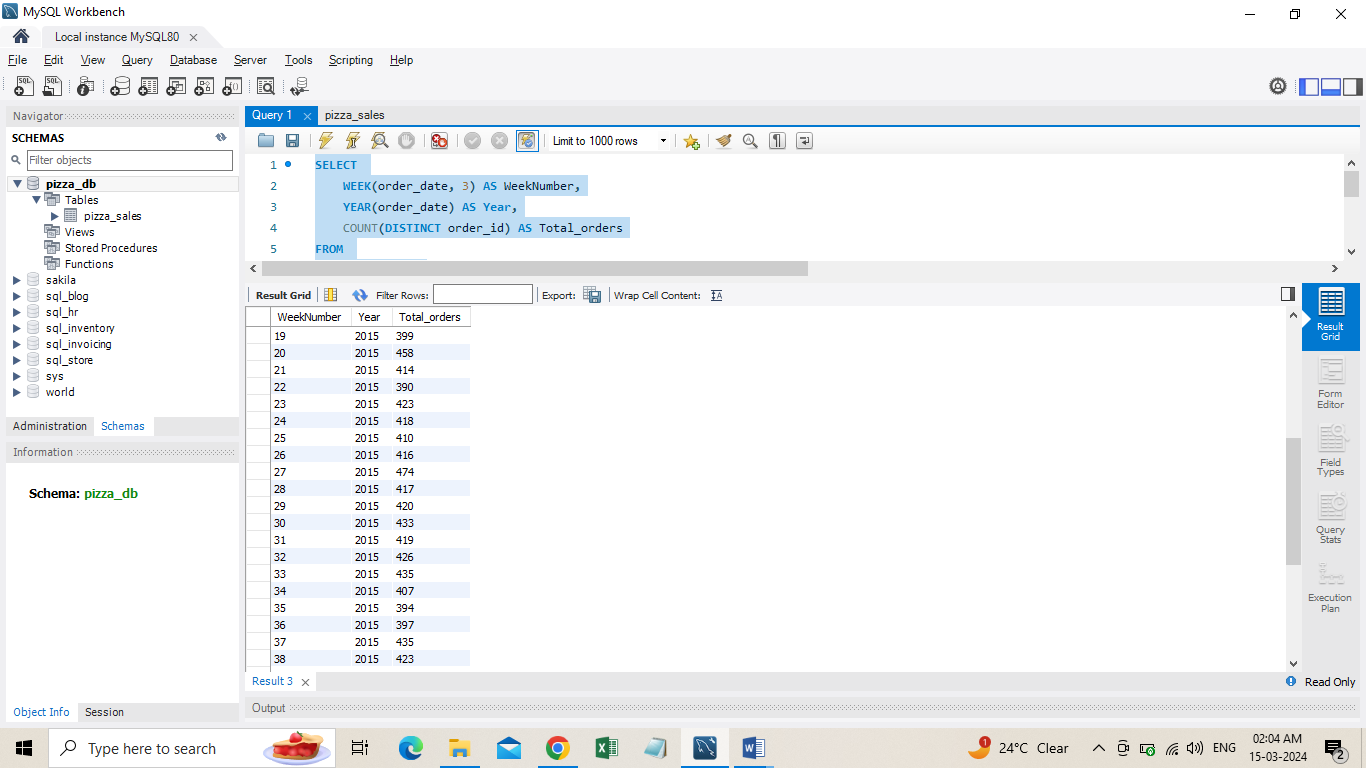
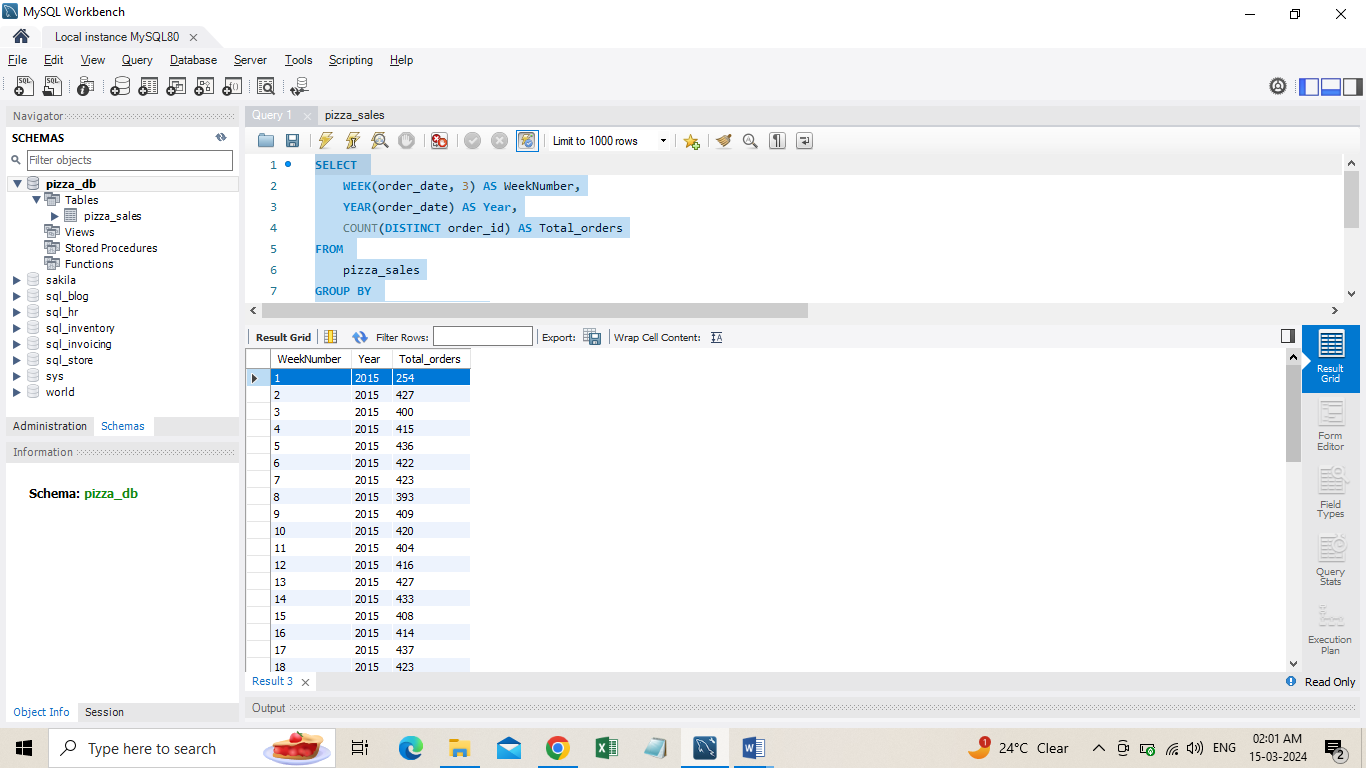
SELECT WEEK(order\_date, 3) AS WeekNumber, YEAR(order\_date) AS Year,

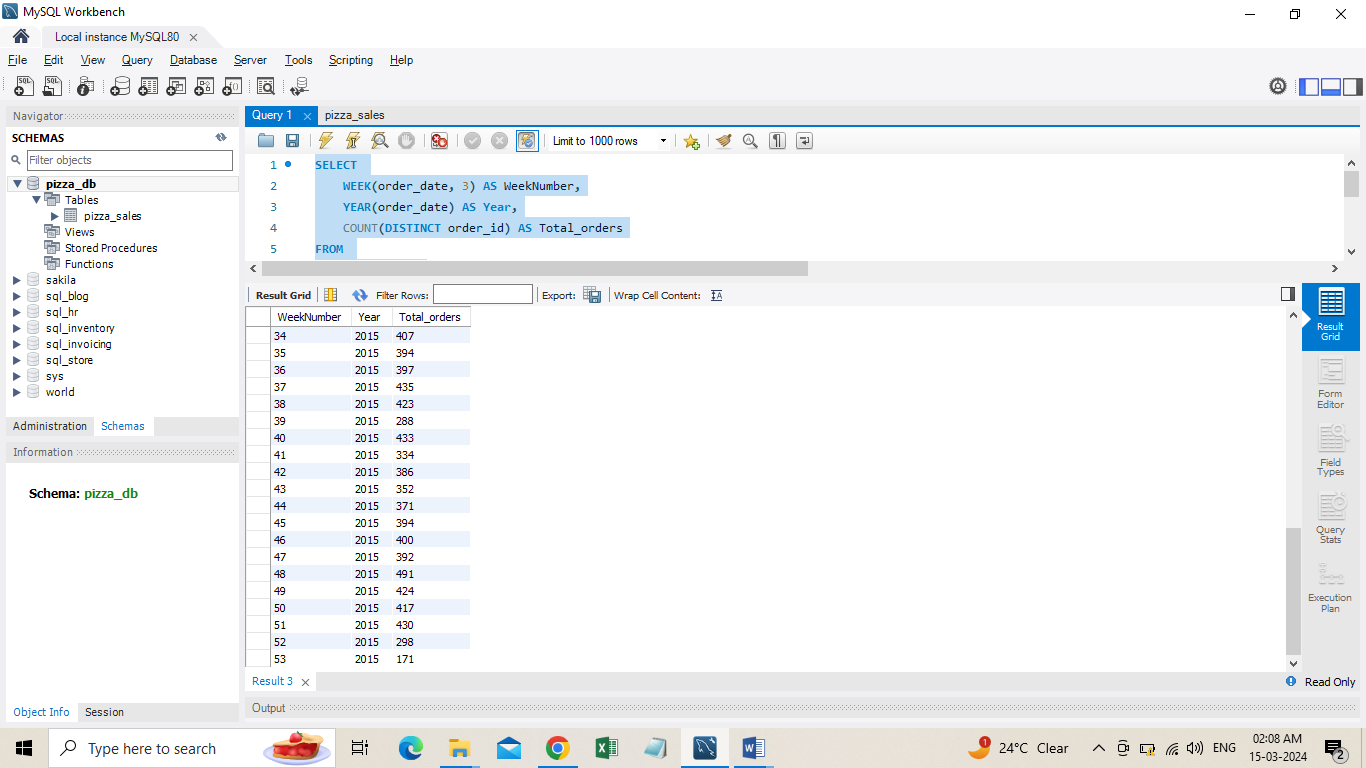
COUNT(DISTINCT order\_id) AS Total\_orders

FROM pizza\_sales

GROUP BY WEEK(order\_date, 3), YEAR(order\_date)

ORDER BY Year, WeekNumber;





1. **% of Sales by Pizza Category**

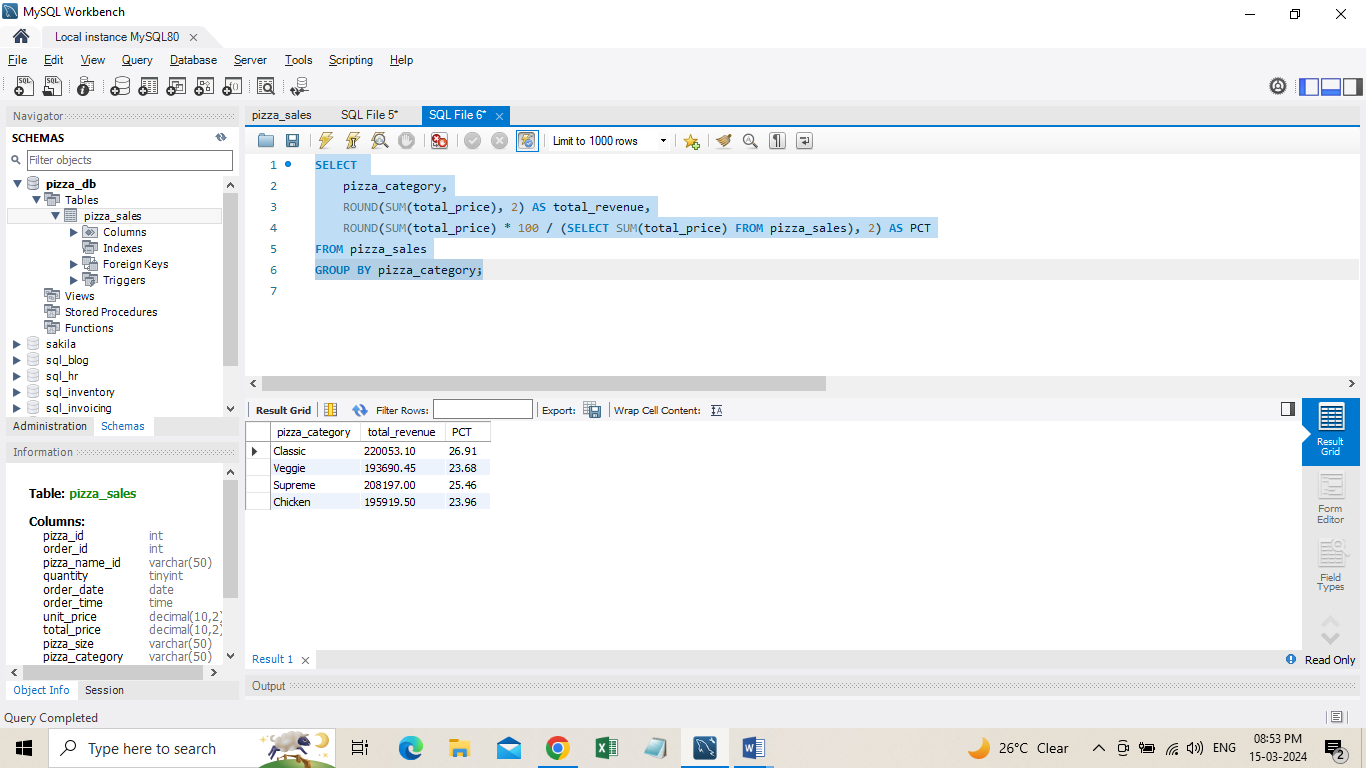
SELECT pizza\_category,

ROUND(SUM(total\_price), 2) AS total\_revenue,

ROUND(SUM(total\_price) \* 100 / (SELECT SUM(total\_price) FROM pizza\_sales), 2) AS PCT

FROM pizza\_sales

GROUP BY pizza\_category;



**OR**

SELECT pizza\_category,

ROUND(SUM(total\_price), 2) AS total\_revenue,

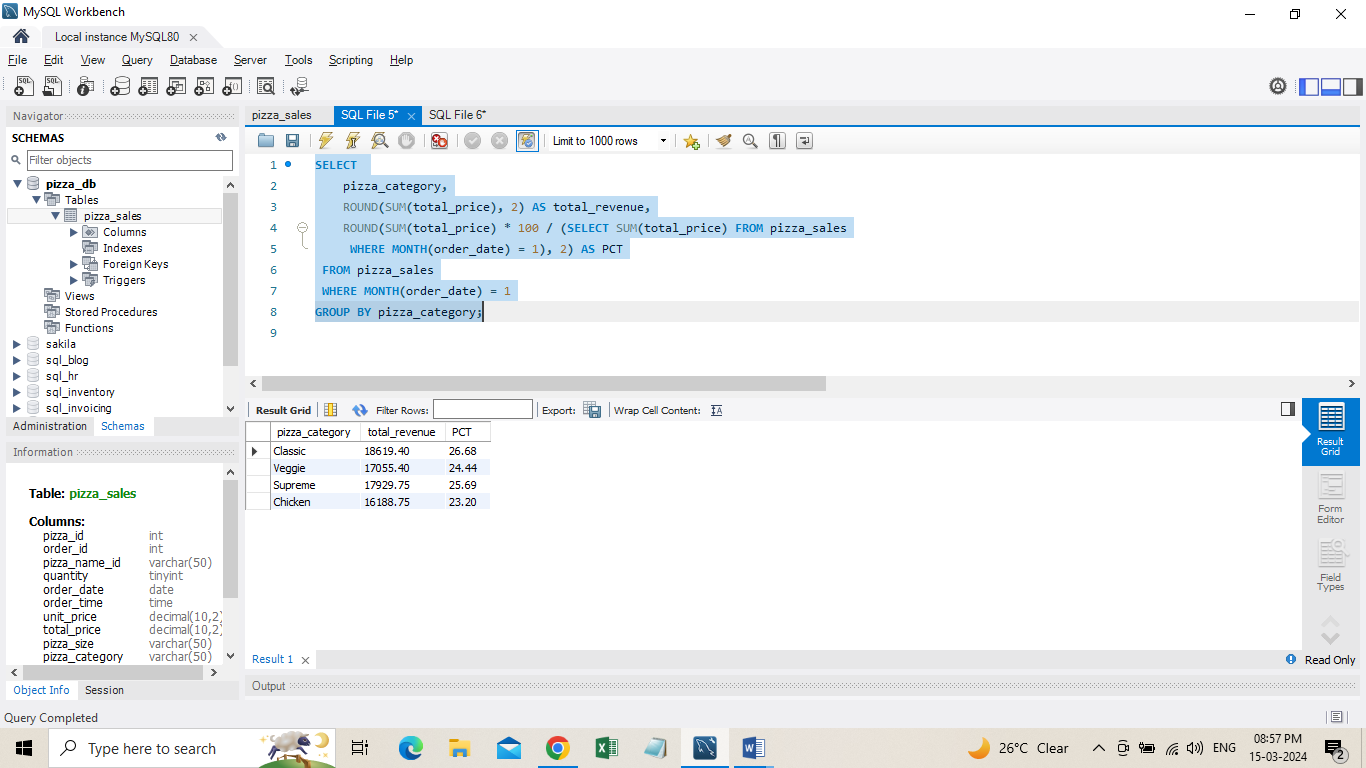
ROUND(SUM(total\_price) \* 100 / (SELECT SUM(total\_price) FROM pizza\_sales

WHERE MONTH(order\_date) = 1), 2) AS PCT

FROM pizza\_sales

WHERE MONTH(order\_date) = 1

GROUP BY pizza\_category;



1. **% of Sales by Pizza Size**

SELECT pizza\_size,

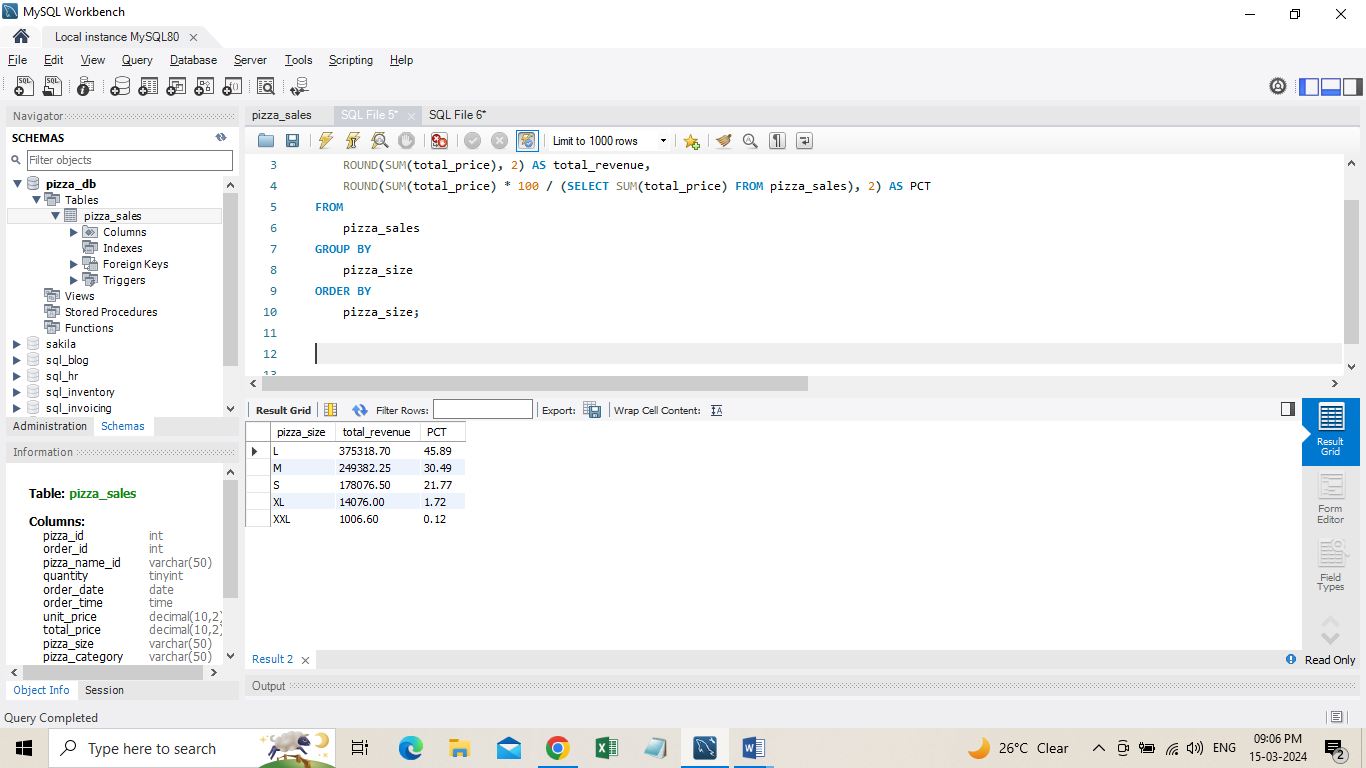
ROUND(SUM(total\_price), 2) AS total\_revenue,

ROUND(SUM(total\_price) \* 100 / (SELECT SUM(total\_price) FROM pizza\_sales), 2) AS PCT

FROM pizza\_sales

GROUP BY pizza\_size

ORDER BY pizza\_size;



1. **Total Pizzas Sold by Pizza Category**

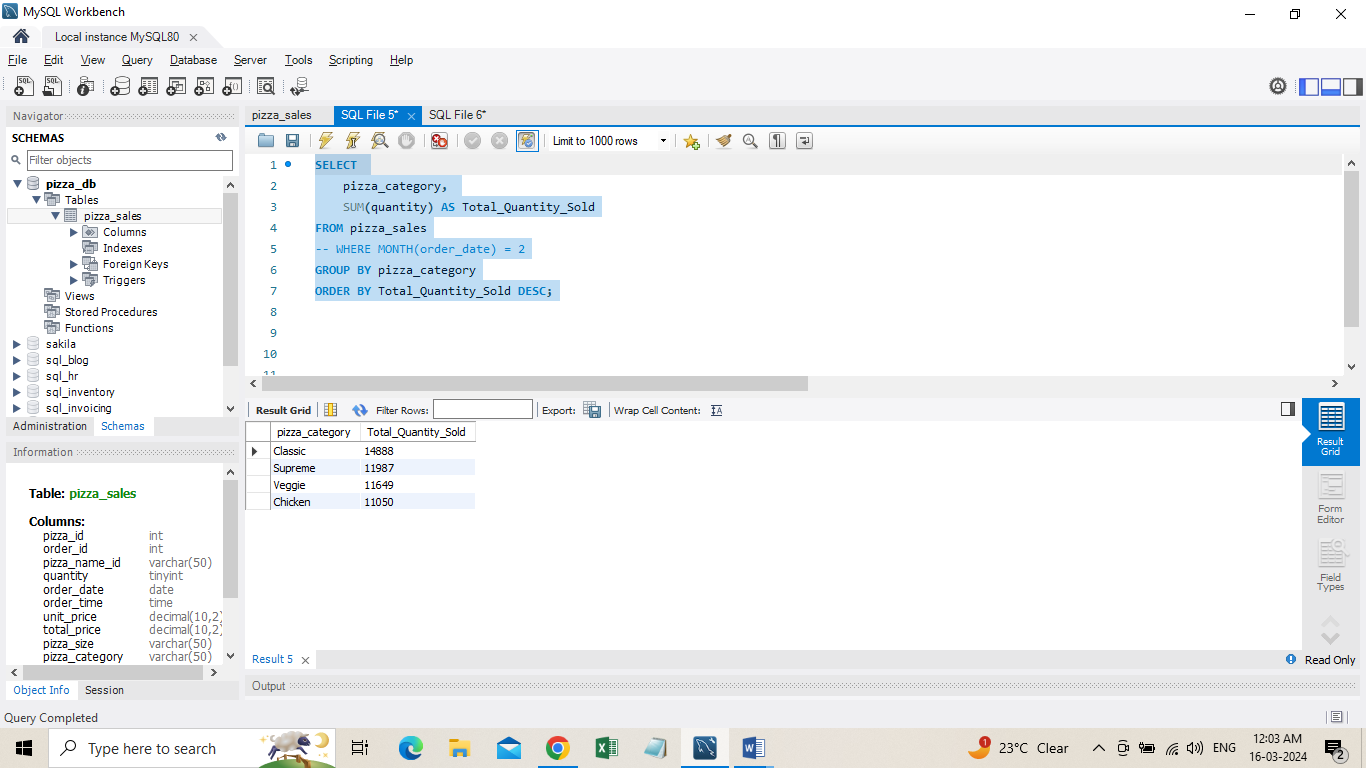
SELECT pizza\_category, SUM(quantity) AS Total\_Quantity\_Sold

FROM pizza\_sales

-- WHERE MONTH(order\_date) = 2

GROUP BY pizza\_category

ORDER BY Total\_Quantity\_Sold DESC;



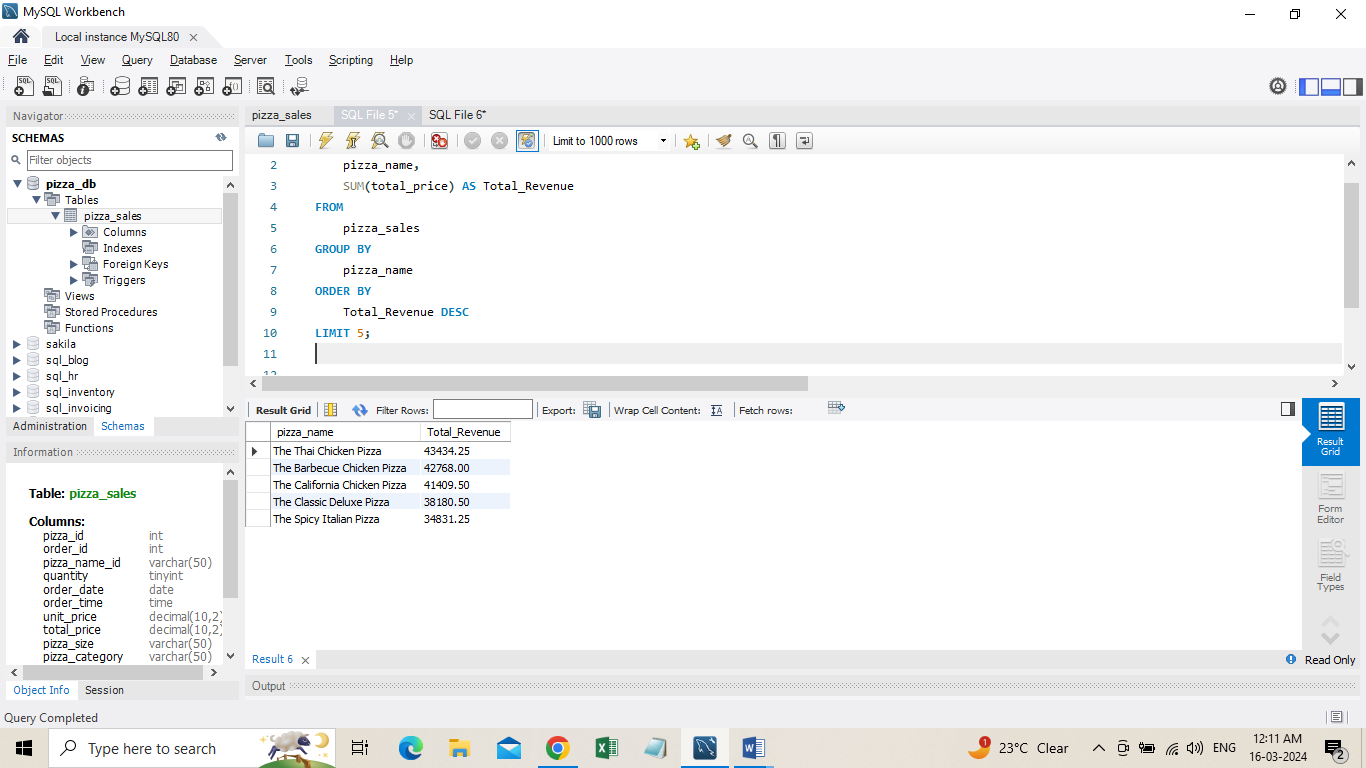
1. **Top 5 Pizzas by Revenue**

SELECT pizza\_name, SUM(total\_price) AS Total\_Revenue

FROM pizza\_sales

GROUP BY pizza\_name

ORDER BY Total\_Revenue DESC LIMIT 5;



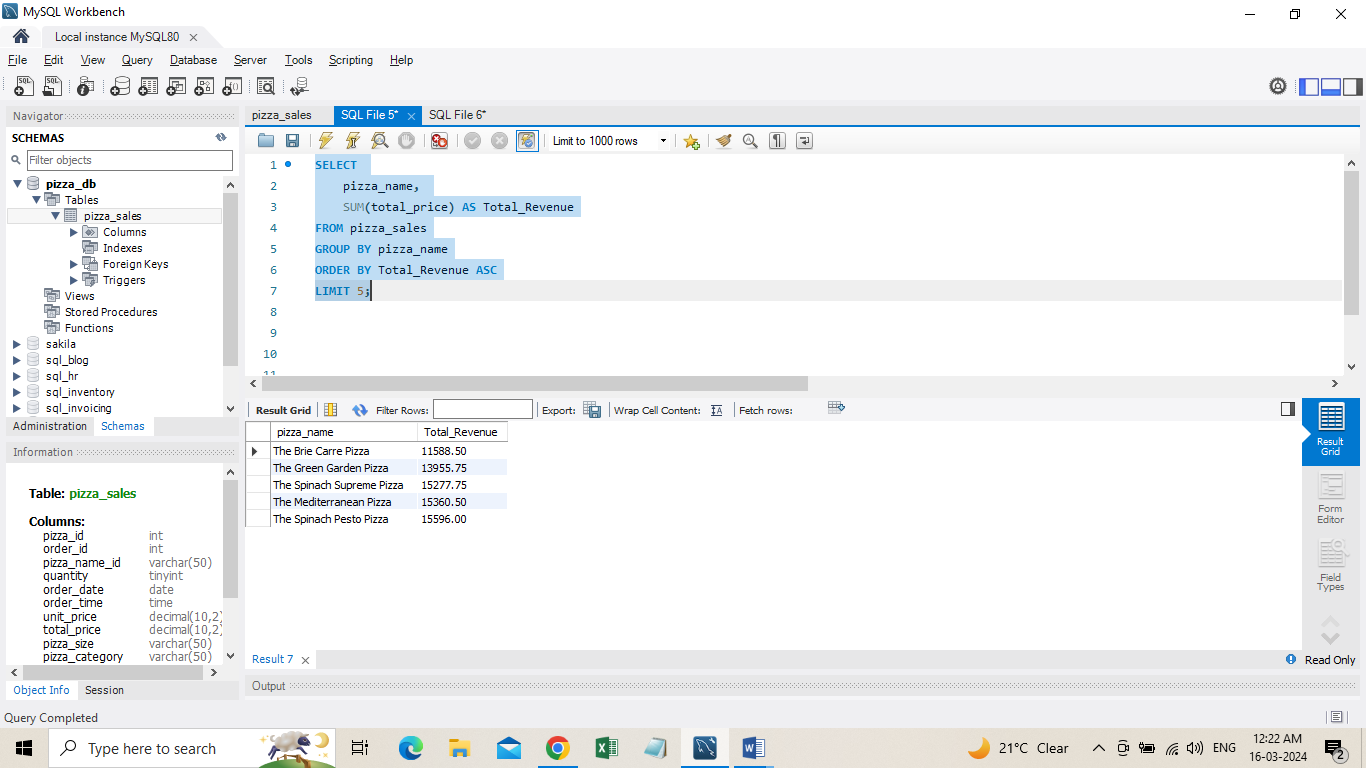
**H. Bottom 5 Pizzas by Revenue**

SELECT pizza\_name, SUM(total\_price) AS Total\_Revenue

FROM pizza\_sales

GROUP BY pizza\_name

ORDER BY Total\_Revenue ASC LIMIT 5;



1. **Top 5 Pizzas by Quantity**

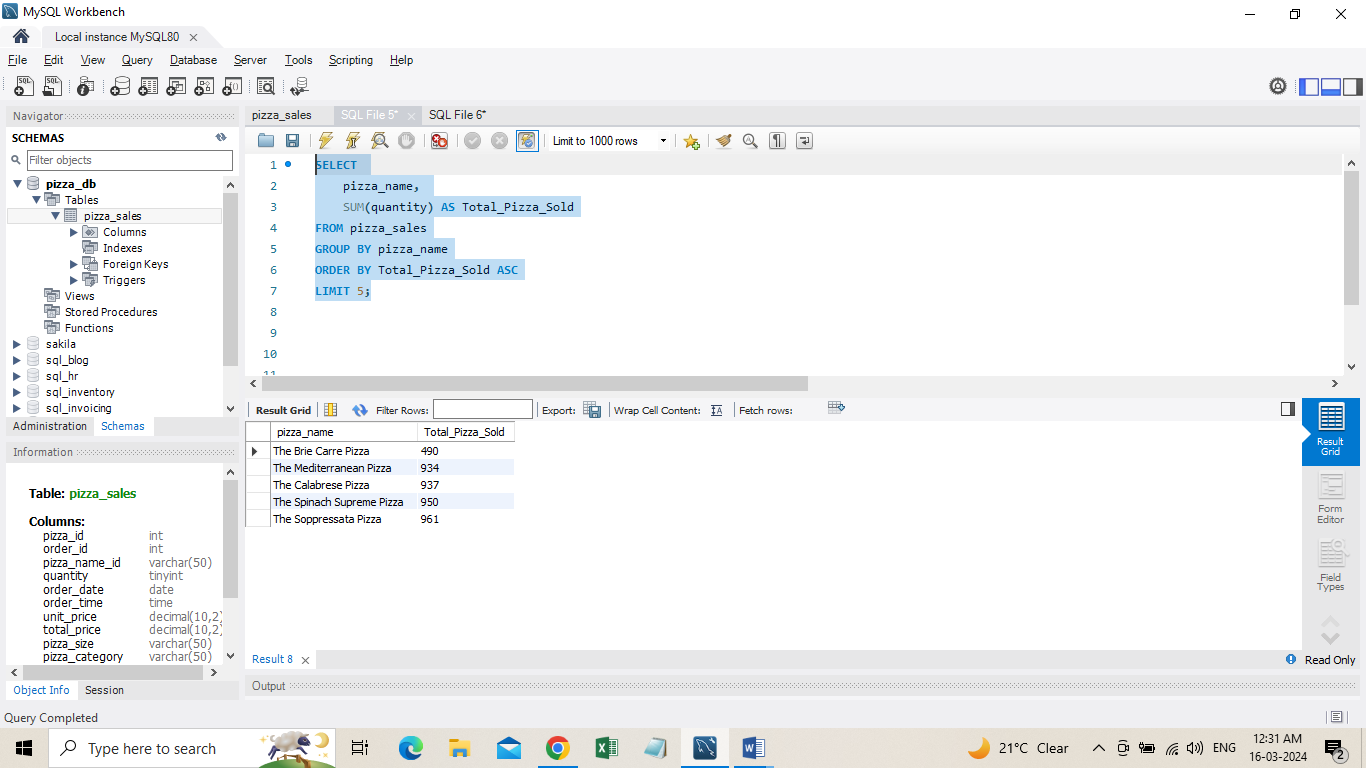
SELECT pizza\_name, SUM(quantity) AS Total\_Pizza\_Sold

FROM pizza\_sales

GROUP BY pizza\_name

ORDER BY Total\_Pizza\_Sold ASC

LIMIT 5;



**K. Top 5 Pizzas by Total Orders**

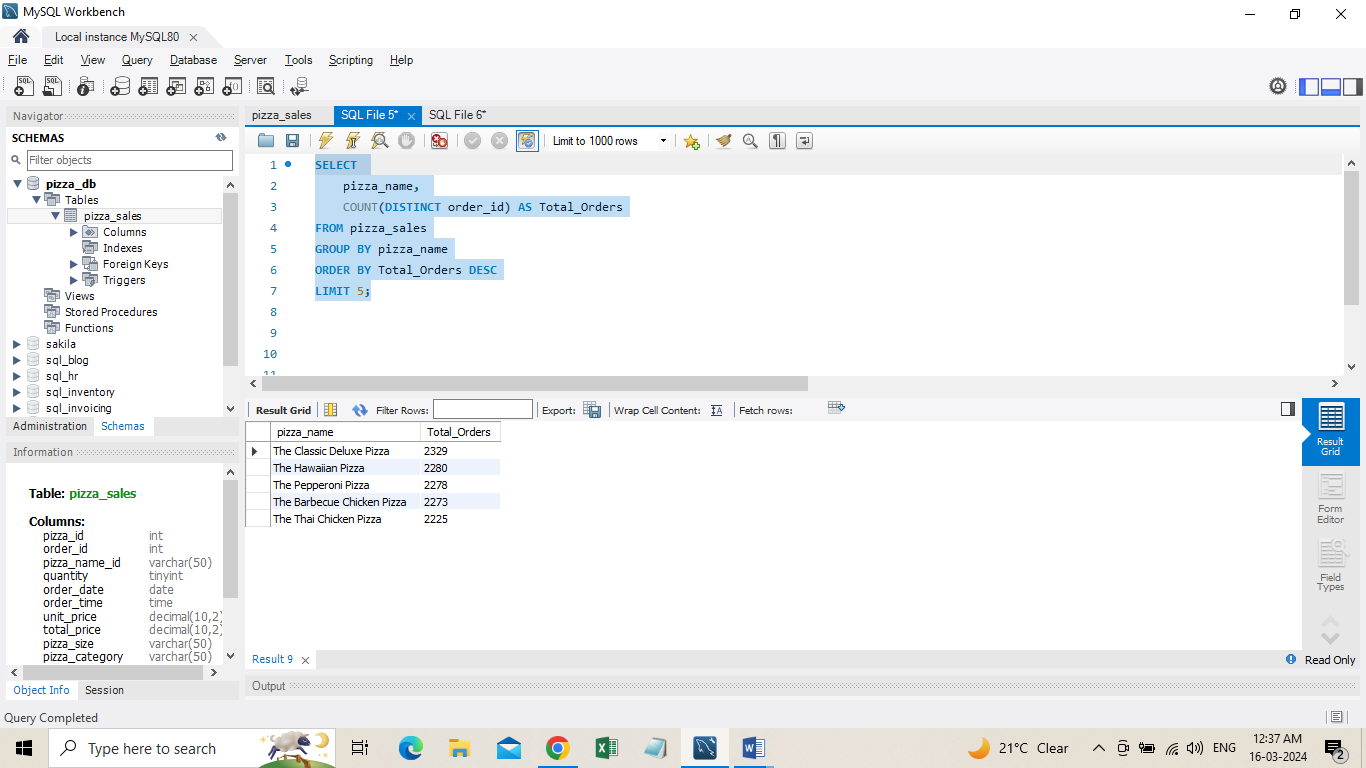
SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

GROUP BY pizza\_name

ORDER BY Total\_Orders DESC

LIMIT 5;



**L. Borrom 5 Pizzas by Total Orders**

SELECT

pizza\_name,

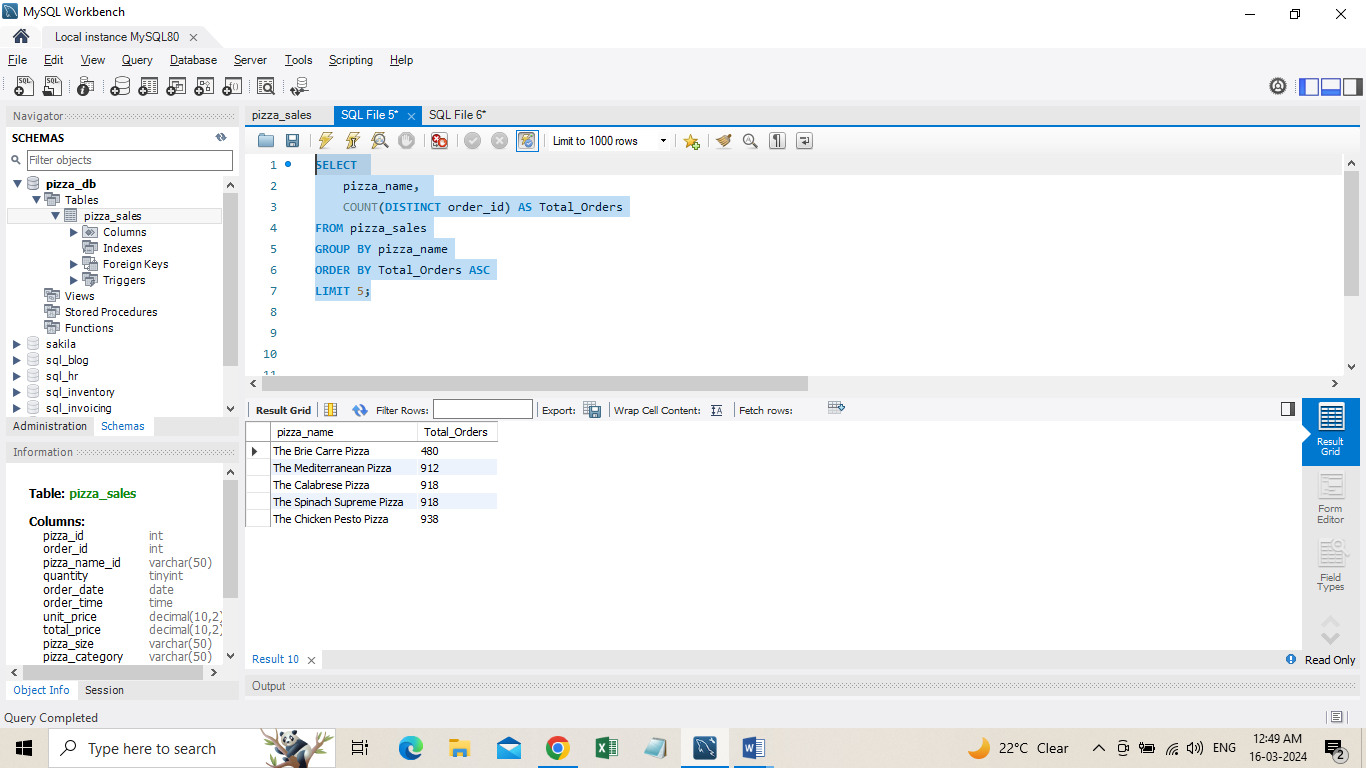
COUNT(DISTINCT order\_id) AS Total\_Orders

FROM pizza\_sales

GROUP BY pizza\_name

ORDER BY Total\_Orders ASC

LIMIT 5;



***NOTE***

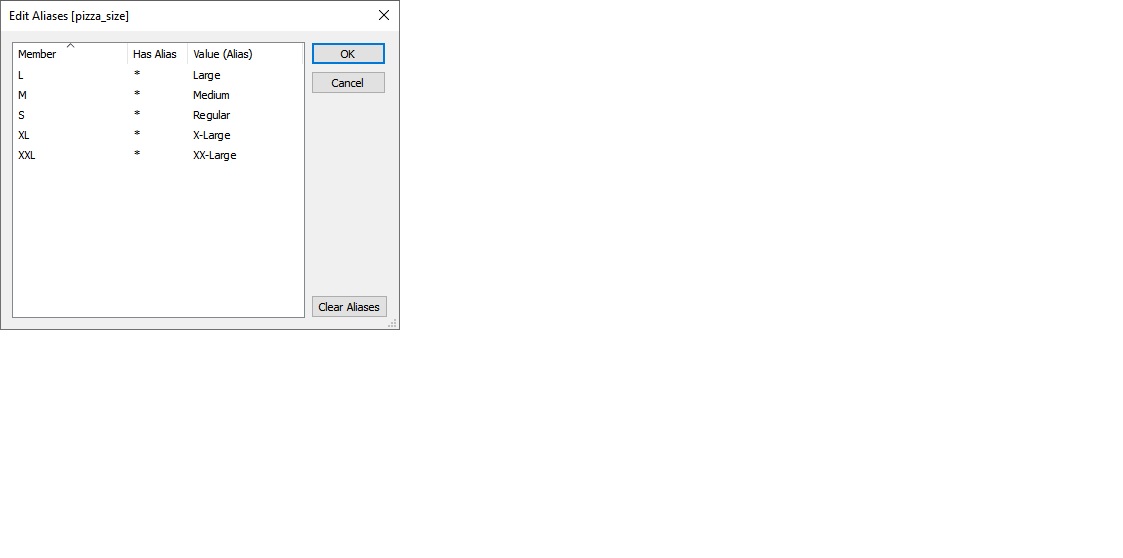
If you want to apply the pizza\_category or pizza\_size filters to the above queries you can use WHERE clause. Follow some of below examples

SELECT pizza\_name, COUNT(DISTINCT order\_id) AS Total\_Orders FROM pizza\_sales

WHERE pizza\_category = 'Classic' GROUP BY pizza\_name ORDER BY Total\_Orders ASC LIMIT 5;

**Data Cleaning**

Pizza size category we have in our database is abbreviated and for dashboard we need it in full expanded form. For eg. L= large, M= medium etc, so we will create an alias to temporary change its name in required format.

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**Build Dashboard or a Report using Tableau**

Created a comprehensive dashboard in Tableau featuring key metrics and charts, including Hourly Trend, Weekly Trend, Sales by Category, Sales by Size, Total Pizzas Sold by Category, Top 5 Best Sellers, and Bottom 5 Worst Sellers.

KPI’S

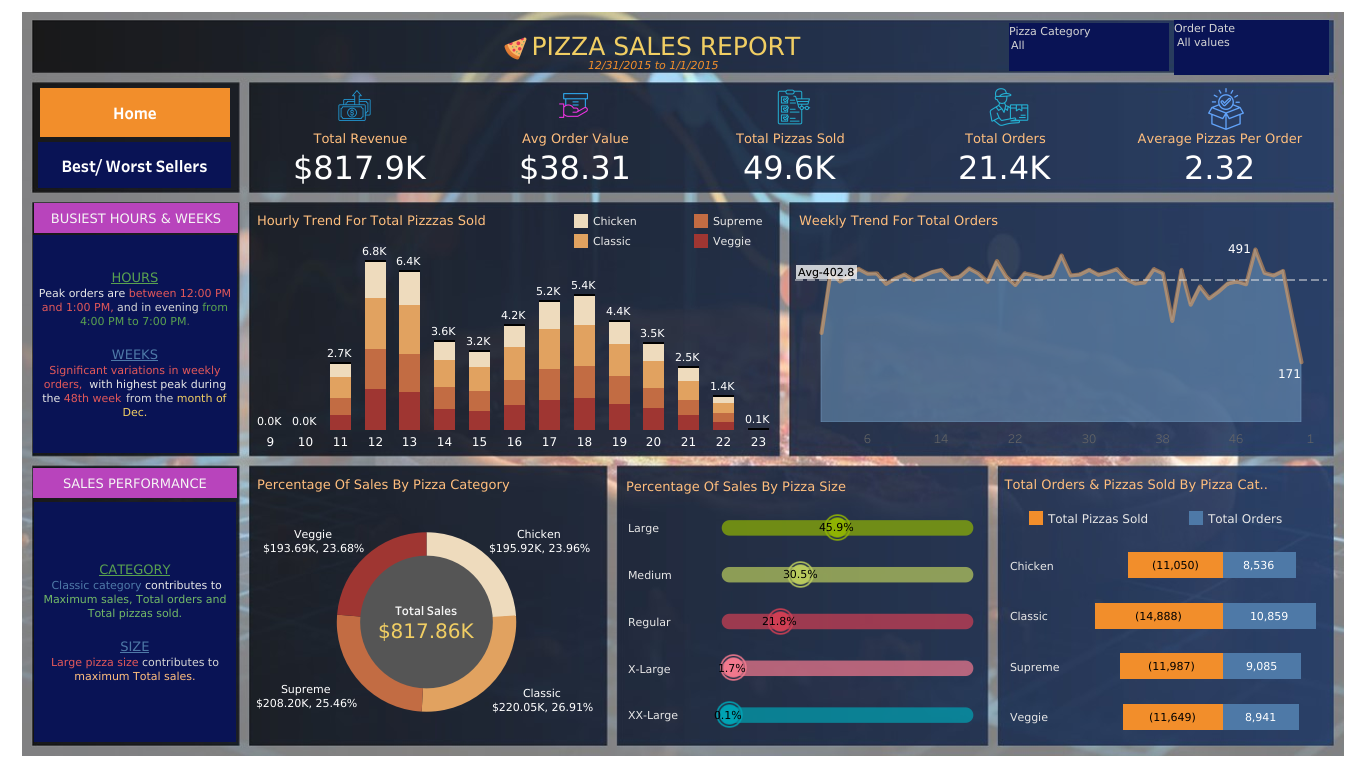
* **Total Revenue** SUM([order id])
* **Total Orders** COUNTD([order id])
* **Average Order Value** [total revenue] / [total orders]
* **Total Pizzas Sold** SUM([quantity])
* **Average Pizzas Per Order** [total pizzas sold] / [total orders]



KEY INSIGHTS





DASHBOARD

**Tools, Software, and Libraries**

* **MySQL Workbench**

for data analysis and storage

* **Tableau**

for dashboard creation and visualization

* **Excel**   
  for initial data exploration and manipulation