IBM COGNOS ANALYTICS ASSIGNMENT-03

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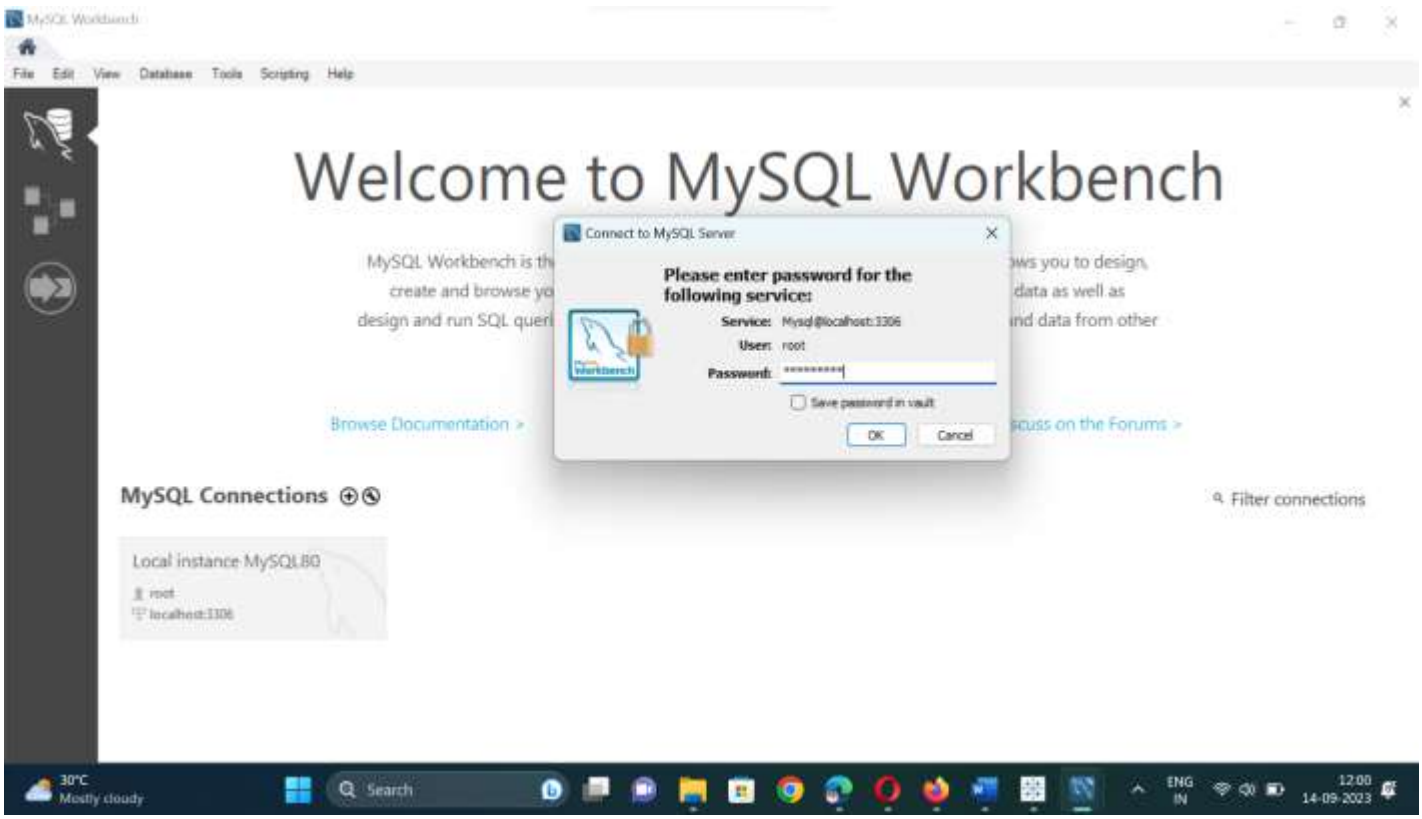
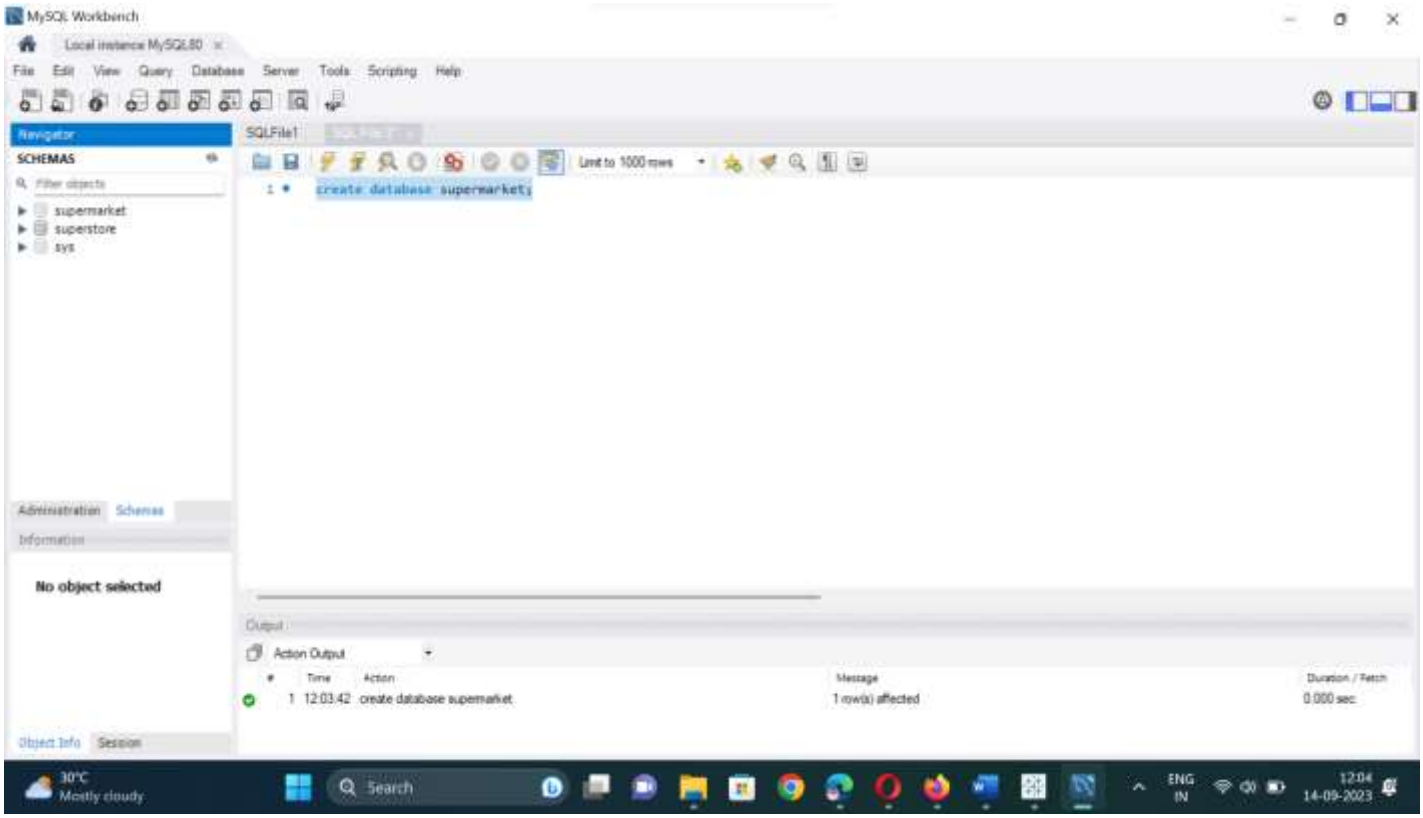
1. Upload the dataset to MySQL and integrate with Tableau, delete the unnecessary columns, explore and visualize the dataset using Tableau.

- ***MySQL Integration:***

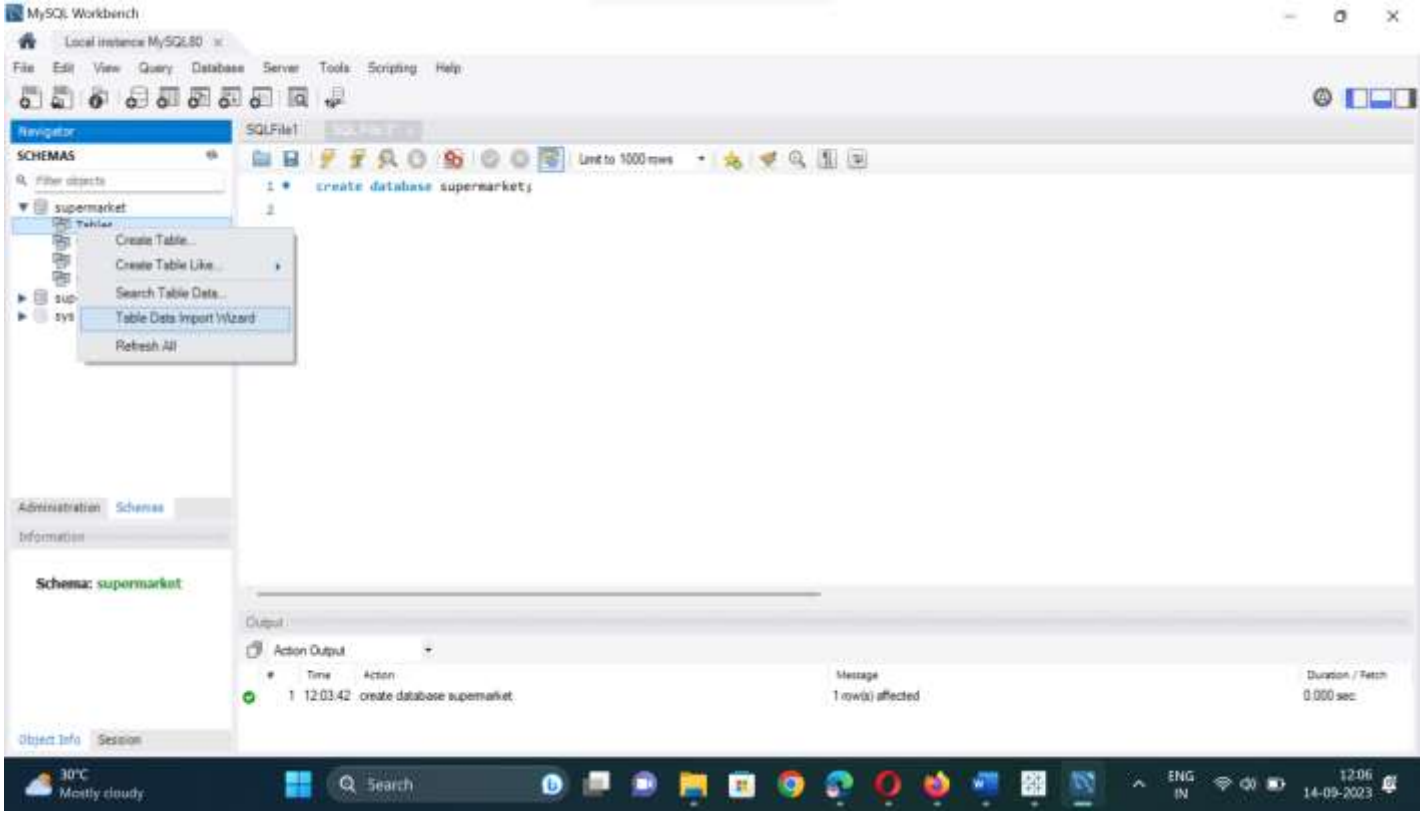
1.open MySQL Workbench:



2.create a schema:



3. Import the data from local data set:



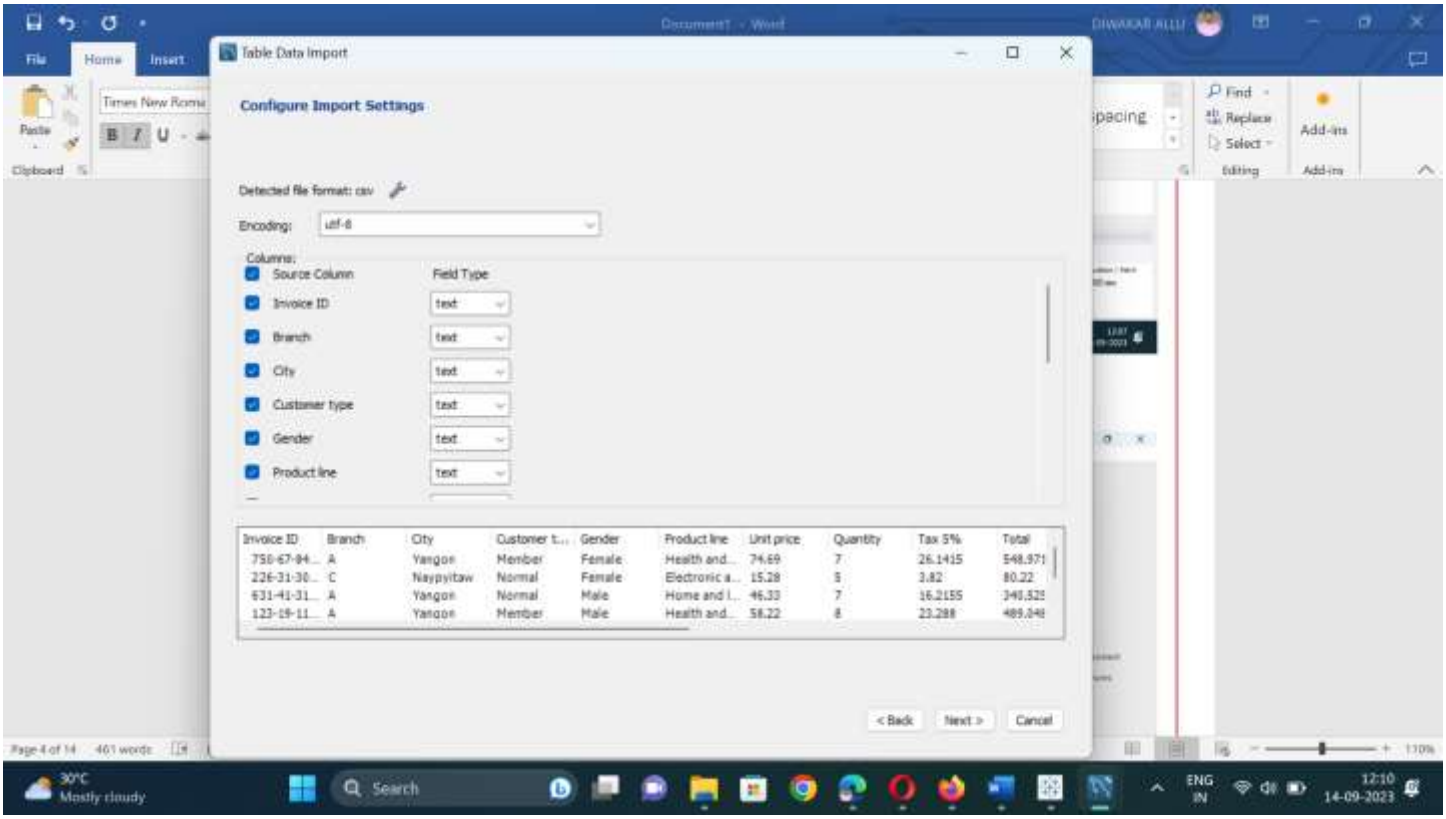


Table Data Import
Configure Import Settings
Detected file format: csv
Encoding:
utf-8
Columns:
Source Column
Field Type
Invoice ID
Branch
City
Customer type
Gender
Product line
text
Invoice ID Branch City Customer t... Gender Product line Unit price Quantity Tax 5% Total
750-67-84... A Yangon Member Female Health and... 74.69 7 26.1415 548.971
226-31-30... C Naypyitaw Normal Female Electronic a... 15.28 5 3.82 80.22
631-41-31... A Yangon Normal Male Home and l... 46.33 7 16.2155 340.525
123-19-11... A Yangon Member Male Health and... 58.22 8 23.288 489.048
< Back
Next >
Cancel

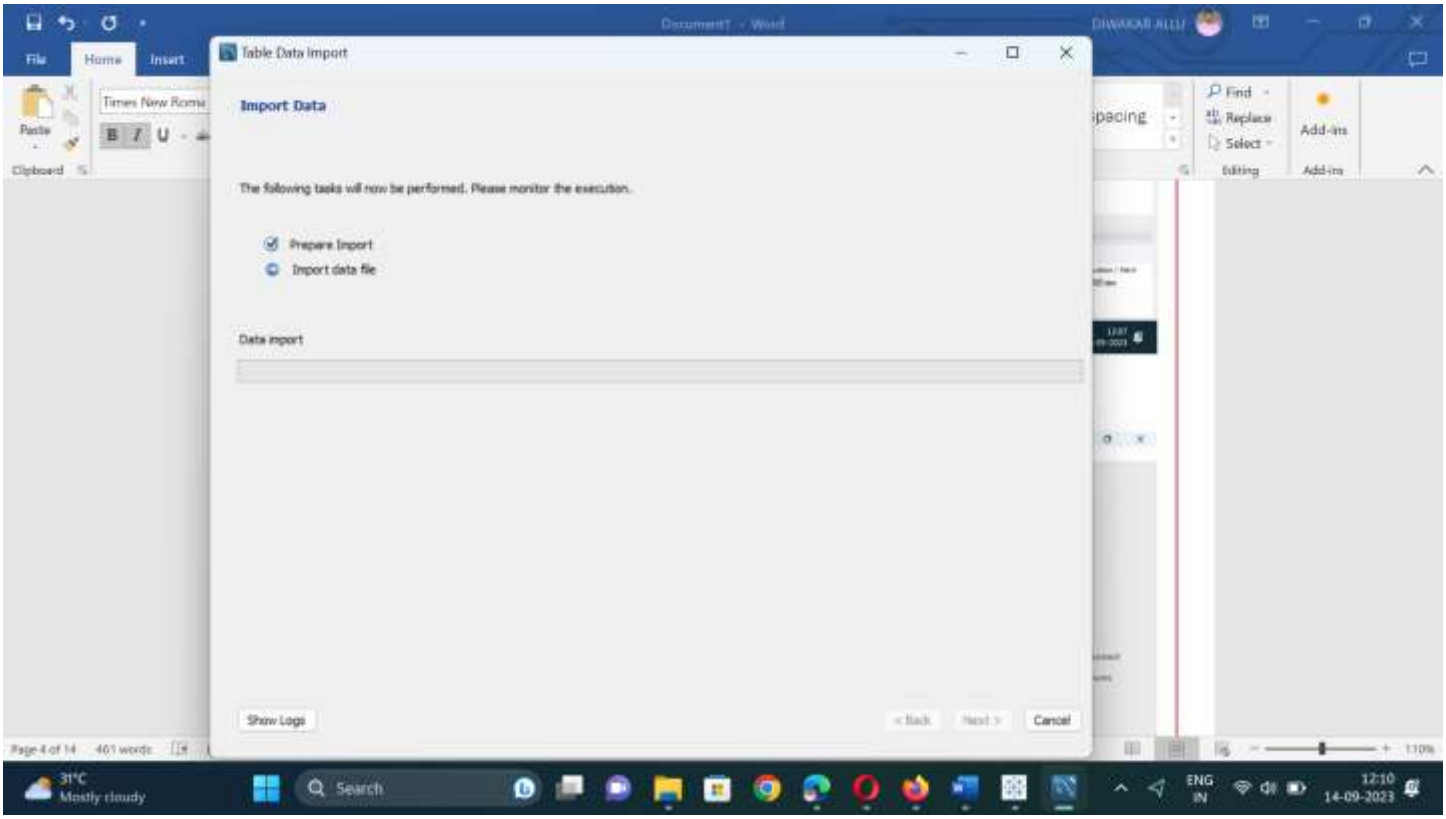


Table Data Import
Import Data
The following tasks will now be performed. Please monitor the execution.
Prepare Import
Import data file
Data import
Show Logs
Cancel

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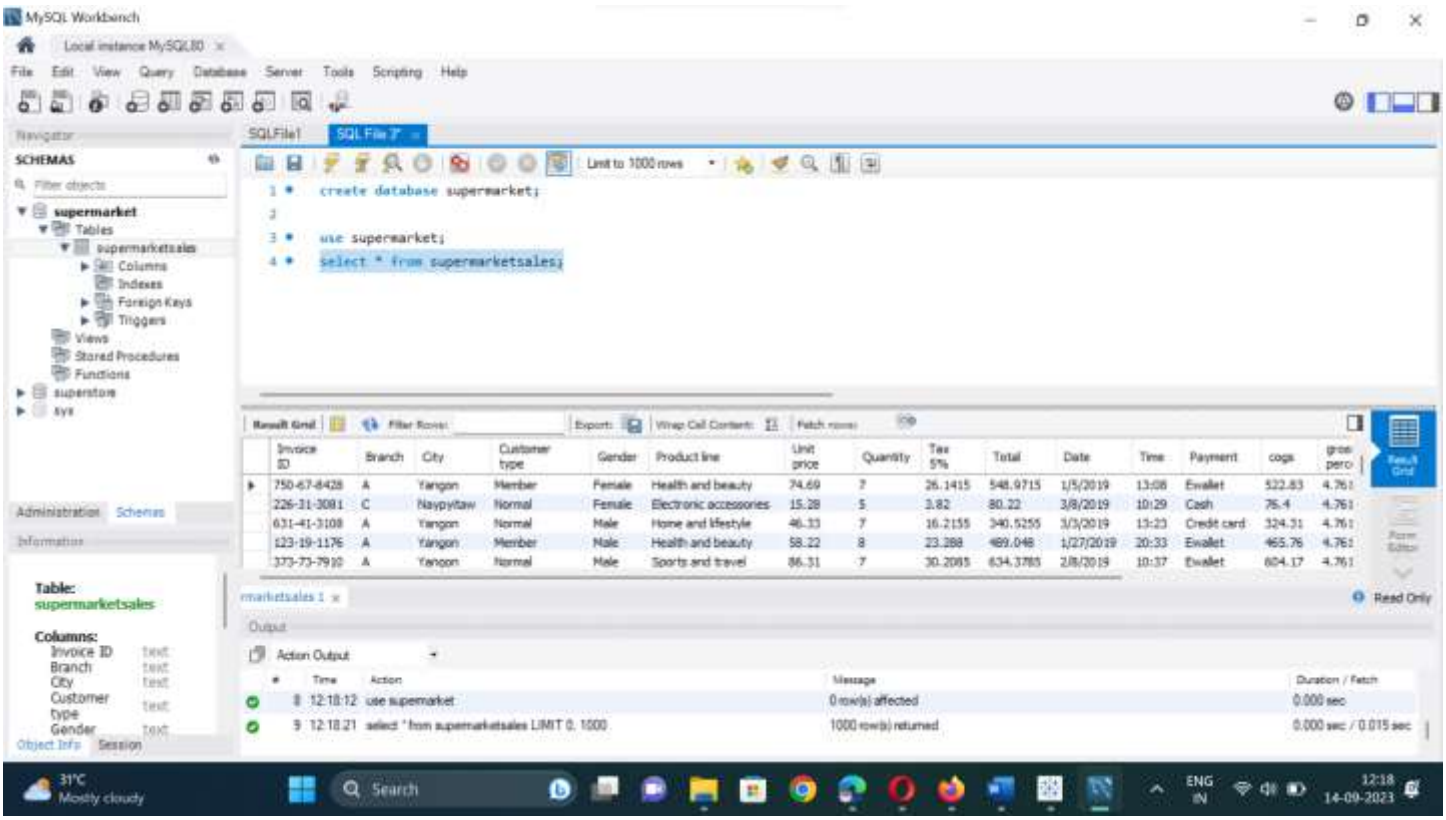
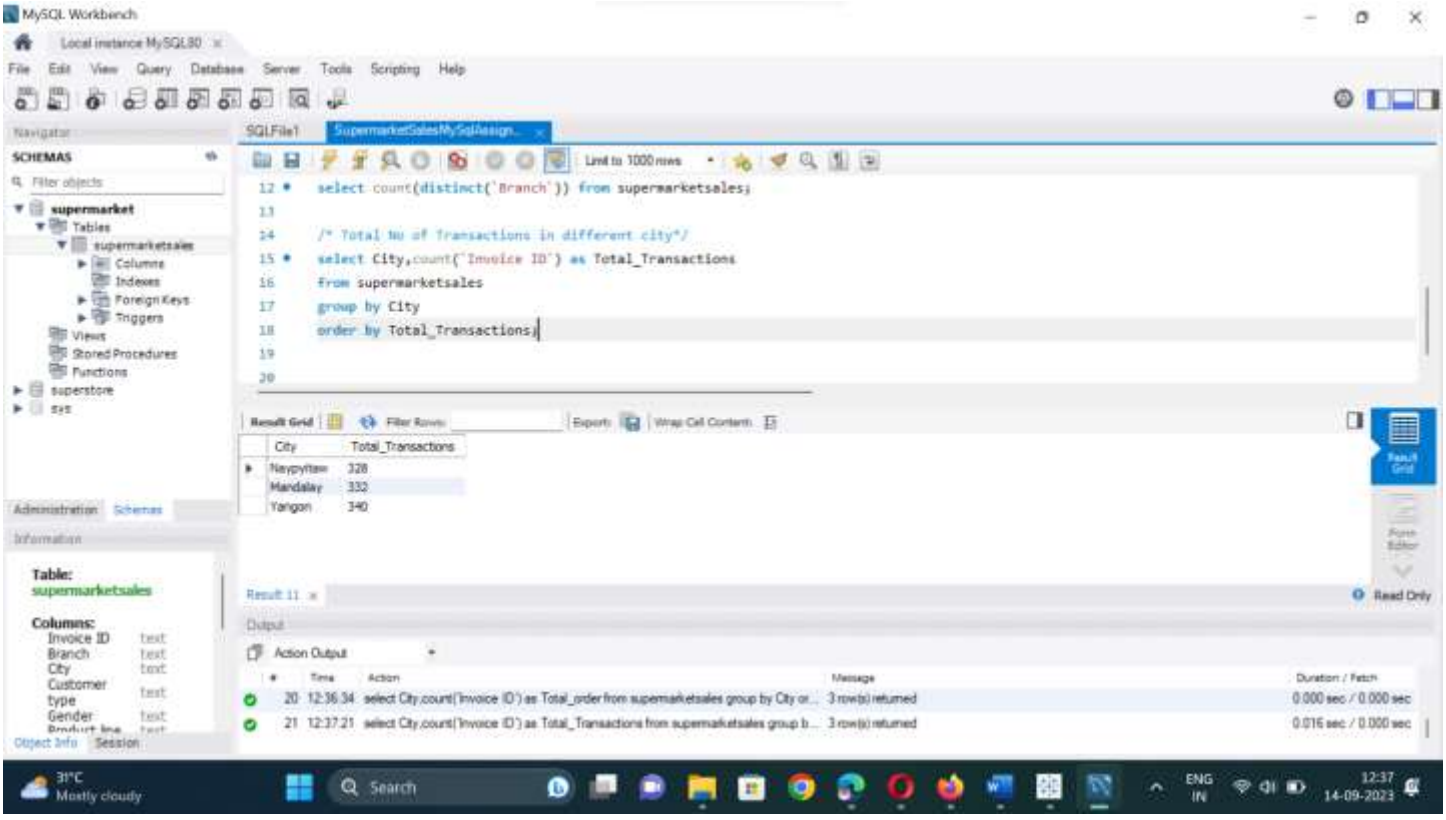
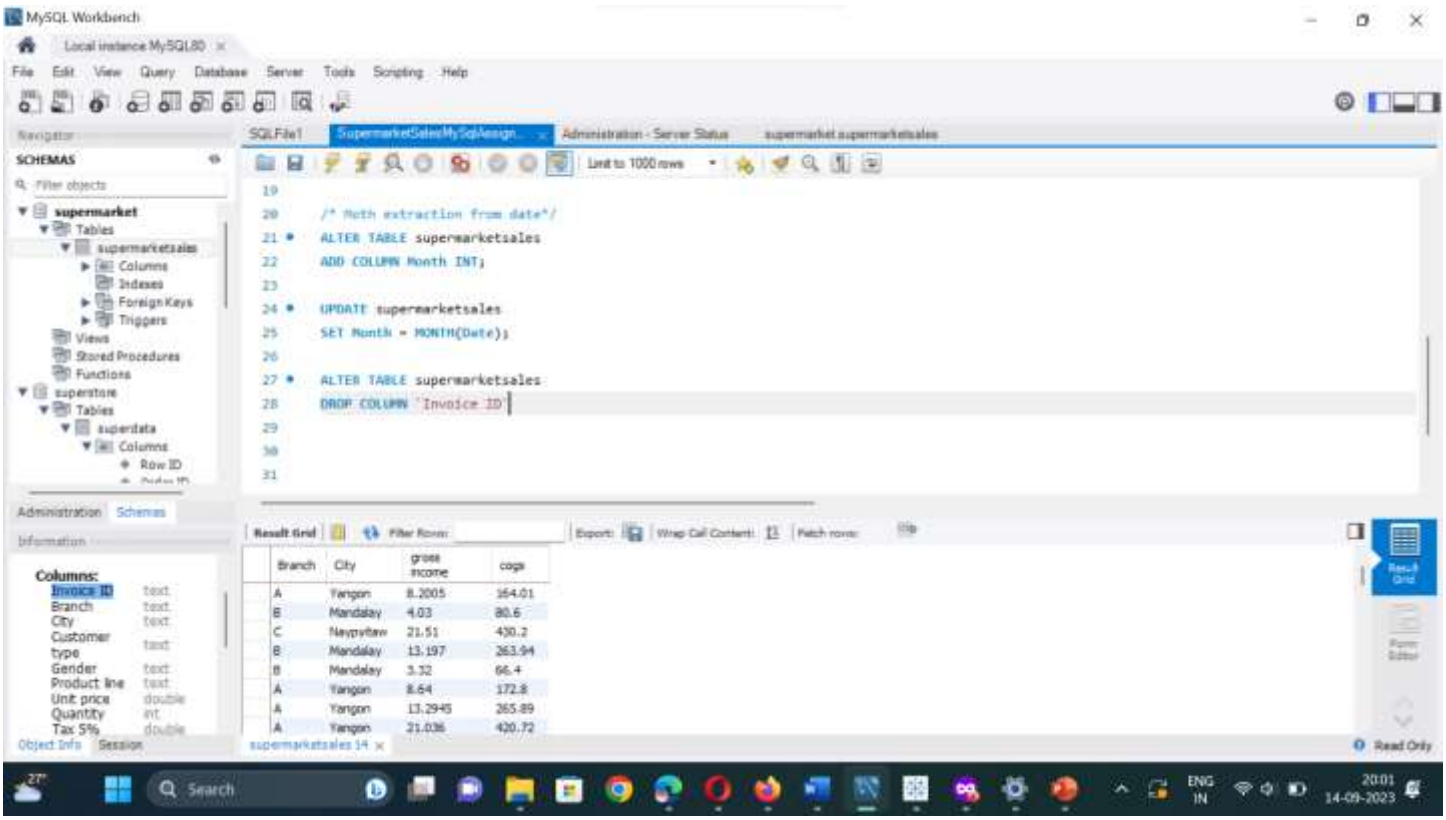
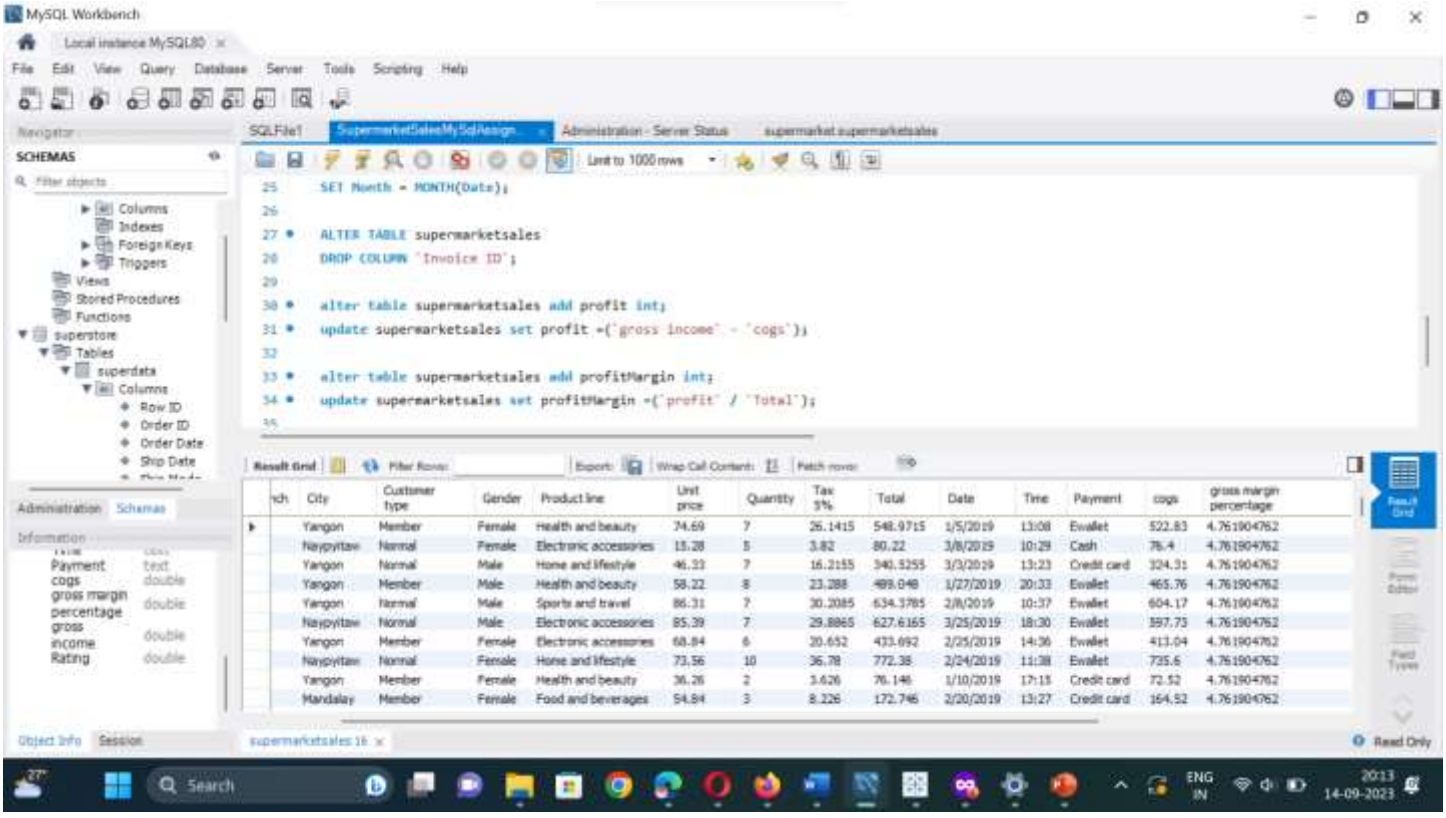
4. preprocess the data using SQL commands:



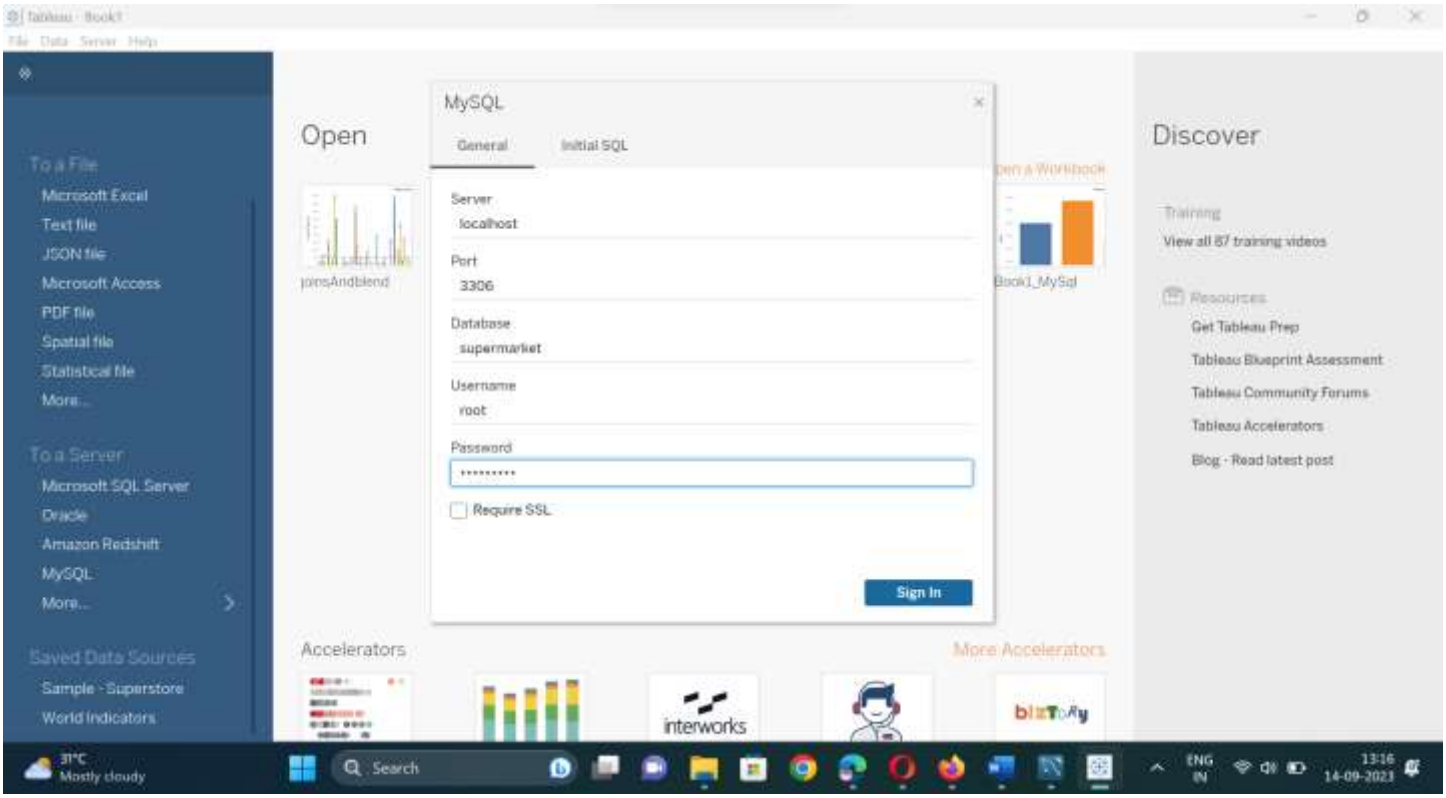


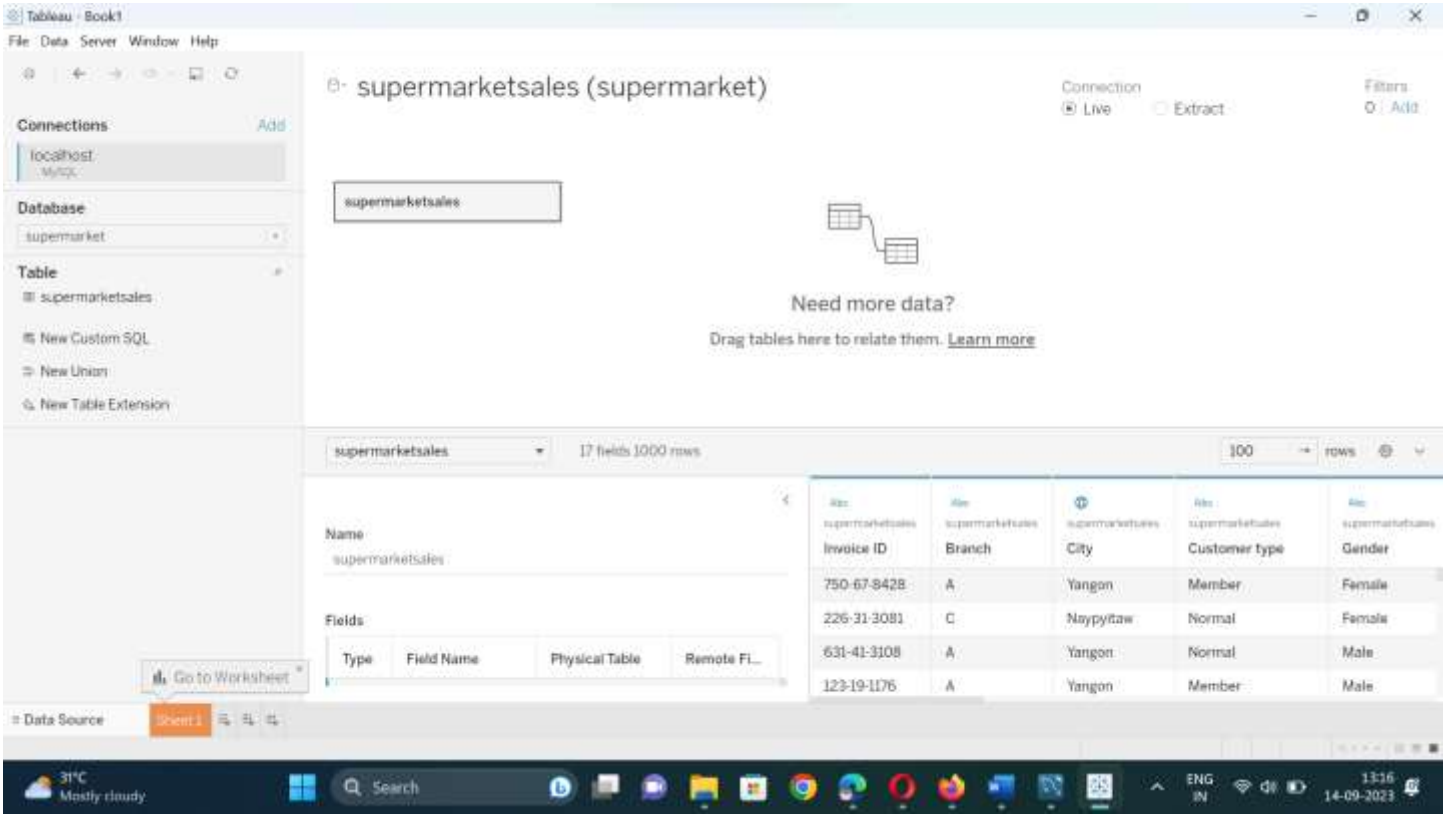

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
supermarket
Tables
supermarketsales
Columns
Indexes
Foreign Keys
Triggers
Views
Stored Procedures
Functions
superstore
Tables
superdata
Columns
Row ID
SQLFile1
SupermarketSalesMySqlAssign
Administration - Server Status
supermarket.supermarketsales
Limit to 1000 rows
/* Moth extraction from date*/
ALTER TABLE supermarketsales
ADD COLUMN Month INT;
UPDATE supermarketsales
SET Month = MONTH(Date);
ALTER TABLE supermarketsales
DROP COLUMN `Invoice ID`
Result Grid
Branch City gross income cogs
A Yangon 8.2005 164.01
B Mandalay 4.03 80.6
C Naypyitaw 21.51 430.2
B Mandalay 13.197 263.94
B Mandalay 3.32 66.4
A Yangon 8.64 172.8
A Yangon 13.2945 265.89
A Yangon 21.036 420.72
Columns:
Invoice ID text
Branch text
City text
Customer type text
Gender text
Product line text
Unit price double
Quantity int
Tax 5% double
Object Info Session
supermarketsales 14
Read Only
Search
ENG IN
20:01
14-09-2023


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
SQLFile1
SupermarketSalesMySqlAssign
Administration - Server Status
supermarket.supermarketsales
Limit to 1000 rows
SET Month = MONTH(Date);
ALTER TABLE supermarketsales
DROP COLUMN `Invoice ID`;
alter table supermarketsales add profit int;
update supermarketsales set profit =(`gross income` - `cogs`);
alter table supermarketsales add profitMargin int;
update supermarketsales set profitMargin =(`profit` / `Total`);
Result Grid
ch City Customer type Gender Product line Unit price Quantity Tax 5% Total Date Time Payment cogs gross margin percentage
Yangon Member Female Health and beauty 74.69 7 26.1415 548.9715 1/5/2019 13:08 Ewallet 522.83 4.761904762
Naypyitaw Normal Female Electronic accessories 15.28 5 3.82 80.22 3/8/2019 10:29 Cash 76.4 4.761904762
Yangon Normal Male Home and lifestyle 46.33 7 16.2155 340.5255 3/3/2019 13:23 Credit card 324.31 4.761904762
Yangon Member Male Health and beauty 58.22 8 23.288 489.048 1/27/2019 20:33 Ewallet 465.76 4.761904762
Yangon Normal Male Sports and travel 86.31 7 30.2085 634.3785 2/8/2019 10:37 Ewallet 604.17 4.761904762
Naypyitaw Normal Male Electronic accessories 85.39 7 29.8865 627.6165 3/25/2019 18:30 Ewallet 597.73 4.761904762
Yangon Member Female Electronic accessories 68.84 6 20.652 433.692 2/25/2019 14:36 Ewallet 413.04 4.761904762
Naypyitaw Normal Female Home and lifestyle 73.56 10 36.78 772.38 2/24/2019 11:38 Ewallet 735.6 4.761904762
Yangon Member Female Health and beauty 36.26 2 3.626 76.146 1/10/2019 17:15 Credit card 72.52 4.761904762
Mandalay Member Female Food and beverages 54.84 3 8.226 172.746 2/20/2019 13:27 Credit card 164.52 4.761904762
Payment text
cogs double
gross margin percentage double
gross income double
Rating double
Object Info Session
supermarketsales 16
Read Only
Search
ENG IN
20:13
14-09-2023

➢ *Tableau Integration:*

select MySQL in Connect to a Server option





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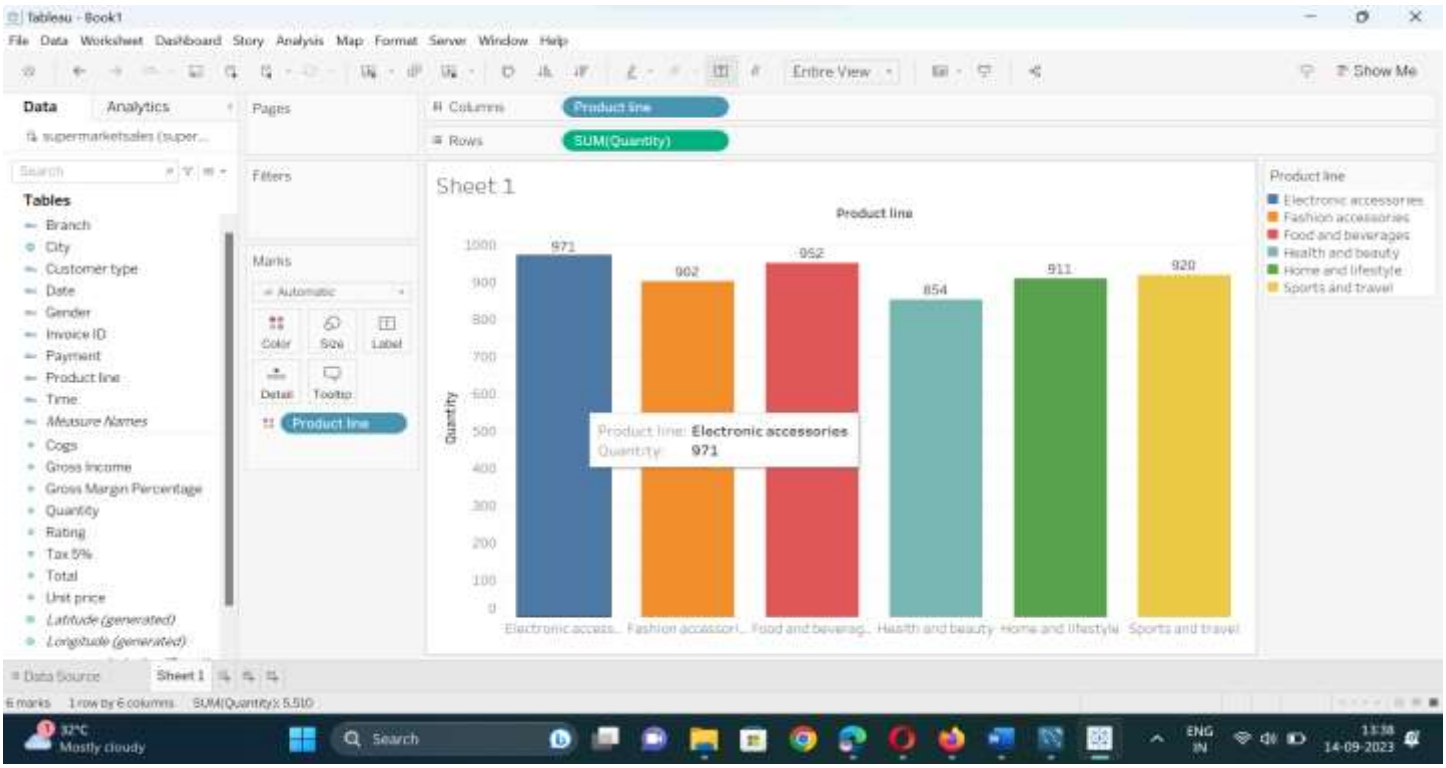
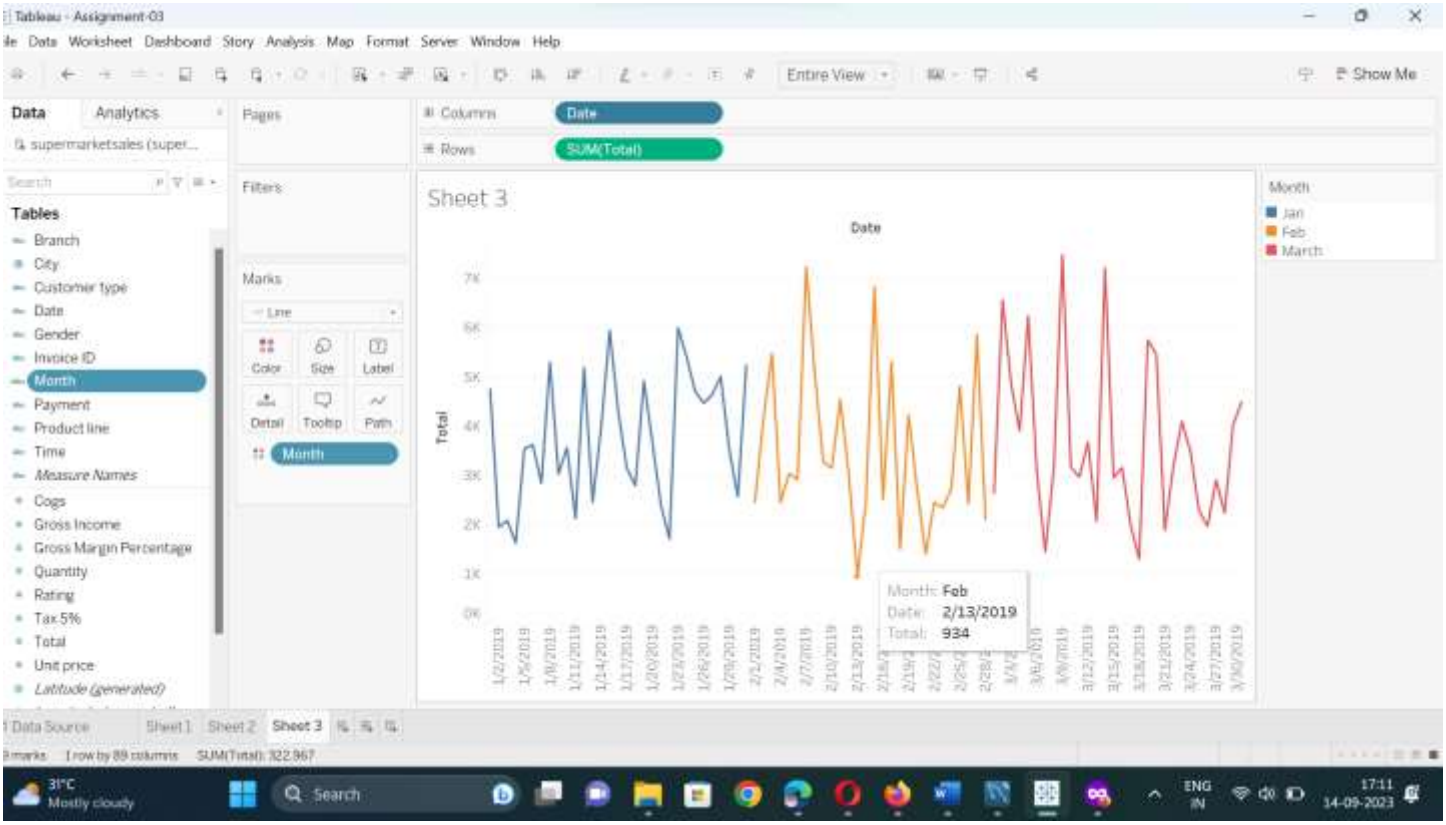
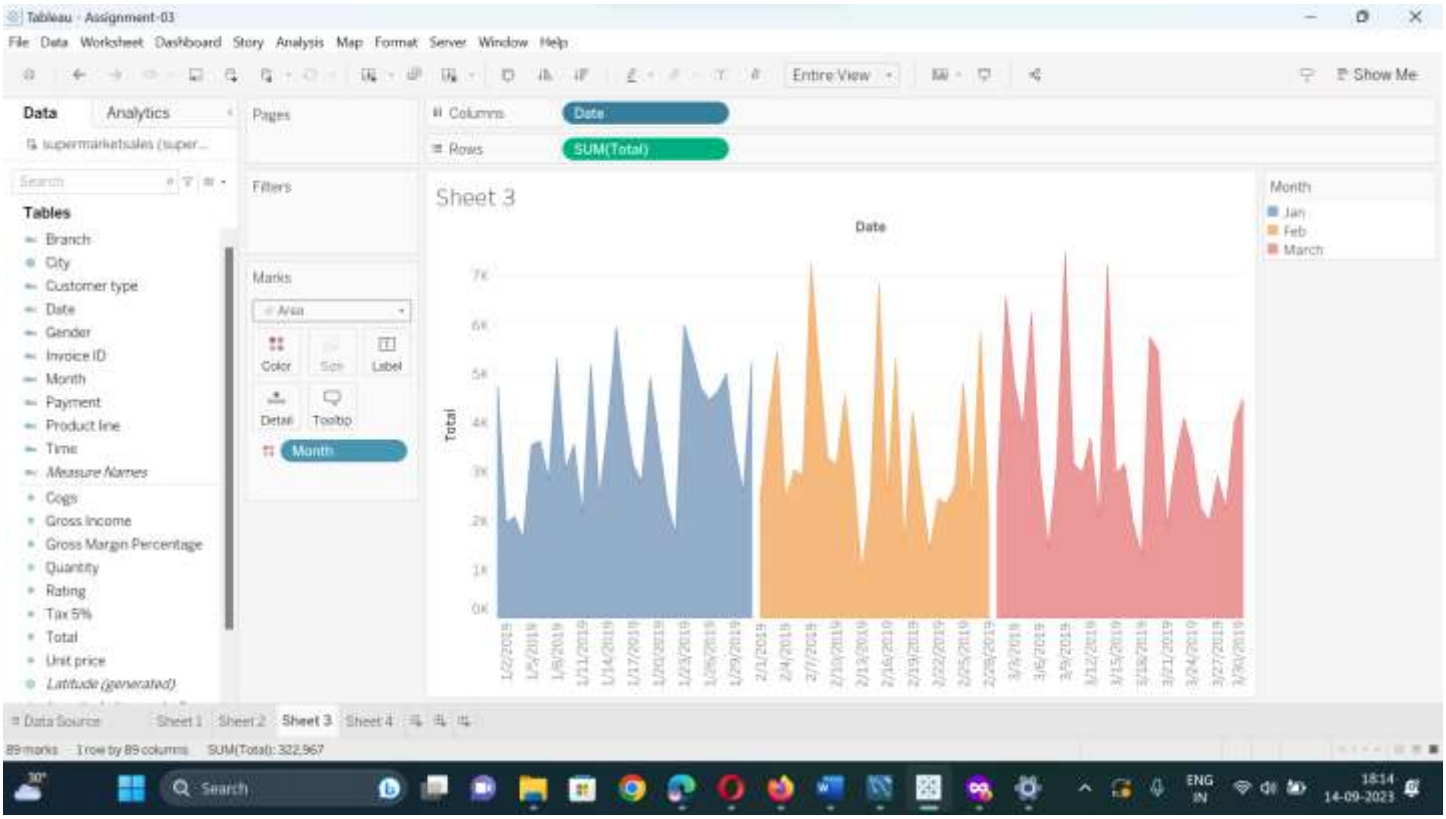
➢ *Data Exploration and Visualization:*

1. Which product categories are the most popular among customers and Which product categories generate the highest revenue?

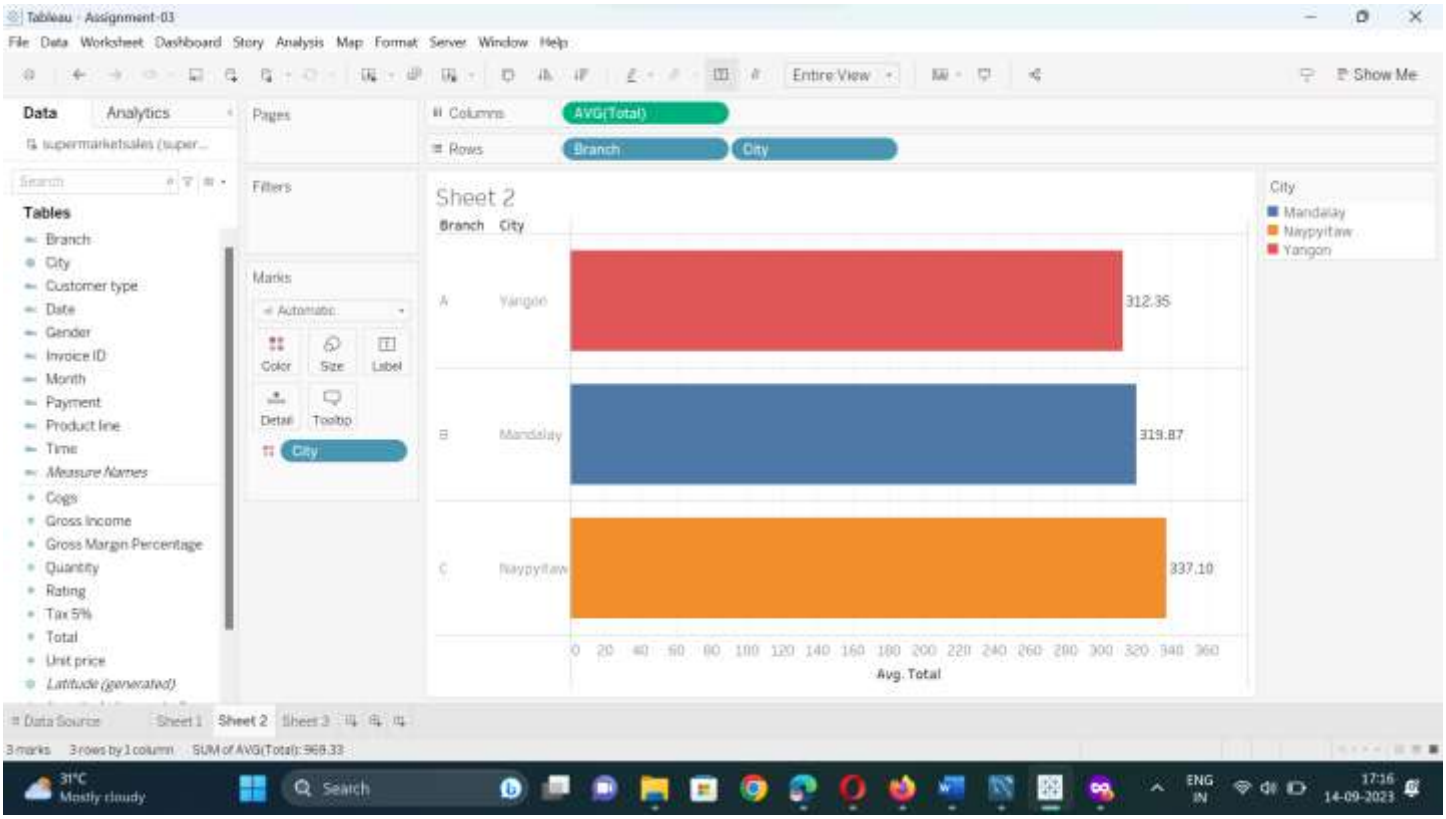


2. What are the sales trends over time, and are there any notable patterns or spikes?

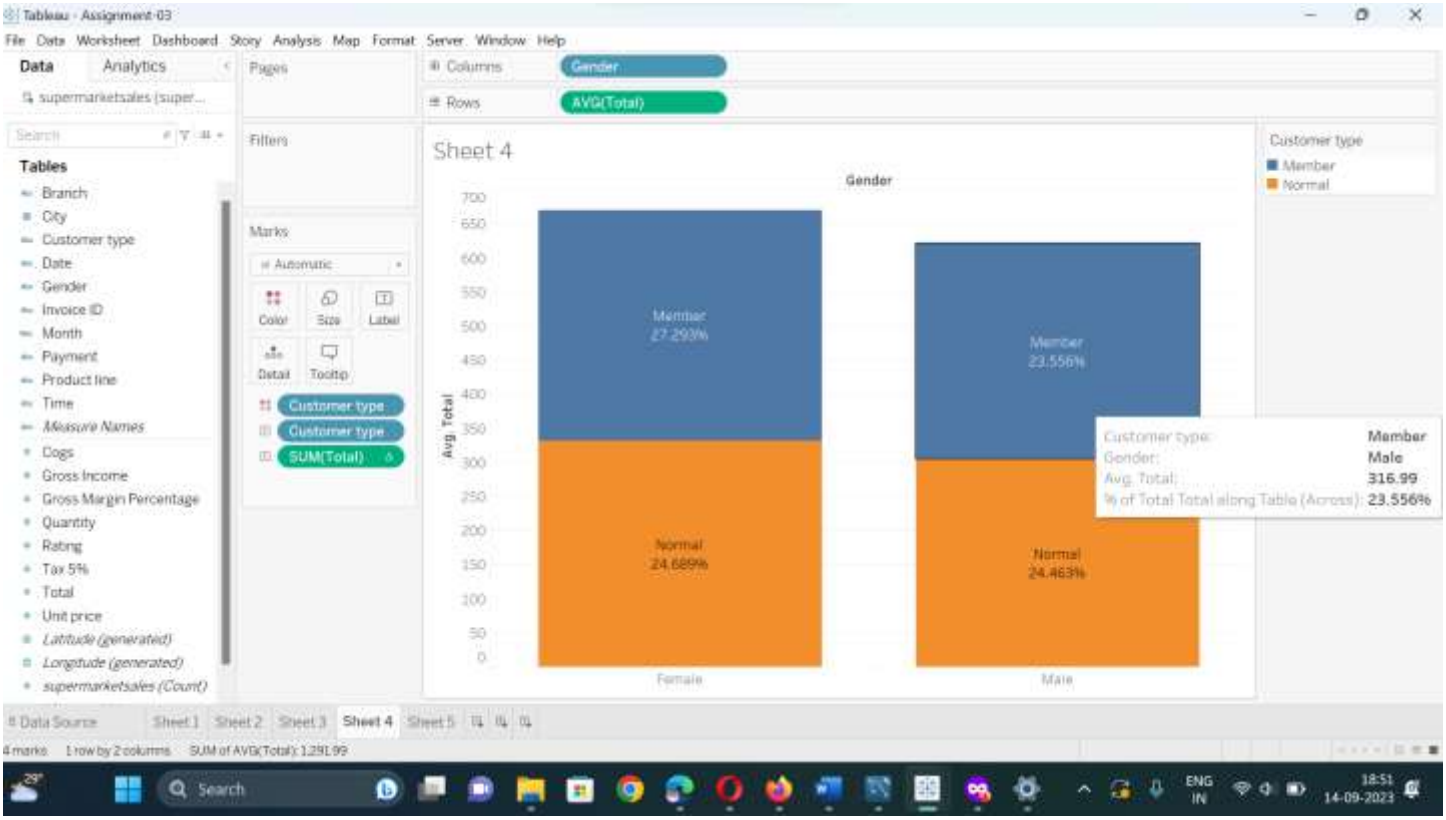




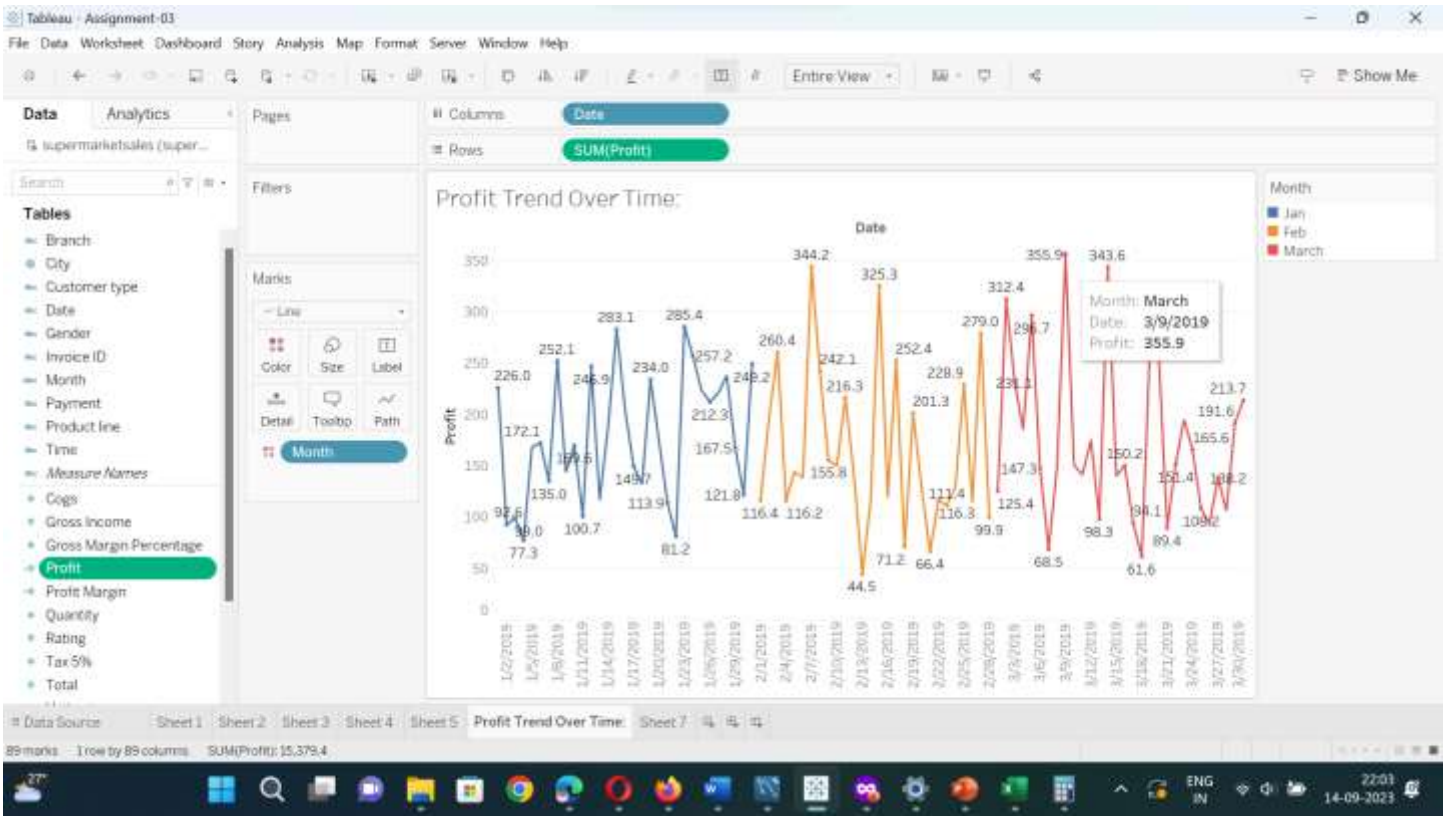
3. How do sales vary by city and branch?



4. Compare how member and non-member customers contribute to total sales, broken down by gender.



5. Profit Tend Over Time: *To Analyze how profit varies over time and identify trends.*



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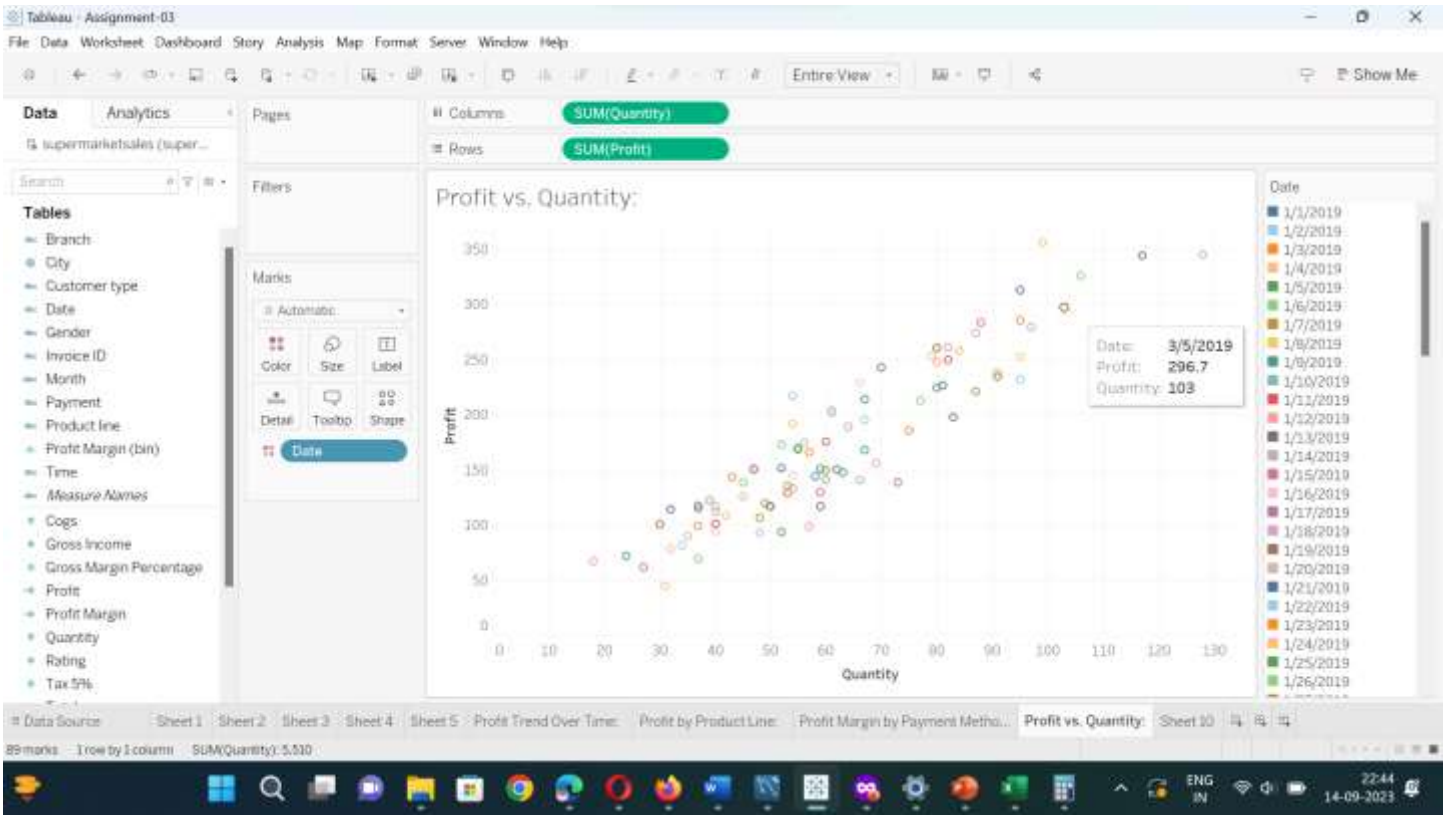
Profit vs. Quantity: *To Explore the relationship between the quantity of products sold and profit.*



- ***Results.***

  The project results in a streamlined dataset optimized for analysis. Through Tableau visualizations, we gain insights into sales trends across branches, customer segmentation, popular product categories, and more. These insights can inform strategic decisions, marketing efforts, and inventory management to enhance the supermarket's competitive edge in the market.

- ***References:***

https://help.tableau.com/current/pro/desktop/en-us/buildexamples_scatter.htm