

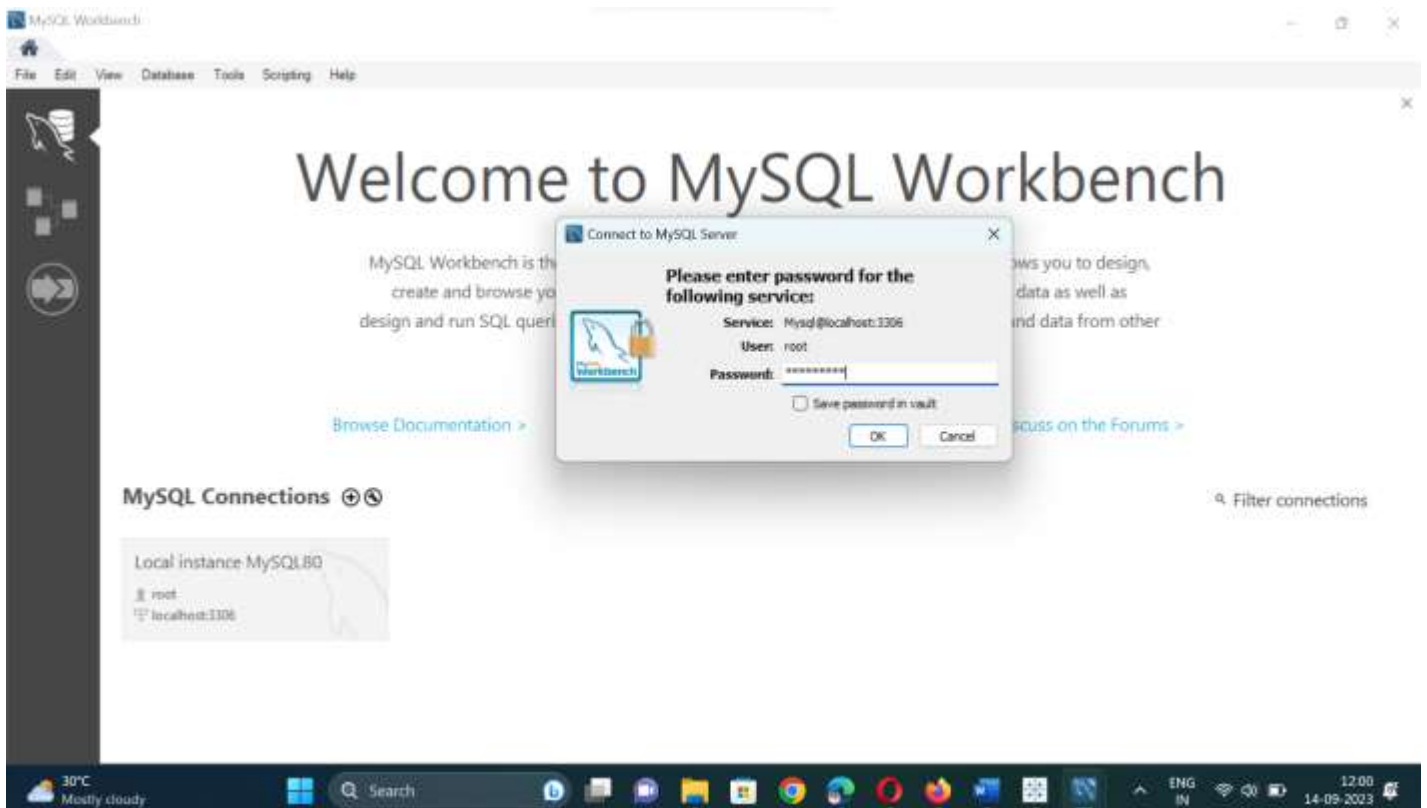
IBM COGNOS ANALYTICS ASSIGNMENT - 03

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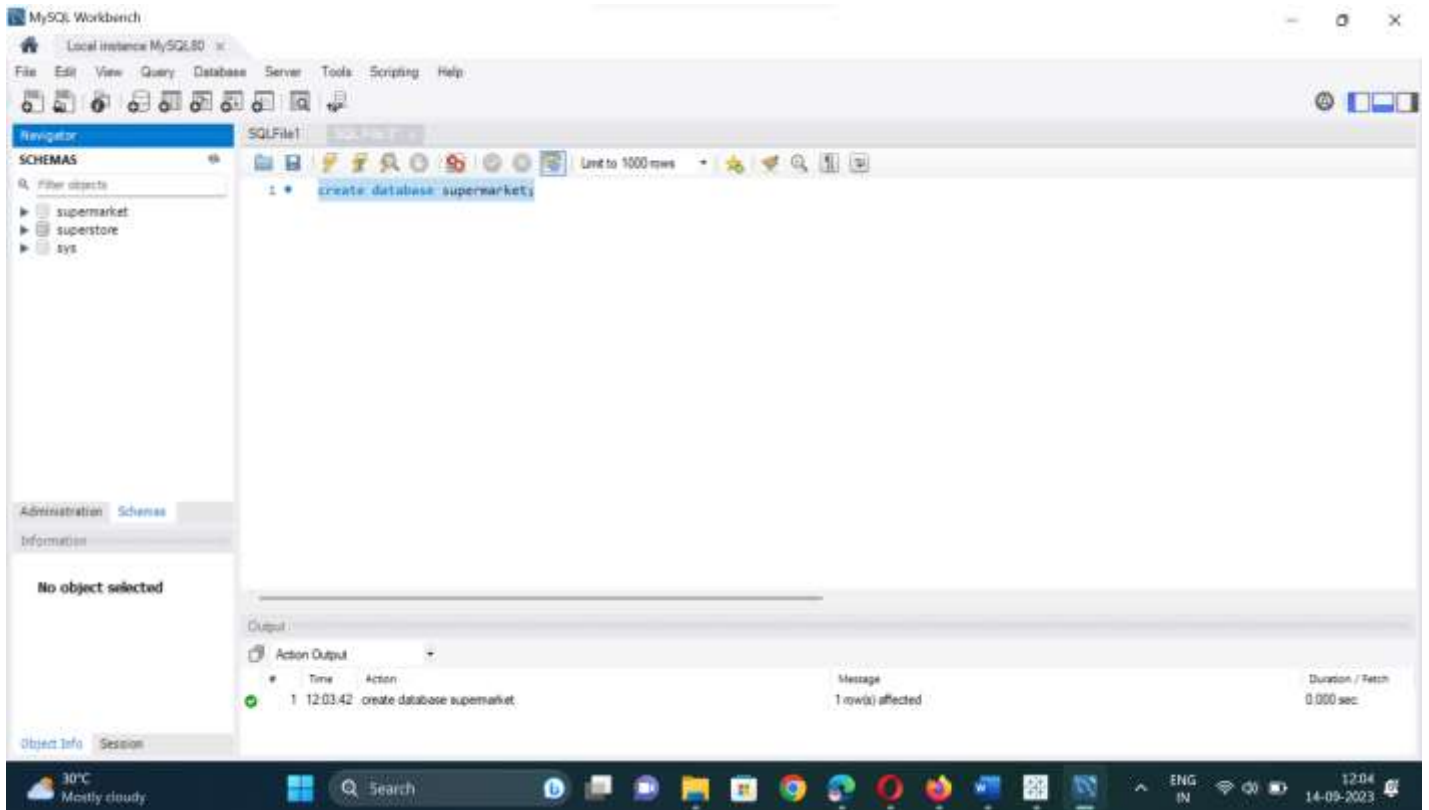
1. Upload the dataset to MySQL and integrate with Tableau, delete the unnecessary columns, explore and visualize the dataset using Tableau.

➤ MySQL Integration:

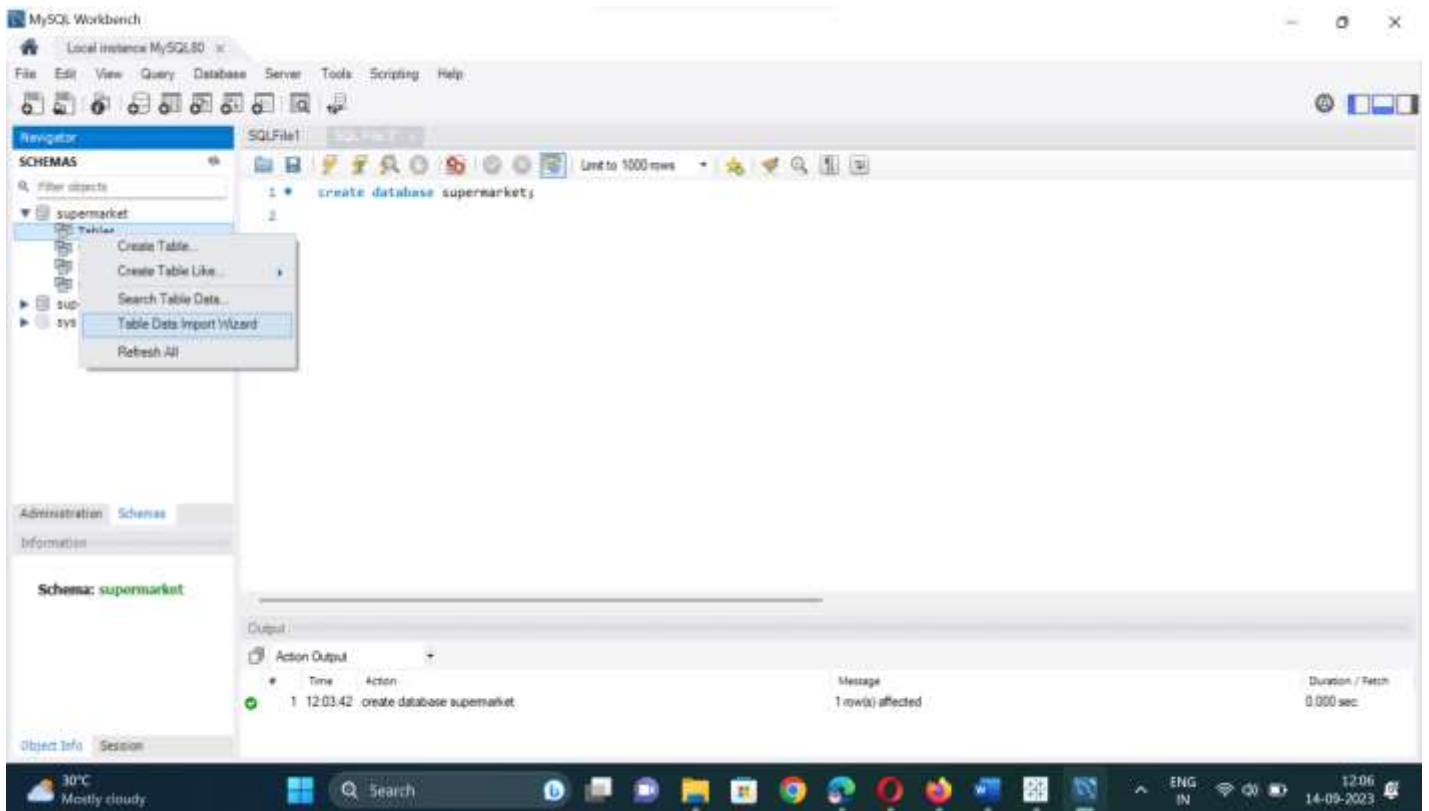
1.open MySQL Workbench:

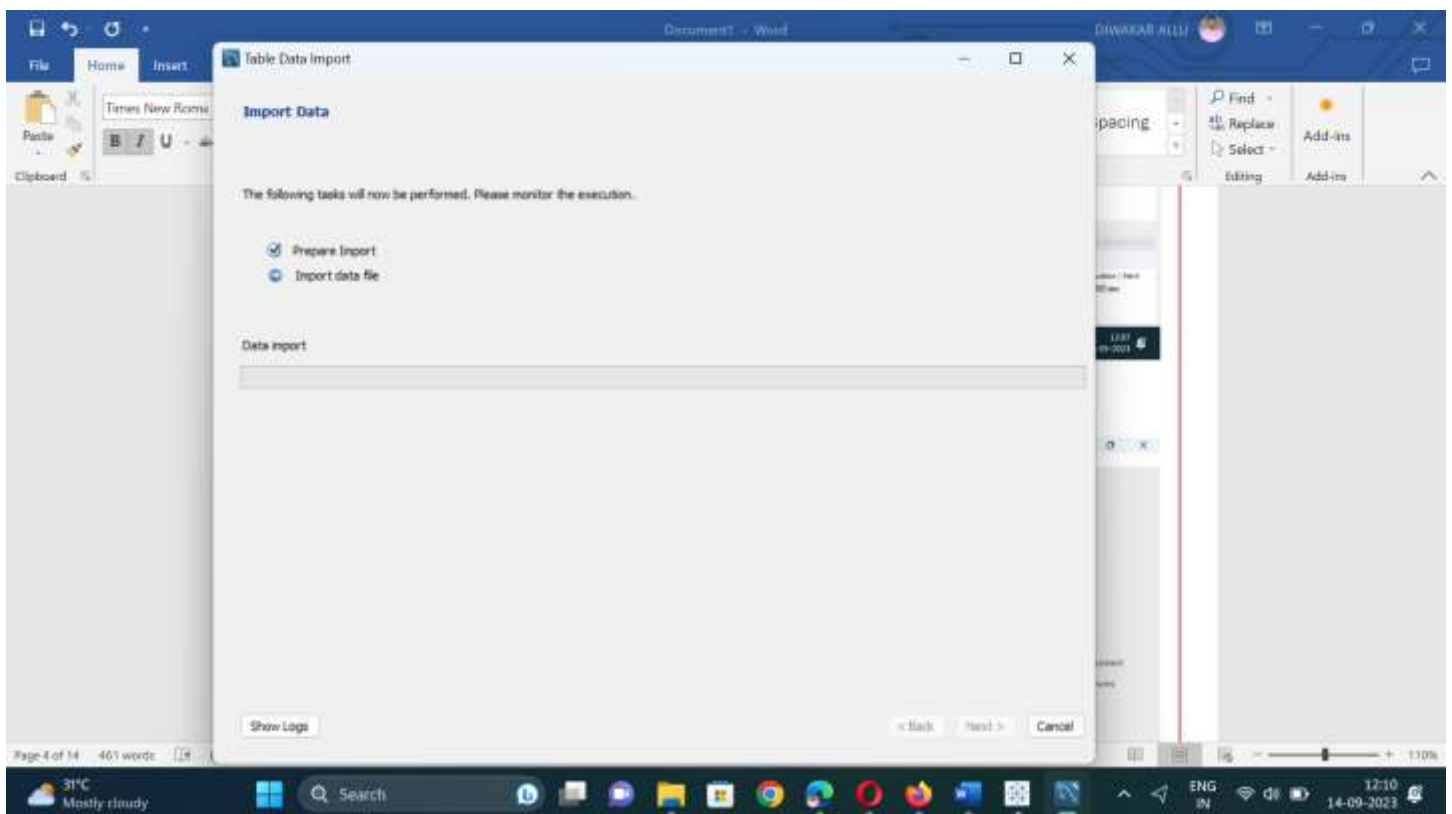
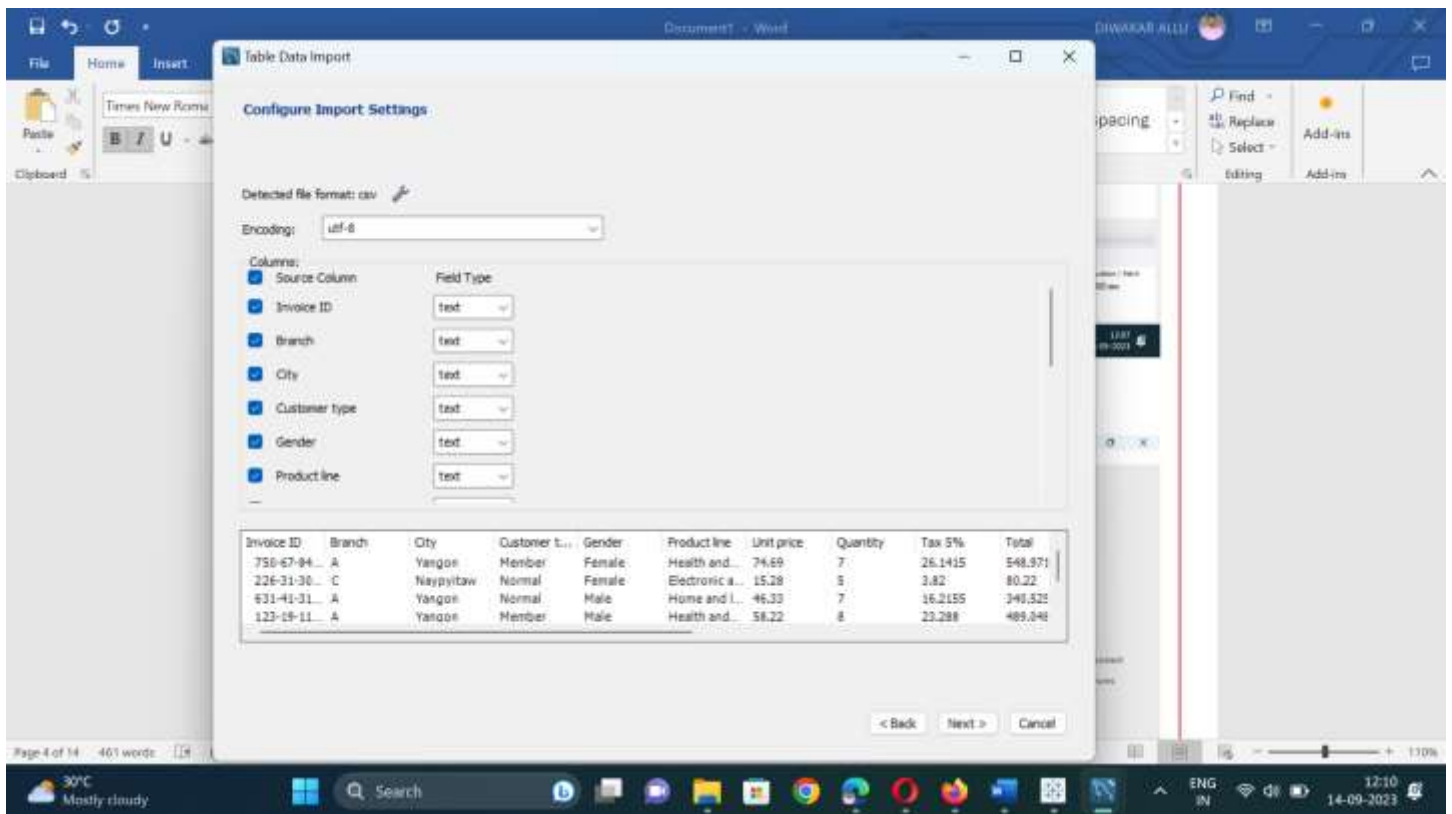


2.create a schema:



3. Import the data from local data set:





4. preprocess the data using SQL commands:

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

supermarket

Tables

supermarketsales

Columns

Indexes

Foreign Keys

Triggers

Views

Stored Procedures

Functions

superstore

sys

Administration Schemas

Information

Table: supermarketsales

Columns:

Invoice ID text

Branch text

City text

Customer type text

Gender text

Product line text

Unit price text

Quantity text

Tax 5% text

Total text

Date text

Time text

Payment text

cogs text

gross profit text

Object Info Session

SQL File1

SQL File 1

Limit to 1000 rows

```

1 create database supermarket;
2
3 use supermarket;
4 select * from supermarketsales;

```

Result Grid

Invoice ID	Branch	City	Customer type	Gender	Product line	Unit price	Quantity	Tax 5%	Total	Date	Time	Payment	cogs	gross profit
750-67-8428	A	Yangon	Member	Female	Health and beauty	74.69	7	26.1415	548.9715	1/5/2019	13:08	Ewalet	522.83	4.761
226-31-3081	C	Naypyitaw	Normal	Female	Electronic accessories	15.28	5	3.82	80.22	3/8/2019	10:29	Cash	76.4	4.761
631-41-3108	A	Yangon	Normal	Male	Home and lifestyle	46.33	7	16.2155	340.5255	3/3/2019	13:23	Credit card	324.31	4.761
123-19-1176	A	Yangon	Member	Male	Health and beauty	58.22	8	23.288	489.048	1/27/2019	20:33	Ewalet	465.76	4.761
373-73-7930	A	Yangon	Normal	Male	Sports and travel	86.31	7	30.2085	634.3785	2/8/2019	10:37	Ewalet	604.17	4.761

marketplaces 1 x

Output

Action Output

Time	Action	Message	Duration / Fetch
12:10:12	use supermarket;	0 row(s) affected	0.000 sec
12:10:21	select * from supermarketsales LIMIT 0, 1000	1000 row(s) returned	0.000 sec / 0.015 sec

31°C Mostly cloudy

Search

ENG IN

12:18 14-09-2023

MySQL Workbench

Local instance MySQL80

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Customer type text

Gender text

Product line text

Unit price text

Quantity text

Tax 5% text

Total text

Date text

Time text

Payment text

cogs text

gross profit text

Object Info Session

SQL File1

SupermarketSalesMySqlDesign

Limit to 1000 rows

```

12 select count(distinct('Branch')) from supermarketsales;
13
14 /* Total No of transactions in different city*/
15 select City,count('Invoice ID') as Total_Transactions
16 from supermarketsales
17 group by City
18 order by Total_Transactions;
19
20

```

Result Grid

City	Total_Transactions
Naypyitaw	328
Mandalay	330
Yangon	340

Result 11 x

Output

Action Output

Time	Action	Message	Duration / Fetch
12:36:34	select City,count('Invoice ID') as Total_order from supermarketsales group by City or...	3 row(s) returned	0.000 sec / 0.000 sec
12:37:21	select City,count('Invoice ID') as Total_Transactions from supermarketsales group b...	3 row(s) returned	0.016 sec / 0.000 sec

31°C Mostly cloudy

Search

ENG IN

12:37 14-09-2023

MySQL Workbench

Local instance MySQL80

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superstore

Tables

superdata

Columns

Row ID

Administration Schemas

Information

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

SQLFile1 SupermarketSalesMySQLdesign Administration - Server Status supermarket supermarketsales

Limit to 1000 rows

```

19
20 /* Both extraction from date*/
21 ALTER TABLE supermarketsales
22 ADD COLUMN Month INT;
23
24 UPDATE supermarketsales
25 SET Month = MONTH(Date);
26
27 ALTER TABLE supermarketsales
28 DROP COLUMN 'Invoice ID';
29
30
31

```

Result grid

Filter Rows

Exports

Wrap Cell Contents

Fetch rows

Branch	City	gross income	cogs
A	Yangon	8.2005	364.01
E	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	365.89
A	Yangon	21.036	430.72

supermarketsales 14 x

Read Only

27° Search

ENG IN

20:01 14-09-2023

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

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superdata

Columns

Row ID

Order ID

Ship Date

Administration Schemas

Information

Payment text

cogs double

gross margin double

percentage double

gross double

income double

Rating double

Object Info Session

SQLFile1 SupermarketSalesMySQLdesign Administration - Server Status supermarket supermarketsales

Limit to 1000 rows

```

25 SET Month = MONTH(Date);
26
27 ALTER TABLE supermarketsales
28 DROP COLUMN 'Invoice ID';
29
30 alter table supermarketsales add profit int;
31 update supermarketsales set profit = ('gross income' - 'cogs');
32
33 alter table supermarketsales add profitMargin int;
34 update supermarketsales set profitMargin = ('profit' / 'Total');
35

```

Result grid

Filter Rows

Exports

Wrap Cell Contents

Fetch rows

id	City	Customer type	Gender	Product line	Unit price	Quantity	Tax 5%	Total	Date	Time	Payment	cogs	gross margin percentage
1	Yangon	Member	Female	Health and beauty	74.69	7	26.1415	548.9715	1/5/2019	13:08	Ewallet	522.83	4.761904762
2	Naypyitaw	Normal	Female	Electronic accessories	13.28	5	3.82	80.22	3/8/2019	10:29	Cash	76.4	4.761904762
3	Yangon	Normal	Male	Home and lifestyle	46.23	7	16.2155	340.5255	3/3/2019	13:23	Credit card	324.31	4.761904762
4	Yangon	Member	Male	Health and beauty	58.22	8	23.288	499.048	1/27/2019	20:33	Ewallet	465.76	4.761904762
5	Yangon	Normal	Male	Sports and travel	86.31	7	30.2085	634.3785	2/8/2019	10:37	Ewallet	604.17	4.761904762
6	Naypyitaw	Normal	Male	Electronic accessories	85.39	7	29.8865	627.6165	3/25/2019	18:30	Ewallet	597.73	4.761904762
7	Yangon	Member	Female	Electronic accessories	68.84	6	20.652	433.692	2/25/2019	14:36	Ewallet	413.04	4.761904762
8	Naypyitaw	Normal	Female	Home and lifestyle	73.56	10	36.78	772.38	2/24/2019	11:38	Ewallet	725.6	4.761904762
9	Yangon	Member	Female	Health and beauty	36.26	2	3.626	76.146	1/10/2019	17:13	Credit card	72.52	4.761904762
10	Mandalay	Member	Female	Food and beverages	54.84	3	8.226	172.746	2/20/2019	13:27	Credit card	164.52	4.761904762

supermarketsales 16 x

Read Only

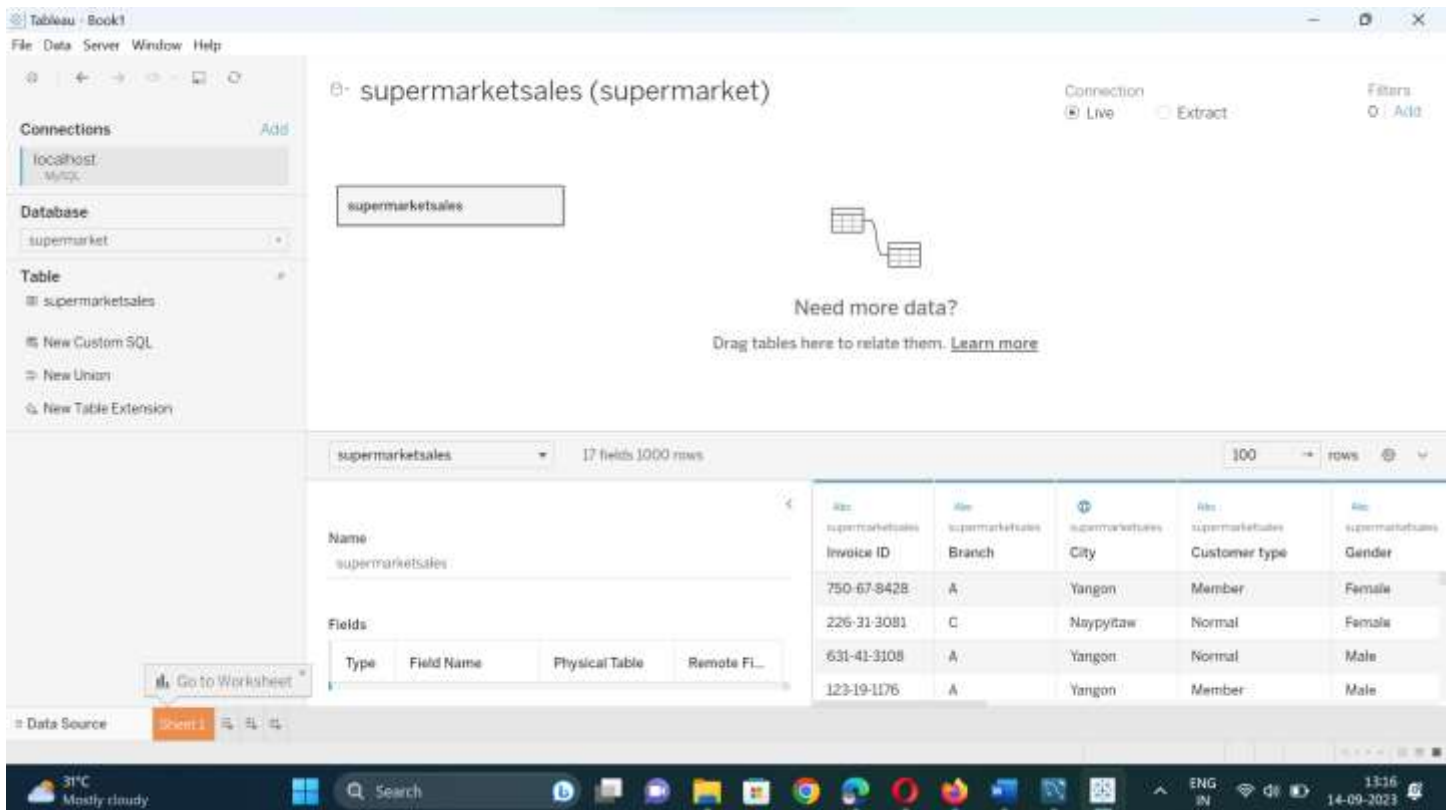
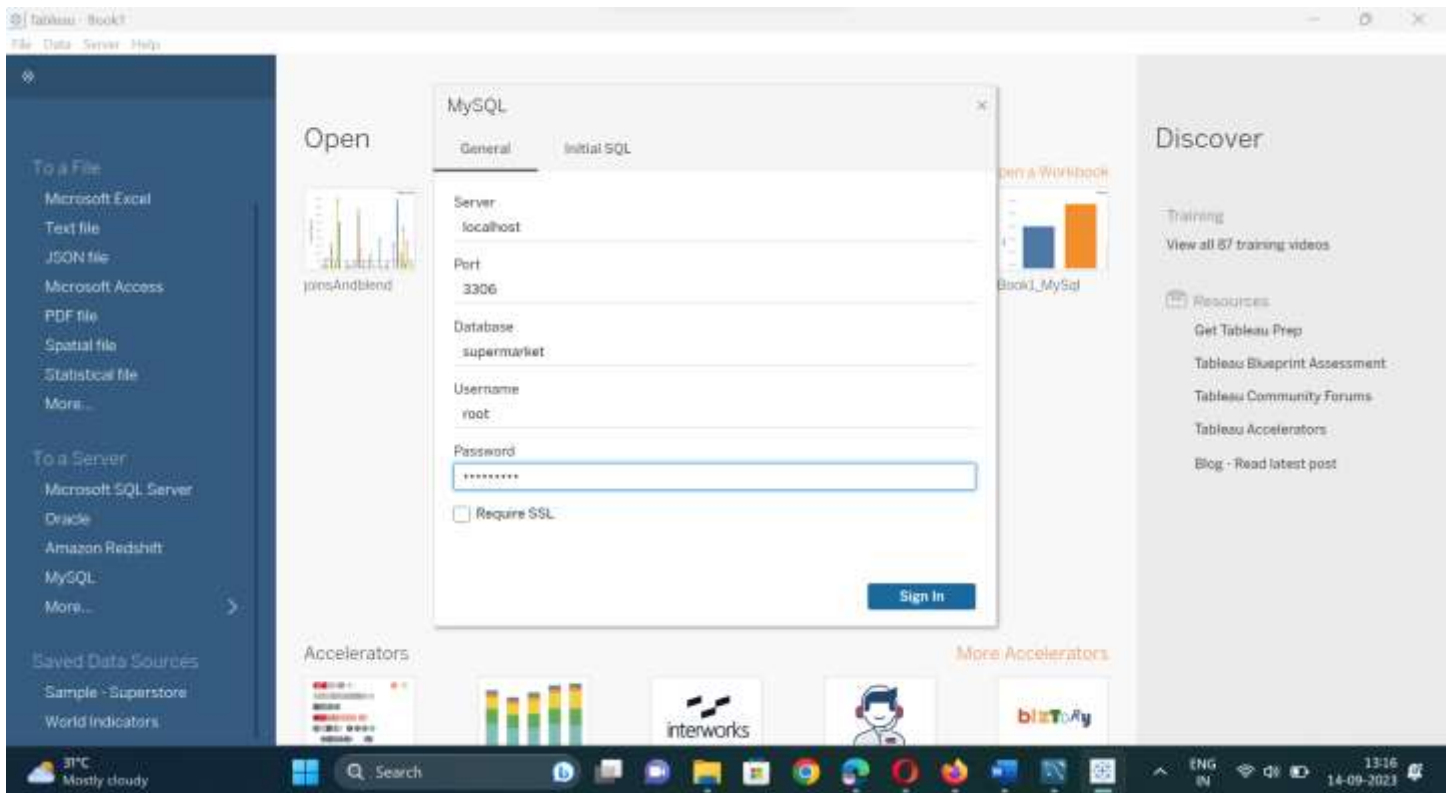
27° Search

ENG IN

20:13 14-09-2023

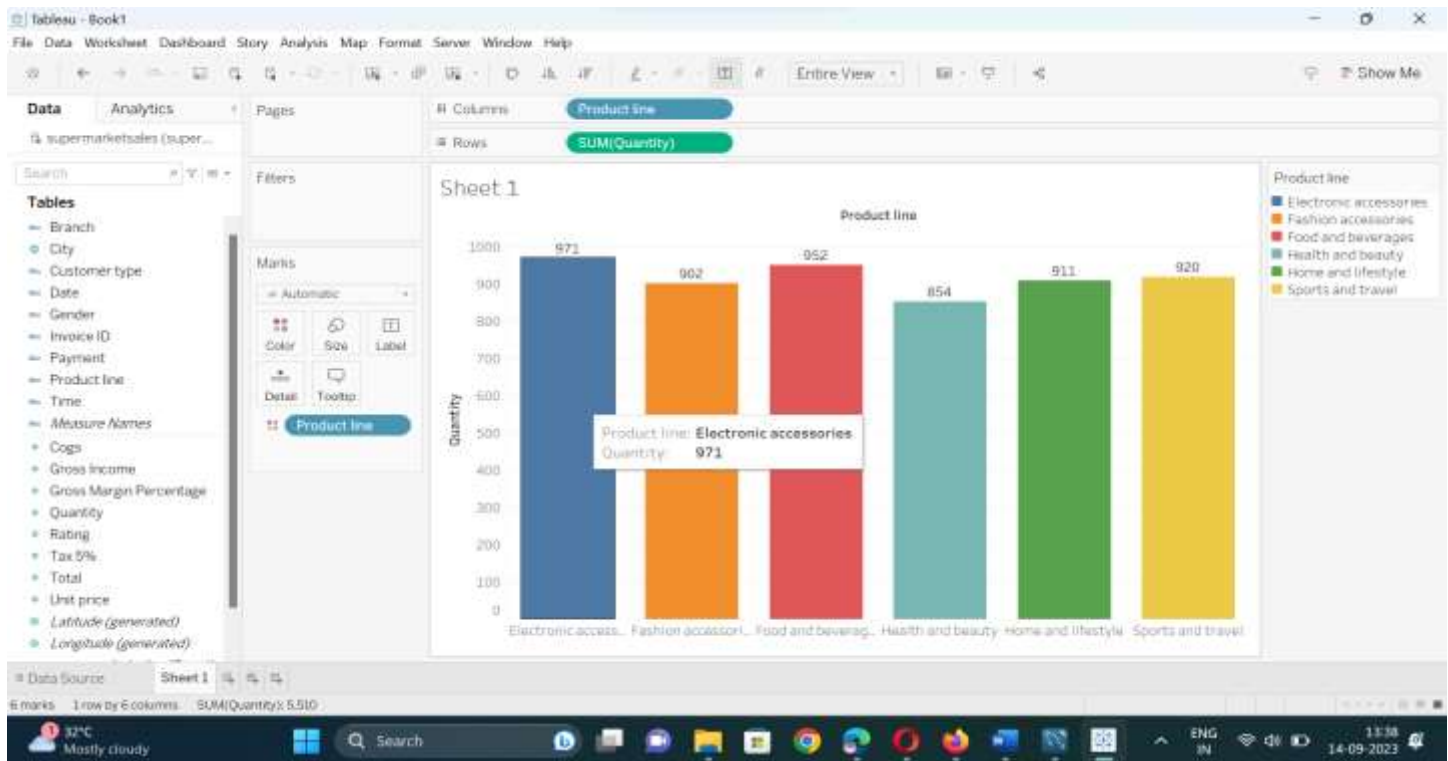
➤ Tableau Integration:

select MySQL in Connect to a Server option

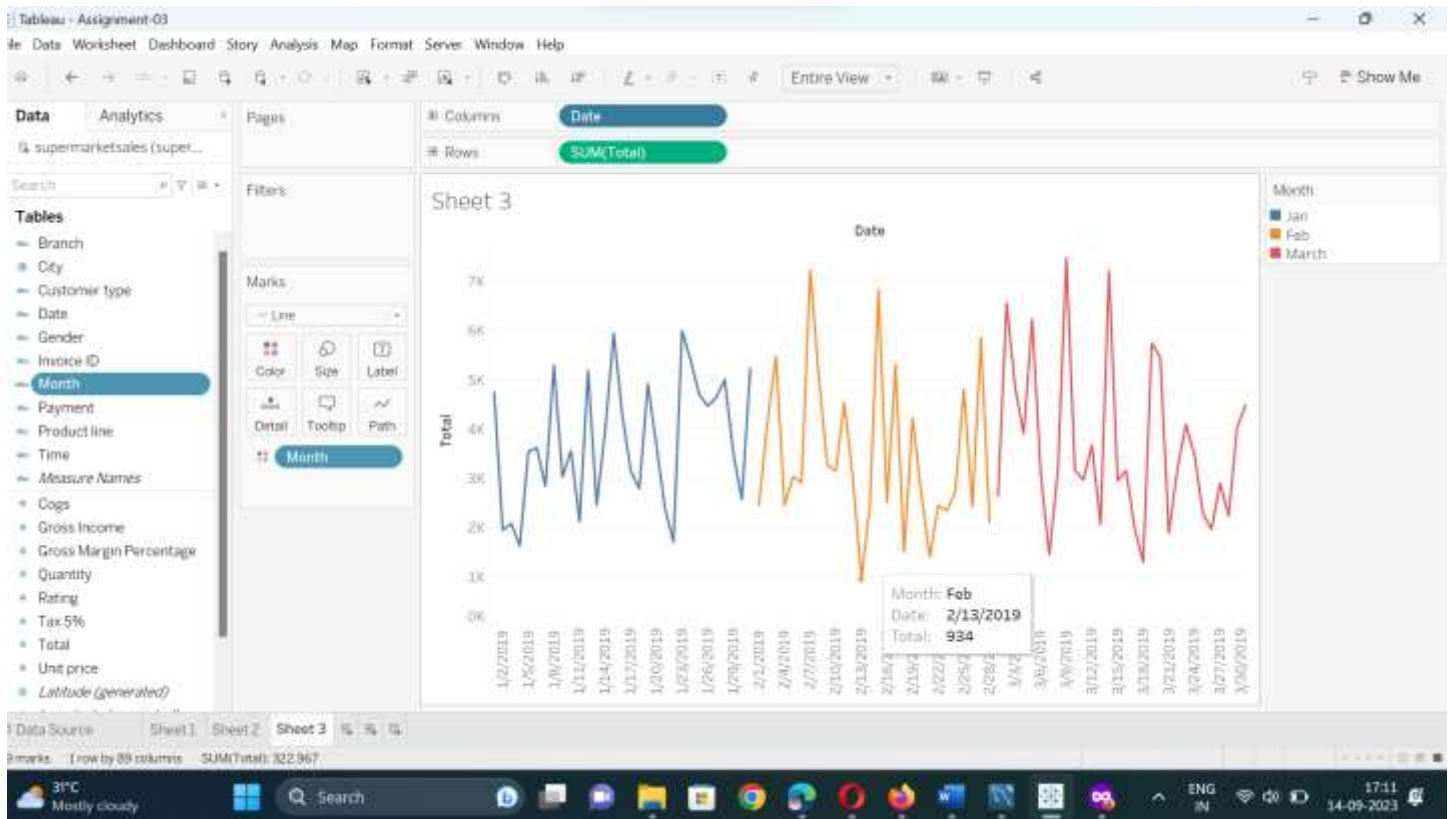


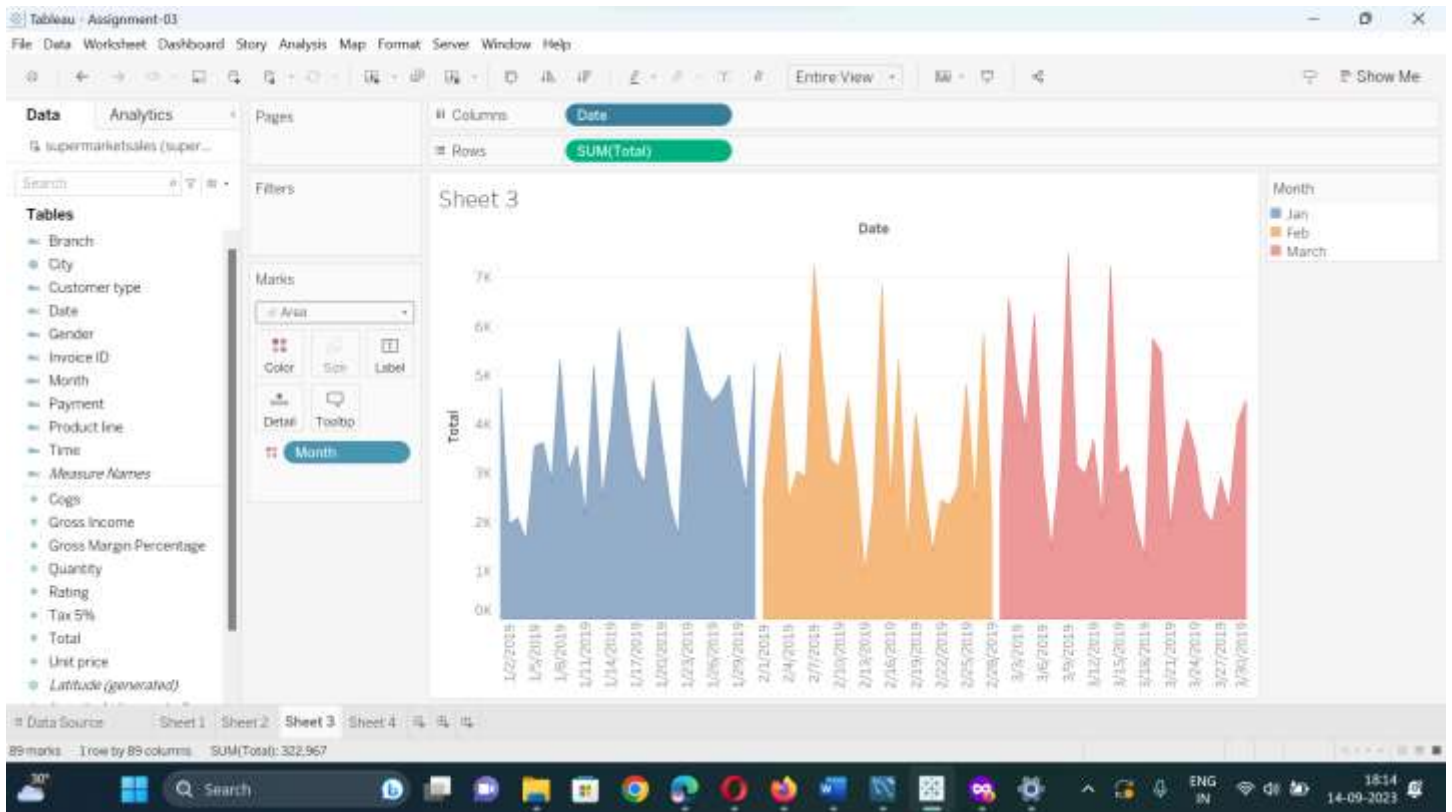
➤ Data Exploration and Visualization:

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

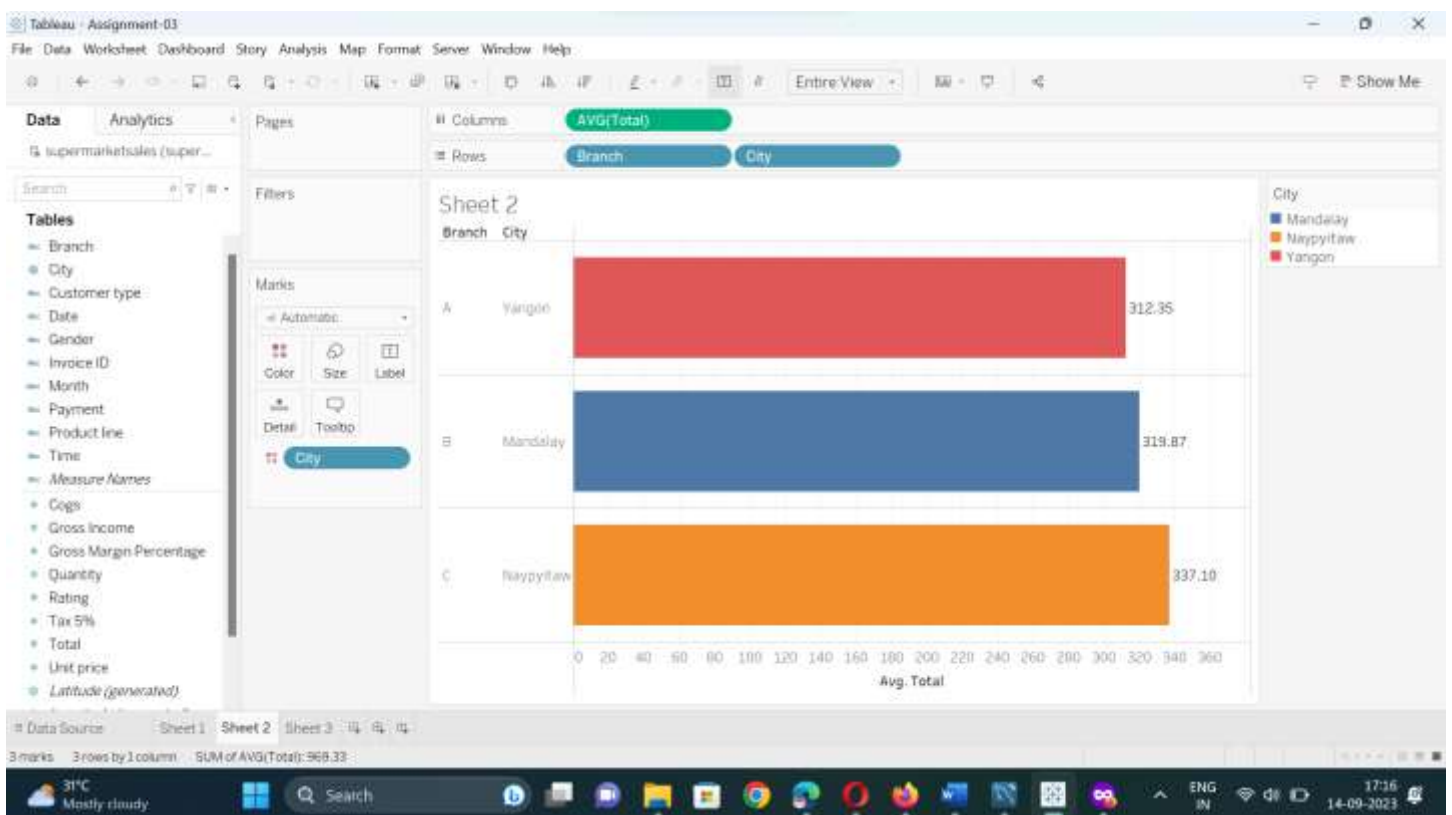


2. What are the sales trends over time, and are there any notable patterns or spikes?

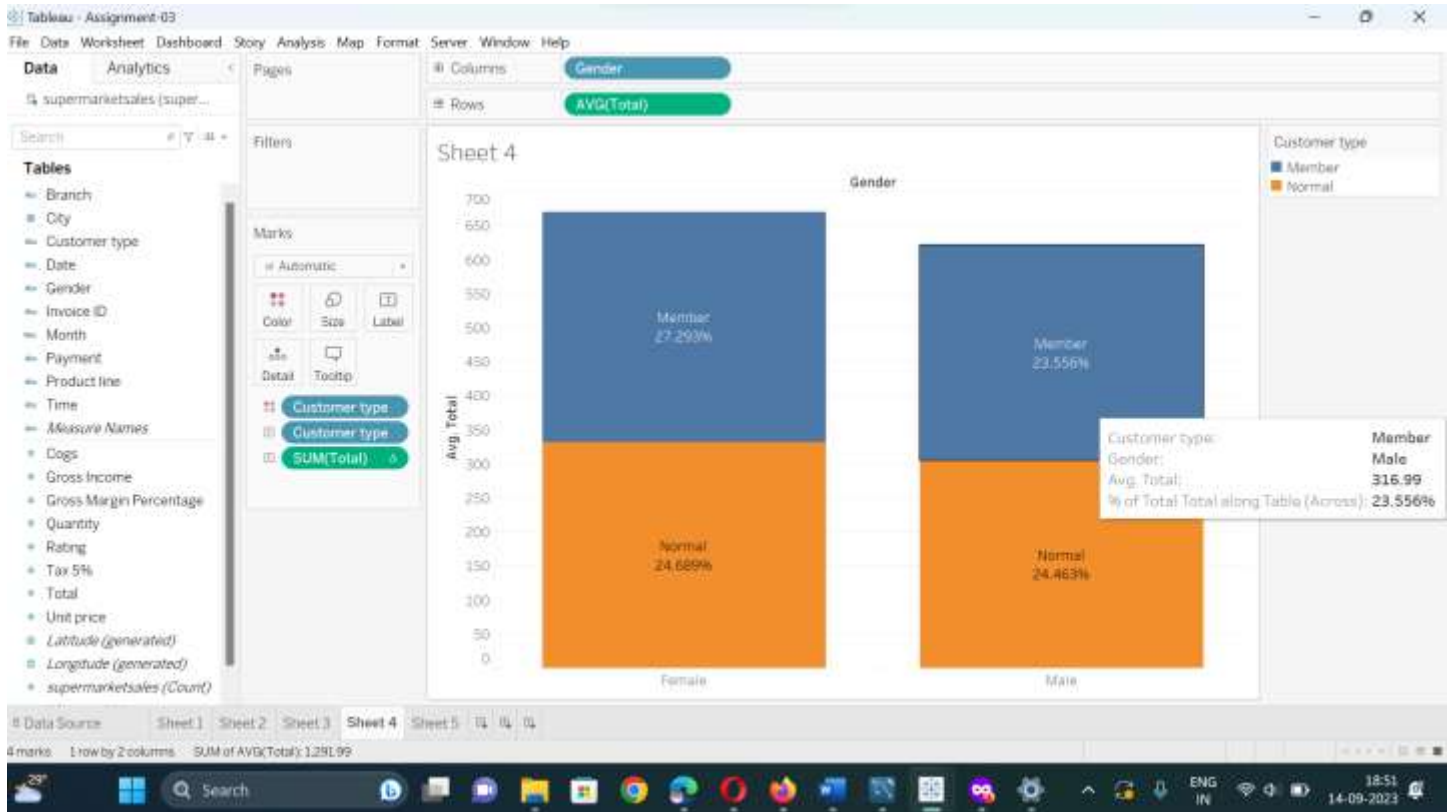




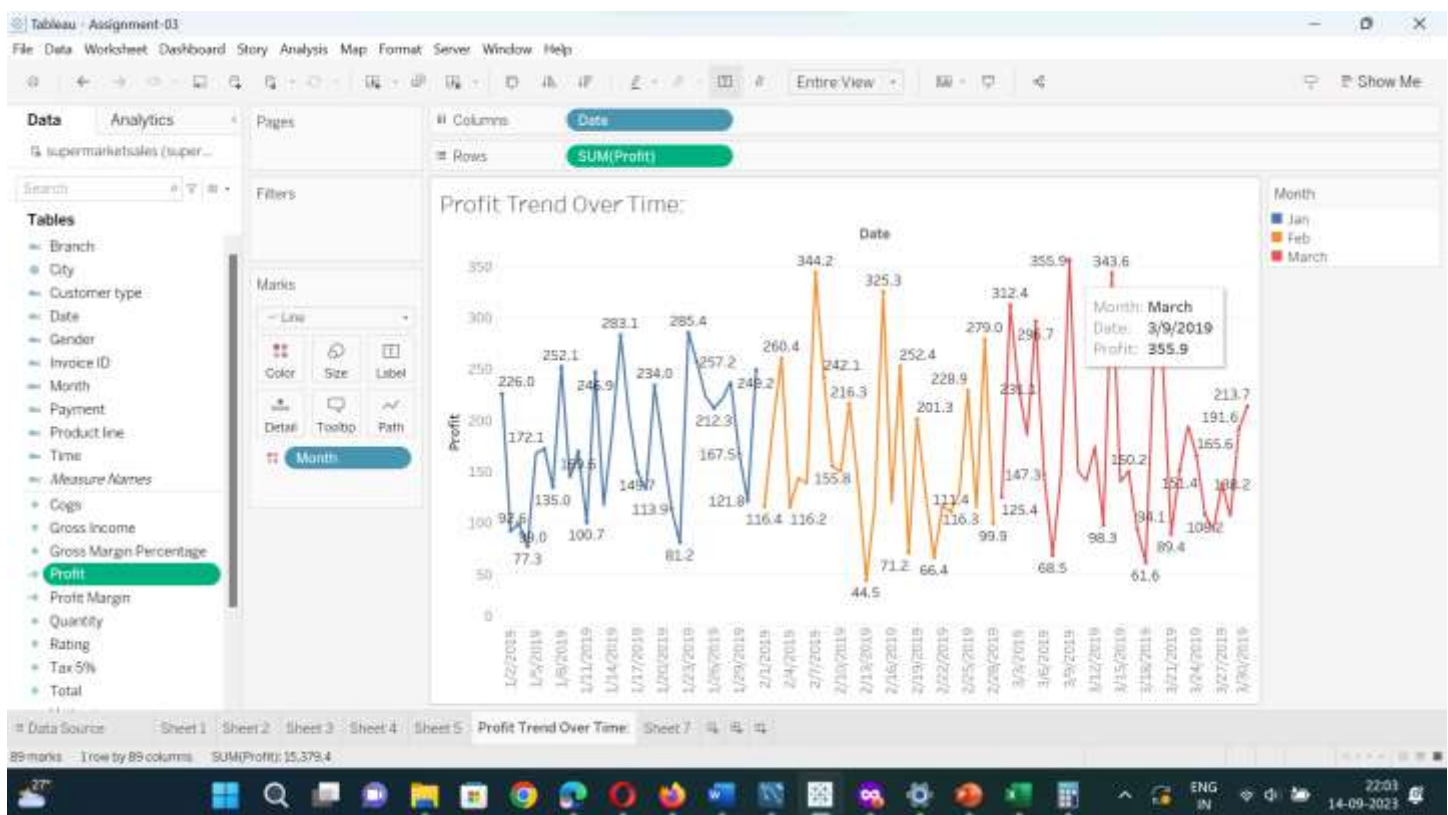
3. How do sales vary by city and branch?



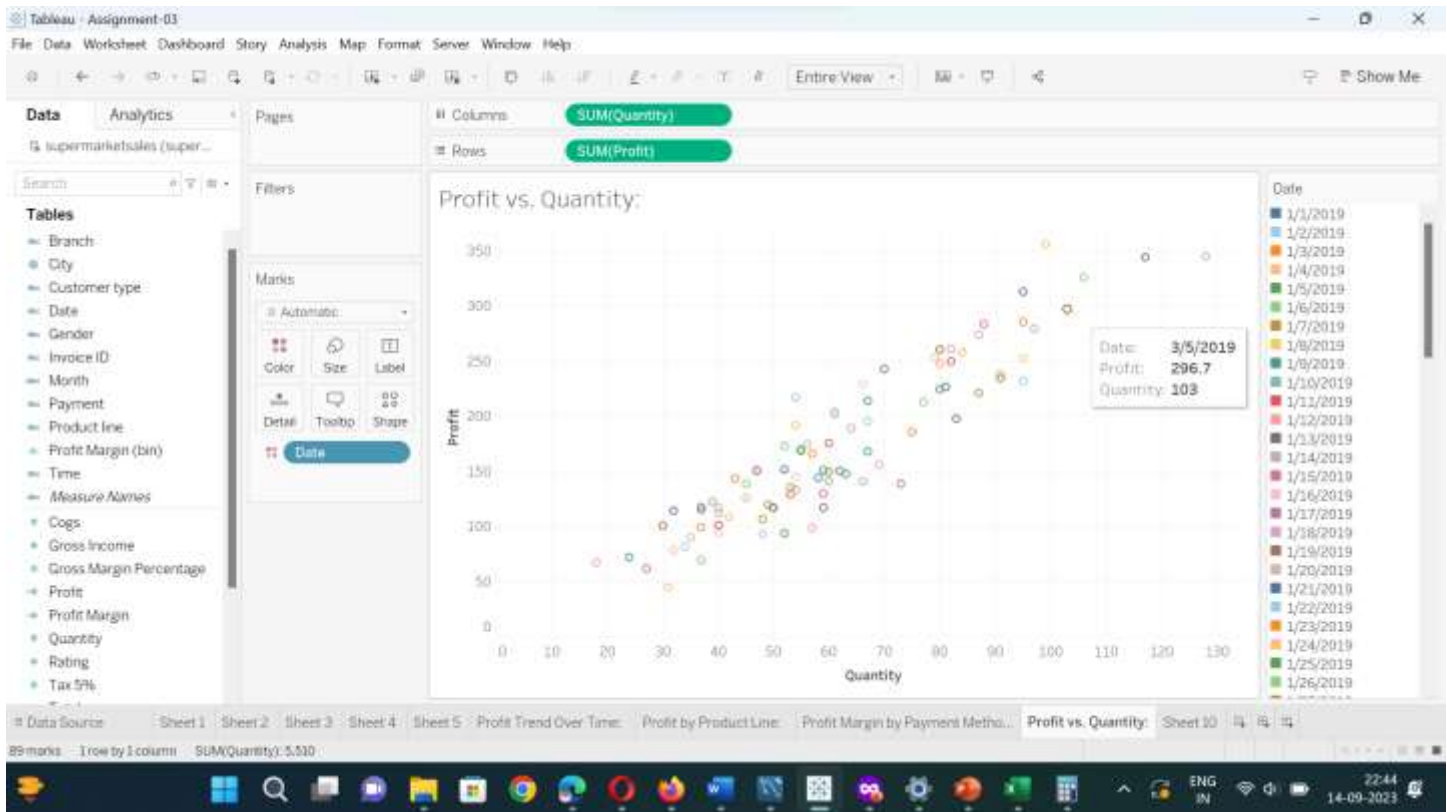
4. Compare how member and non-member customers contribute to total sales, broken down by gender.



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



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.html