LECTURE NOTES PREPARED BY Dr.T.S.RAVI KIRAN,

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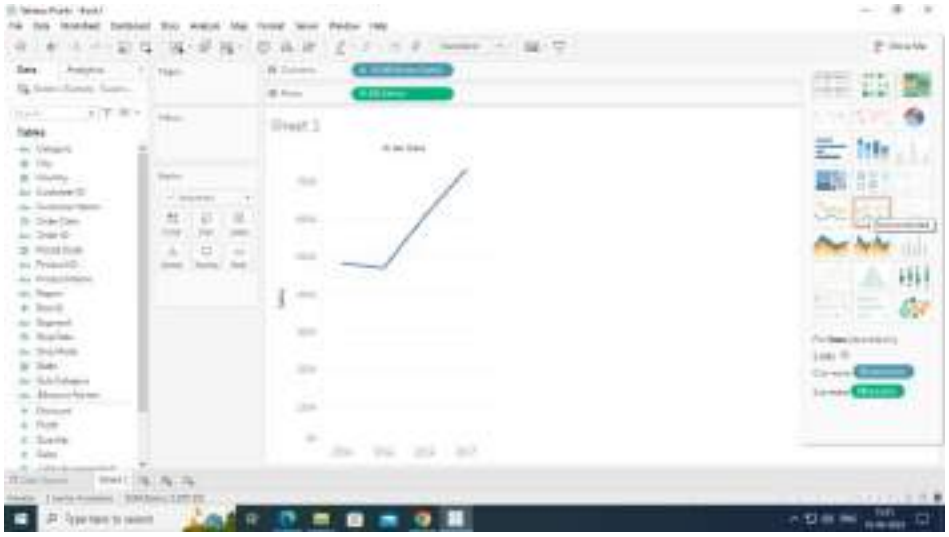
COURESE: DATA SCIENCE COURESE CODE: 22CS3T1

ACADEMIC YEAR: 2022-2023

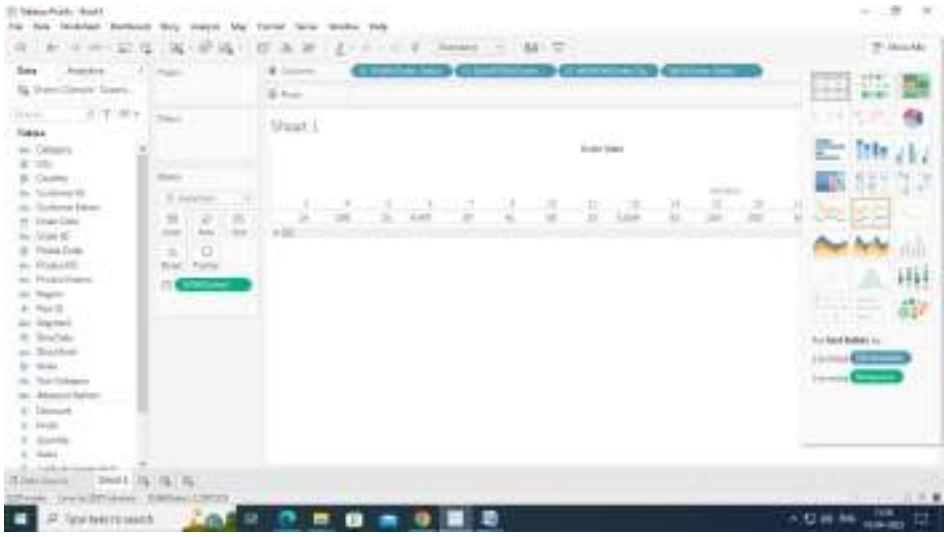
CONTENTS:

TASK1: VARIOUS VIEWS OF DIMENSION YEAR AND MEASURE SALES

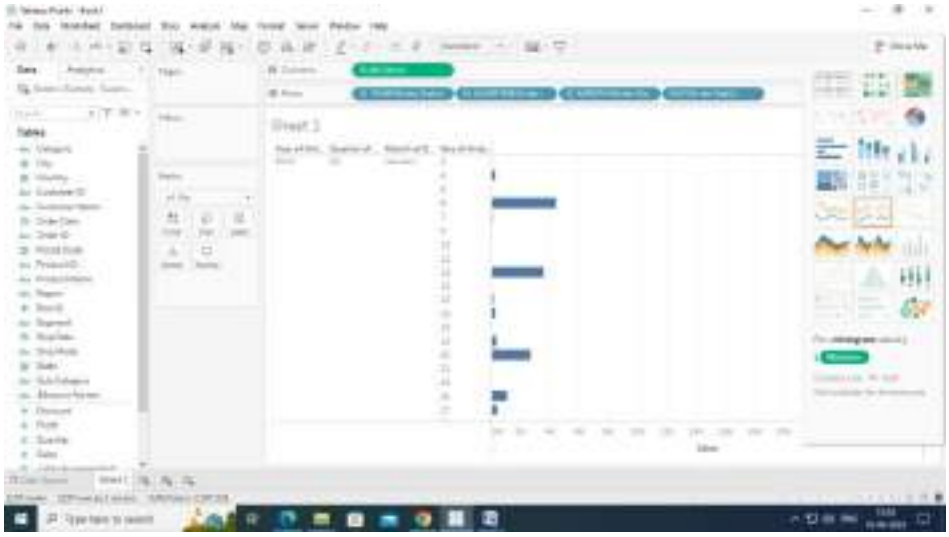
Line

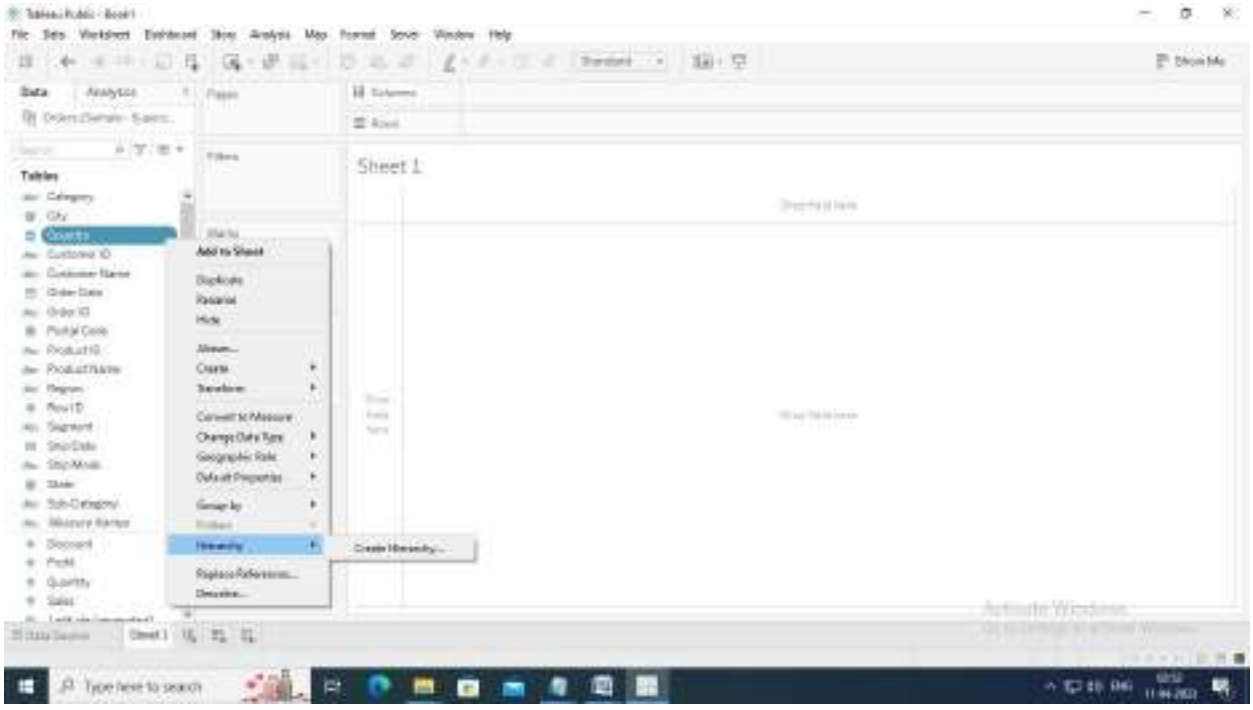


Text Table View

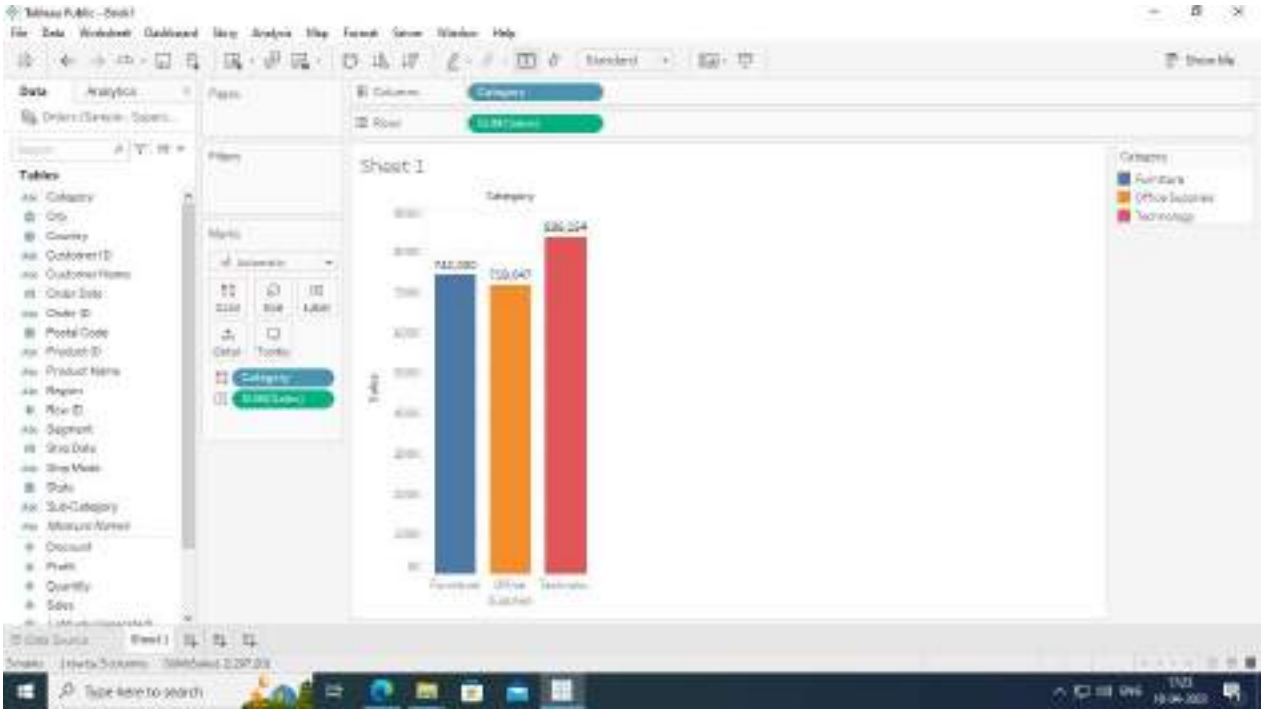


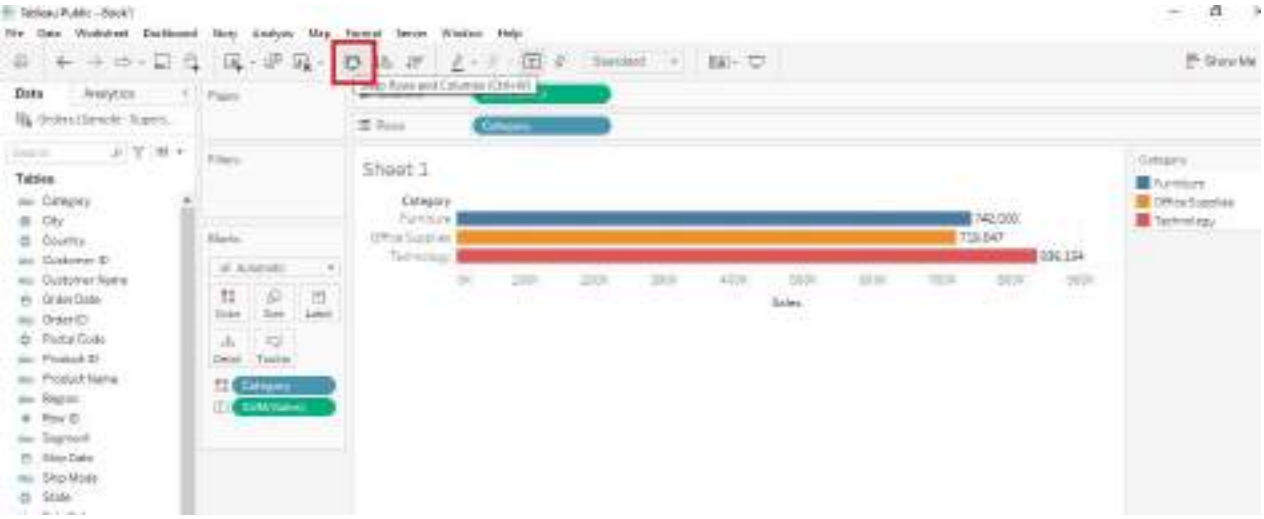
Histogram View





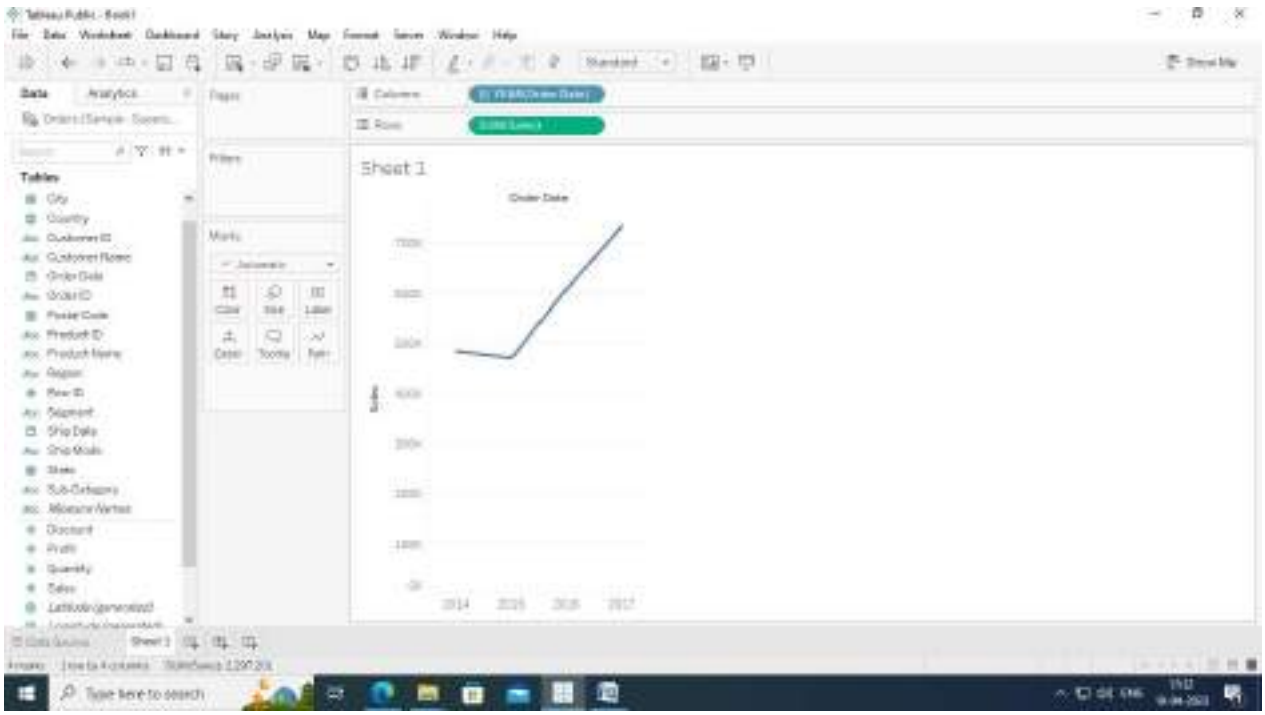
TASK2: BAR CHART





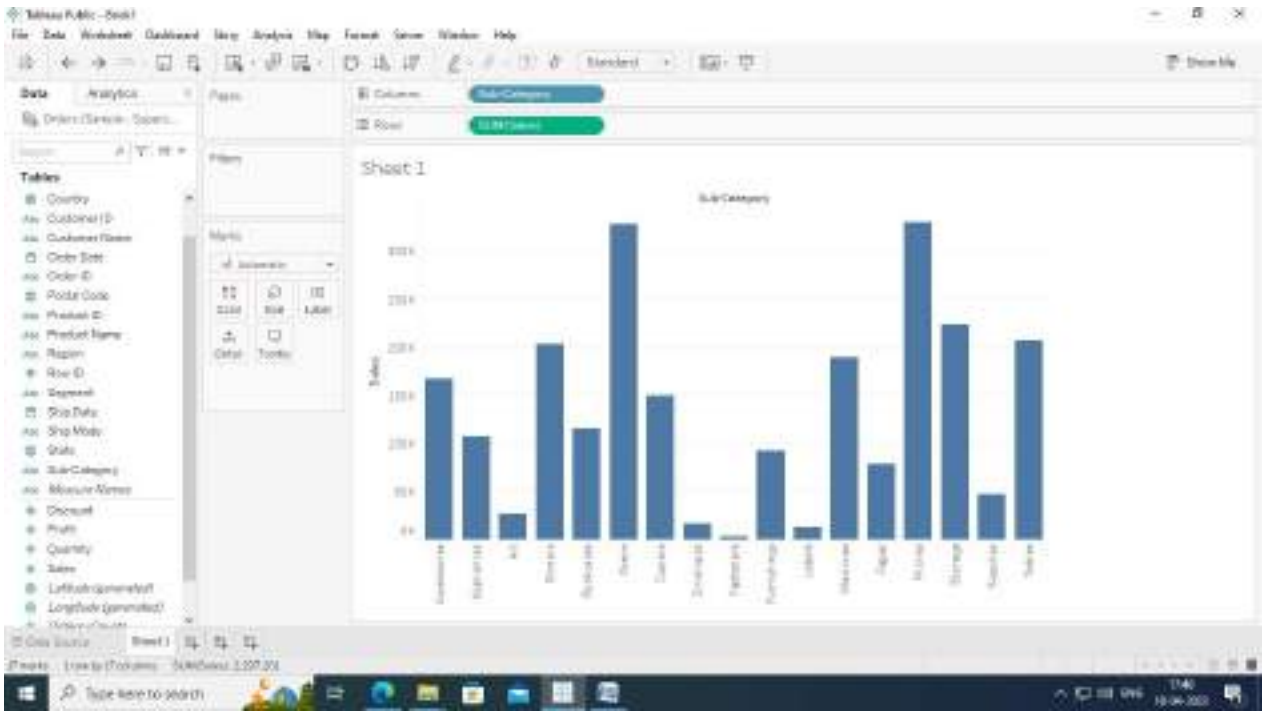
To flip the Bar Chart (Horizontal)

TASK3: LINE CHART

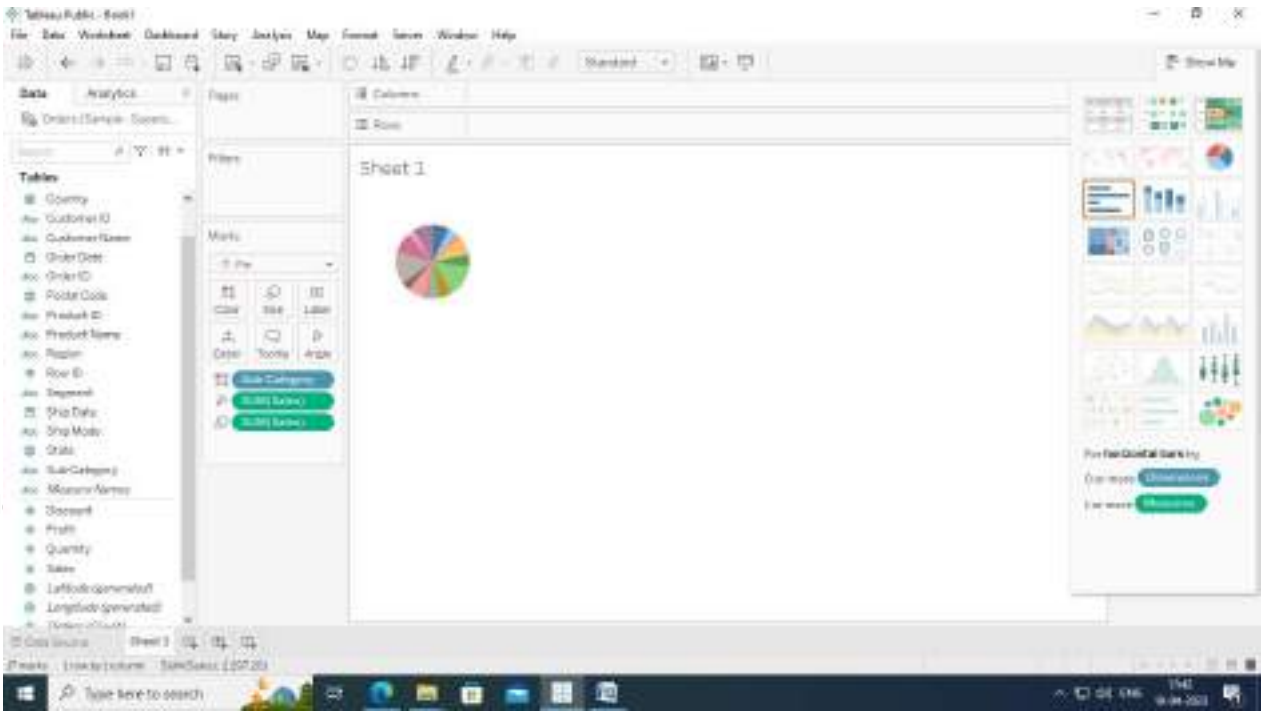


TASK4: PIE CHART

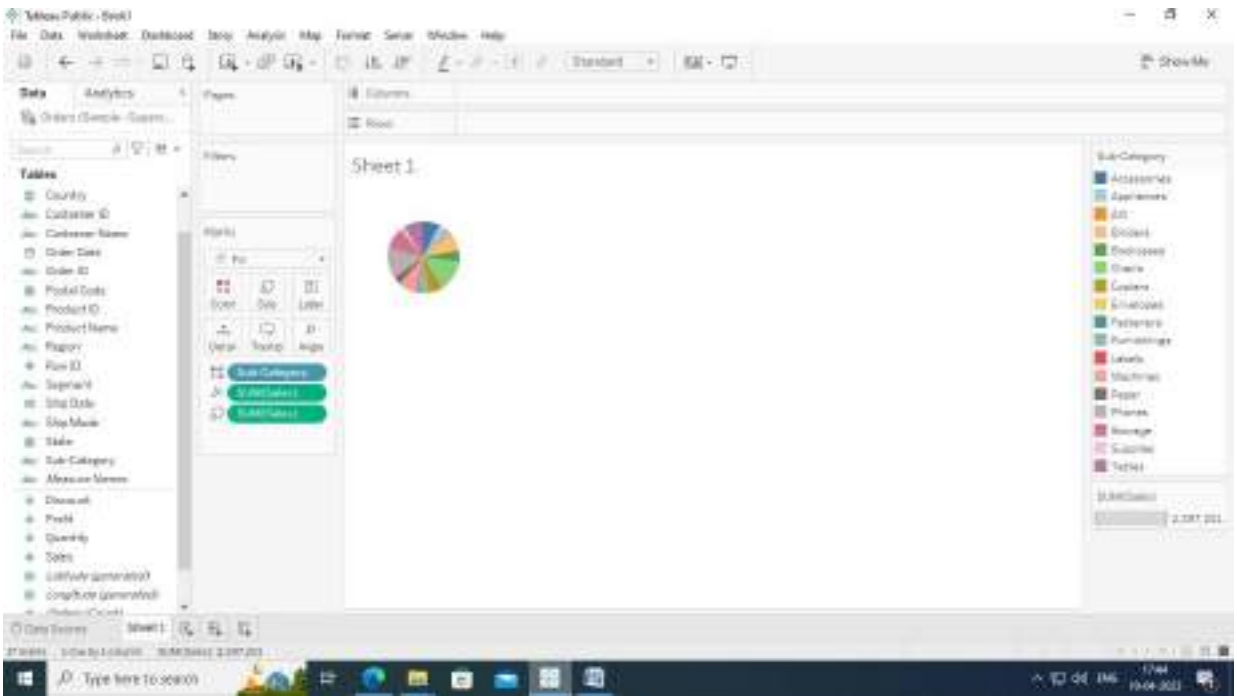
Step 1: Drag dimension Sub-Category on Column Shelf



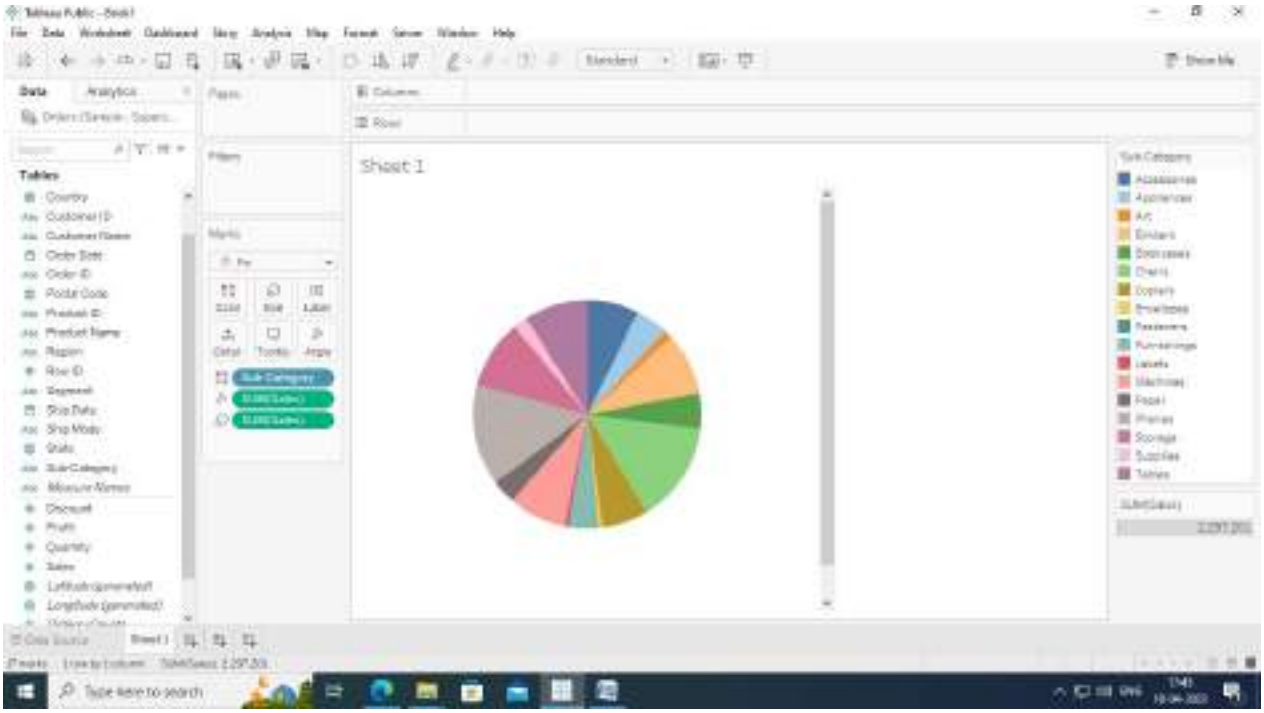
Step 2: Go to **Show Me**



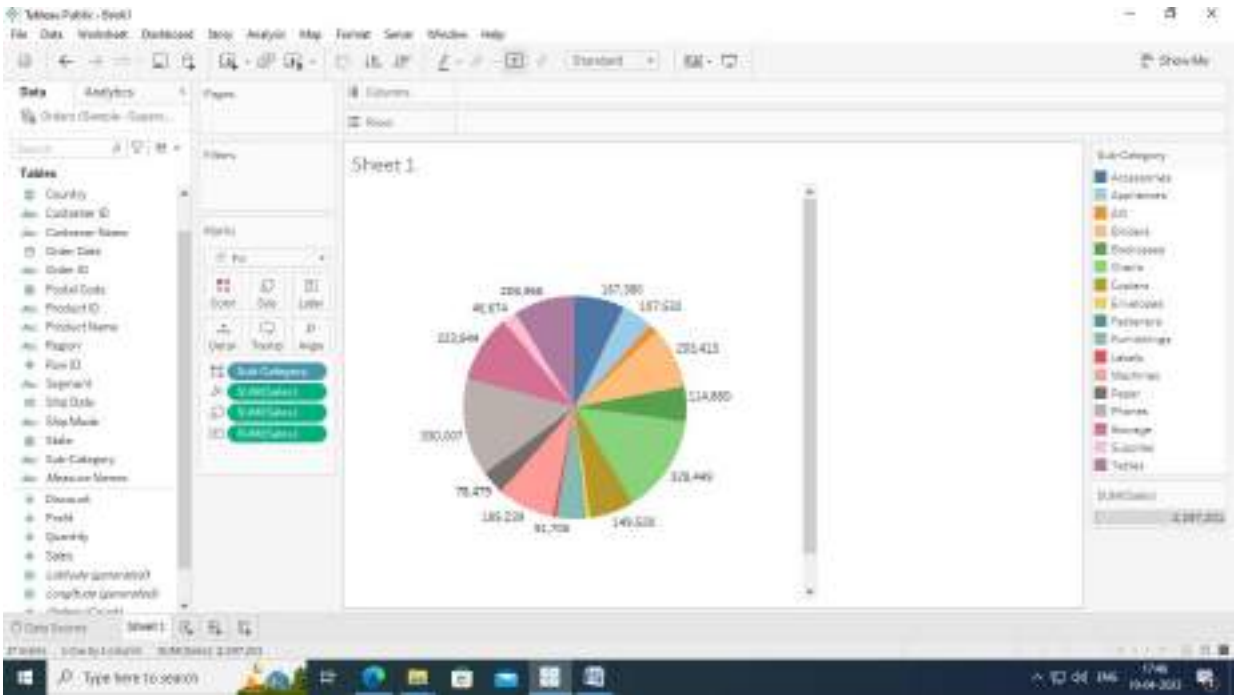
Step3: Click on **Show Me** enables **legends**



Step 4: to increase the size of the pie chart press **ctrl+shift+B**



Step 5: Drag measure **sales** on the Label of **Marks Card**

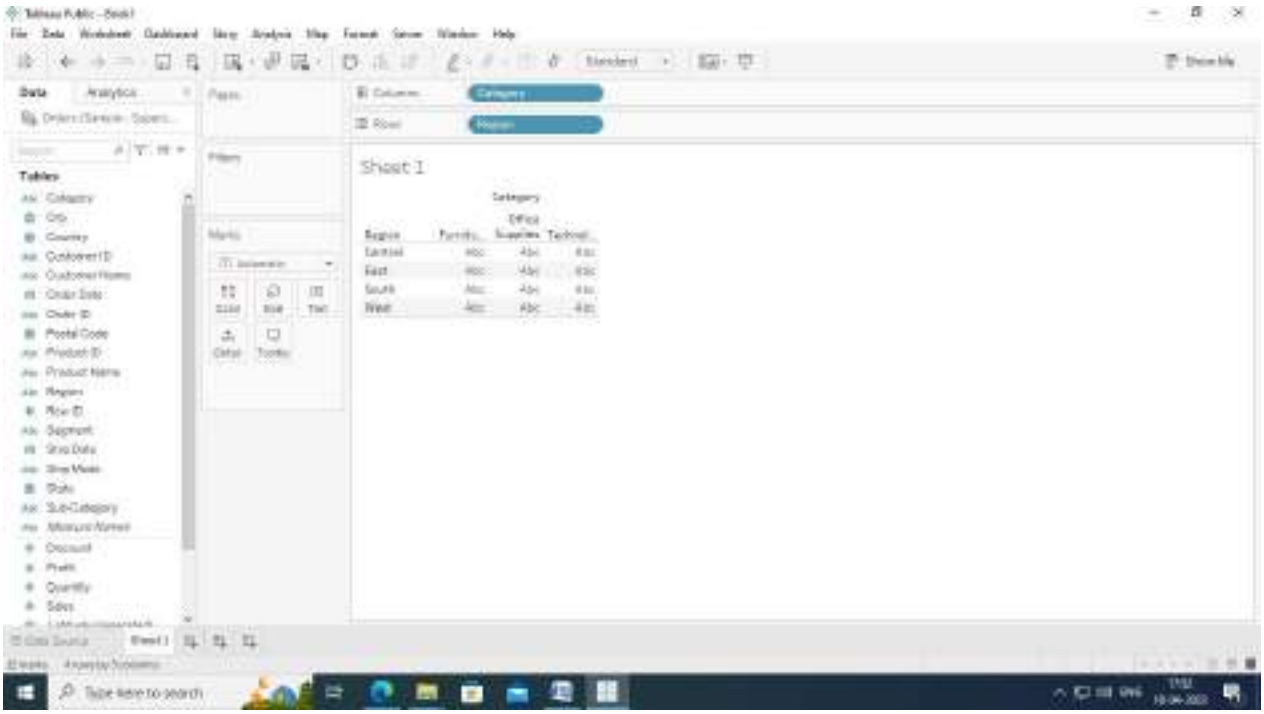


TASK 5: CROSS TAB / TEXT TAB

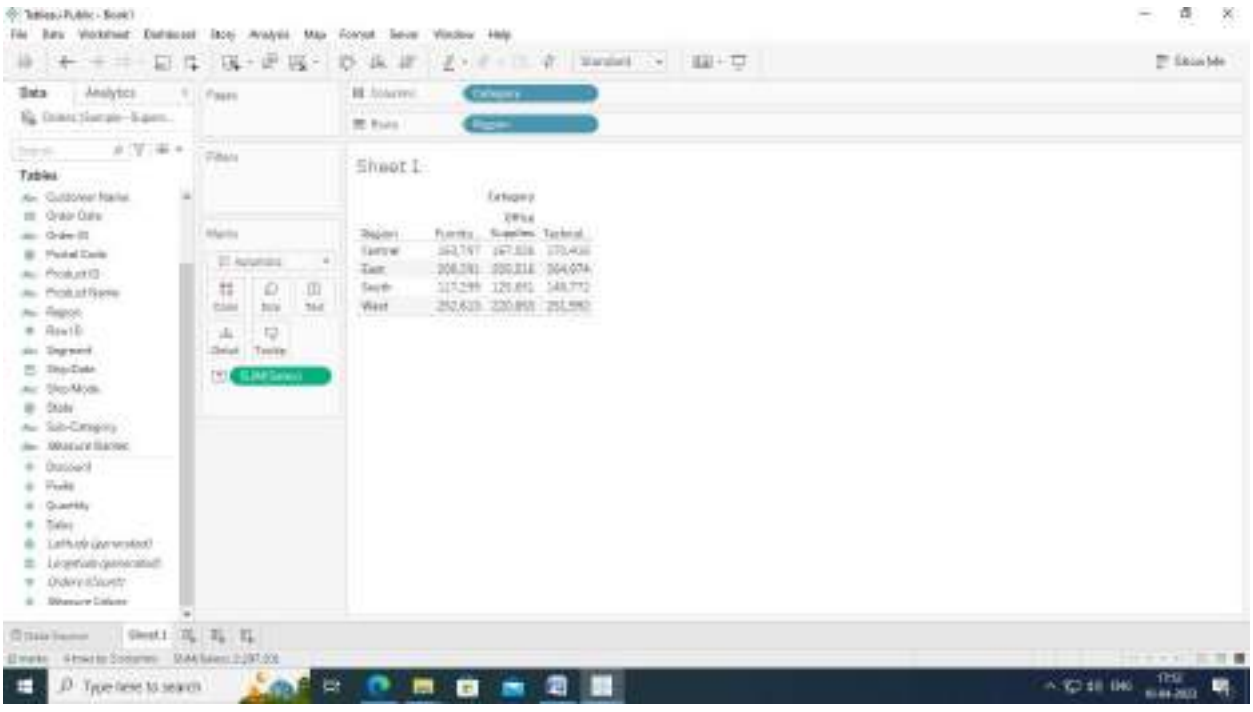
Consider two Dimensions

1. Category / Sub Category
2. Region / State

Step1: Drag dimensions **Category** and **Region** on the **Columns** and **Row** respectively

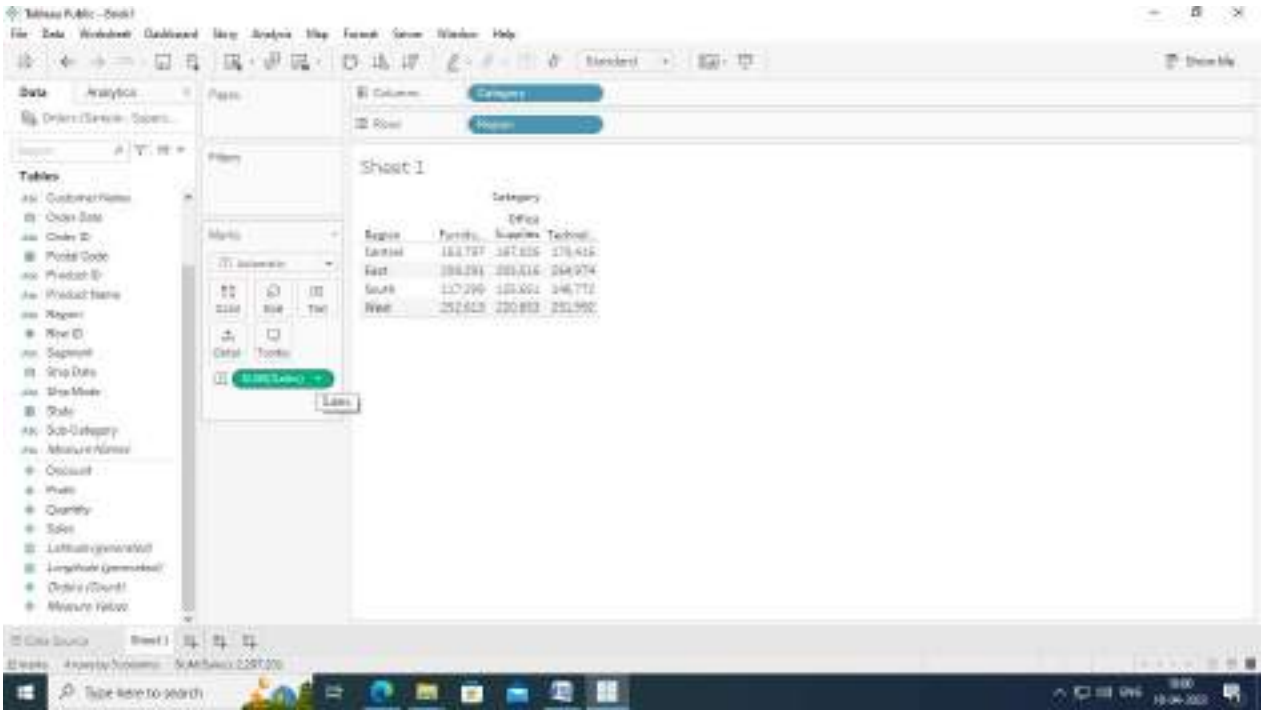


Step 2: Drag measure **Sales** /**Profit** on the **Label** of the **Marks Card**.

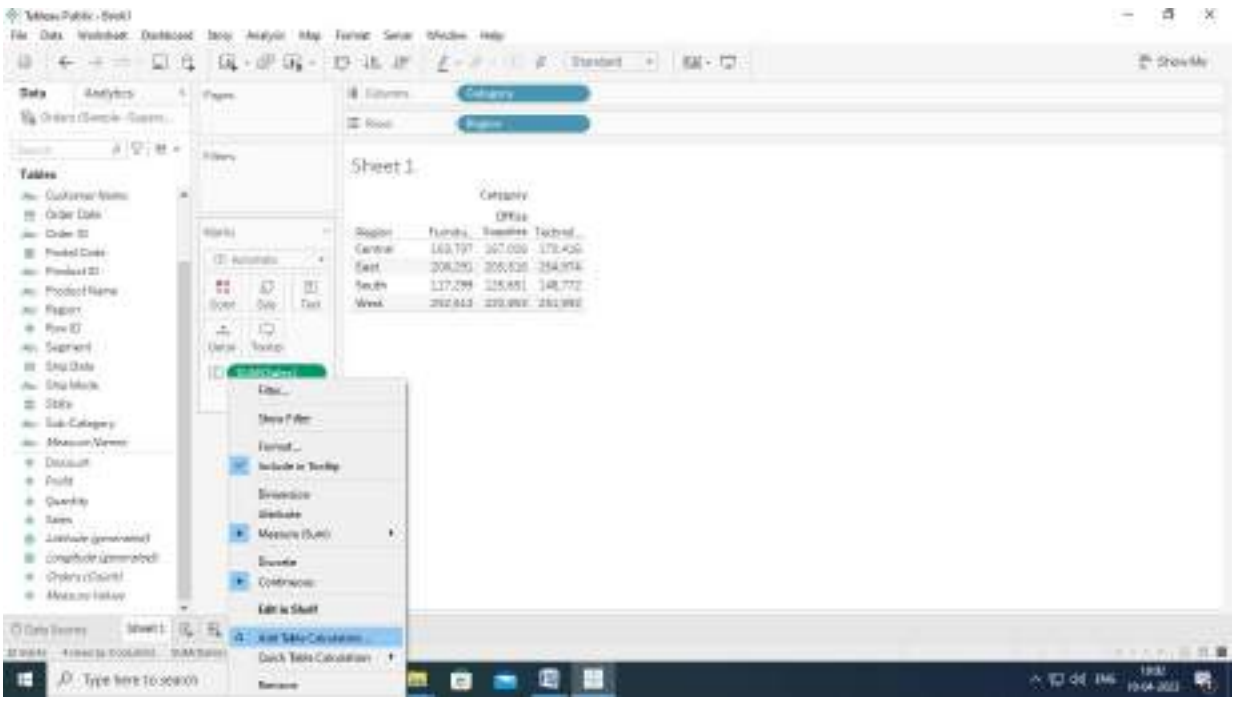


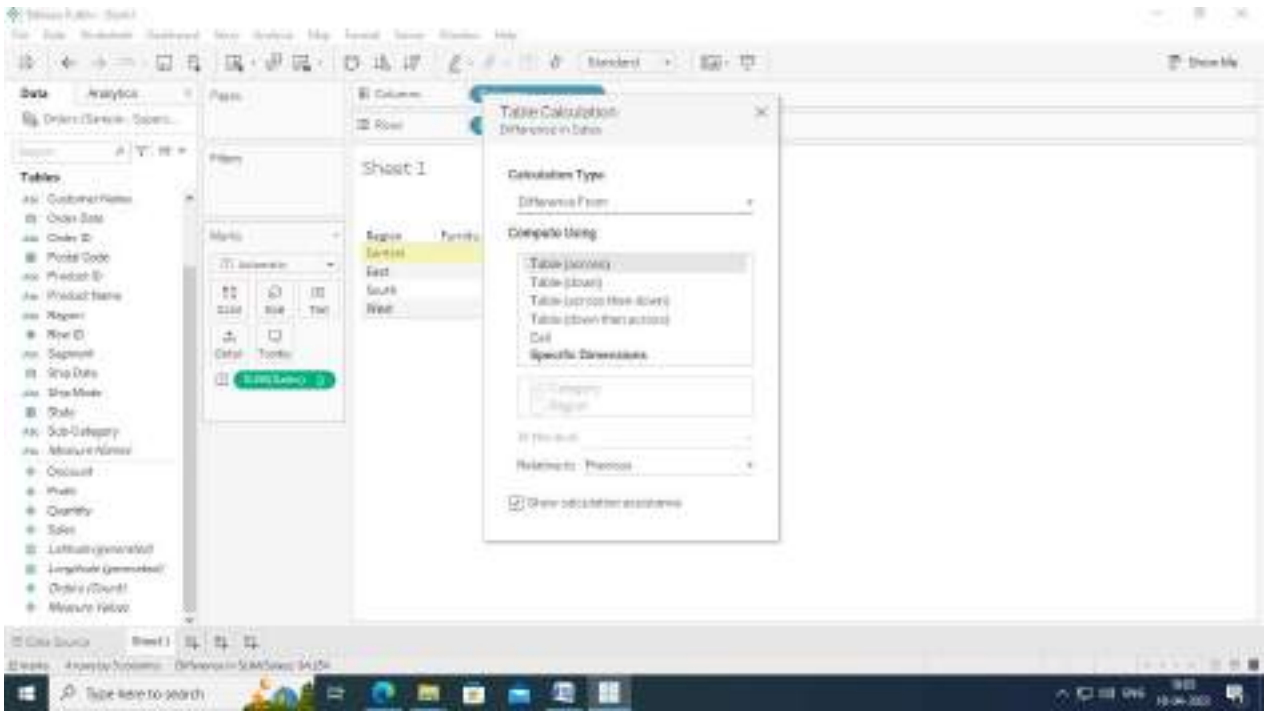
Step 3: Create Table Calculation

Click on inverted triangle SUM(Sales) on Marks Card

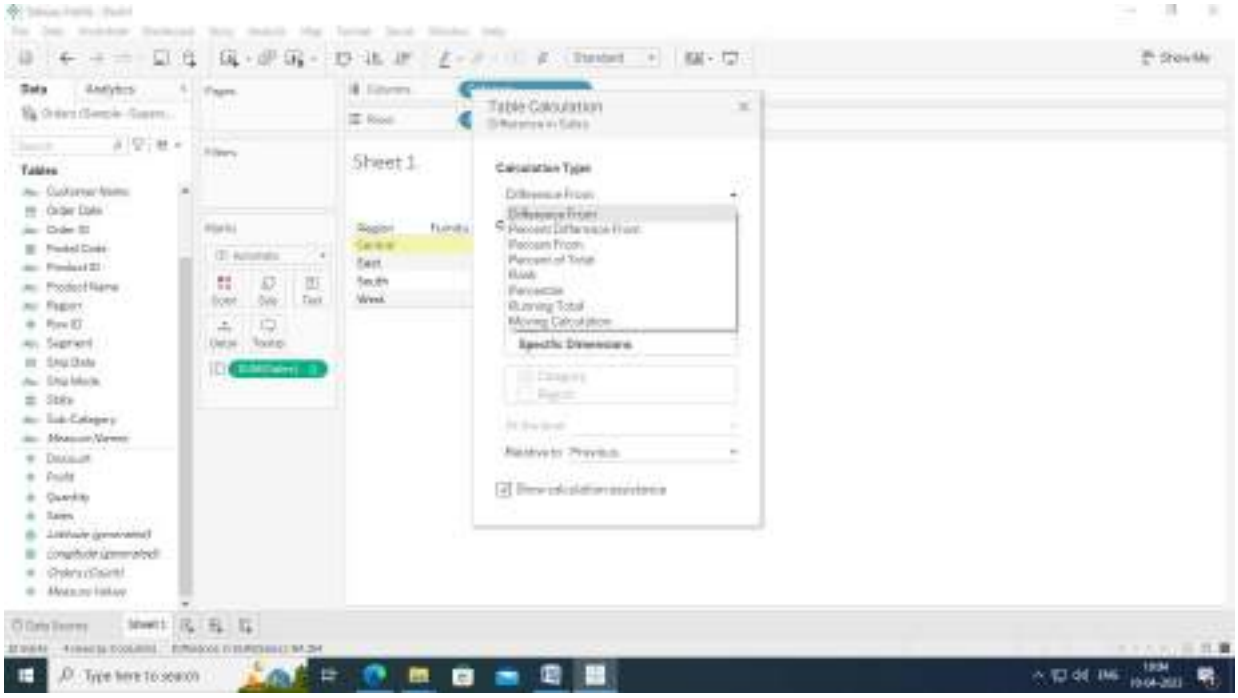


Step 4: Select the option **Add Table Calculation**

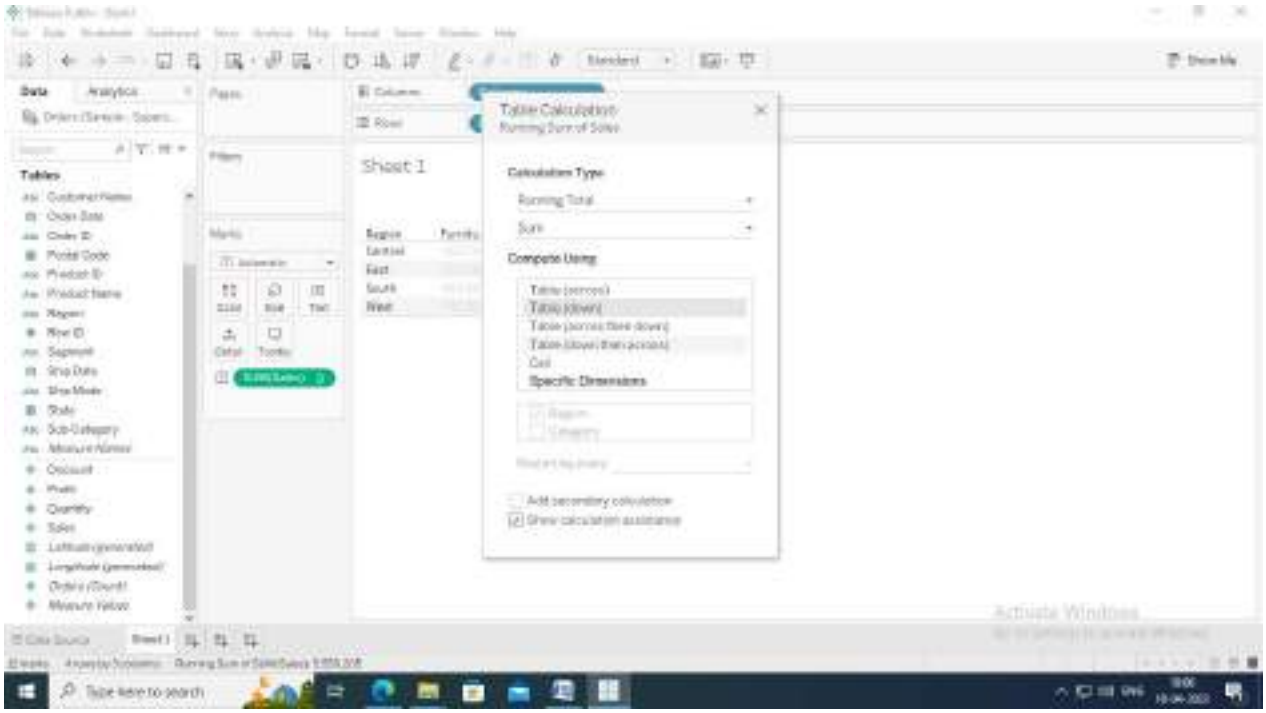




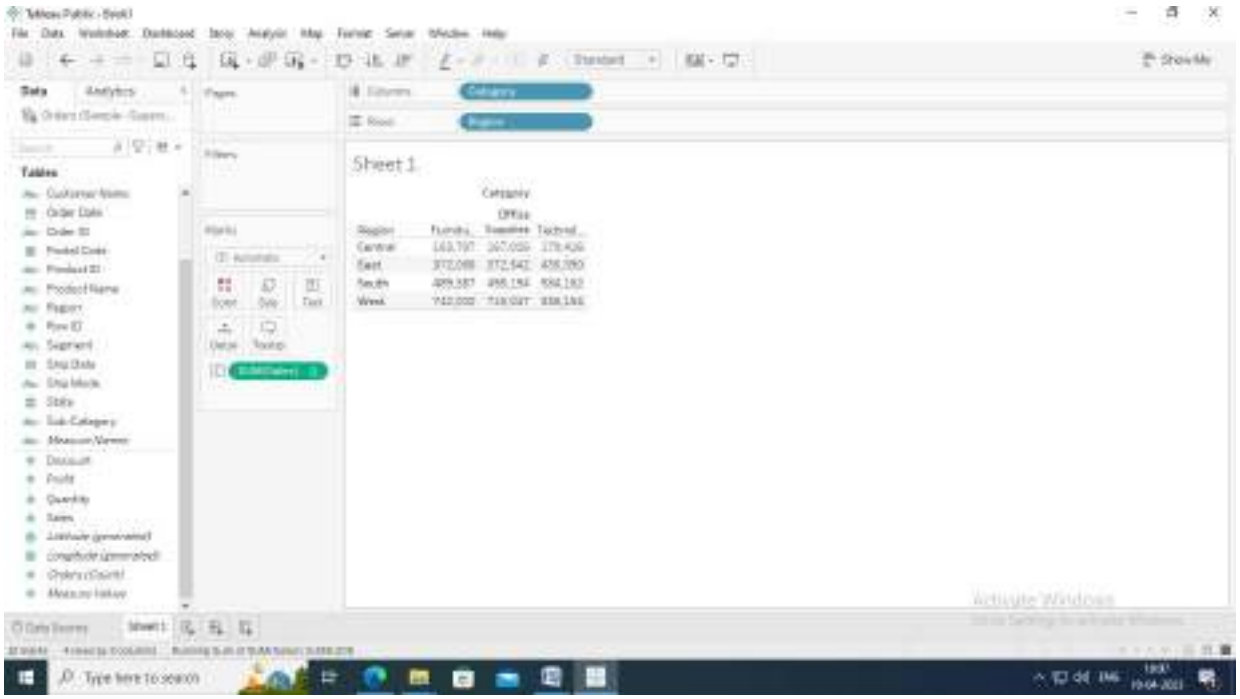
Step 5: Click on **Calculation Type** and select the option **Running Total**



Step 6: Select the option of Computer Using as **Table (down)**



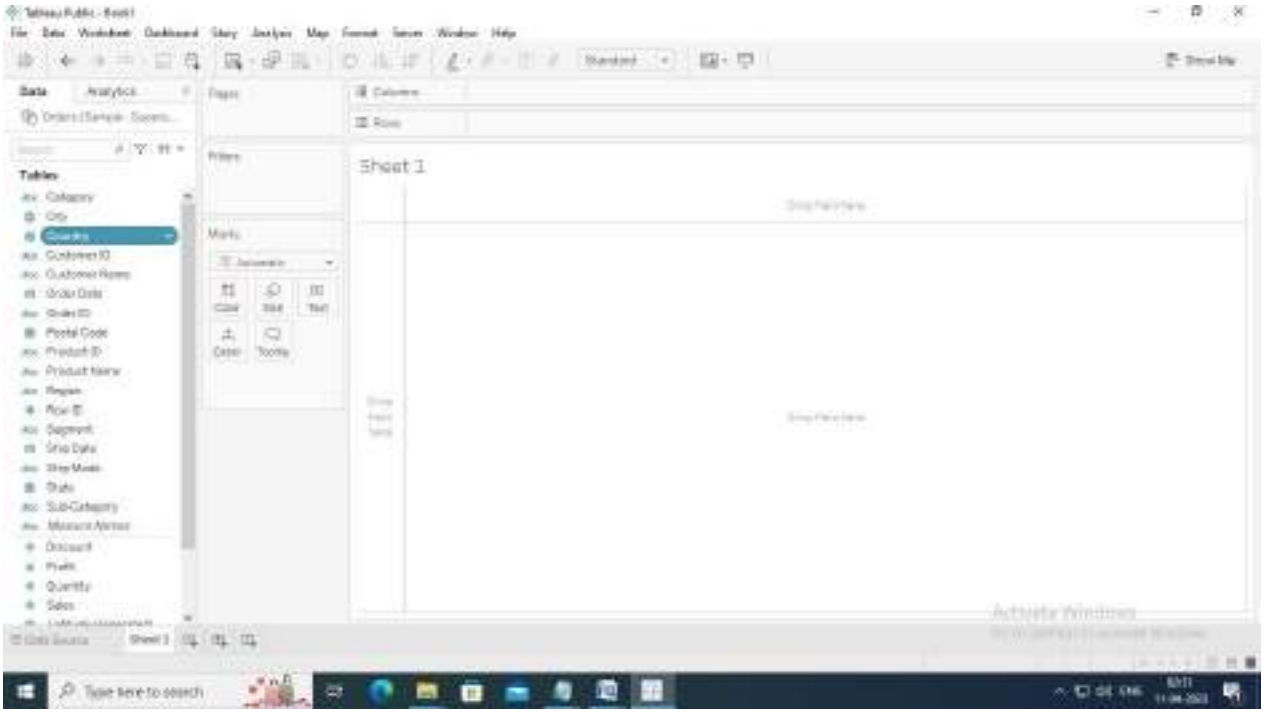
Step 7: We can observe the **cumulative values** of Furniture, Supplies and Technology **down words**.



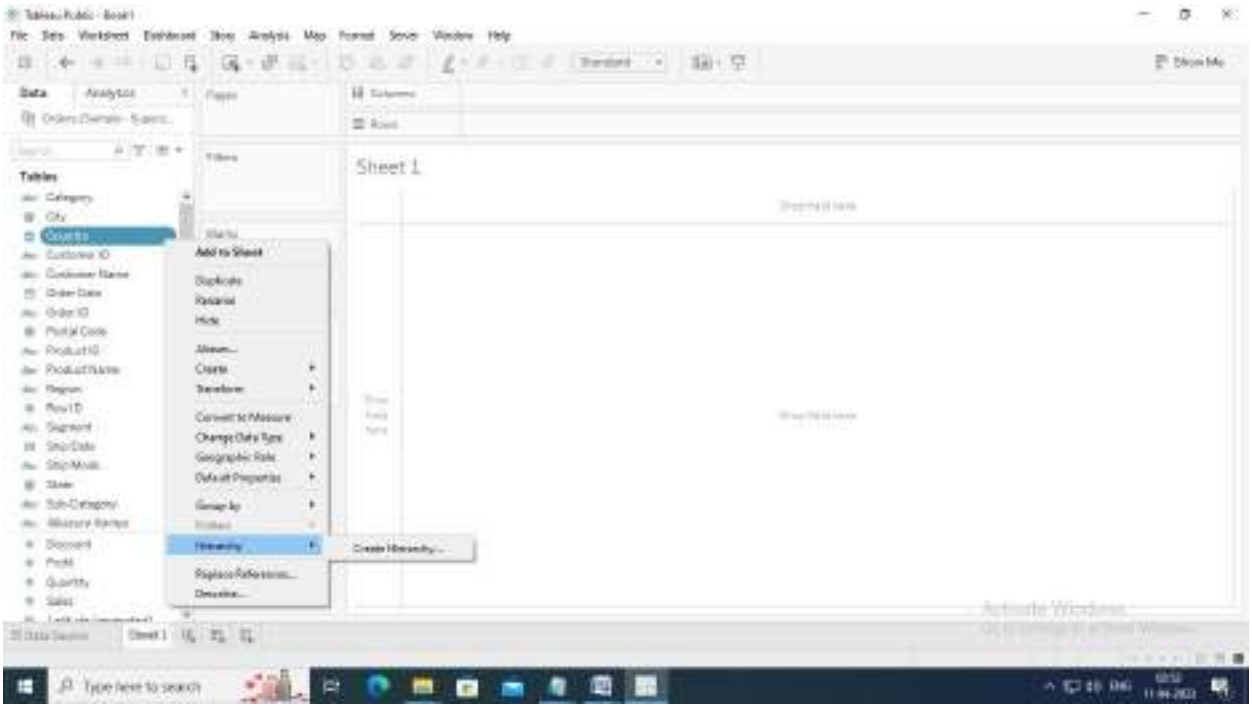
TASK 6: HIERARCHY

Country-Region-State-City-Postal Code

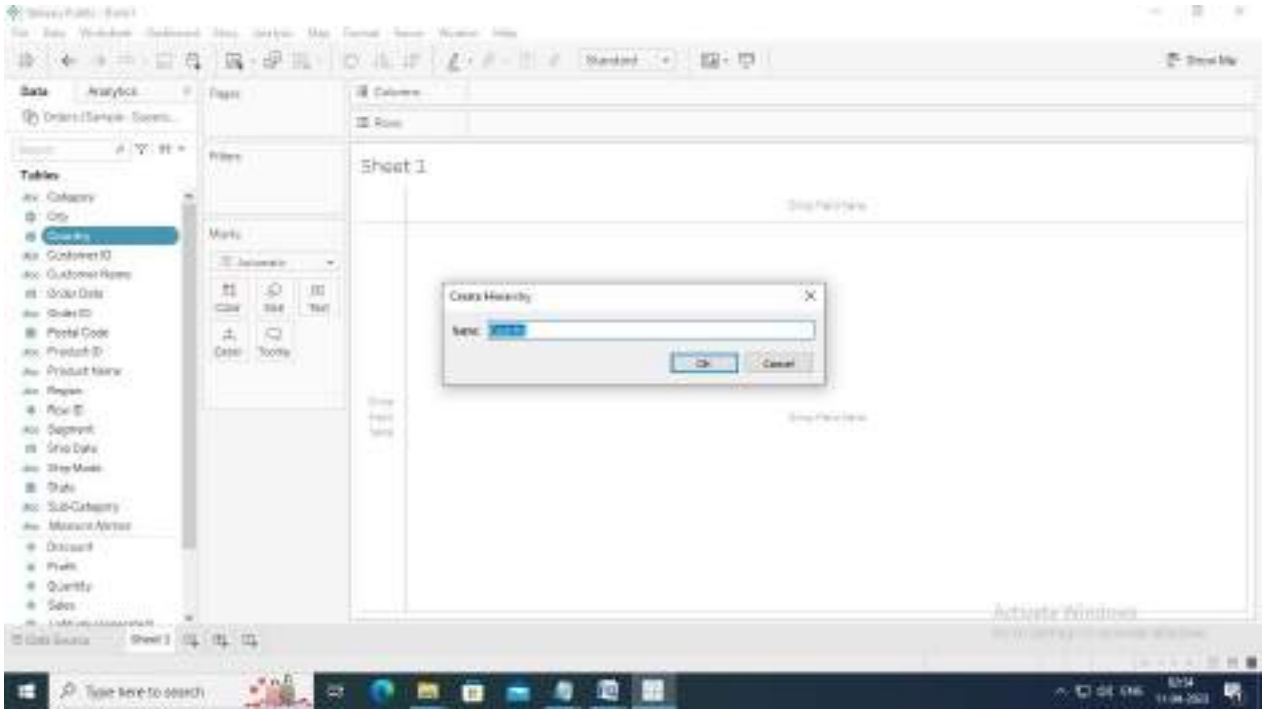
Step 1: Select inverted triangle of dimension Country



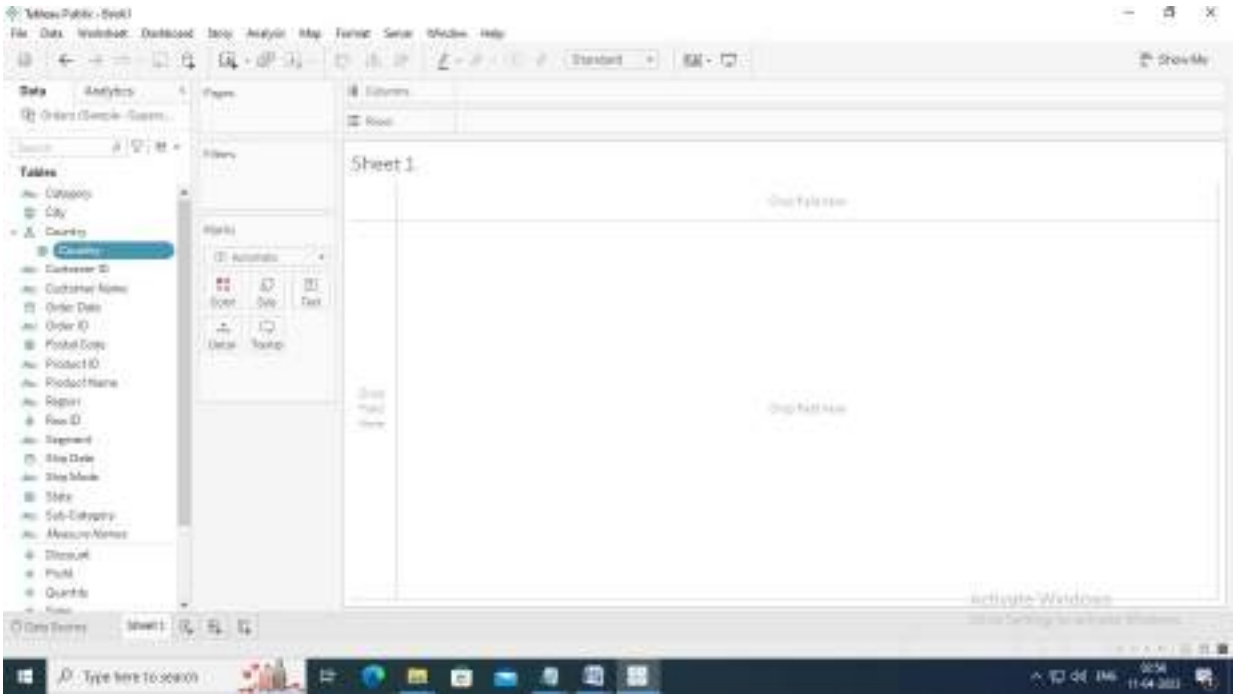
Step 2: Select the option Hierarchy



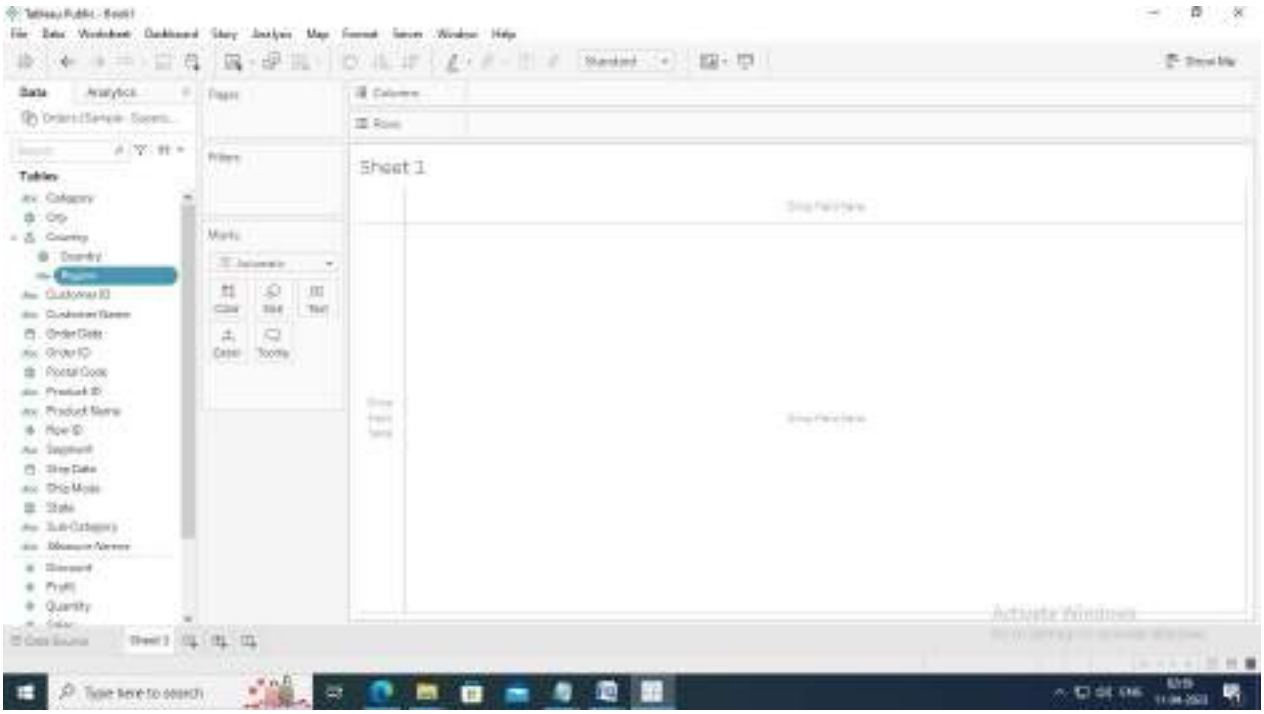
Step 3: New popup window Crate Hierarchy is created.



Step 4: A hierarchy Country is created.

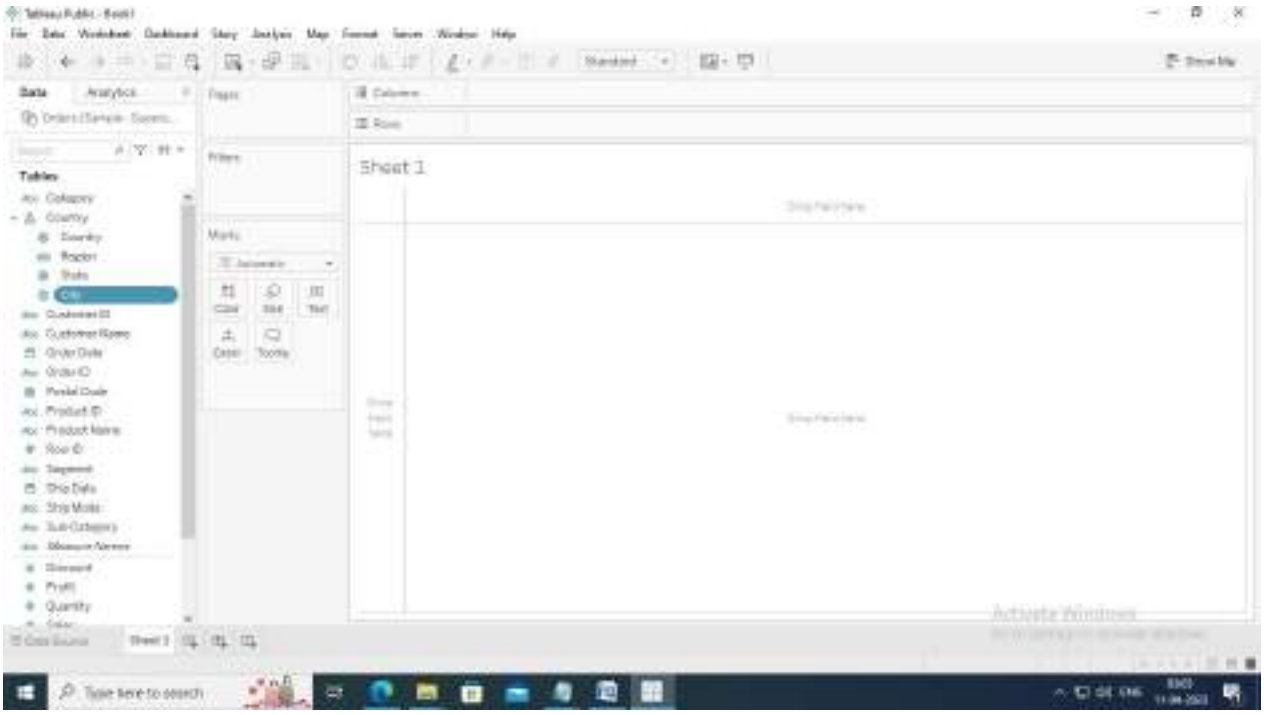


Step 5: Drag Region below the Country in Hierarchy.

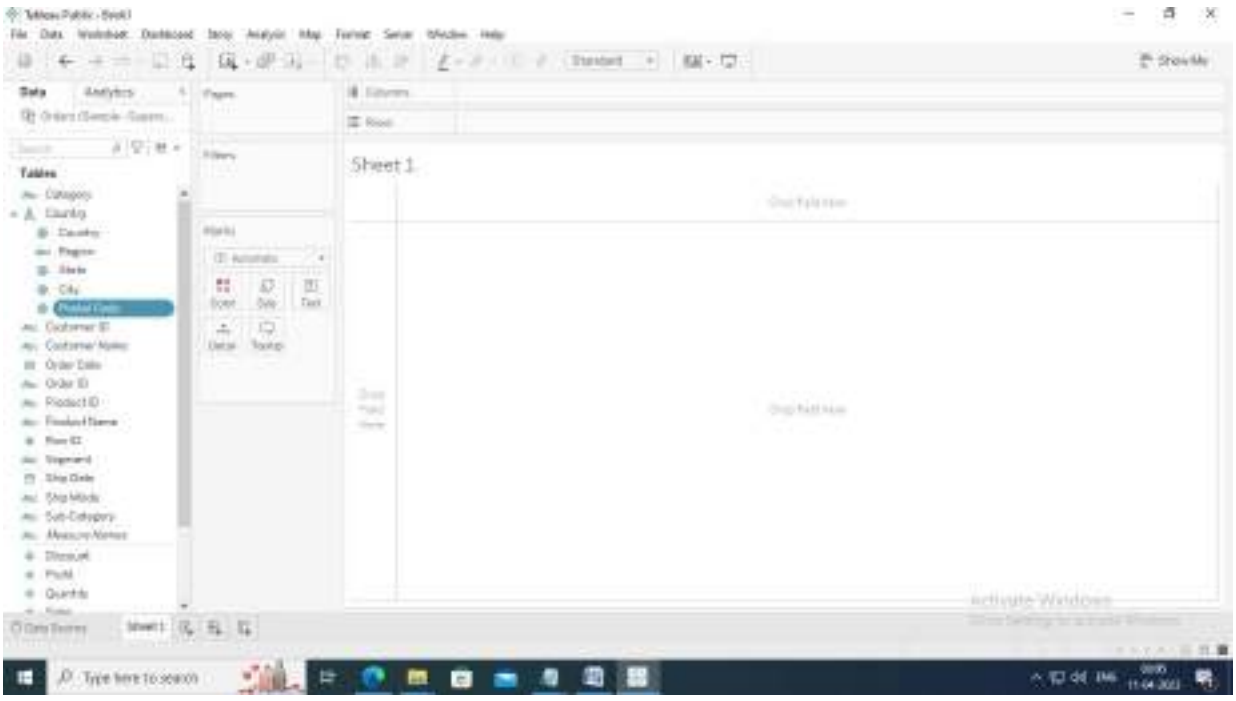


Step 6: Drag State below the Region in Hierarchy.

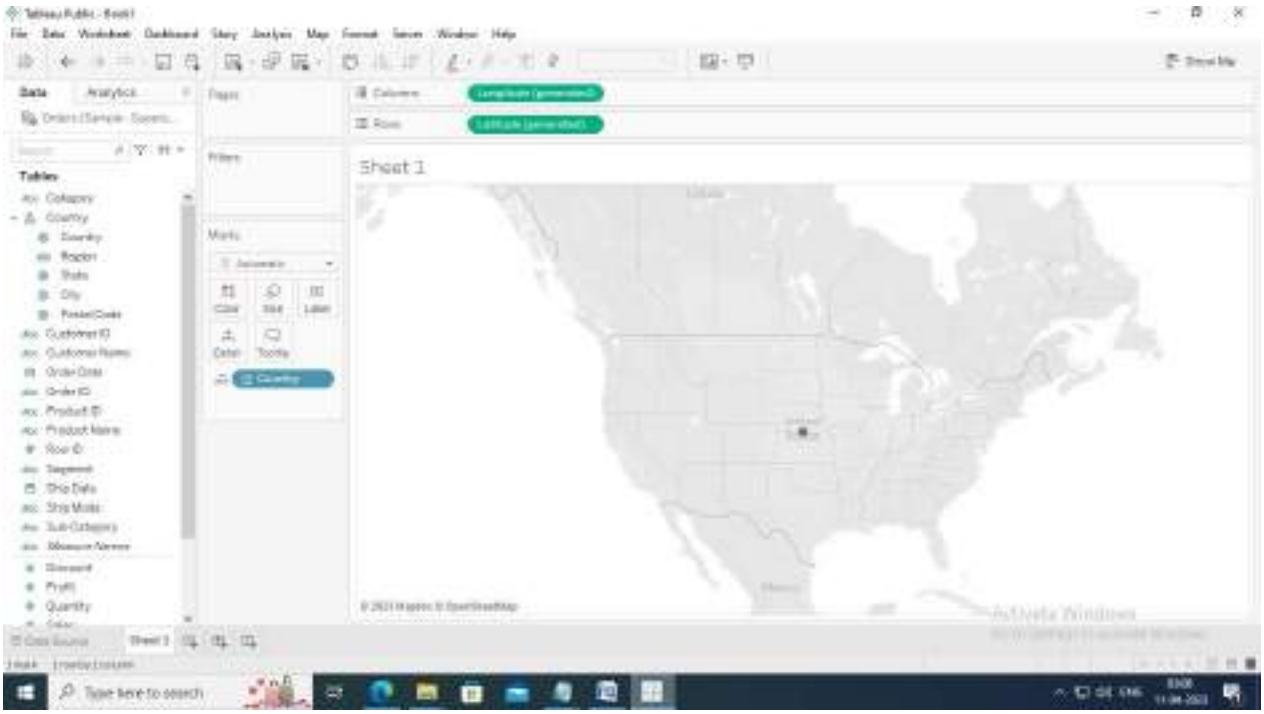
Step 7: Drag City below the State in Hierarchy.



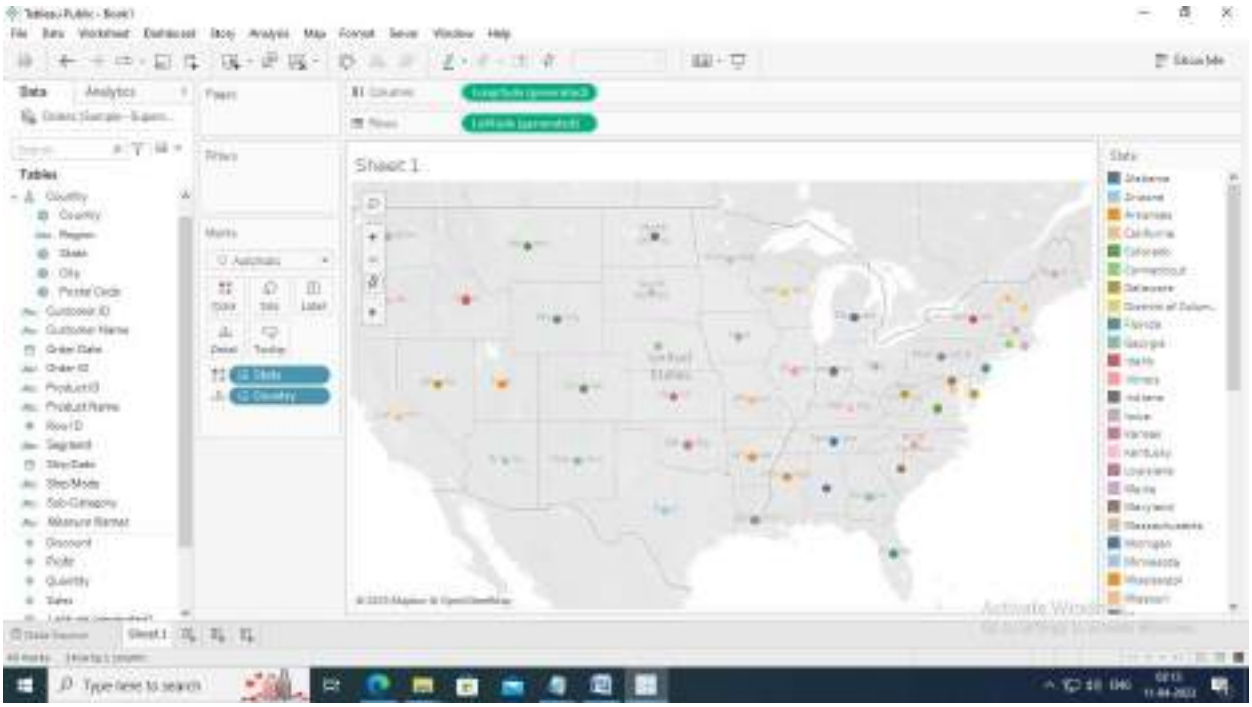
Step 8: Drag Postal Code below the City in Hierarchy.



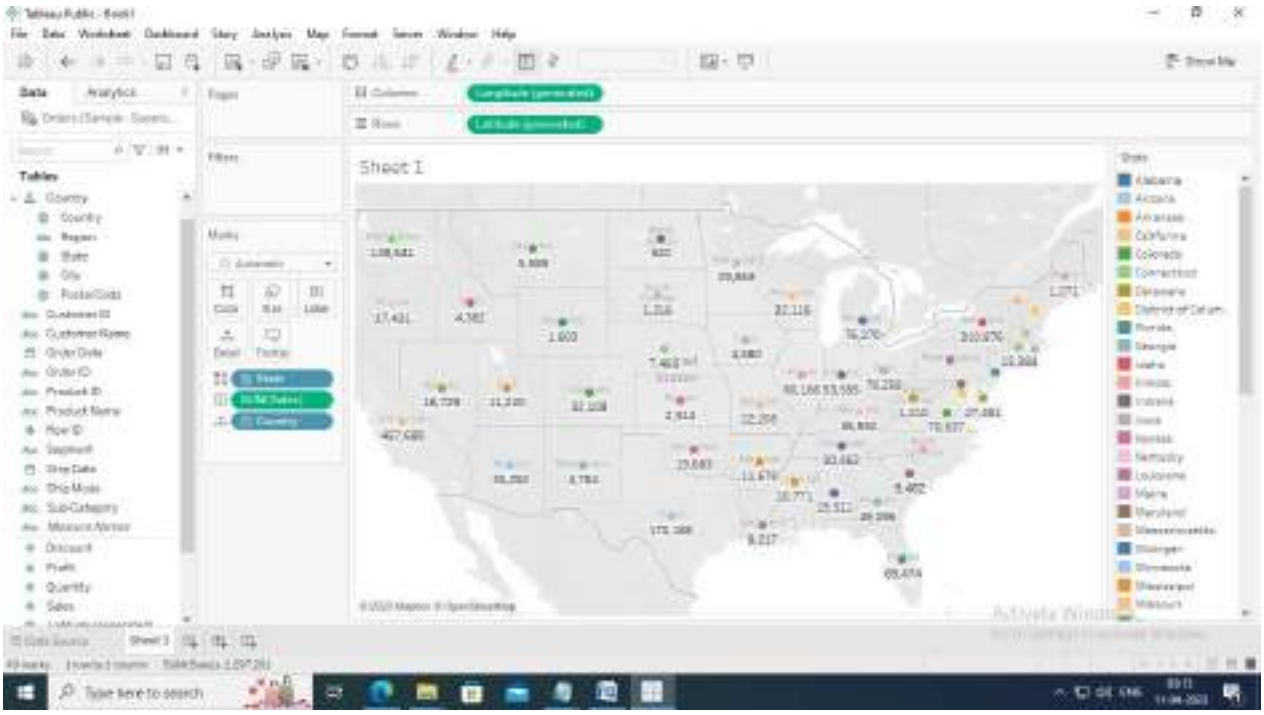
Step 9: Double click on dimension Country.



Step 10: Drag the dimension State to the Color in Marks Card.



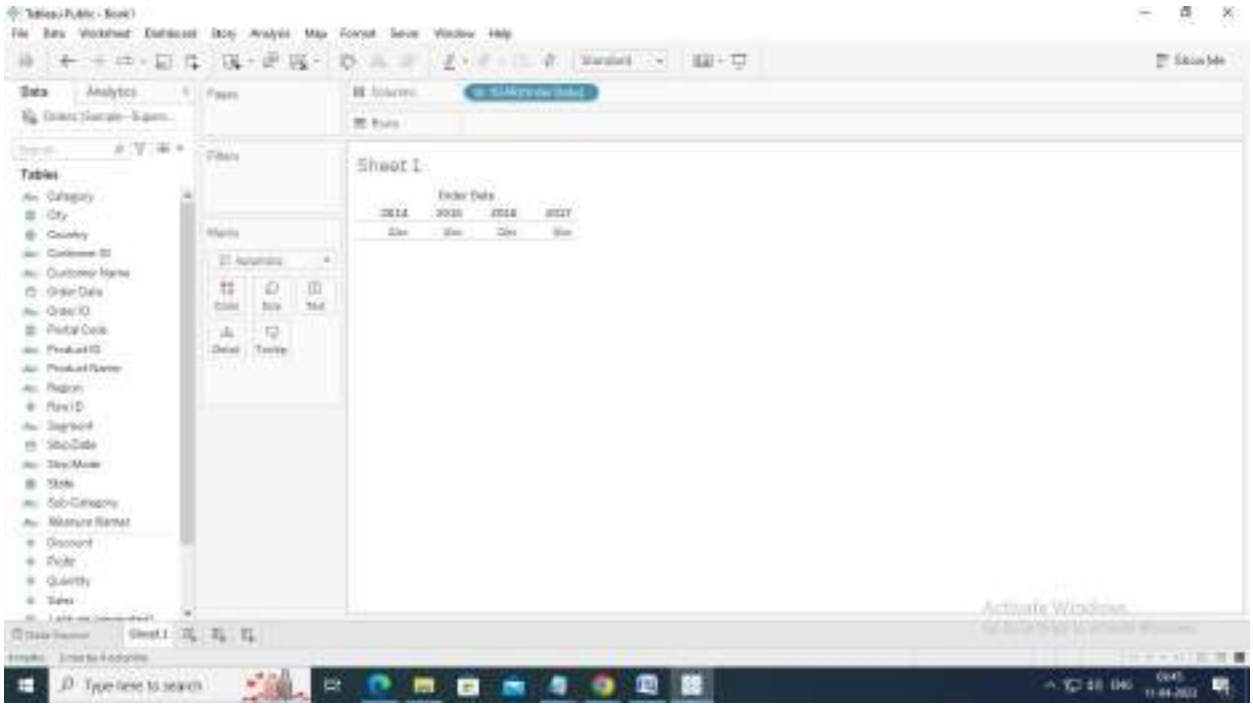
Step 11: Drag measure Sales on to the Label in Marks Card.



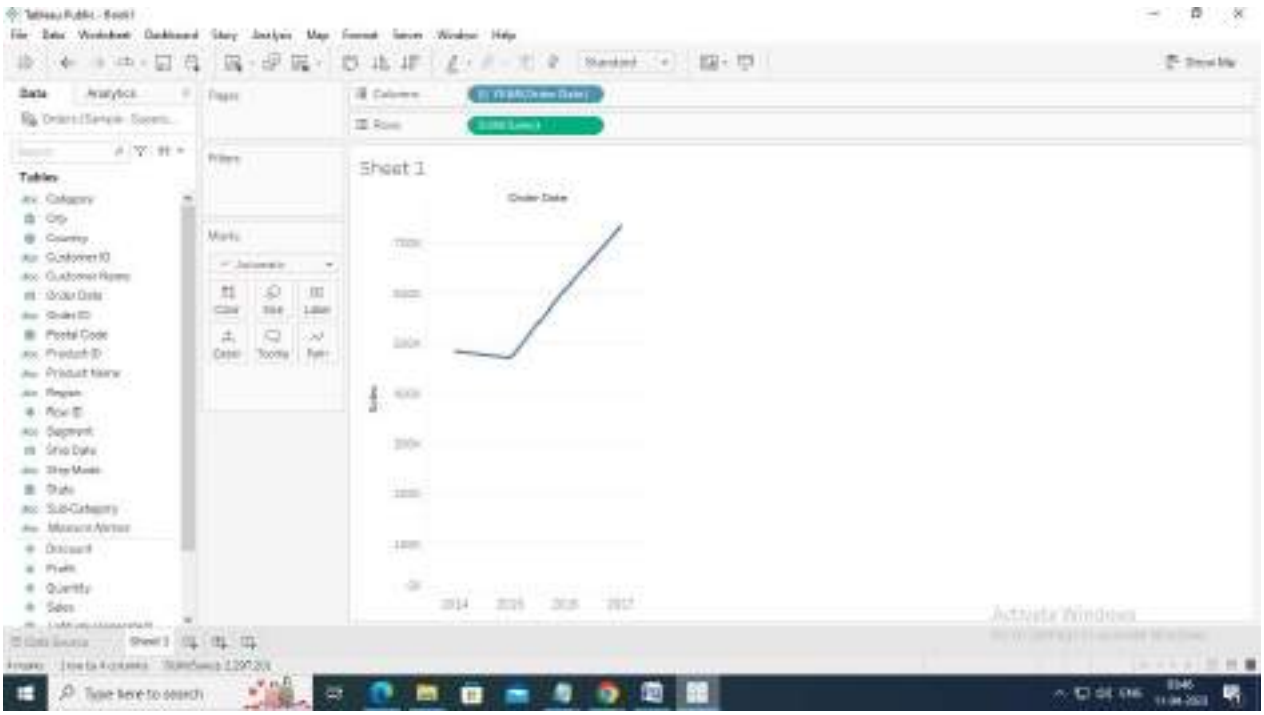
CASE STUDY:
Create a hierarchy
India-Region-States-Beneficiaries Vaccinated
Data Source: https://www.mohfw.gov.in/pdf/CummulativeCovidVaccinationReport11Apr2023.pdf
Note: Excel Data Sheet to be prepared from the above link

TASK 7: CREATE A CHART WITH DUAL AXIS AND SYNCHRONIZE AXIS

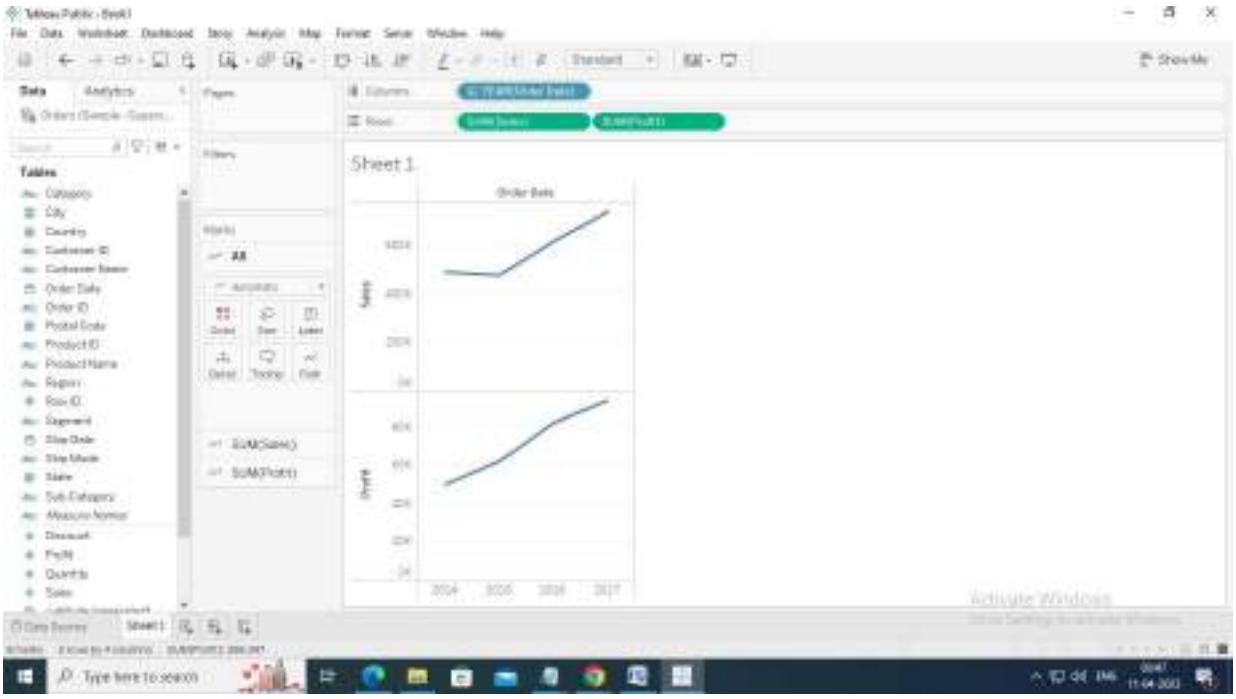
Step 1: Drag dimension Order Date to the Column Shelf



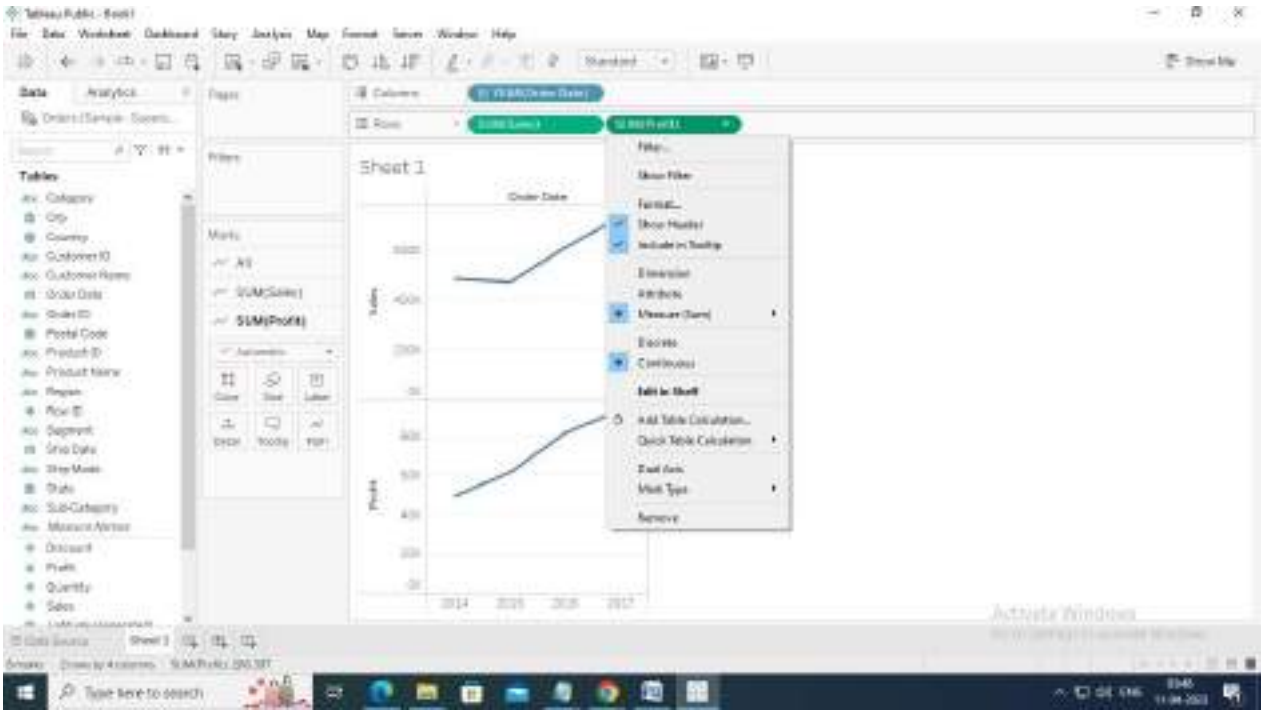
Step 2: Drag Measure Sales to the Row Shelf

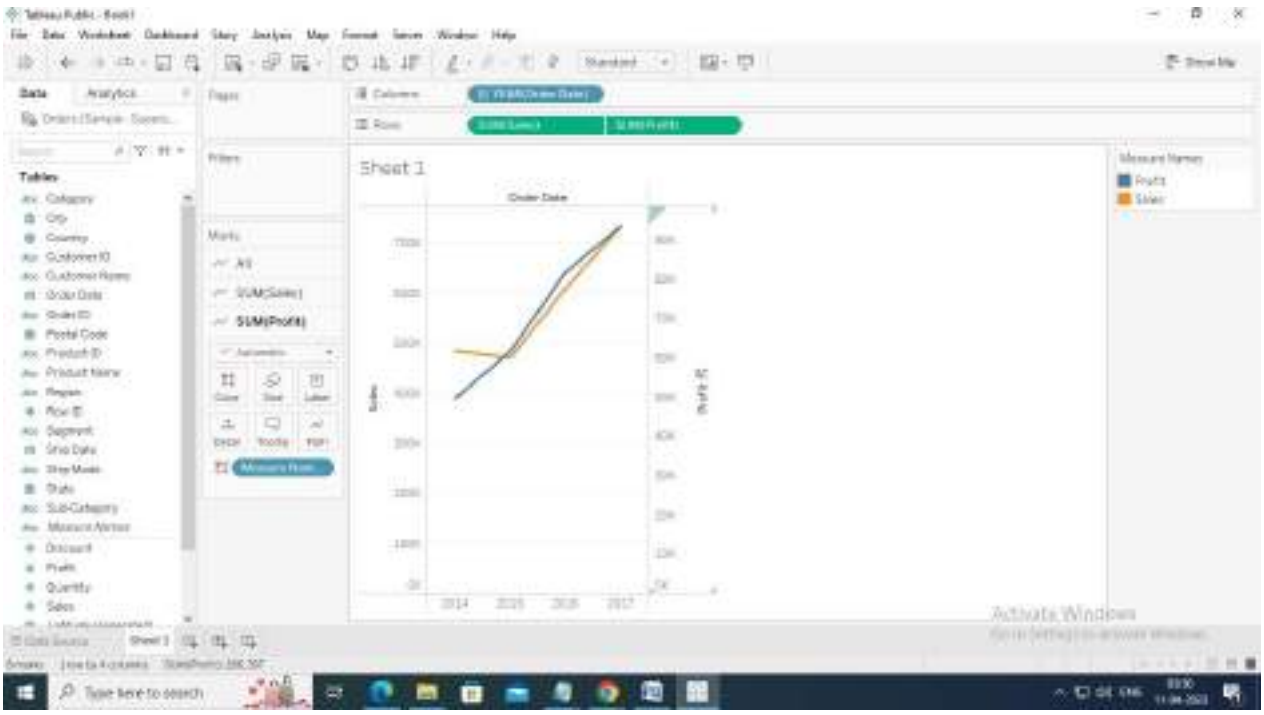


Step 3: Drag Measure Profit next to the Sales in Row Shelf



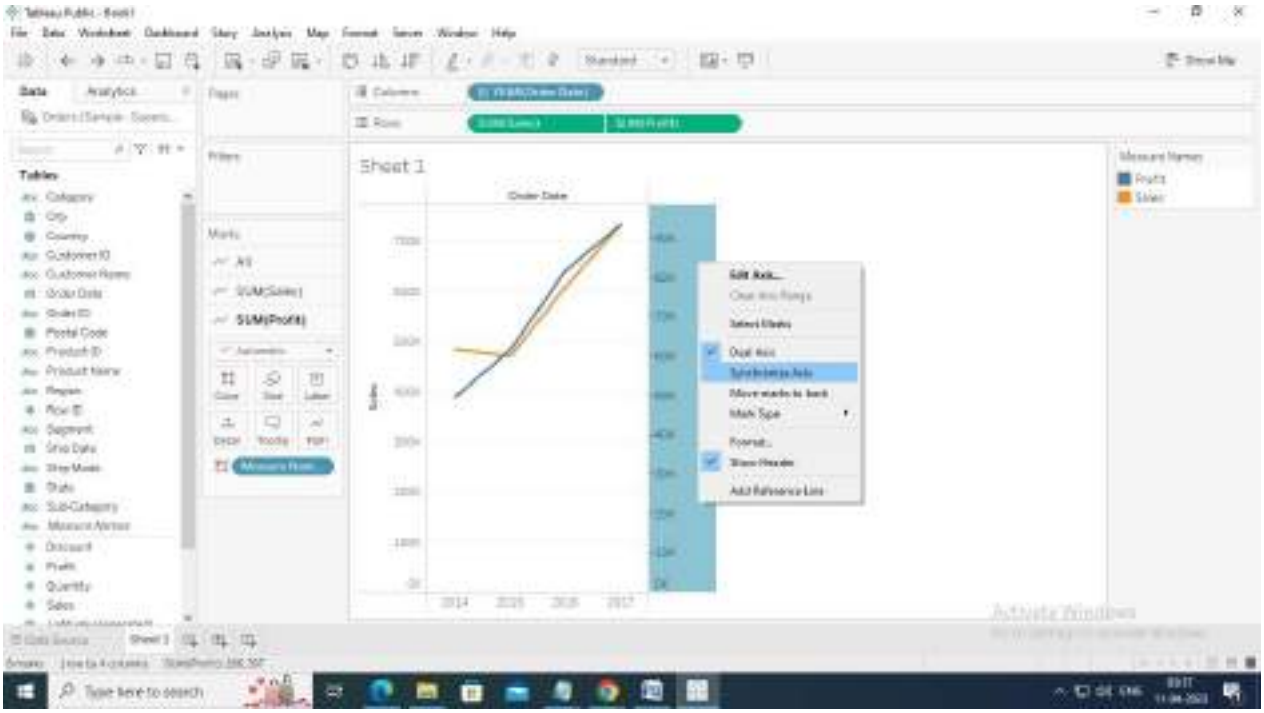
Step 4: Select inverted triangle of Profit in Row Shelf and select the option Dual Axis.

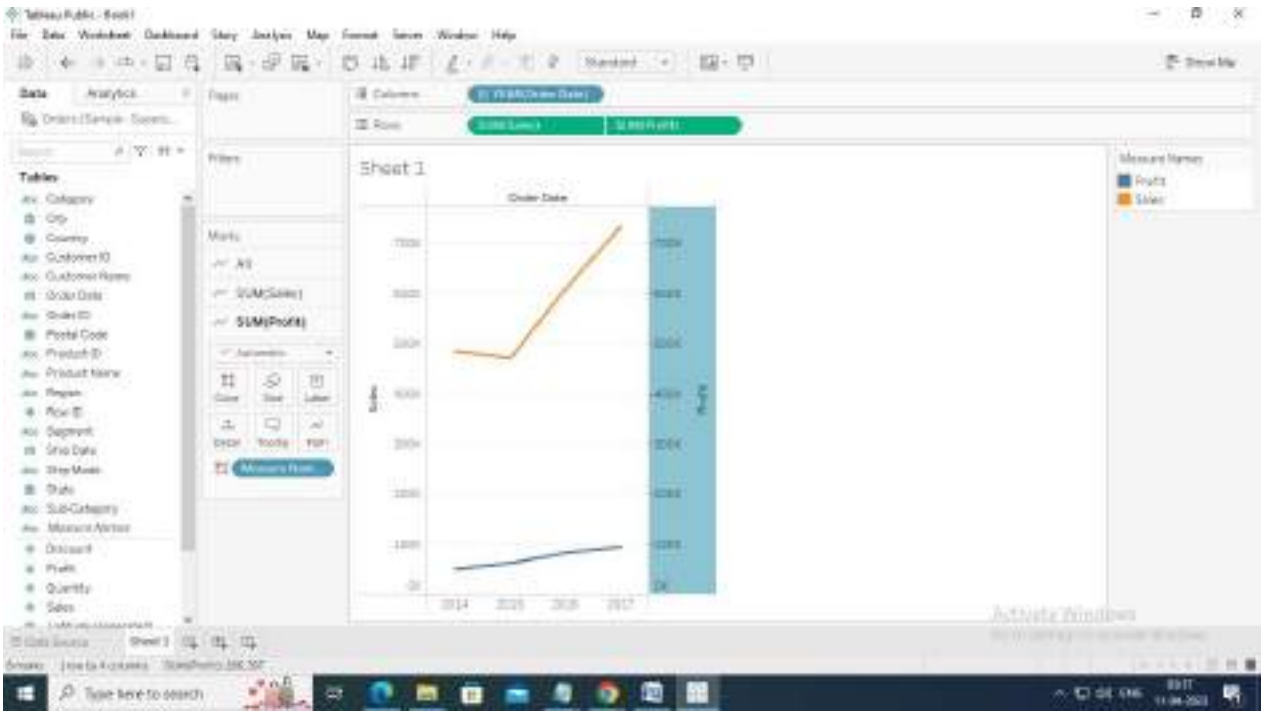




- **Note: Observe scale of Y-Axis of left and right sides of the above plot.**
- **Left axis 0K to 700K, Right axis 0K to 90K which is the mismatch in the plot.**

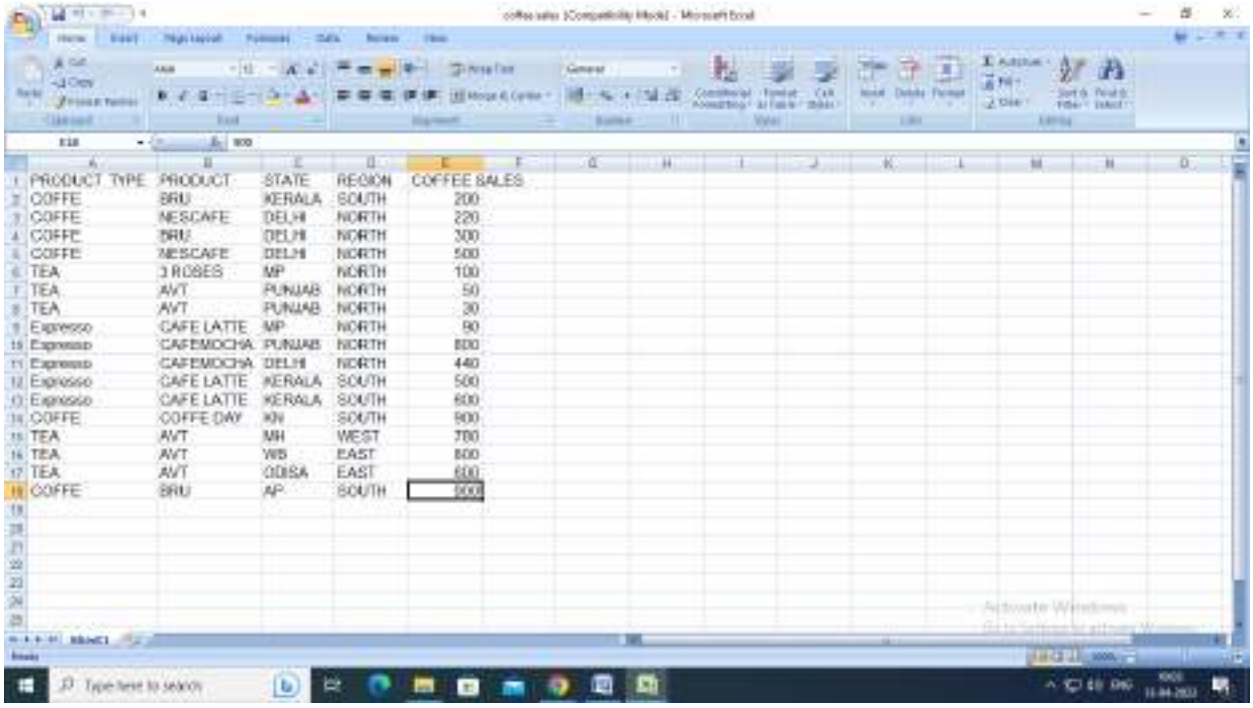
Step 5: To make uniform scale of Y-Axis, right click on the right side Y-axis scale, select Synchronize Axis.





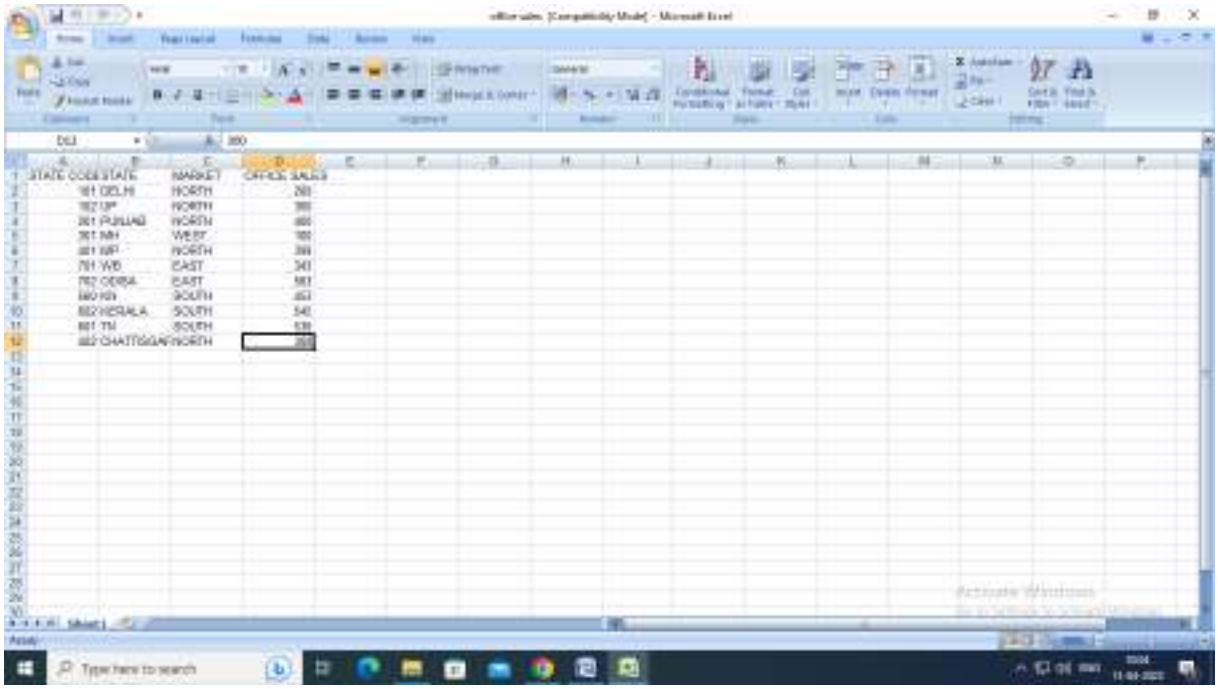
TASK 8: DATA BLENDING

Coffee sales Excel File

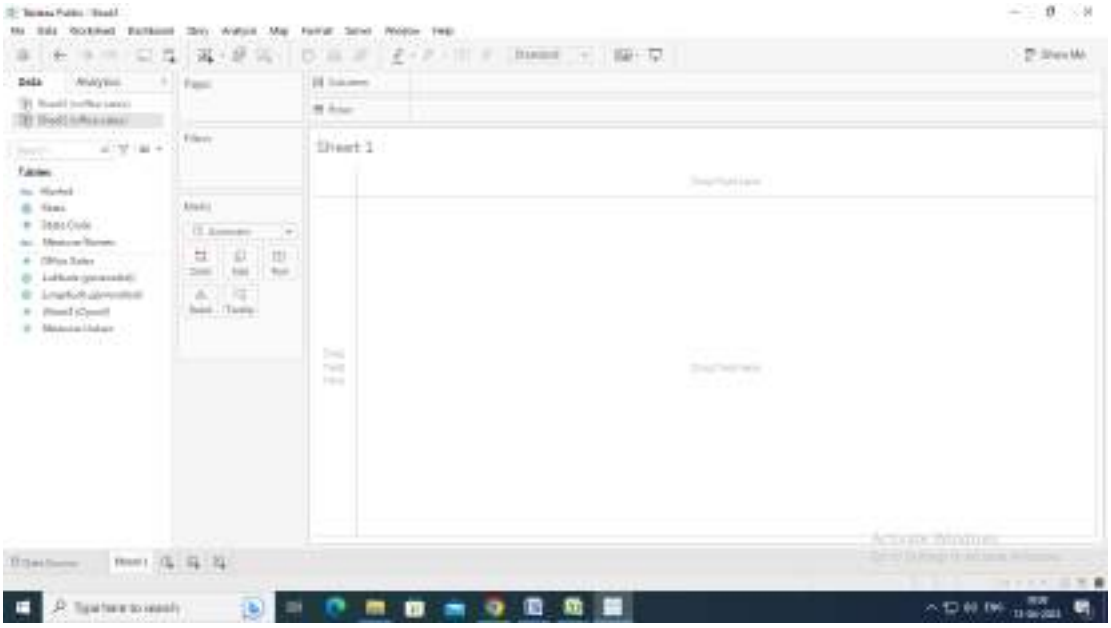


PRODUCT TYPE	PRODUCT	STATE	REGION	COFFEE SALES
COFFE	BRU	KERALA	SOUTH	200
COFFE	NESCAFE	DELHI	NORTH	220
COFFE	BRU	DELHI	NORTH	300
COFFE	NESCAFE	DELHI	NORTH	500
TEA	3 ROSES	MP	NORTH	100
TEA	AVT	PUNJAB	NORTH	50
TEA	AVT	PUNJAB	NORTH	30
Espresso	CAFE LATTE	MP	NORTH	90
Espresso	CAFEMOCHA	PUNJAB	NORTH	800
Espresso	CAFEMOCHA	DELHI	NORTH	440
Espresso	CAFE LATTE	KERALA	SOUTH	500
Espresso	CAFE LATTE	KERALA	SOUTH	600
COFFE	COFFE DAY	KN	SOUTH	900
TEA	AVT	MH	WEST	780
TEA	AVT	WB	EAST	800
TEA	AVT	ODISA	EAST	600
COFFE	BRU	AP	SOUTH	900

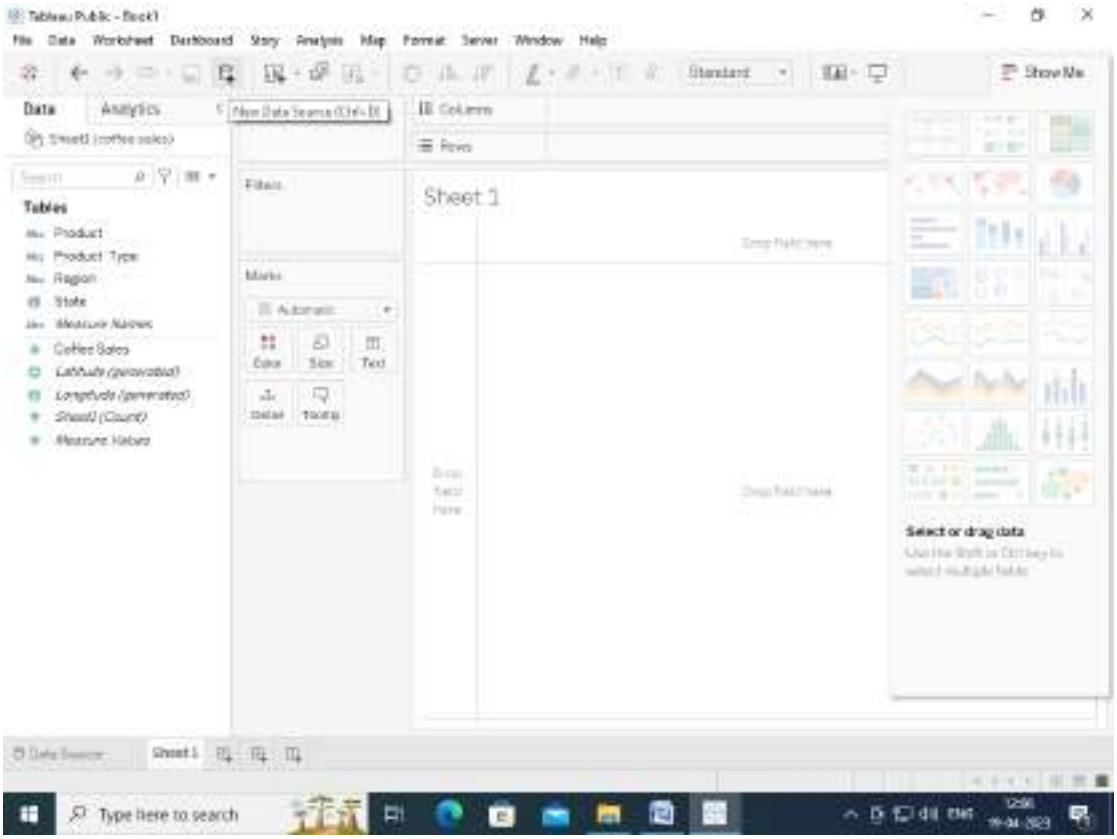
Office sales Excel file



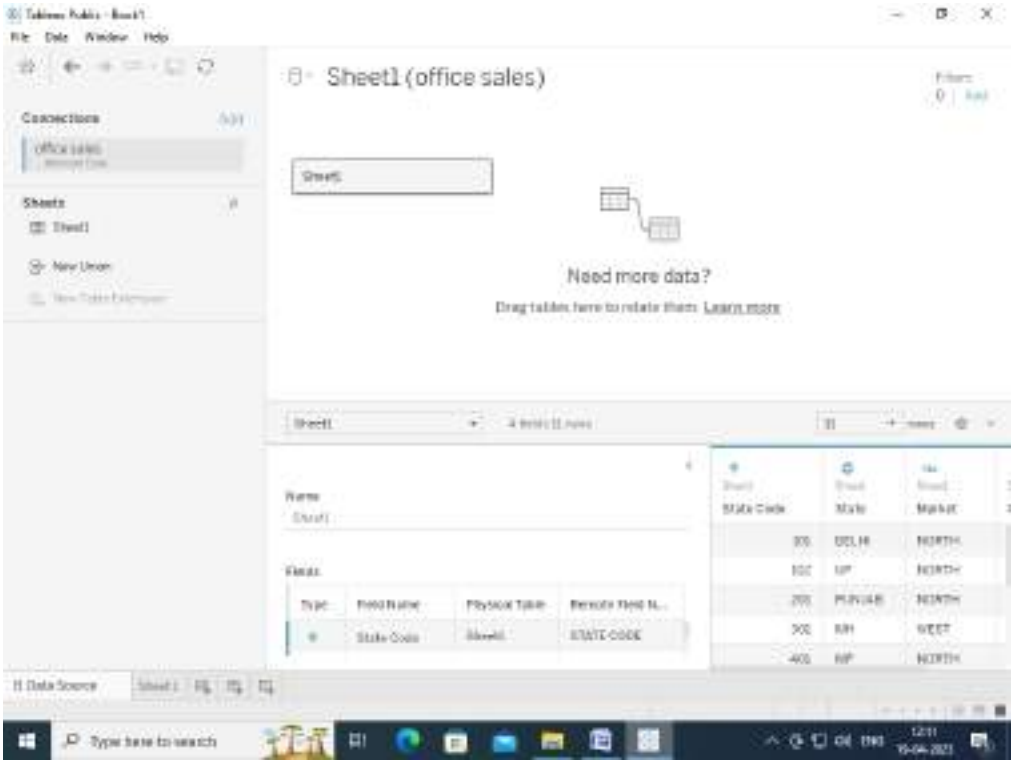
Step1: Add excel sheet coffee sales to tableau



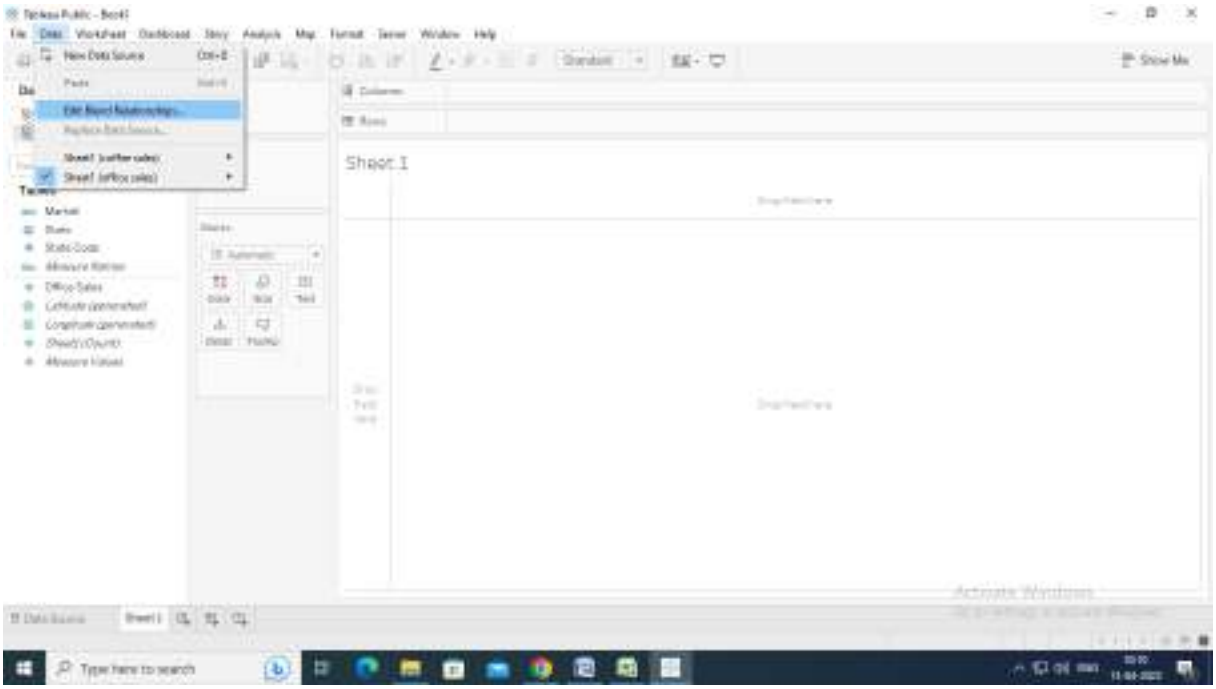
Step2: Go to Sheet1 and select New Data Source



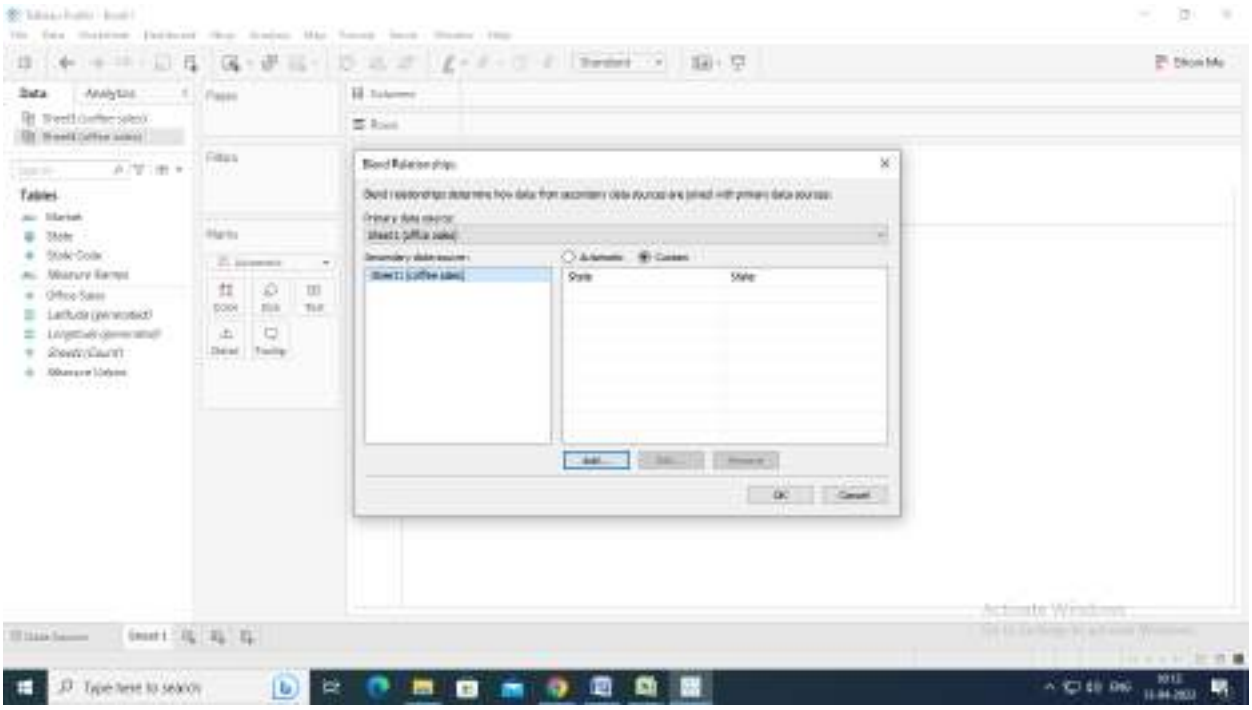
Step 3: Add excel sheet office sales and go to Sheet1



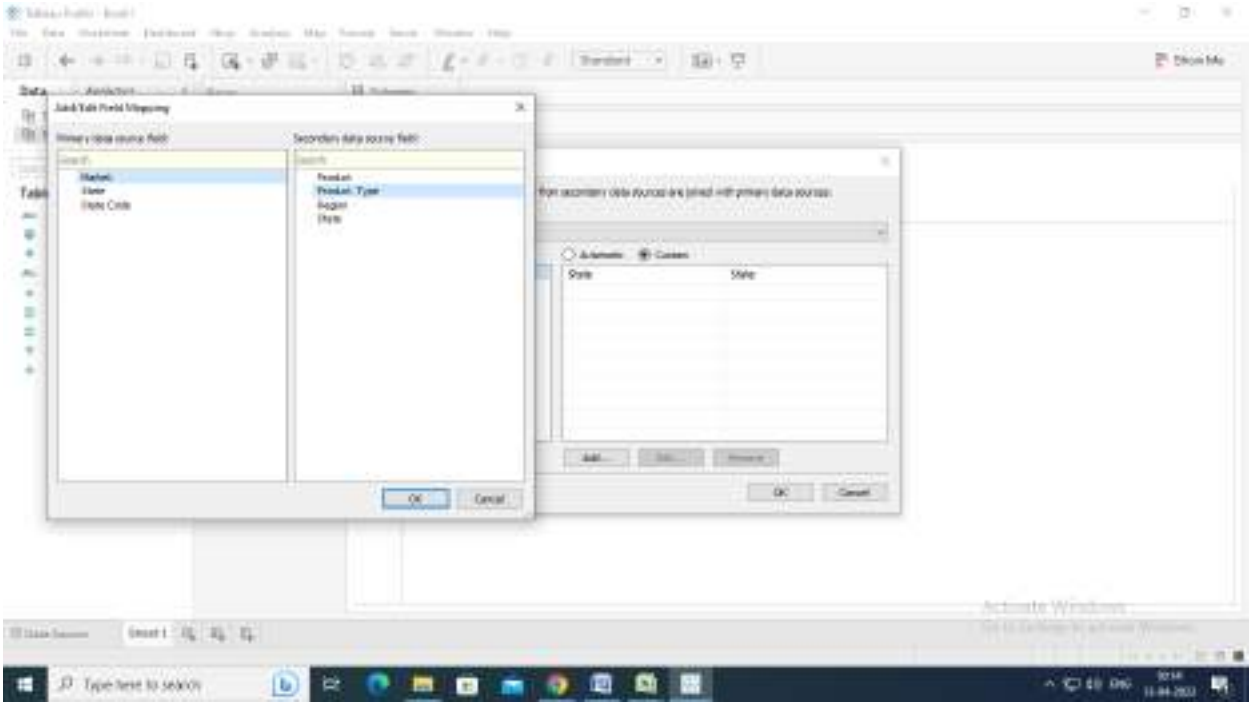
Step4: Select menu item Edit Blend Relationships from menu item Data



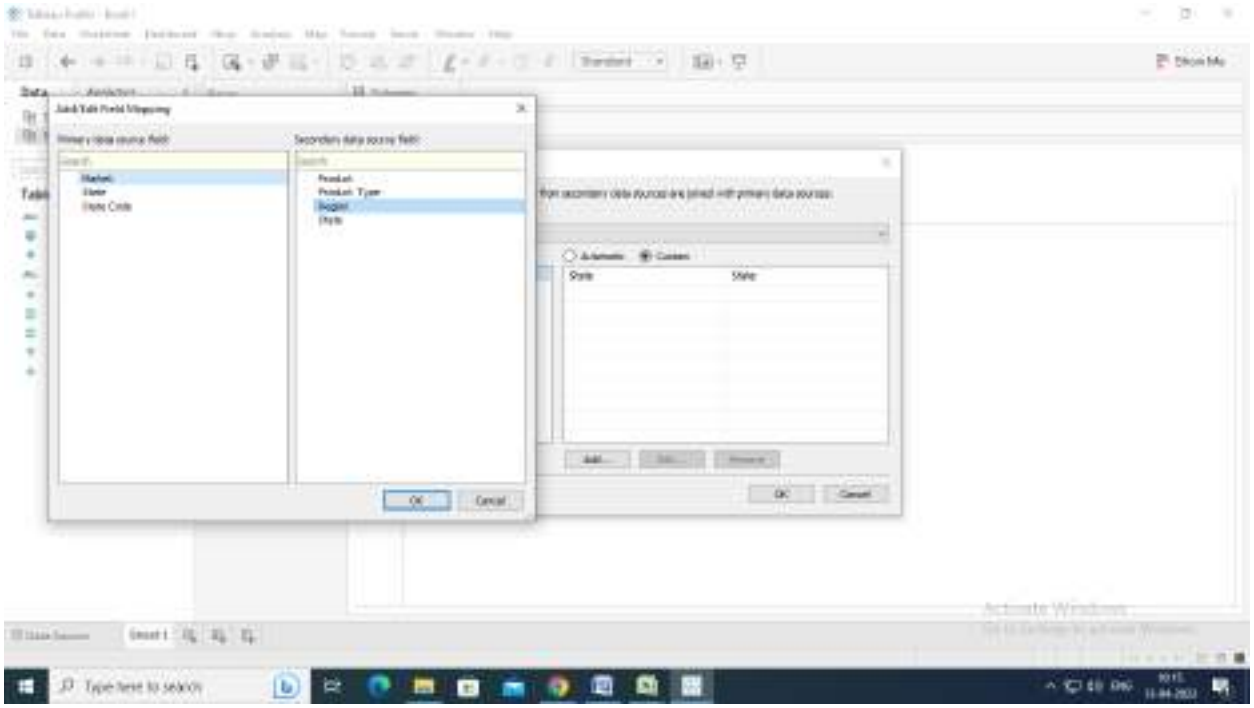
Step5: Choose the option Custom in popup window and click button Add



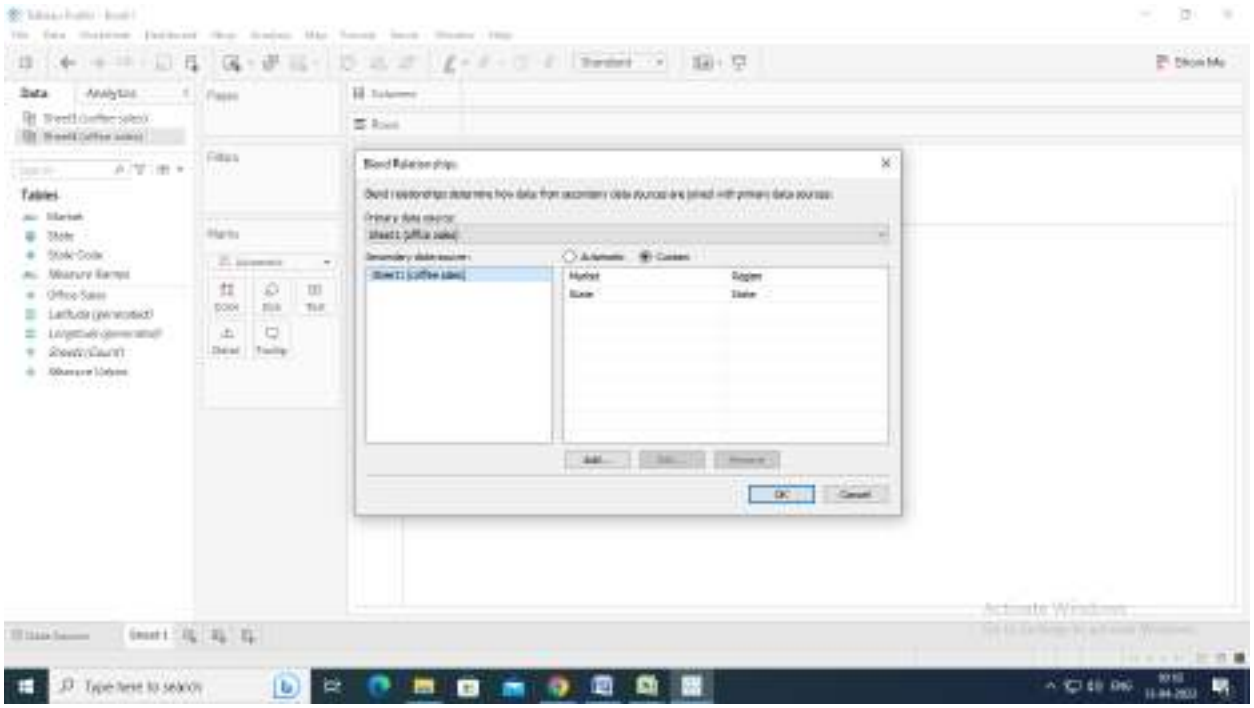
Step 6: New popup window appears with two columns



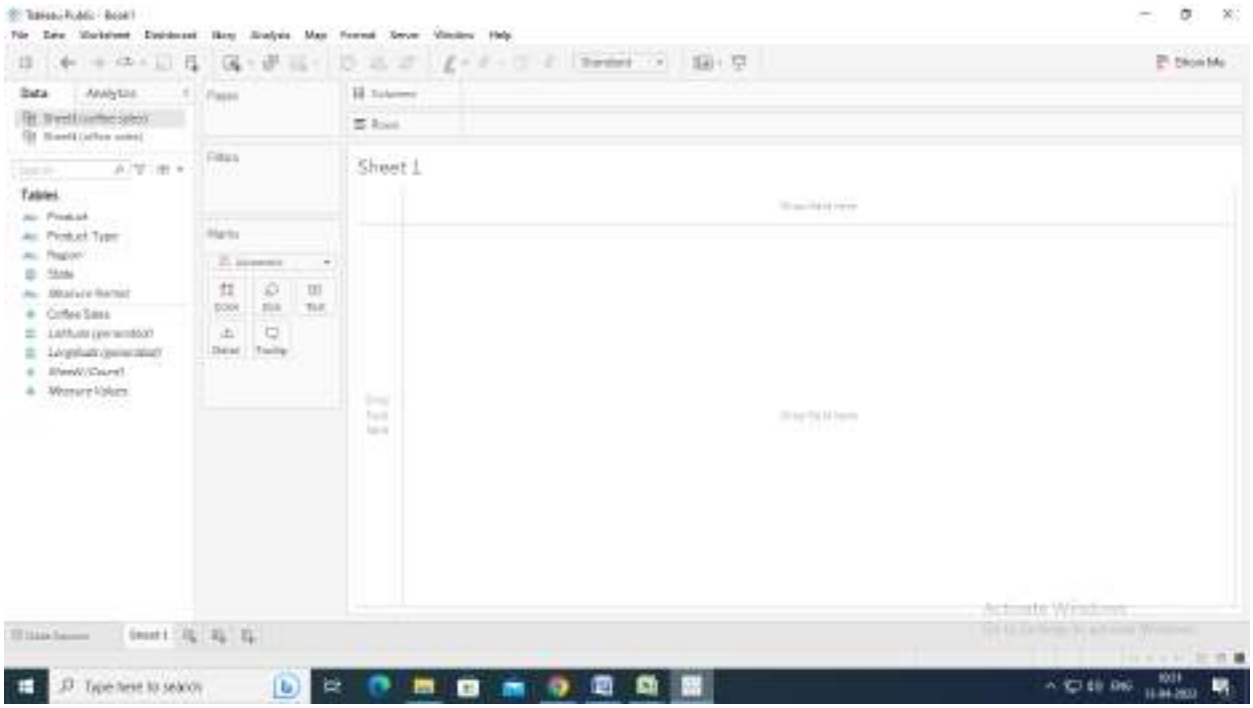
Step 7: Match the fields Market (Primary data source field) and Region (Secondary data source field) and click OK



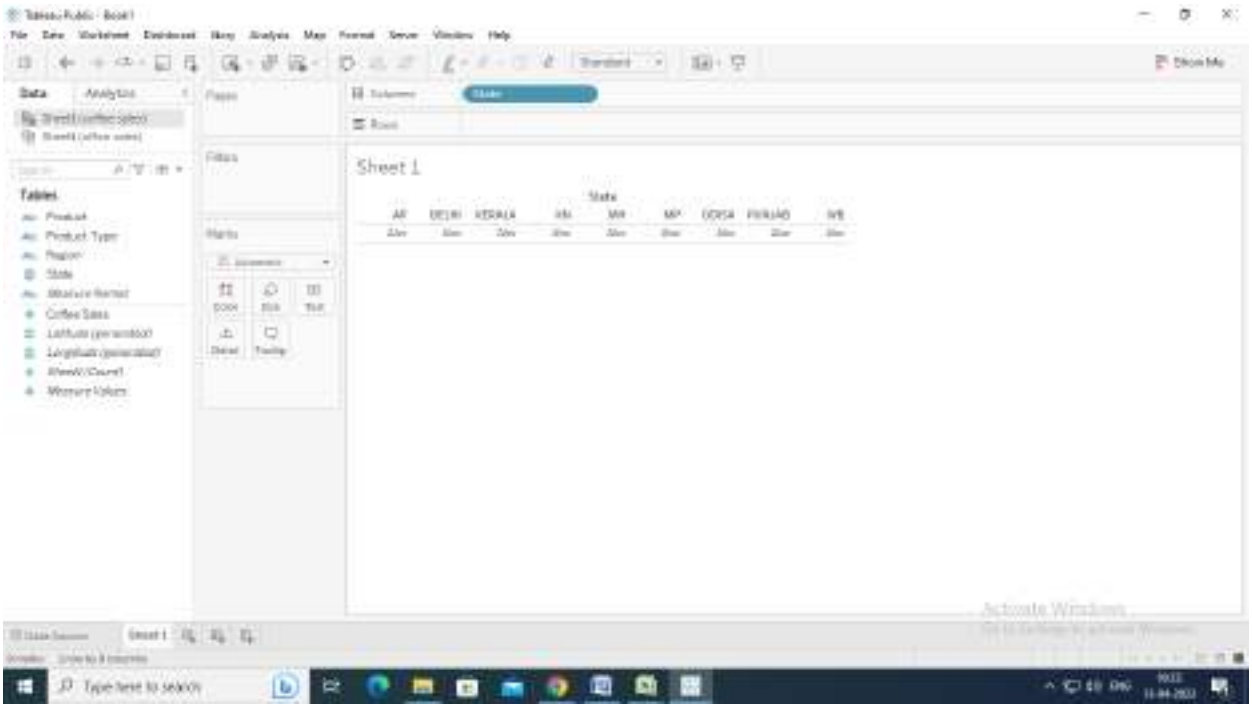
Step 8: Click on OK



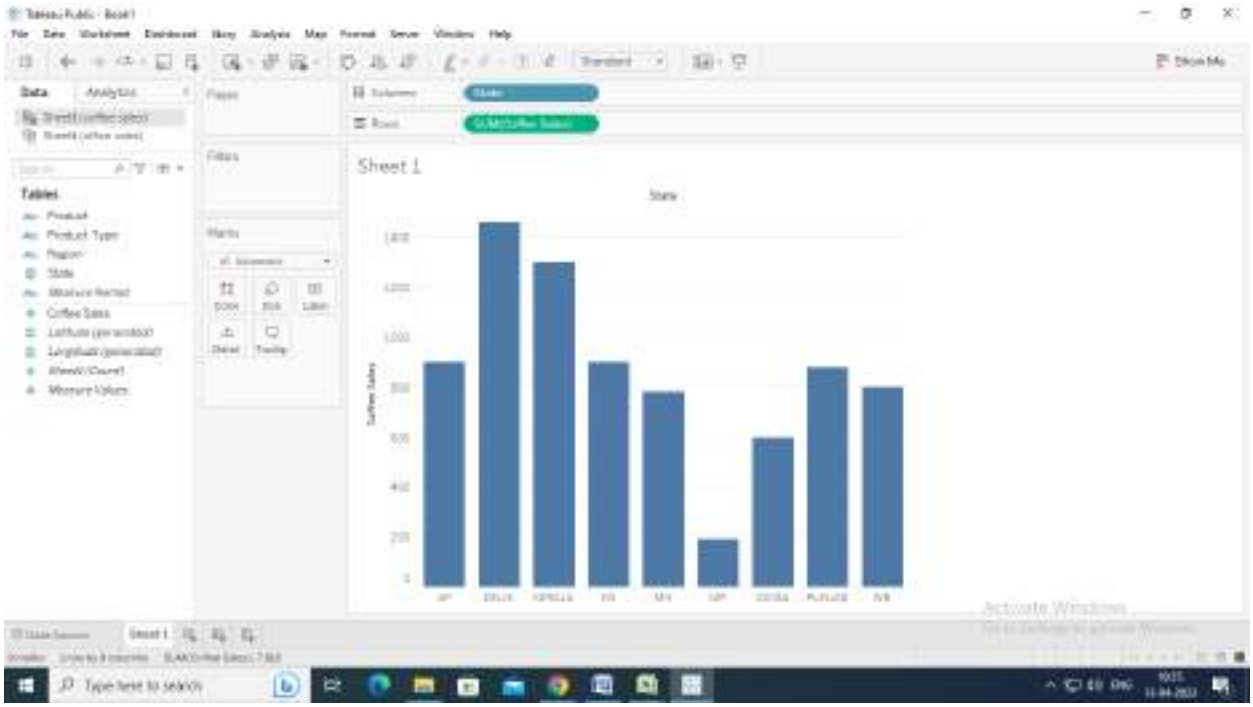
Step 9: Select the data source Sheet1 (coffee sale)



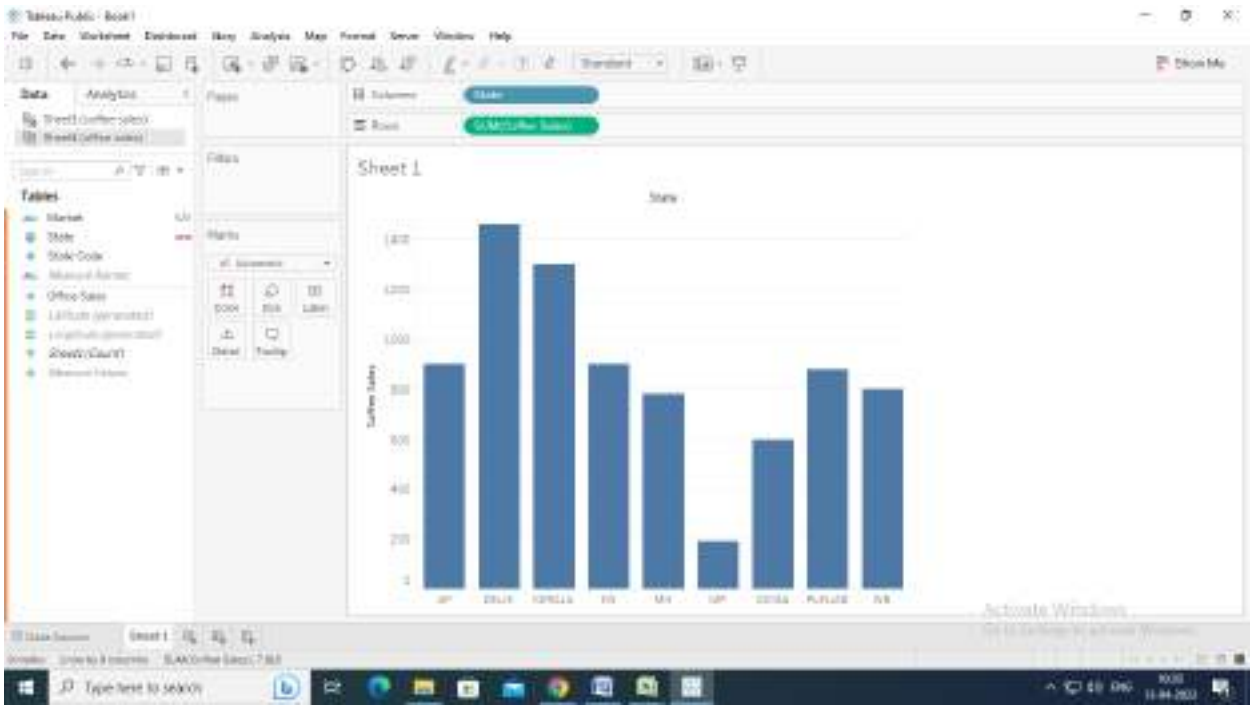
Step 10: Drag dimension State on the Column Shelf



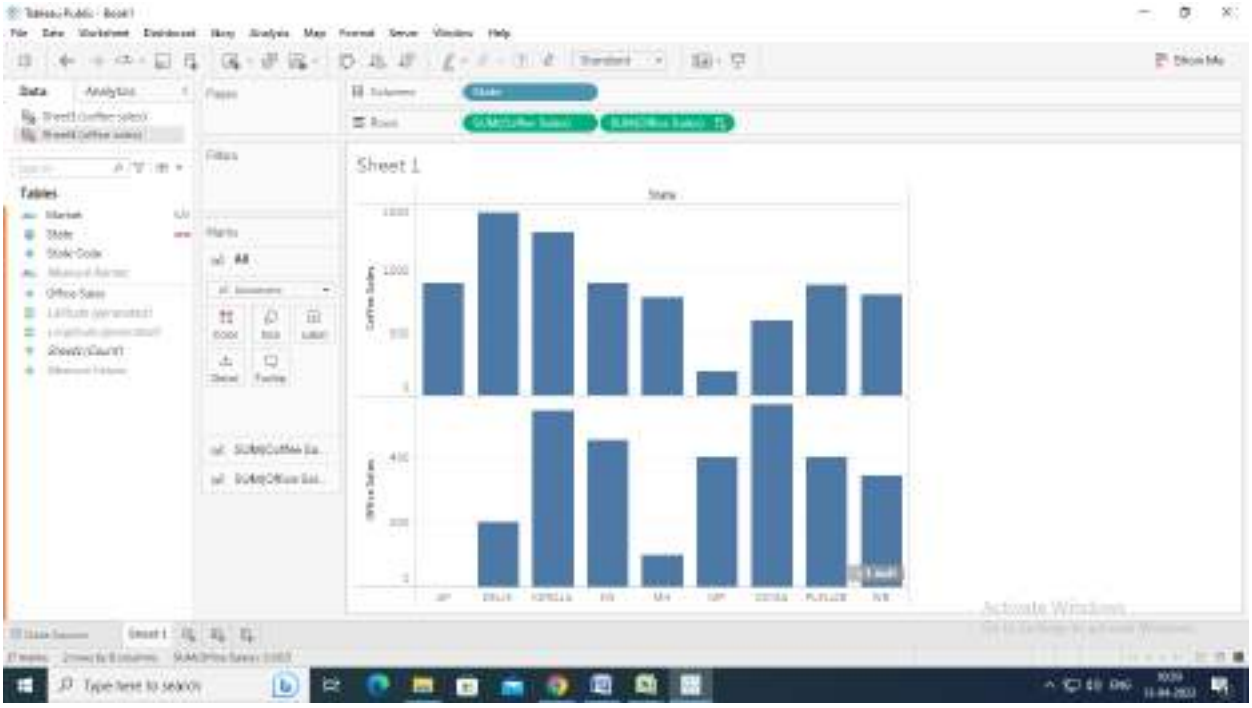
Step11: Drag measure Coffee Sales on to the Row Shelf



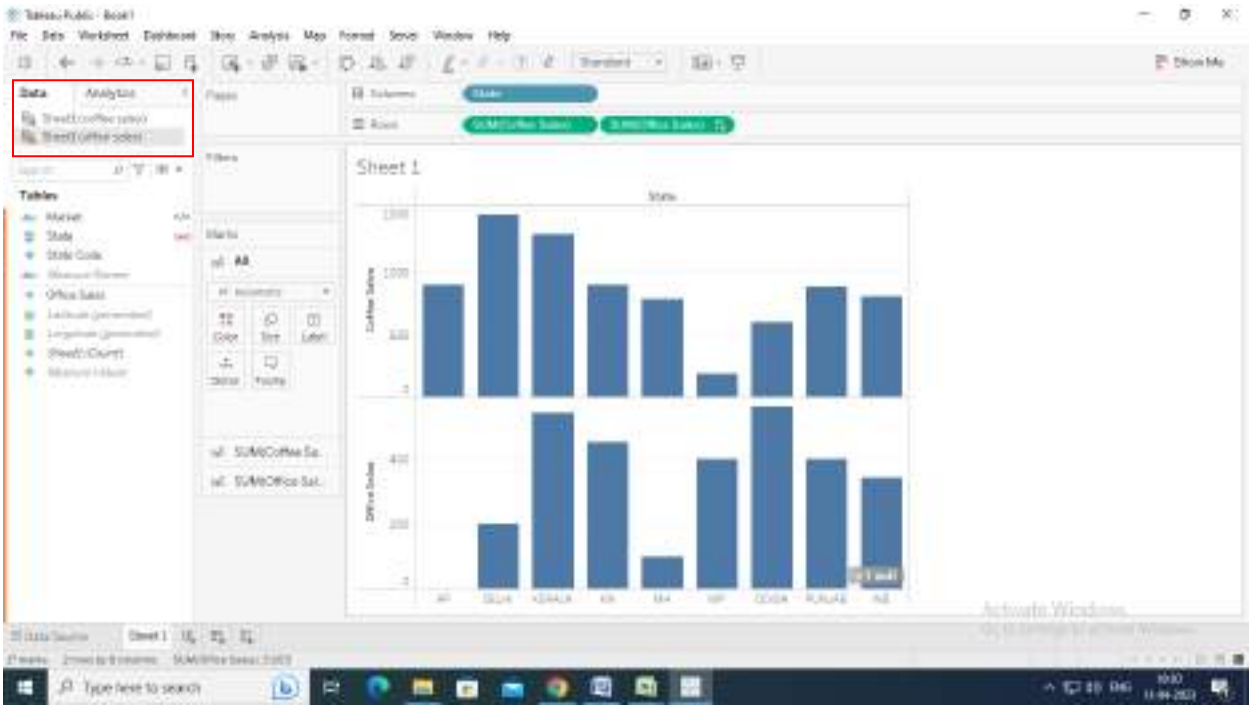
Step 12: Select data source Shee1 (office sales)



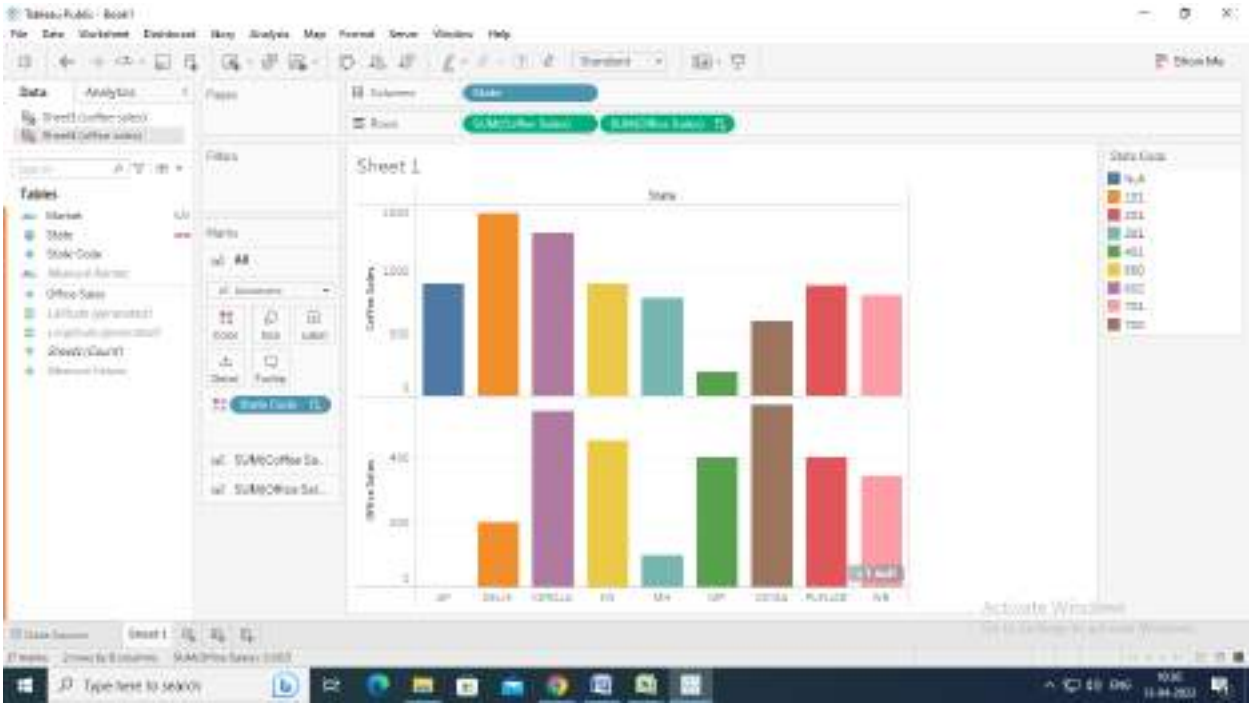
Step 13: Drag measure Office Sales on to the row next to the coffee sale



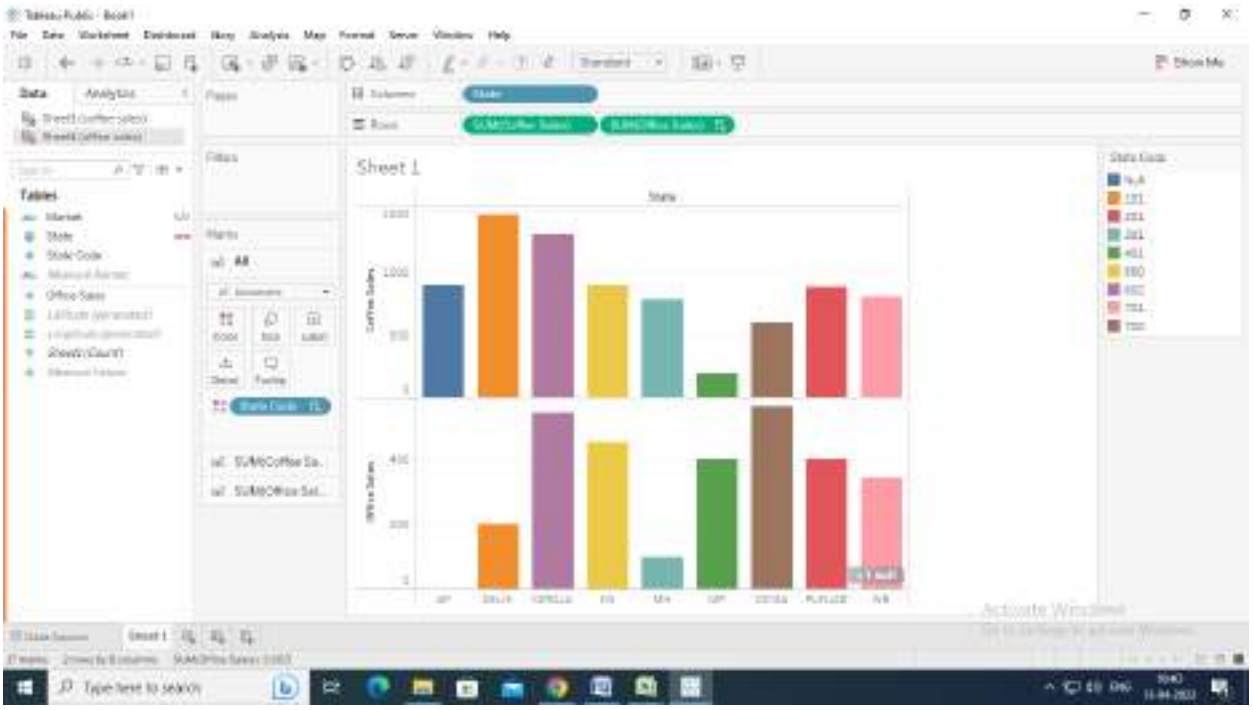
Step 14: We can observe that primary source coffee sales appear in blue color where as secondary source office sale appear in orange color.



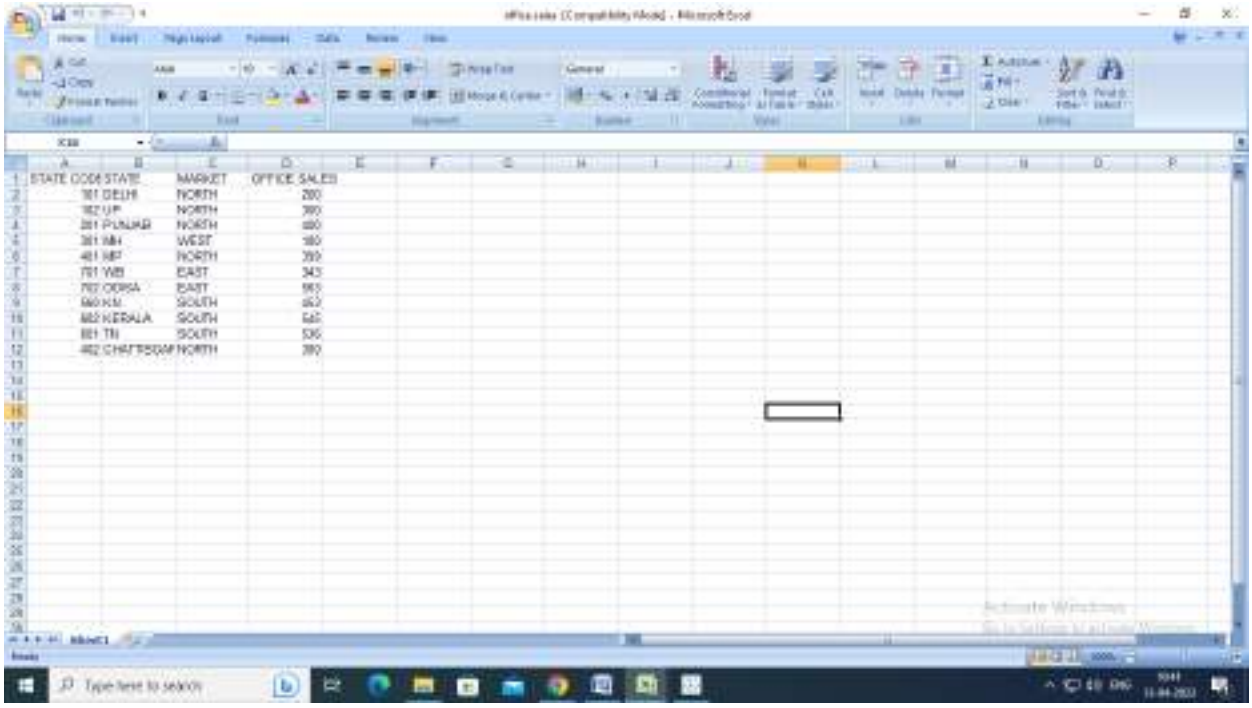
Step 15: Drag dimension state on to the color on the marks card.



Step 16: You can observe on right_down corner >1 null, which indicates in coffee sale state AP is present where as in office sales state AP is missing

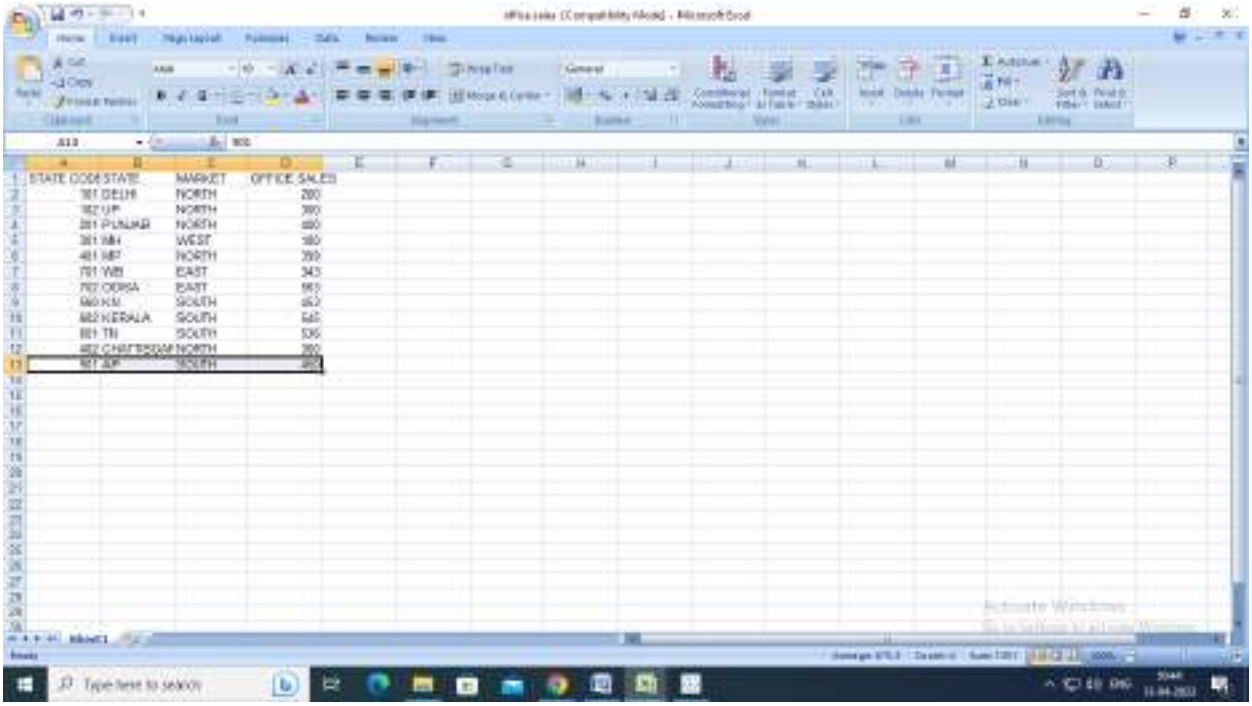


Step 17: Now open your office sales file in excel

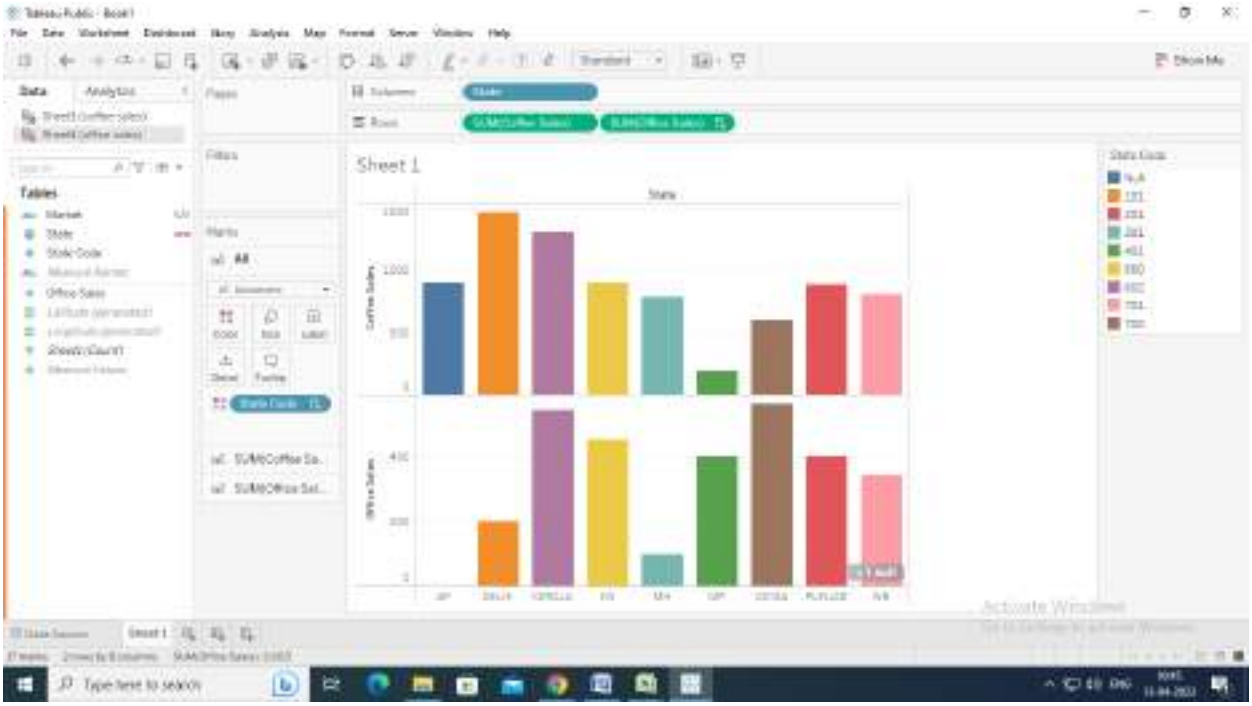


In the above excel sheet we observe that data of AP is not available.

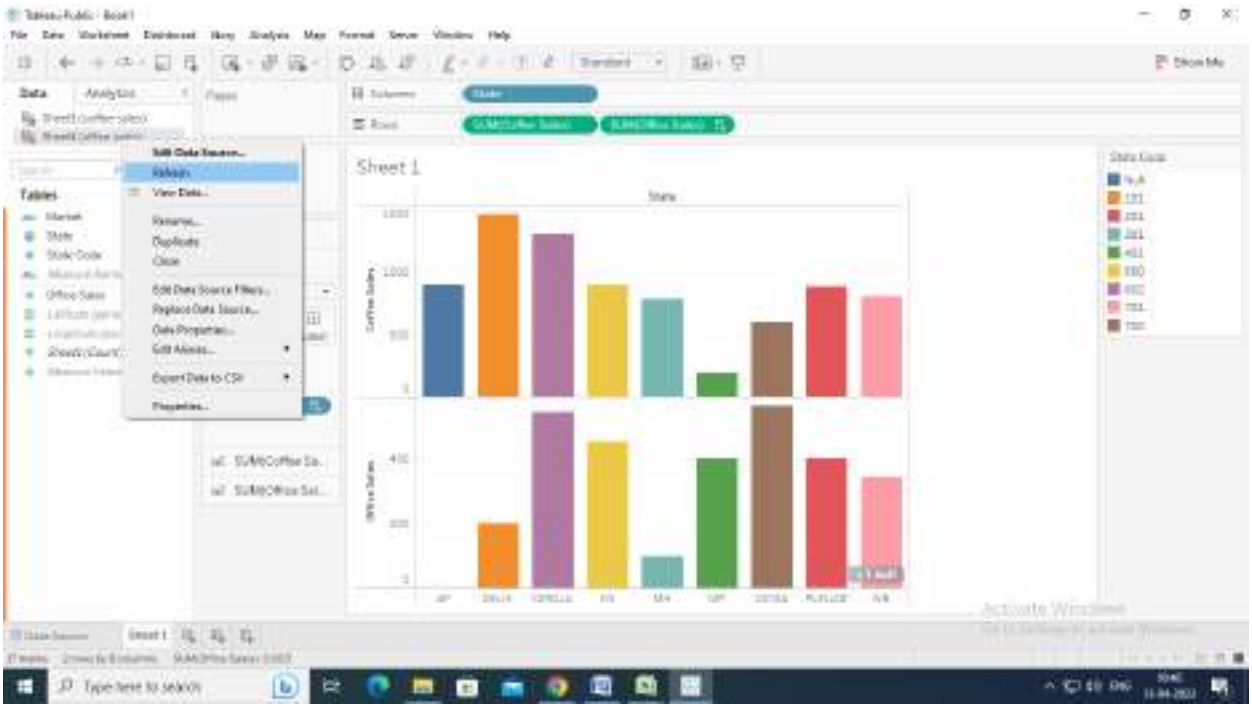
Step 18: In office sales include an entry for AP as 901 AP SOUTH 450 and save the file



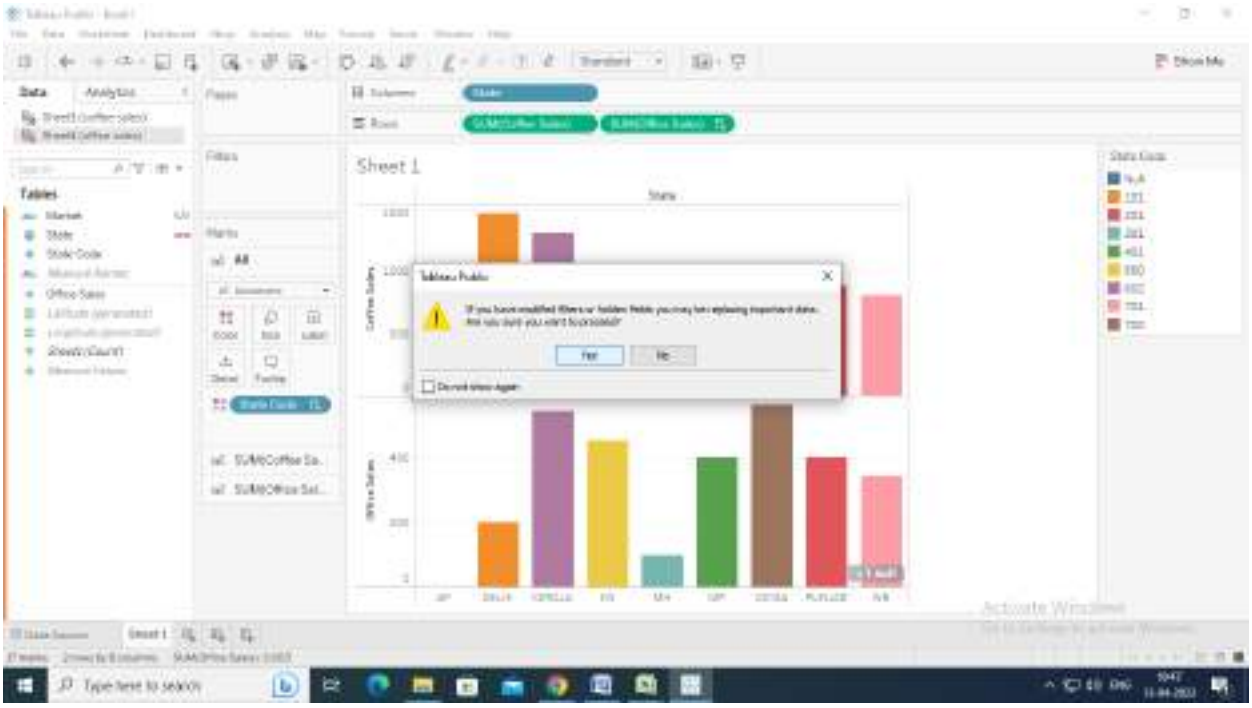
Step 19: Now go to tableau, select data source office sales



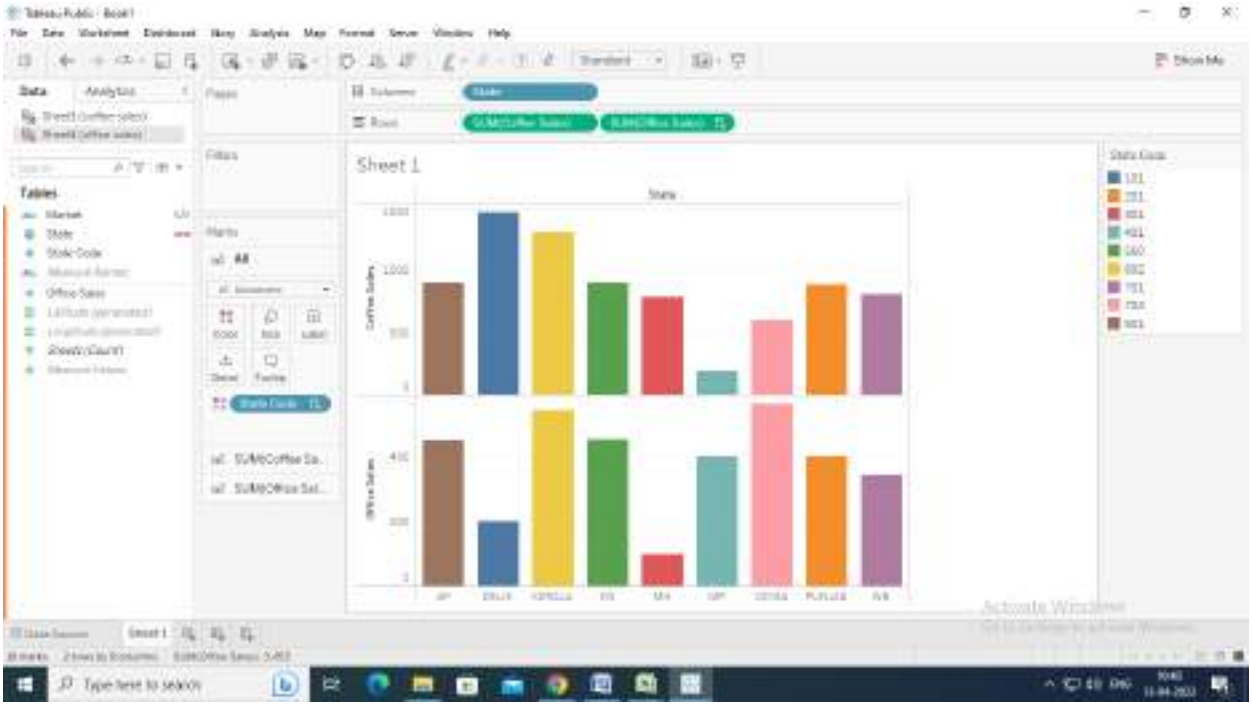
Step 20: Now right click on the data source office sales and select the option Refresh



Step 21: Popup a new window and click on YES

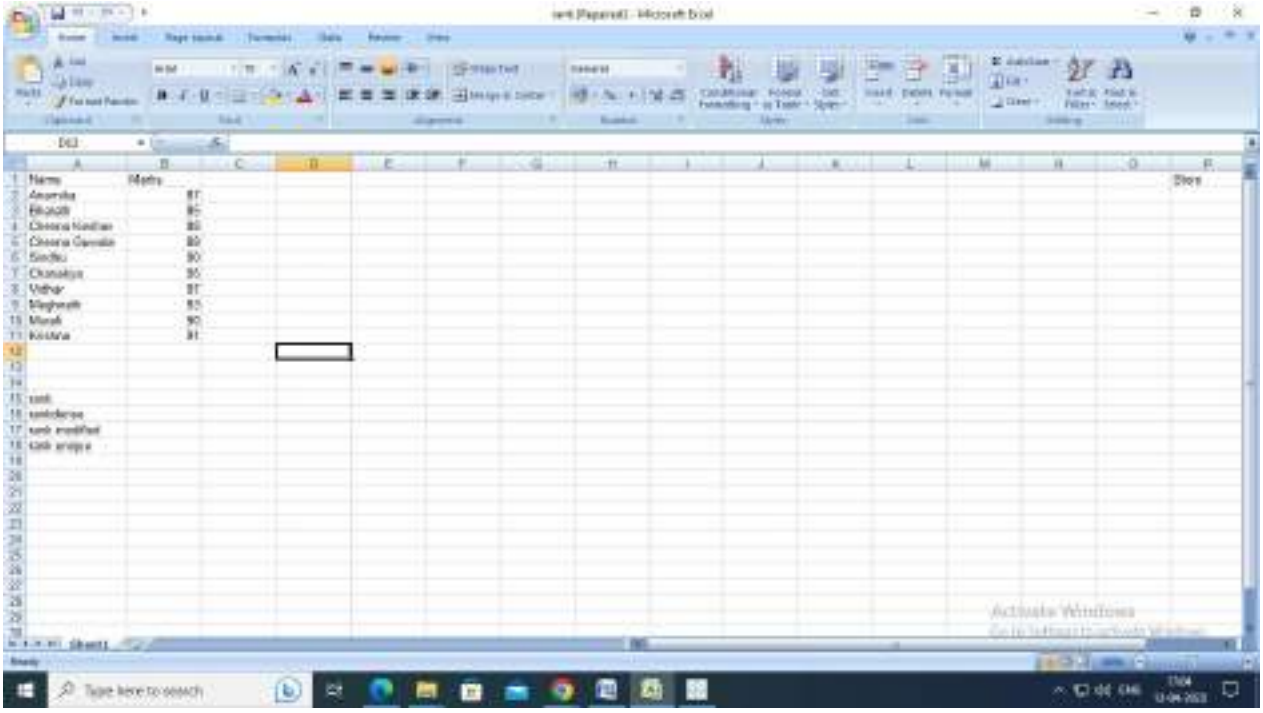


Step 22: Now we can observe in office sales bar chart, AP is present



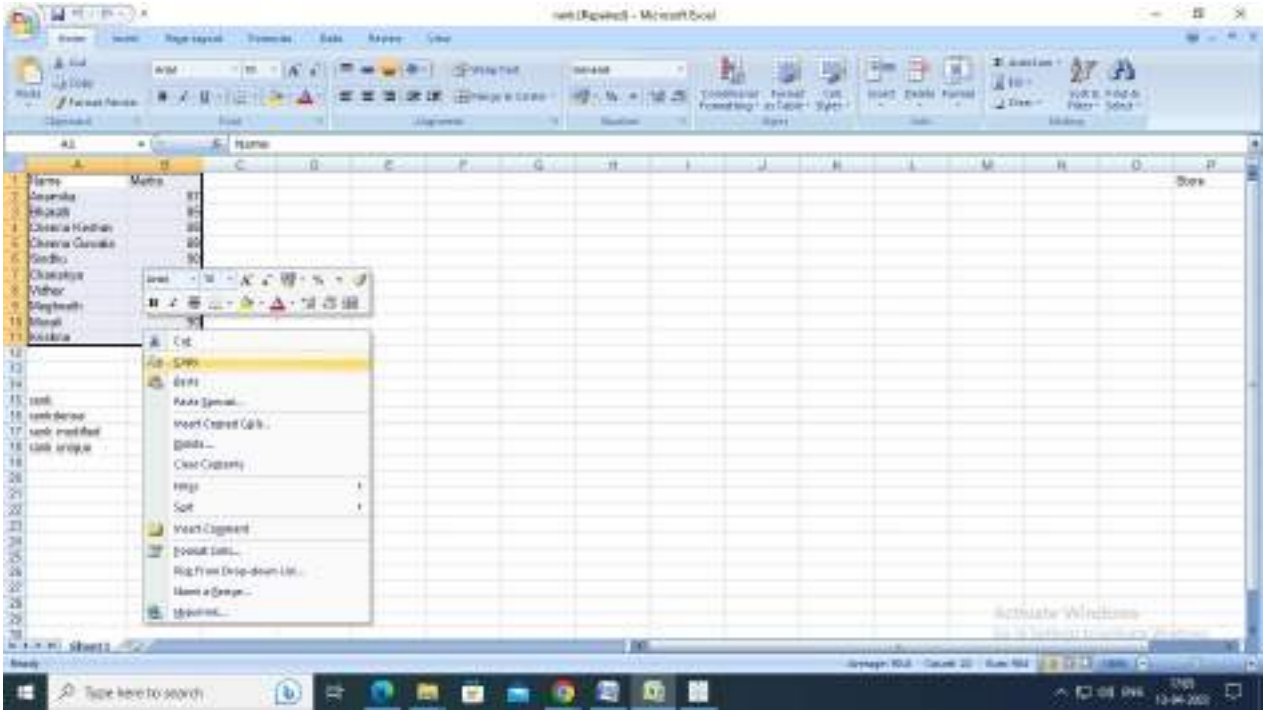
TASK 9: RANK CALCULATION

Step 1: Open rank.xls file in excel

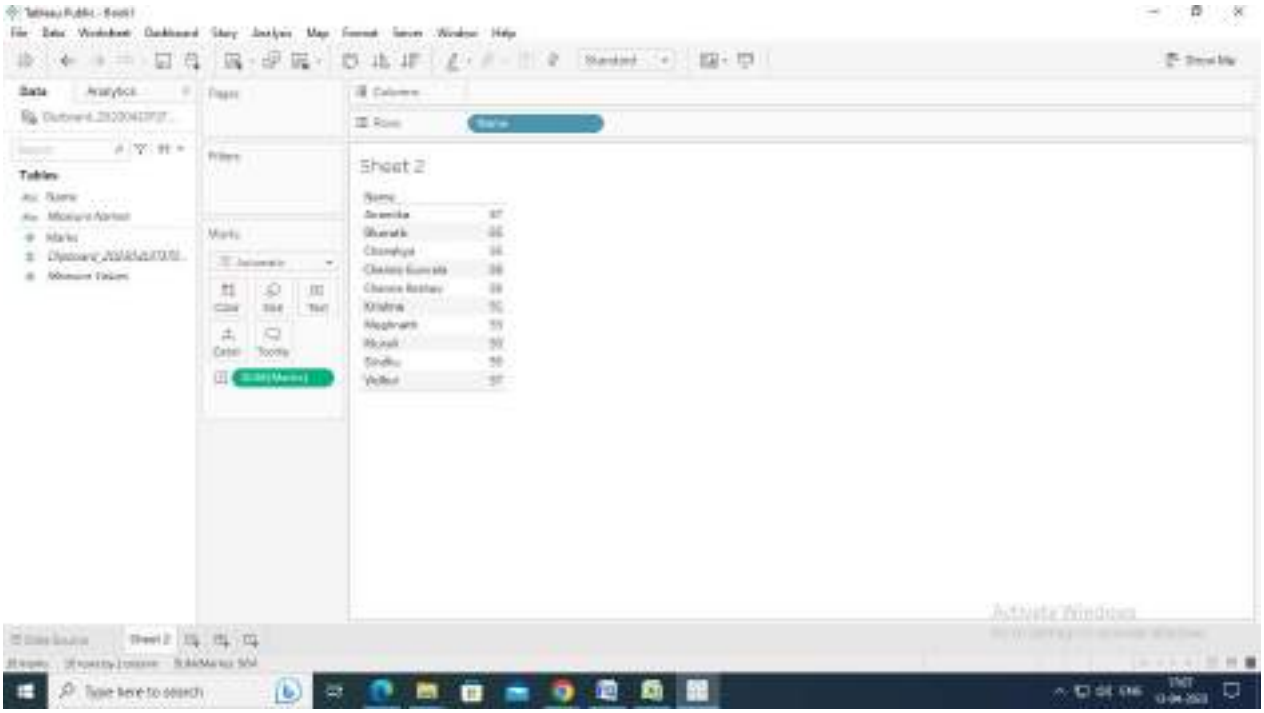


Step2: Select columns Name and Marks

Step3: Press ctrl+c (Copy) in excel

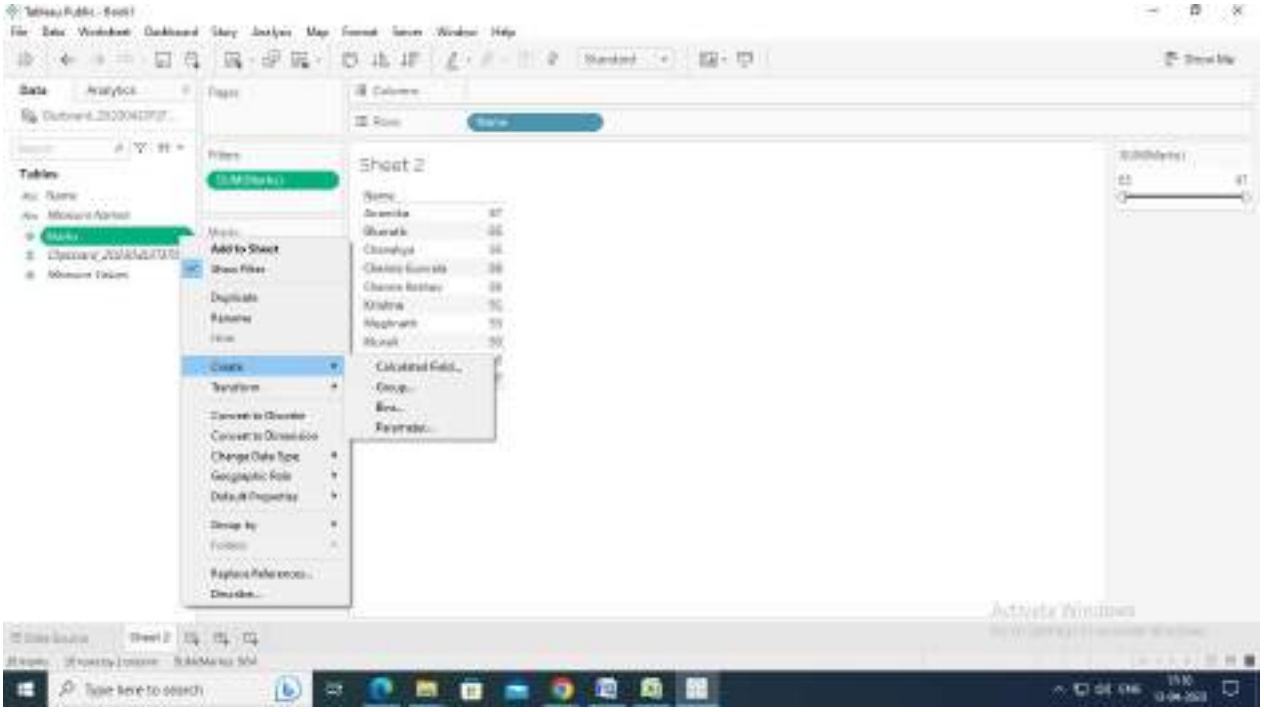


Step4: Launch Tableau and goto Sheet and paste ctrl+v (Paste)

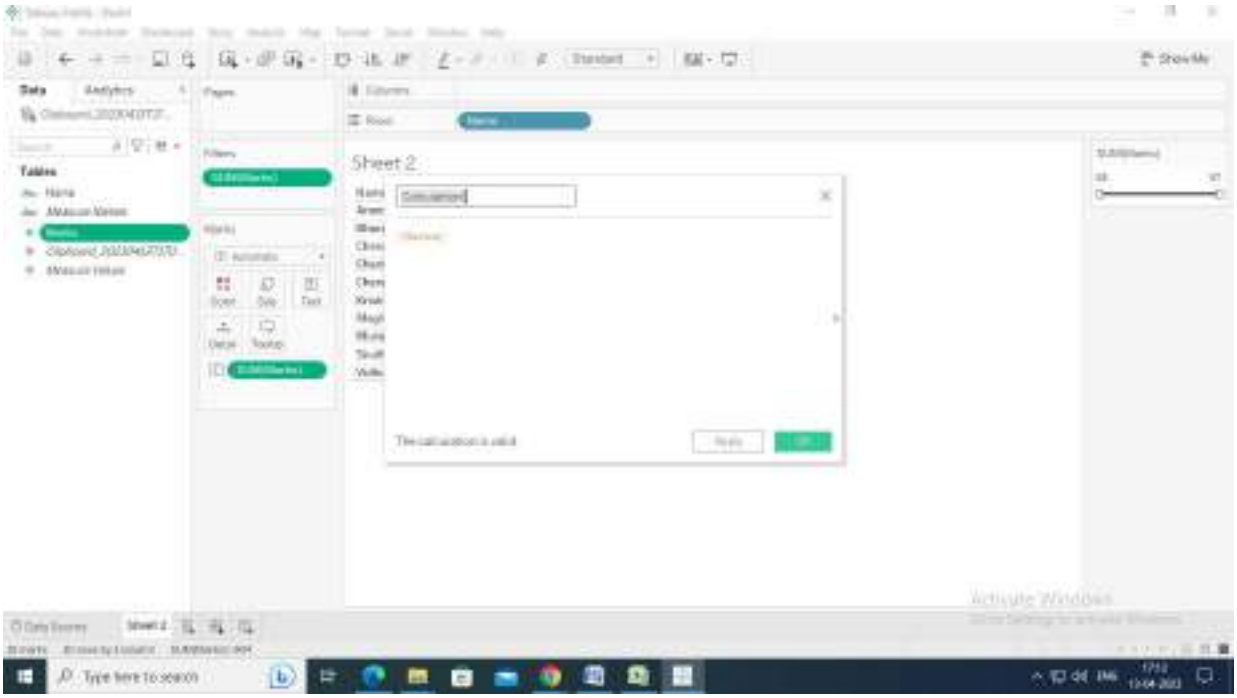


Step 5: In canvas we can observe the data from the excel sheet and also data source as clipboard withtime stamp

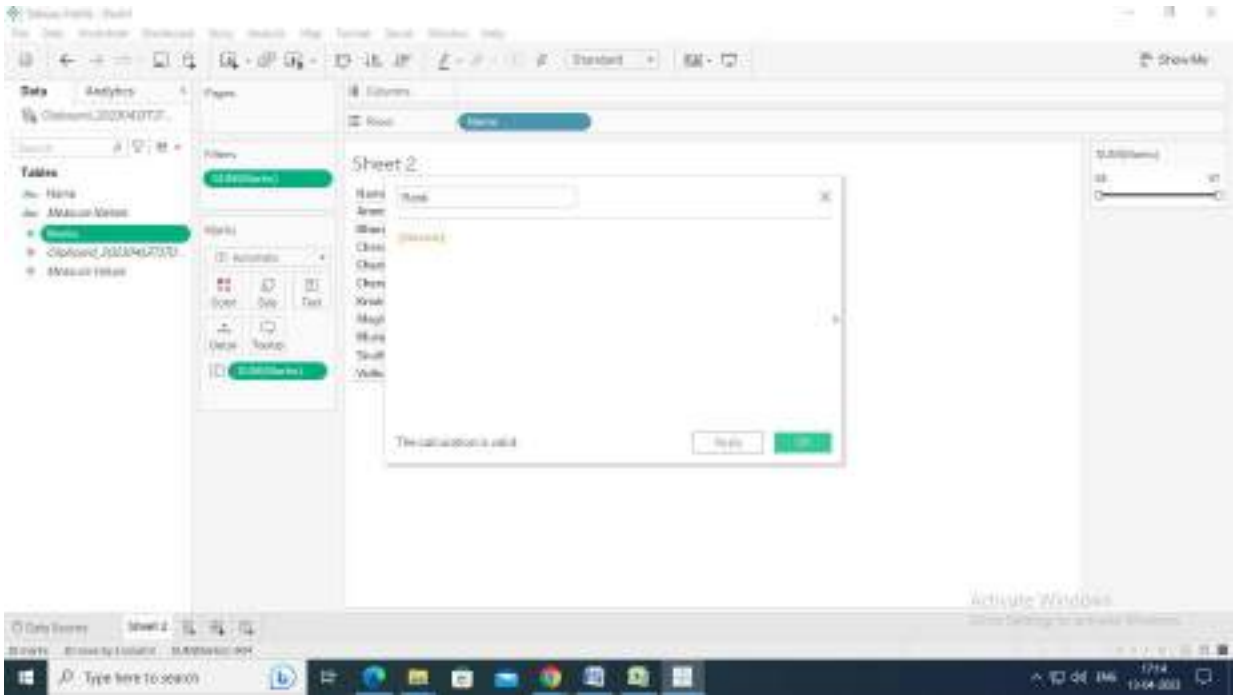
Step6: Goto measure Marks and right click on it, a menu will be appeared



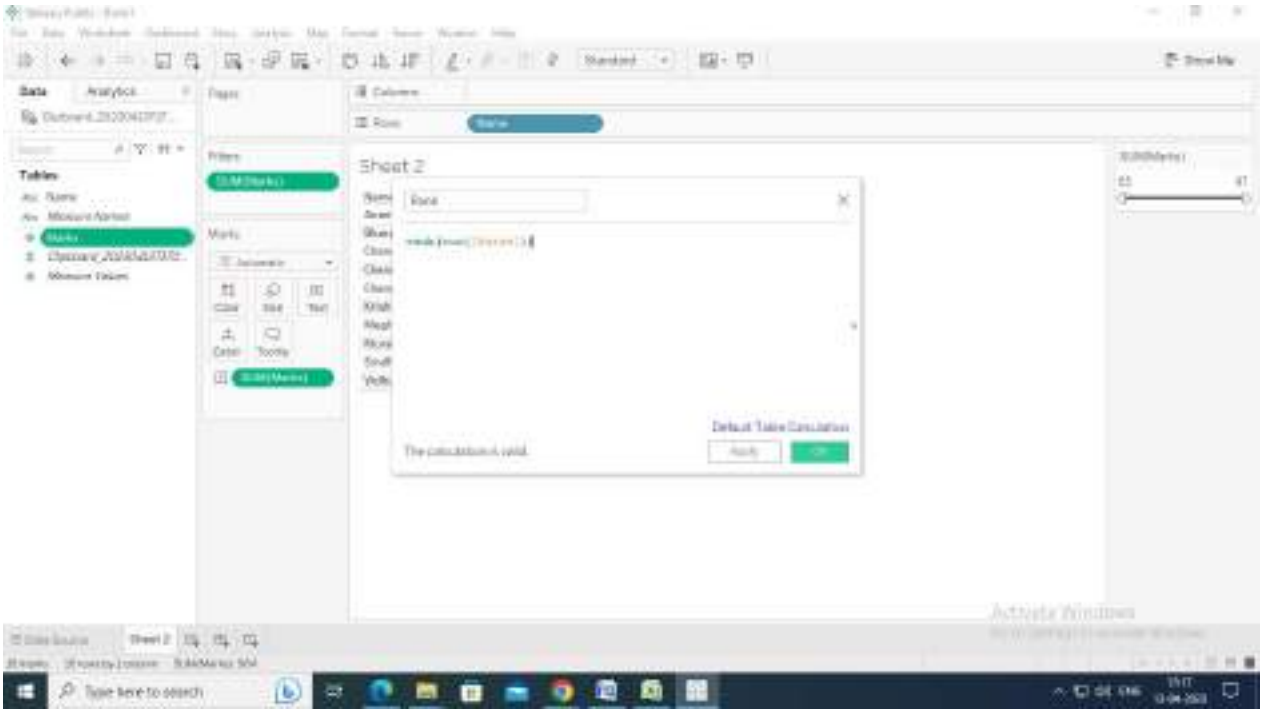
Step 7: Select menu option Create from select option Calculate Field. A popup window will be appeared.



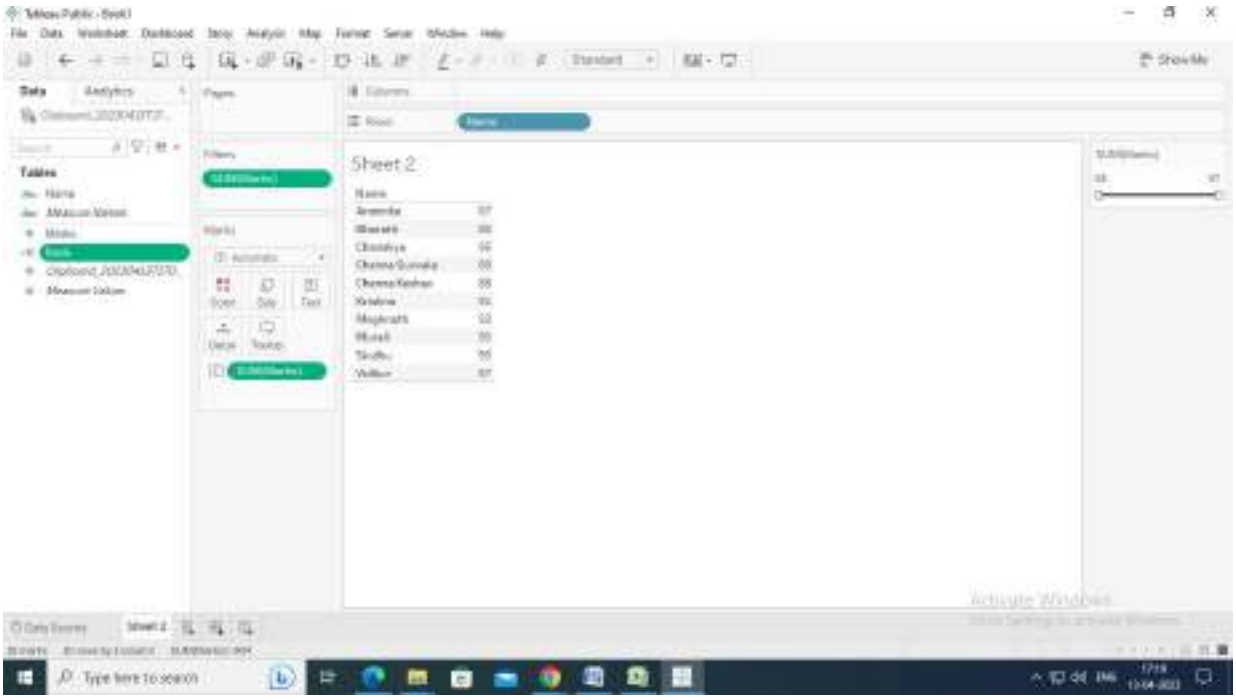
Step 8: In Calculate Fill Block give title Rank



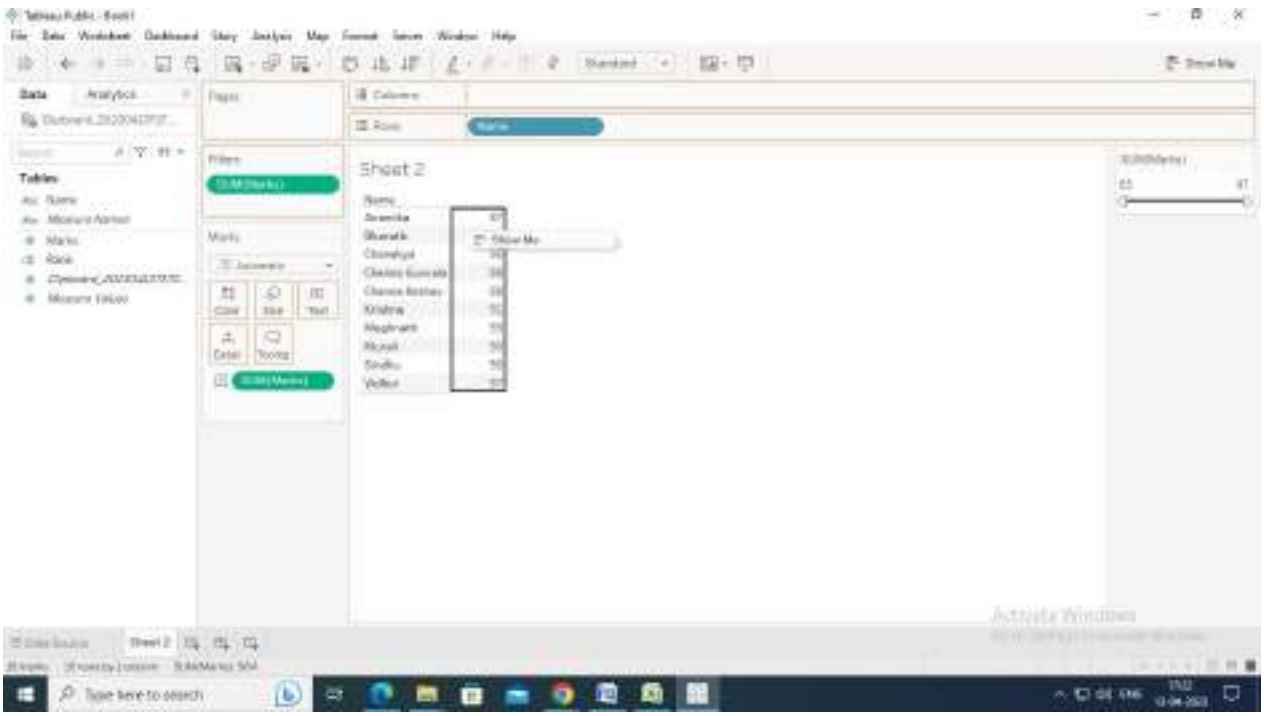
Step 9: Write formula rank(sum([Marks])) to calculate Rank

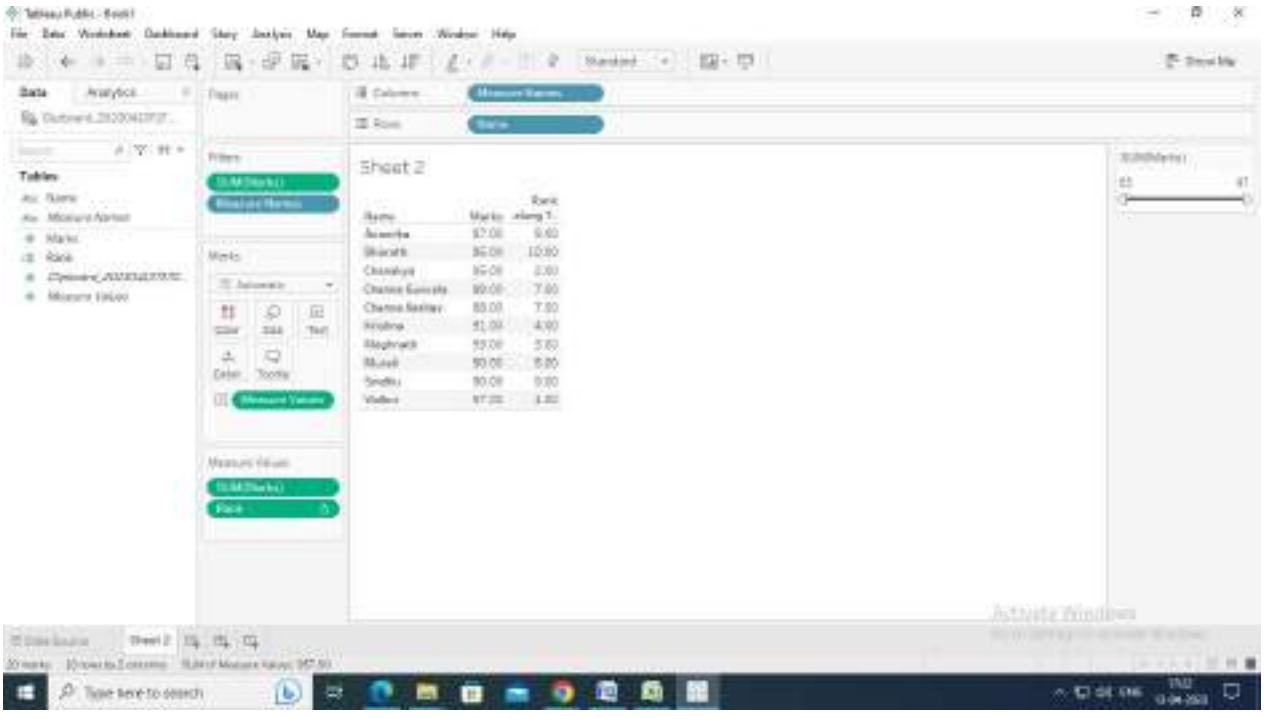


Step10: Click on OK. We can observe calculate field Rank appears as measure



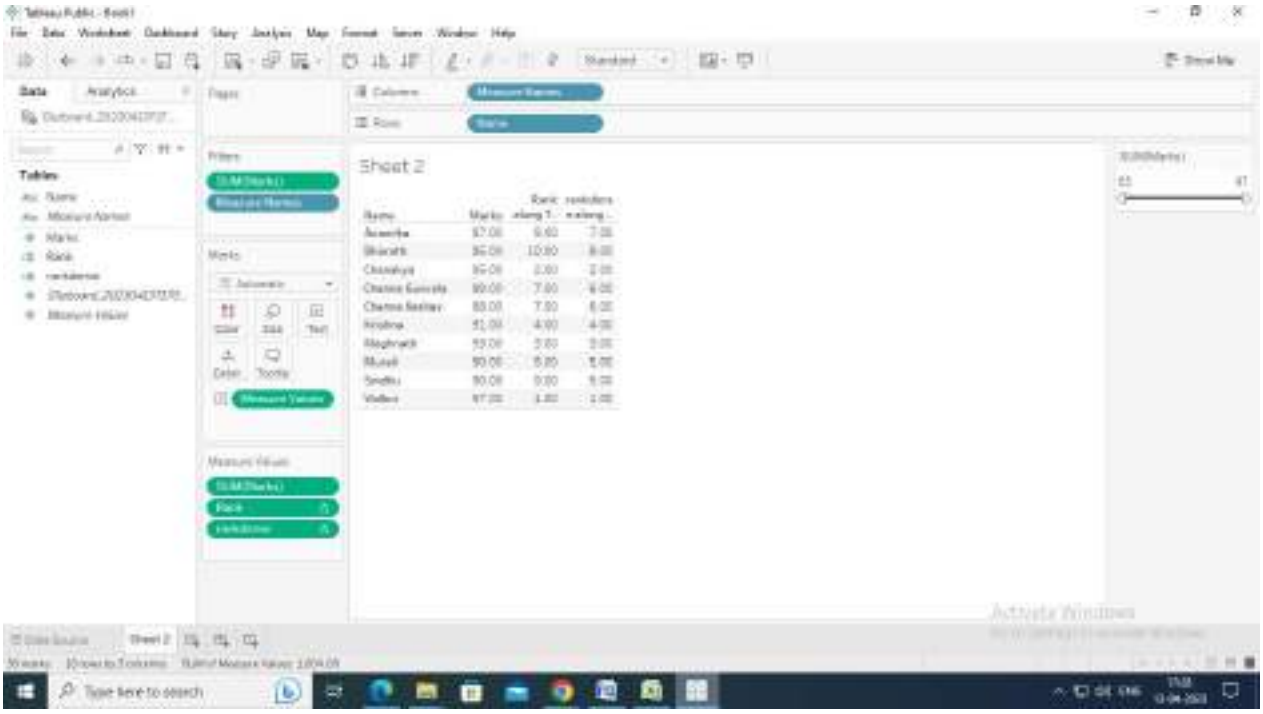
Step 11: Drag measure Rank on to the canvas next to Marks





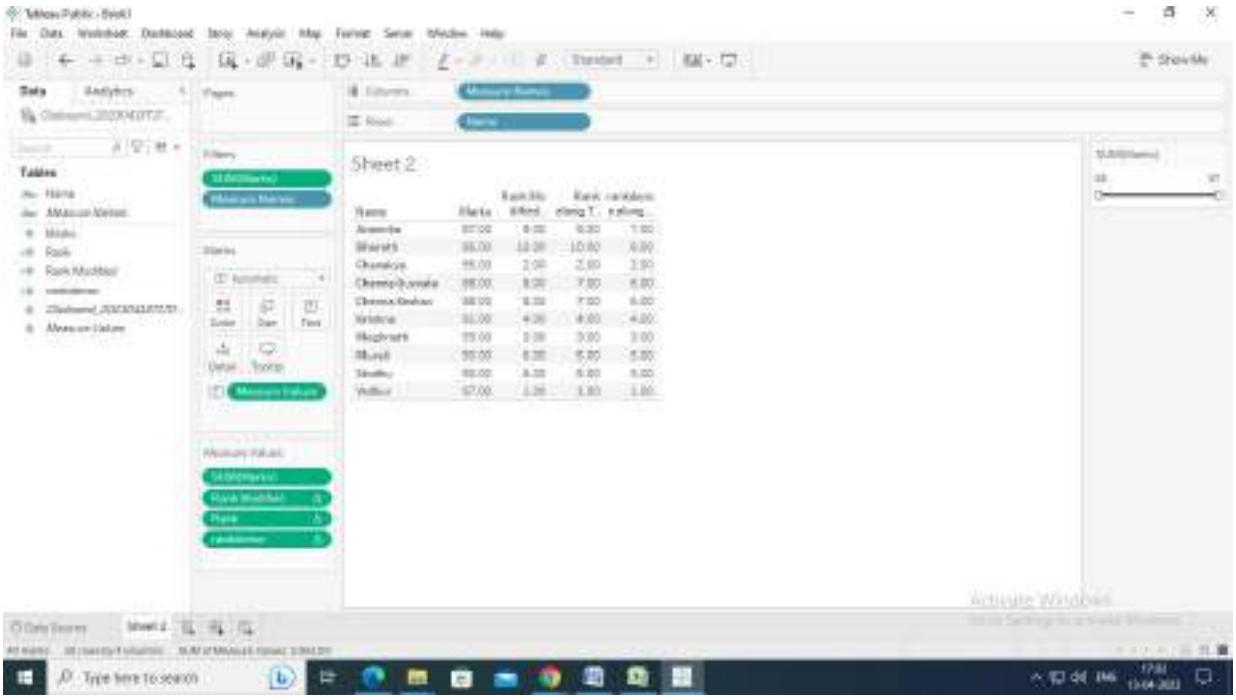
Step 12: Similarly create calculate field rankdense and Move on to the canvas next to the Rank.

Formula: RANK_DENSE(sum([Marks]))



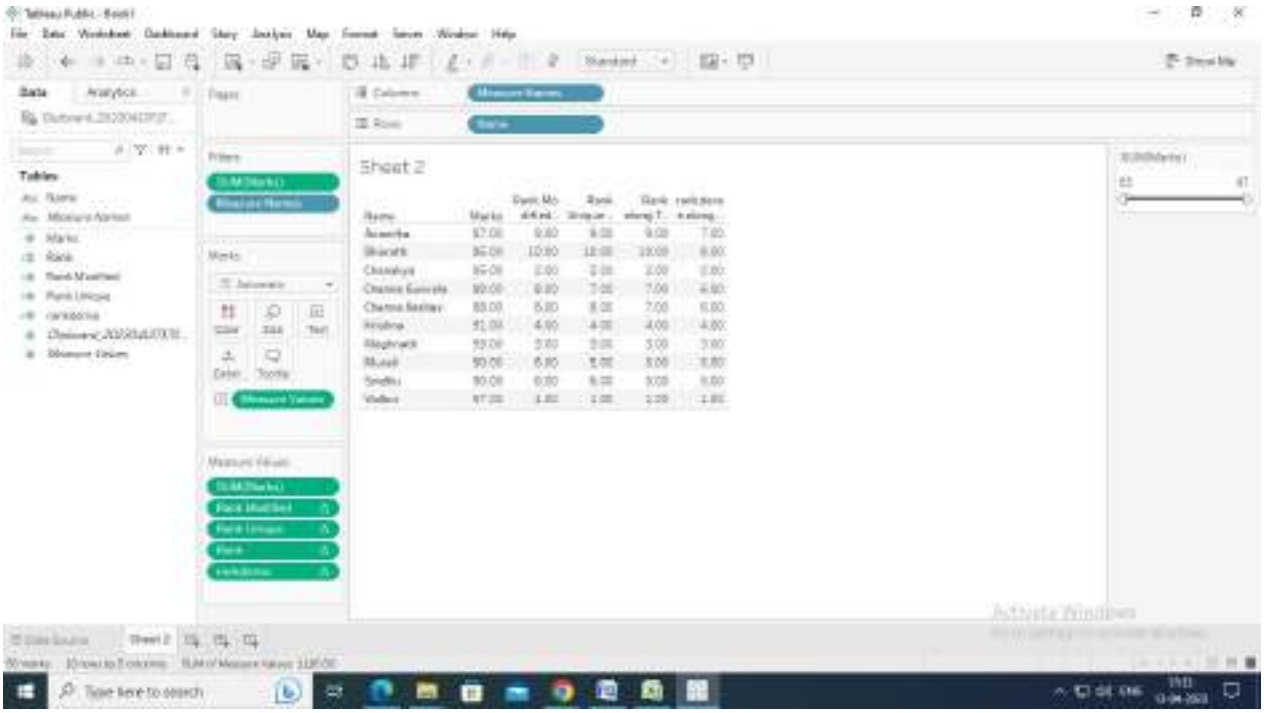
Step 13: Similarly create calculate field Rank Modified and Move on to the canvas next to the rank dense.

Formula: RANK_MODIFIED(sum([Marks]))



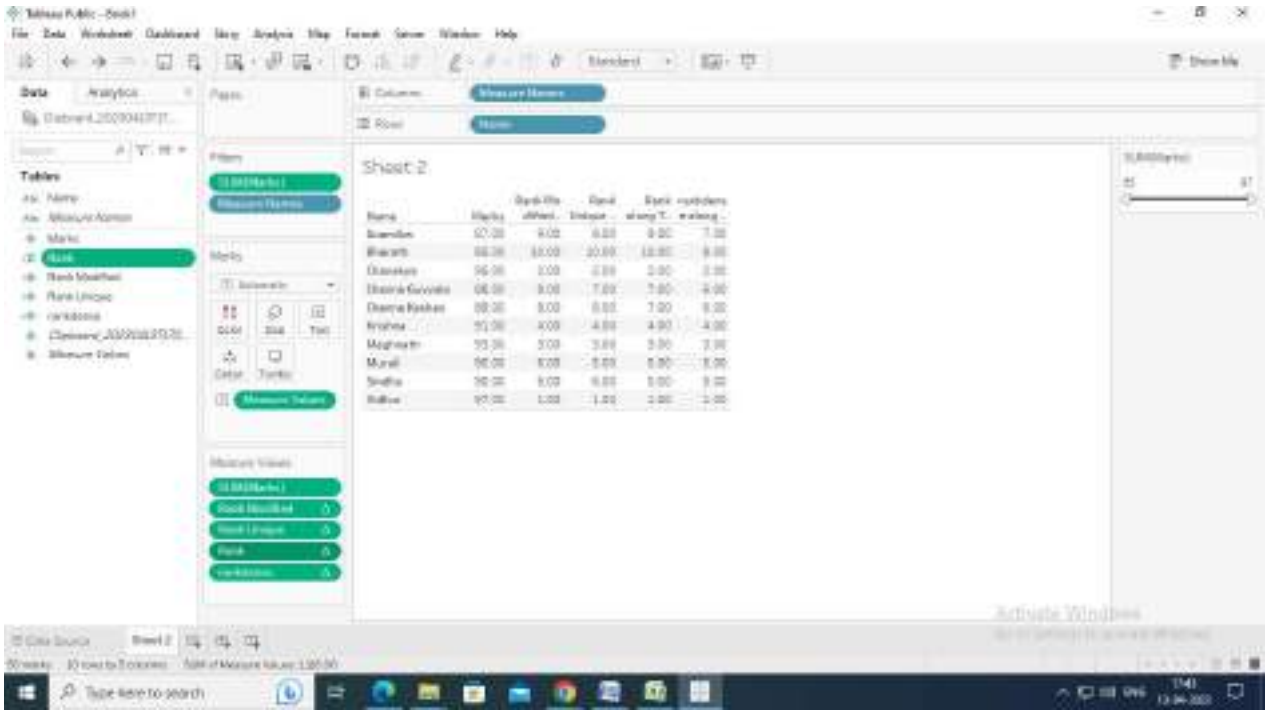
Step 14: Similarly create calculate field Rank Unique and Move on to the canvas next to the Rank Modified.

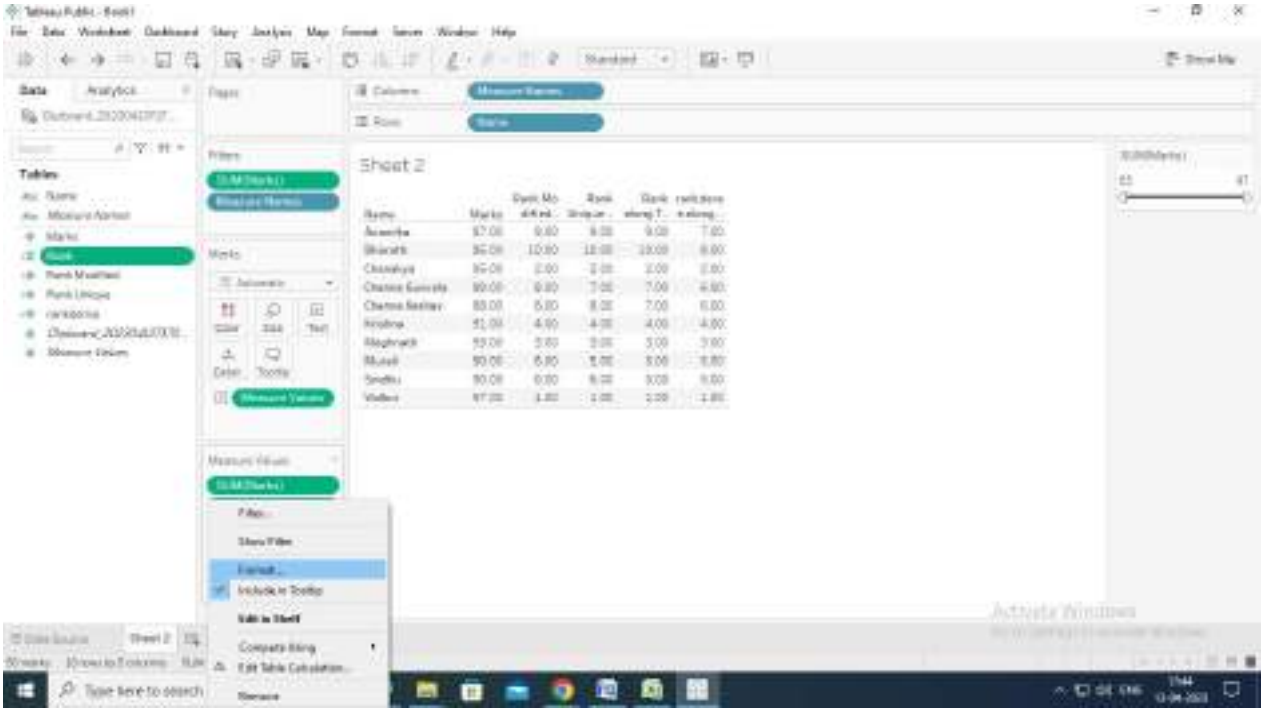
Formula: RANK_UNIQUE(sum([Marks]))



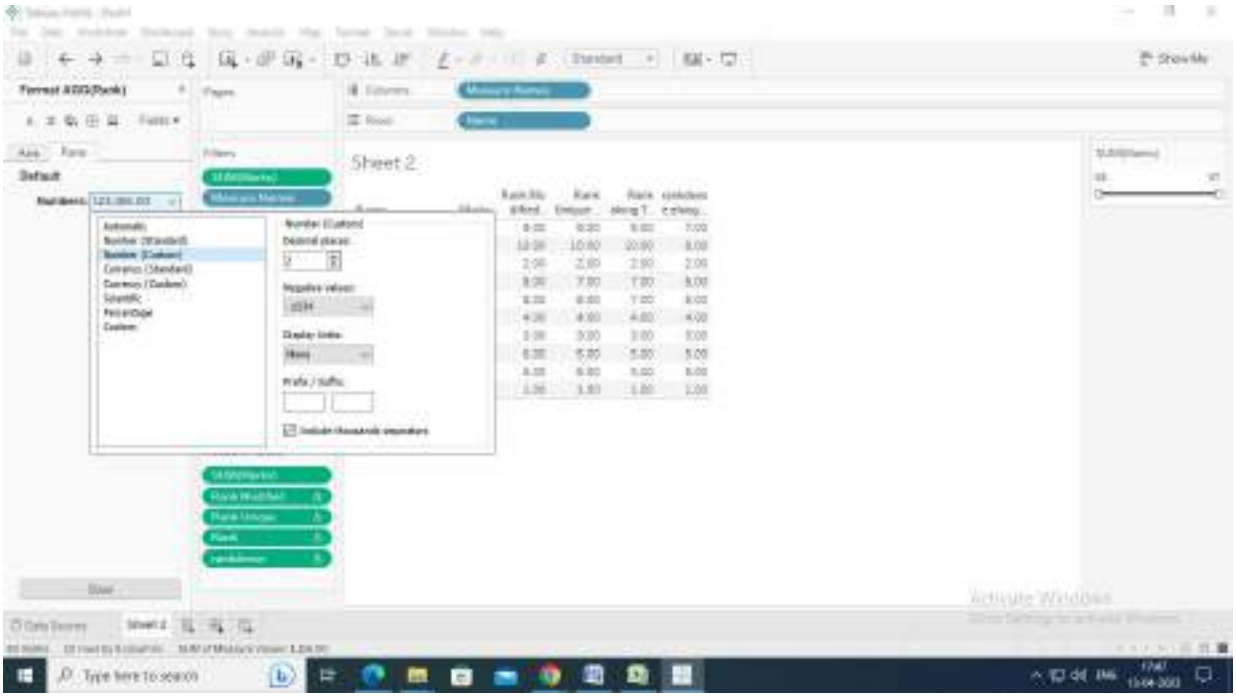
Step 15: We can observe that Rank, rankdense, Rank Modified and Rank Unique has decimal values, but these values should integer.

To make the Rank values to the integer go to measure Rank and right click on the Rank below the Marks Card from that select format option.

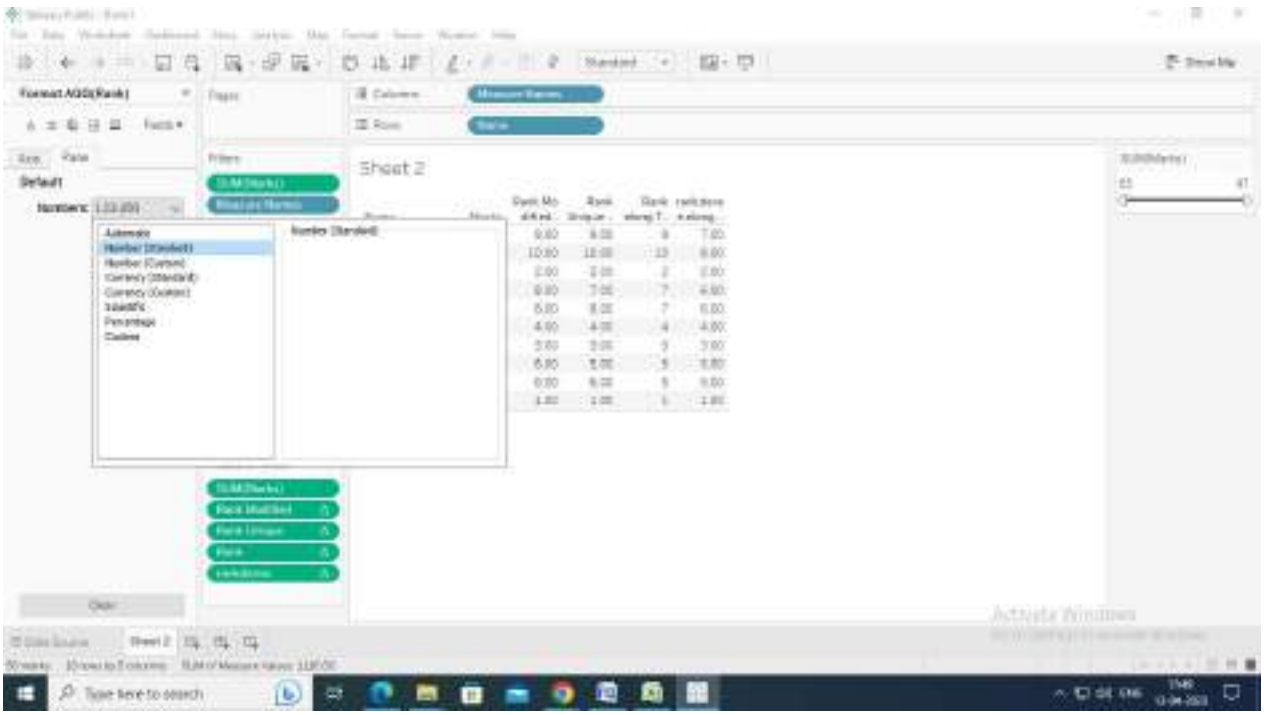

Sheet 2


Sheet 2

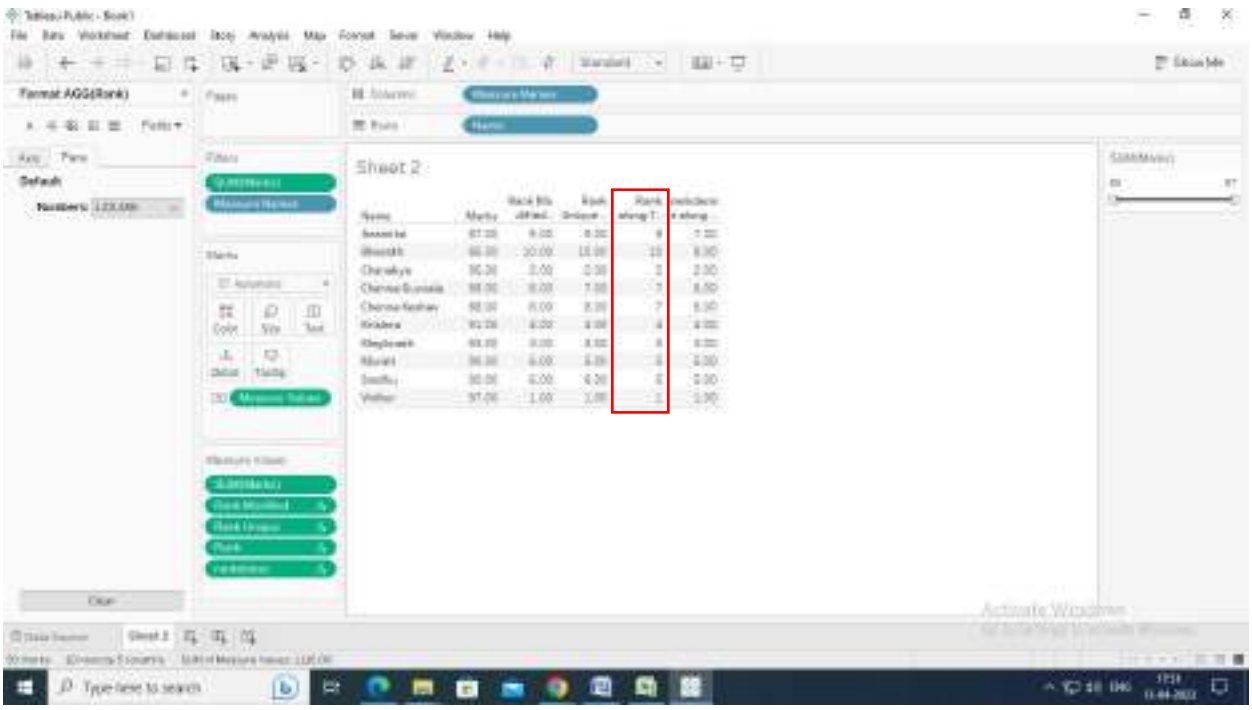
Step 17: Click on the inverted triangle on numbers a popup menu will be appear.



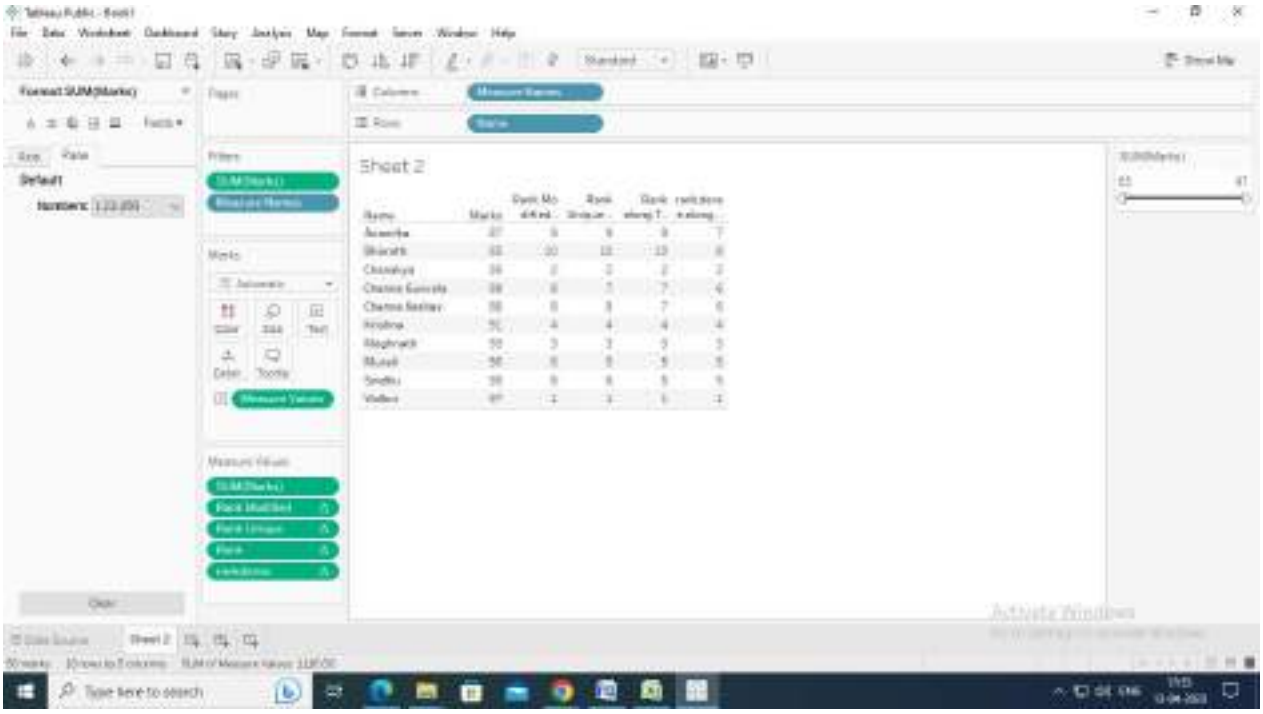
Step 18: From that select the option Number (Standard)



Step 19: We can observe Rank the canvas converted into integer

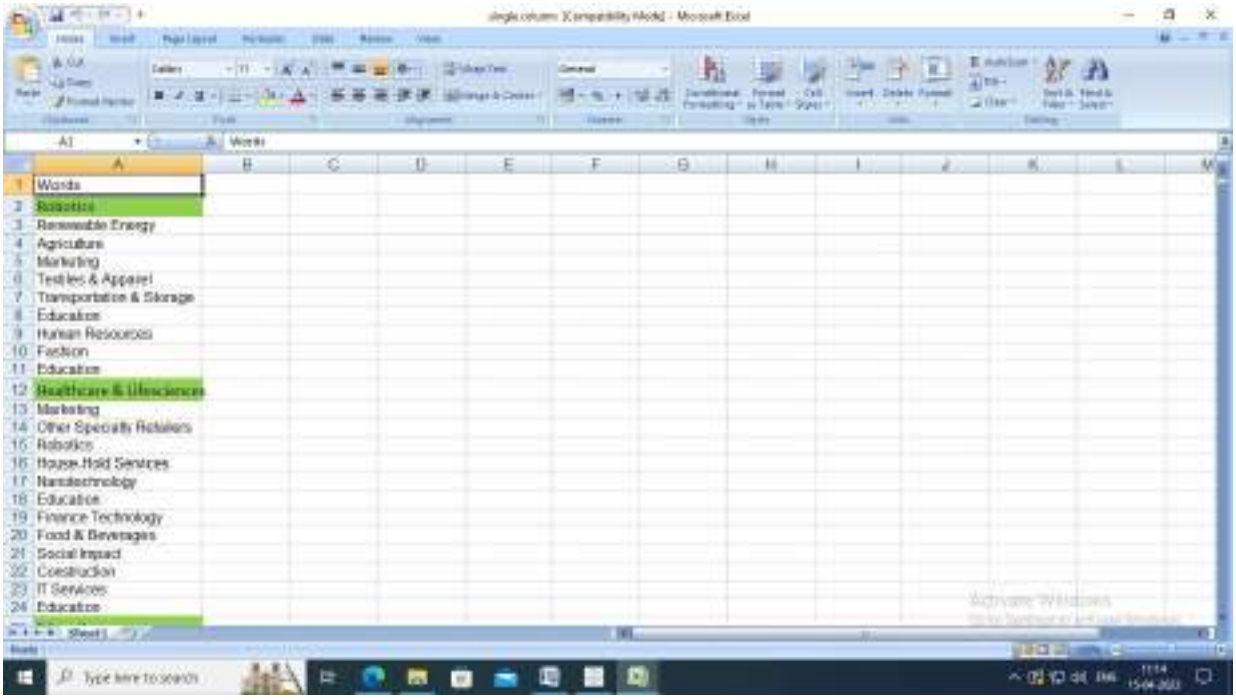


Step 20: Similarly, convert rankdense, Rank Modified, Rank Unique decimal values to integers

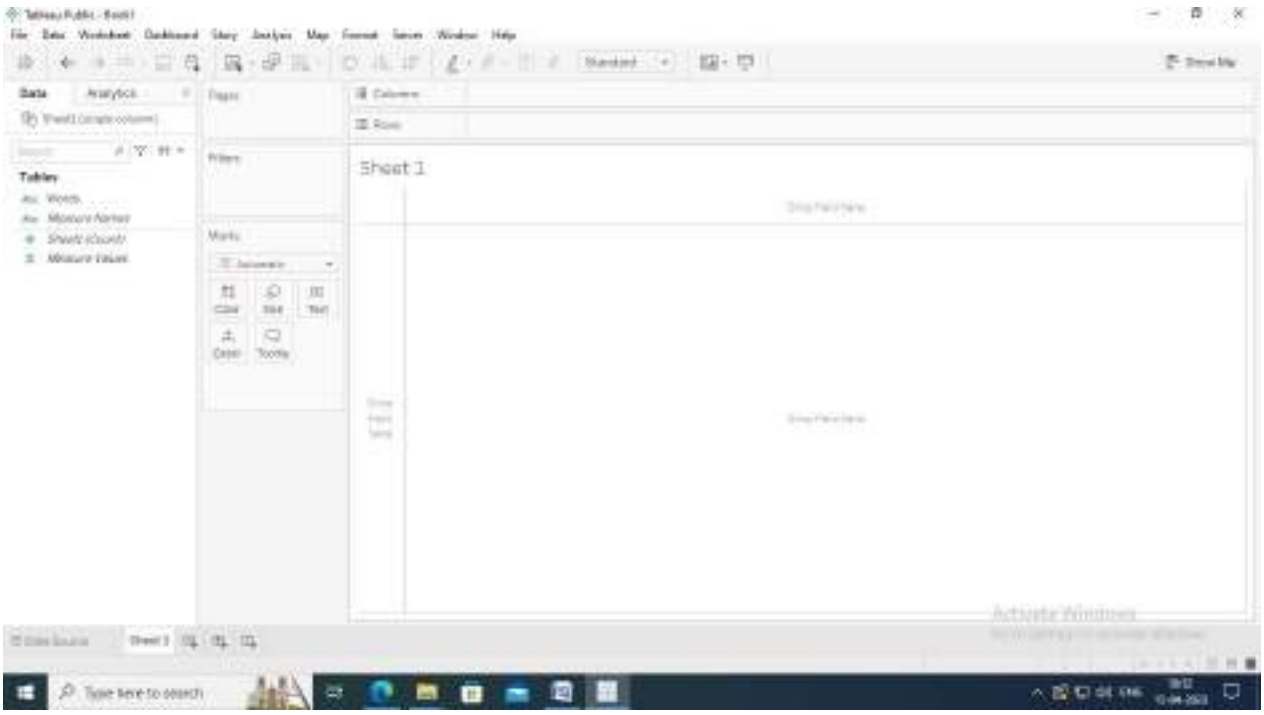


TASK 10: WORD CLOUDS

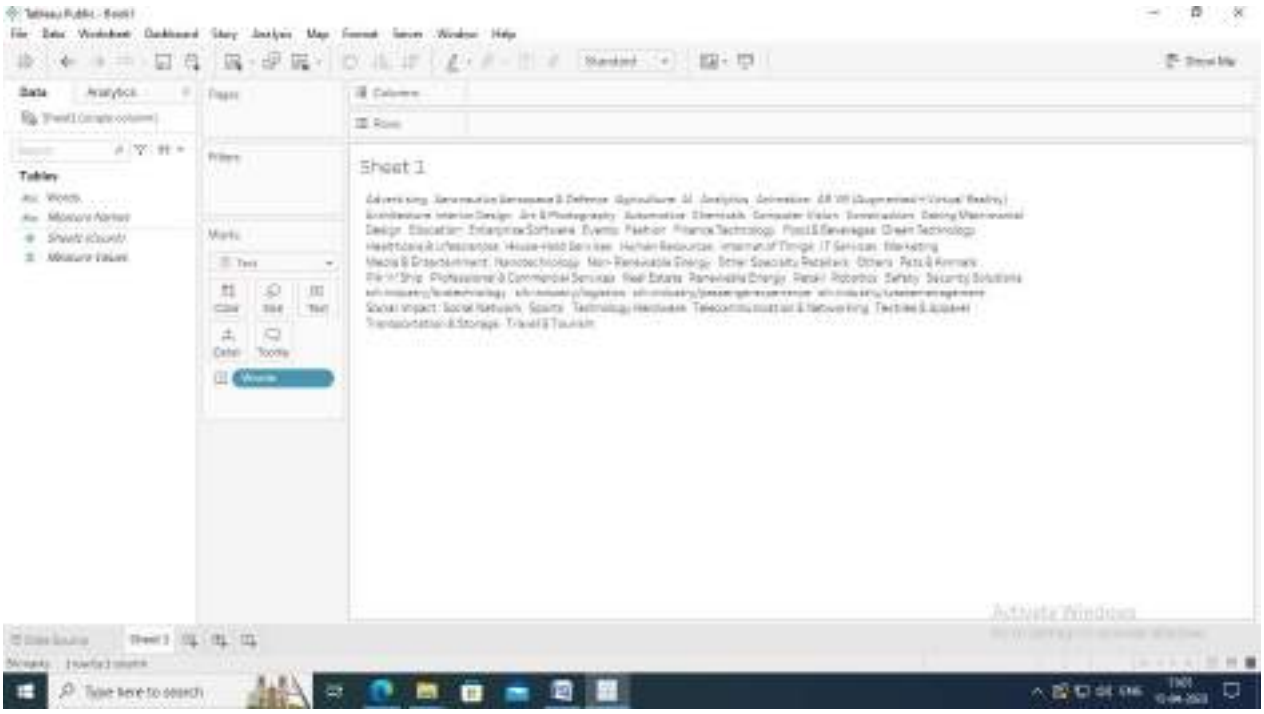
CASE 1: SINGLE COLUMN (SINGLE COLUMN.XLS)



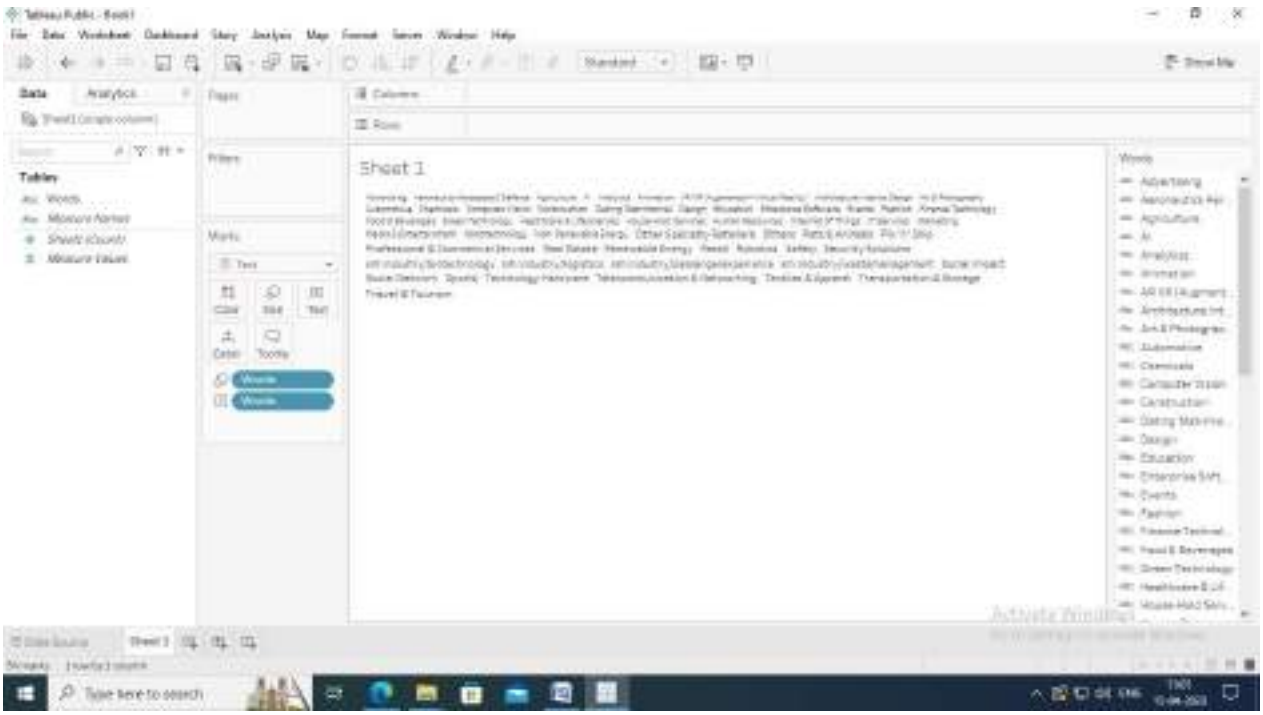
Step 1: Launch Tableau and select data source as single column.xls



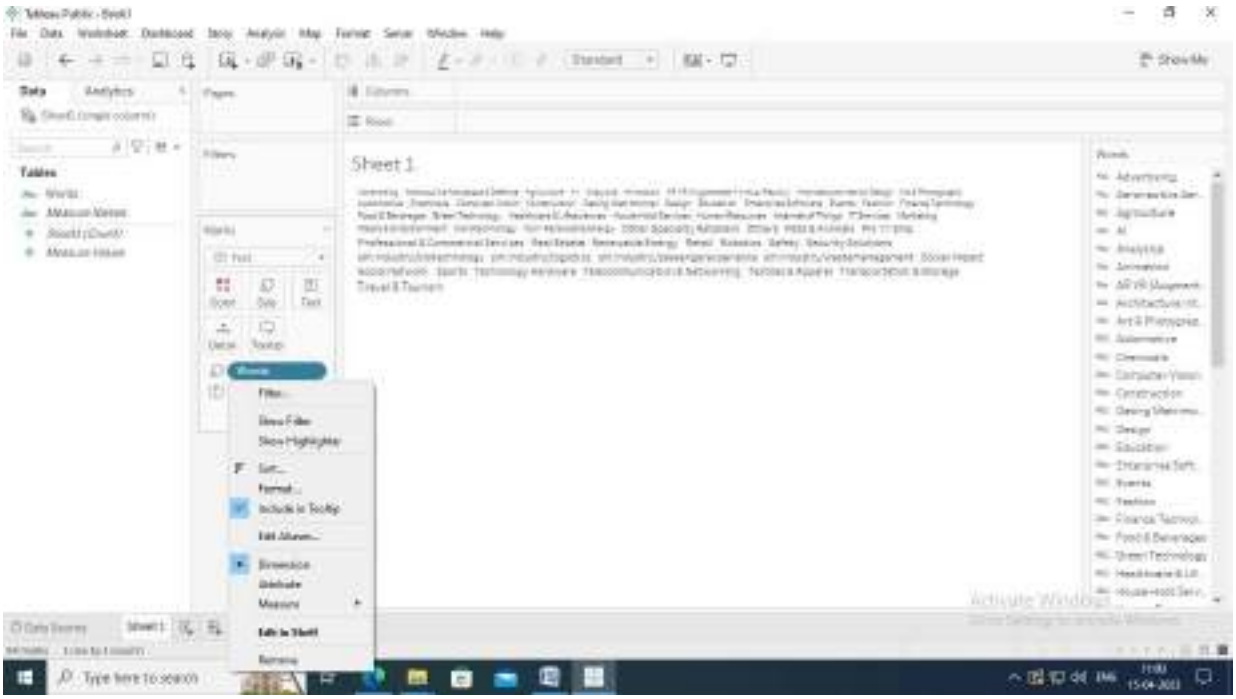
Step 2: Drag dimension words on to the text on marks card.



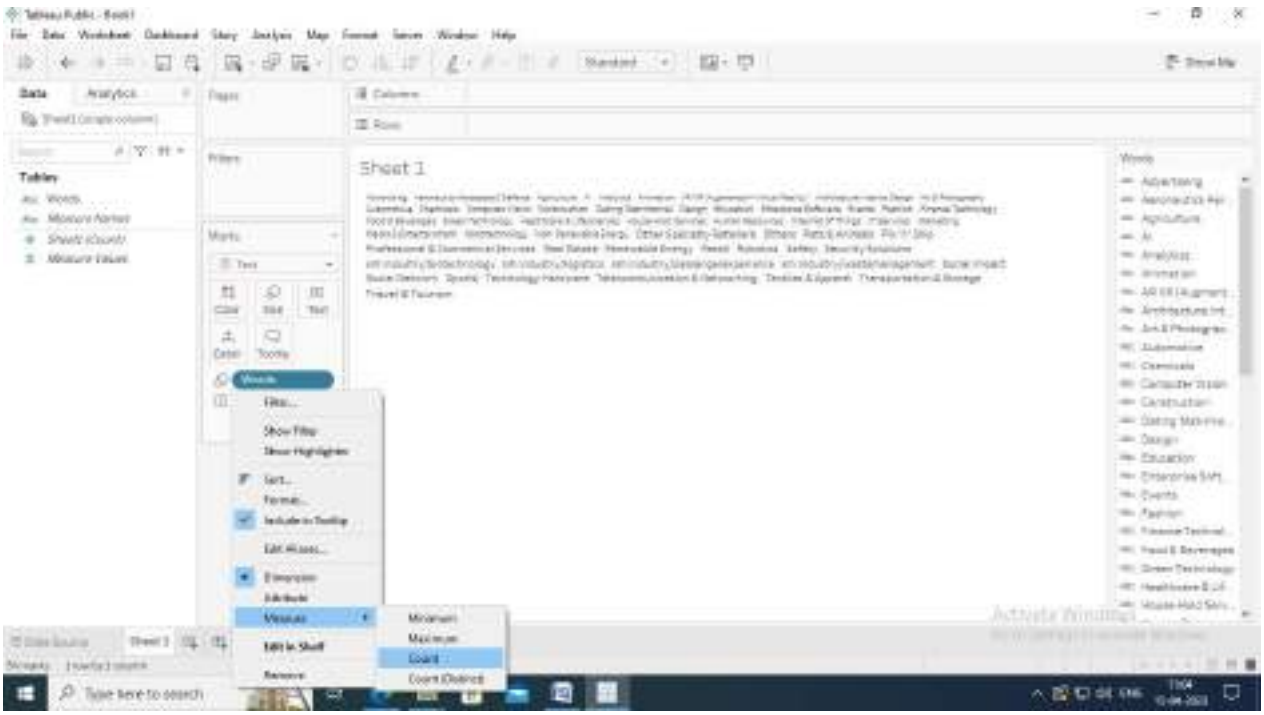
Step 3: Drag dimension words on to the size on marks card.



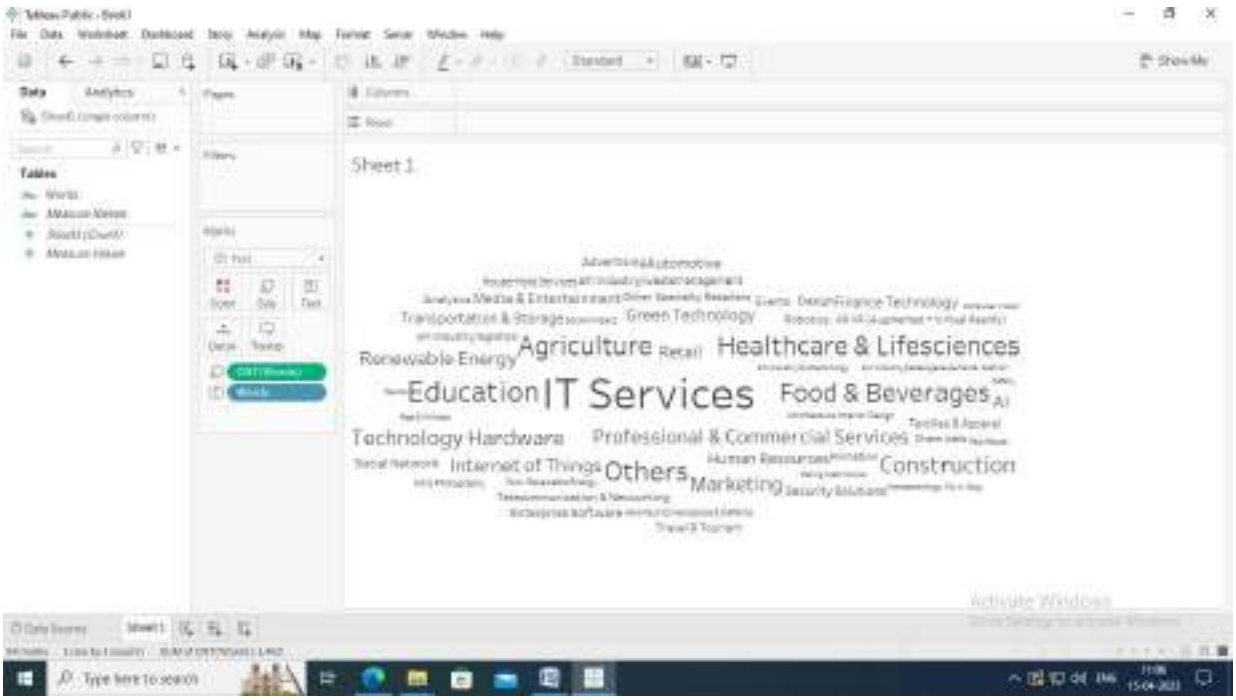
Step 4: Goto the Words (Blue Pill)-Size below the Marks Card and click on inverted triangle.



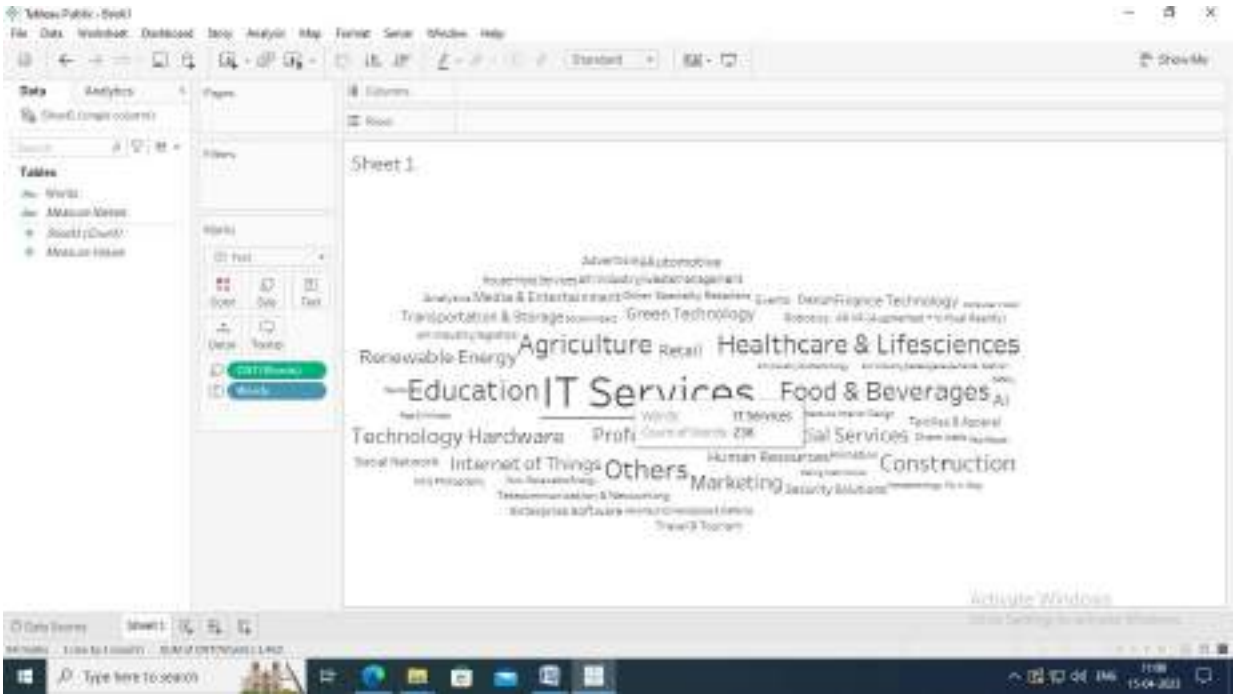
Step 5: In the menu select measure ➔ count

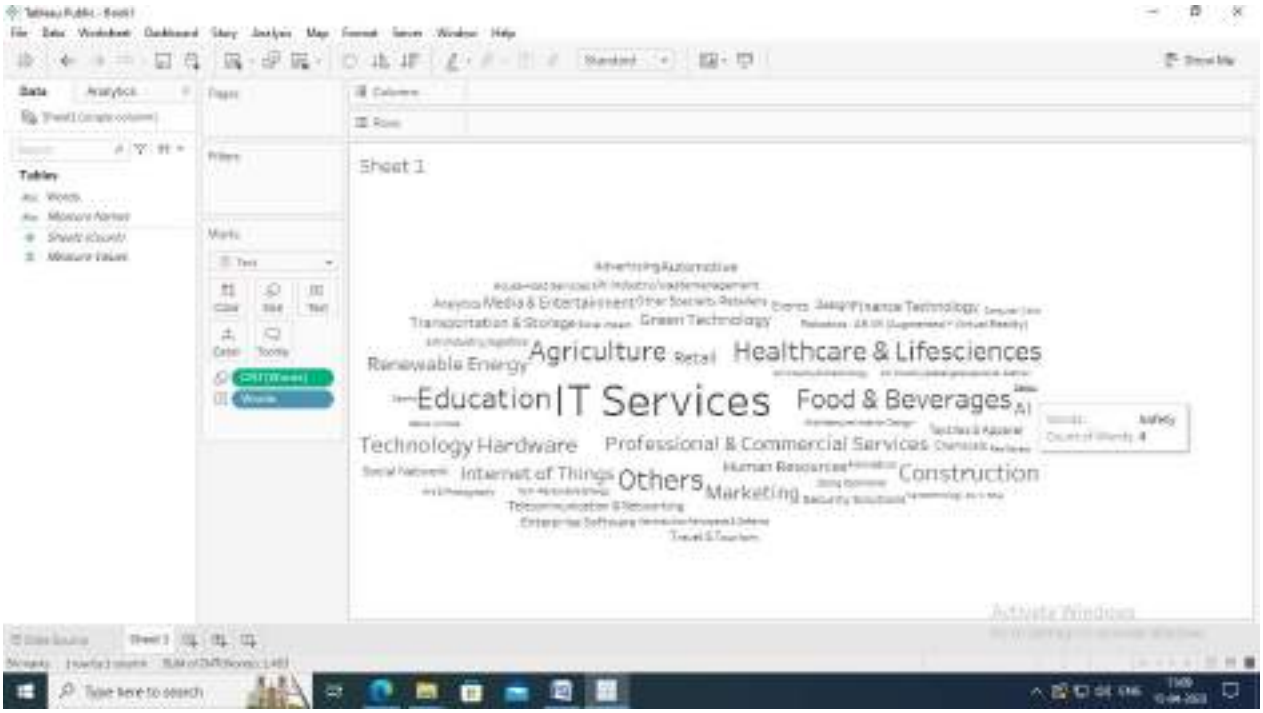


Step 6: Up on selecting count canvas appears as

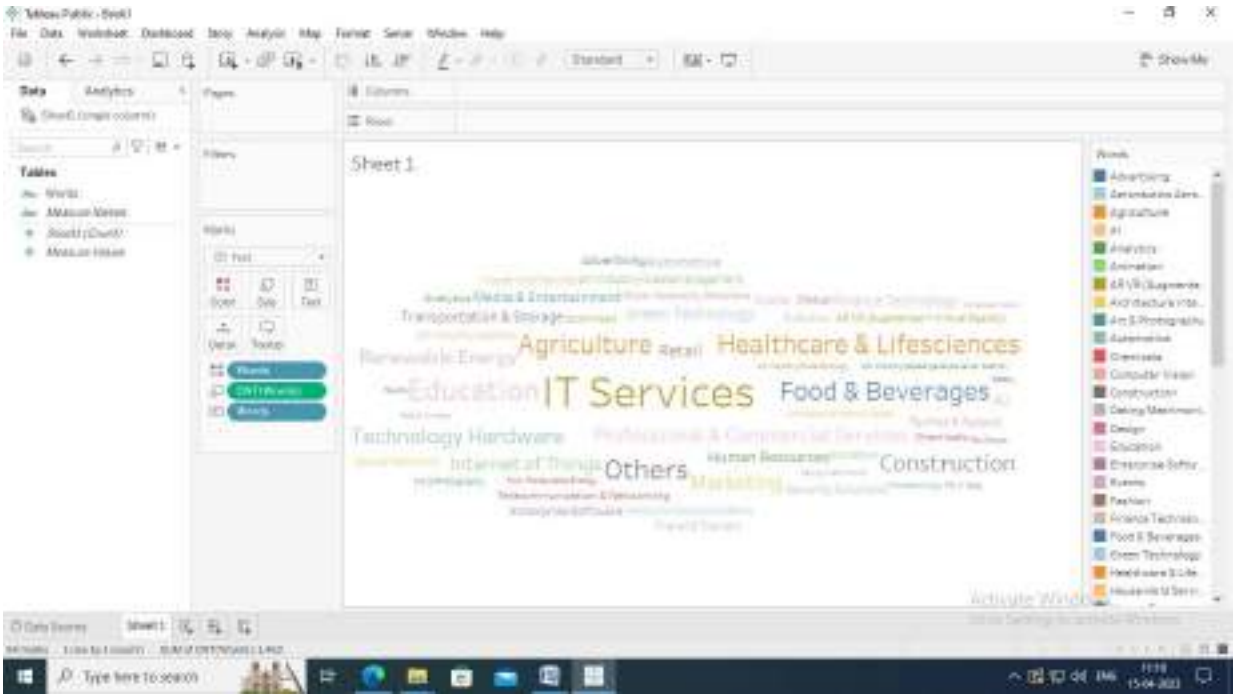


We can observe distinct words with various sizes, higher the size-higher frequency, lower the size-lower frequency.

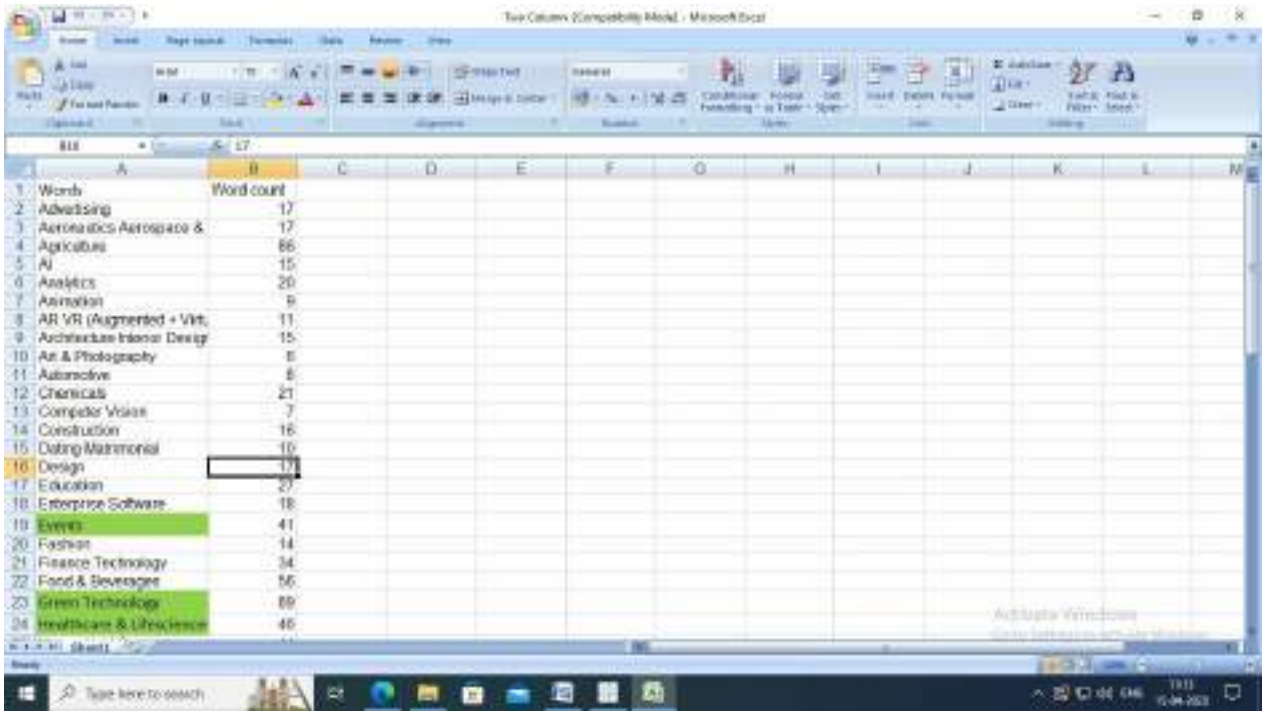




Step 7: Drag dimension words on to the color on marks card

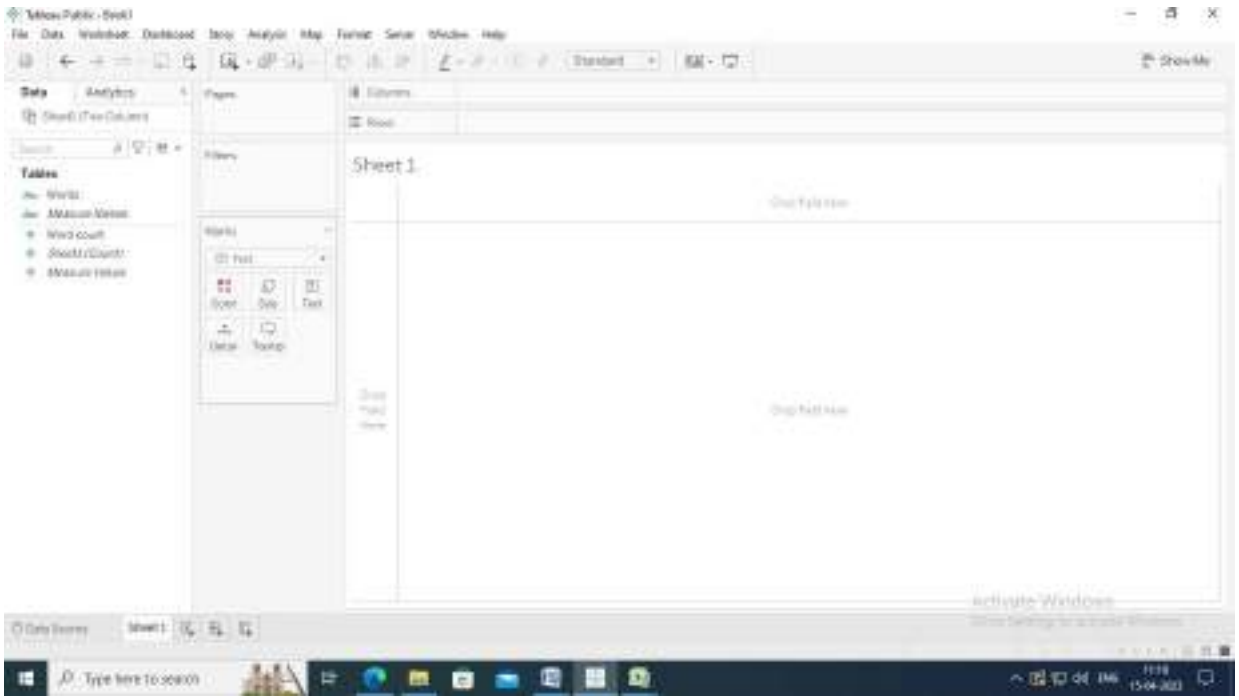


CASE 2: TWO COLUMN (TWO COLUMN.XLS)

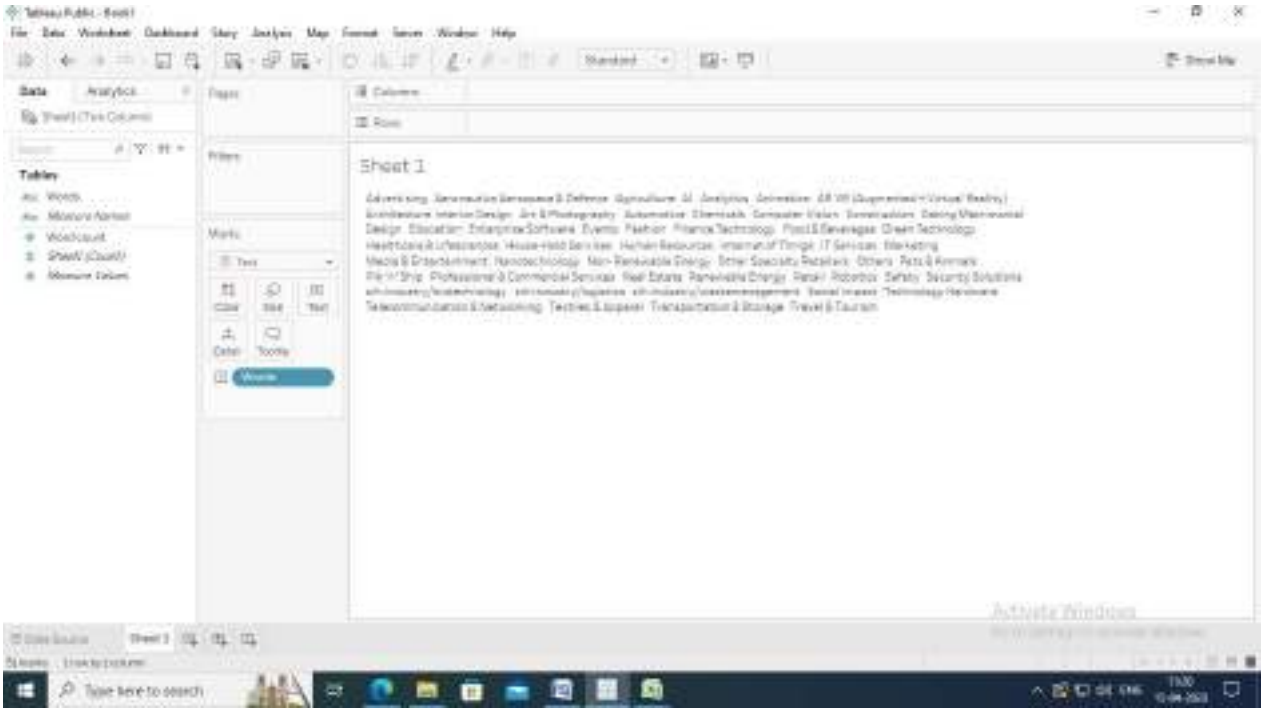


	A	B
1	Words	Word count
2	Advertising	17
3	Aeronautics Aerospace &	17
4	Agriculture	86
5	AI	15
6	Analytics	20
7	Animation	9
8	AR VR (Augmented + Virt,	11
9	Architecture Interior Desig	15
10	Art & Photography	8
11	Automotive	8
12	Chemicals	21
13	Computer Vision	7
14	Construction	16
15	Dating Matrimonial	10
16	Design	17
17	Education	27
18	Enterprise Software	18
19	Events	41
20	Fashion	14
21	Finance Technology	34
22	Food & Beverages	56
23	Green Technology	89
24	Healthcare & Lifescience	46

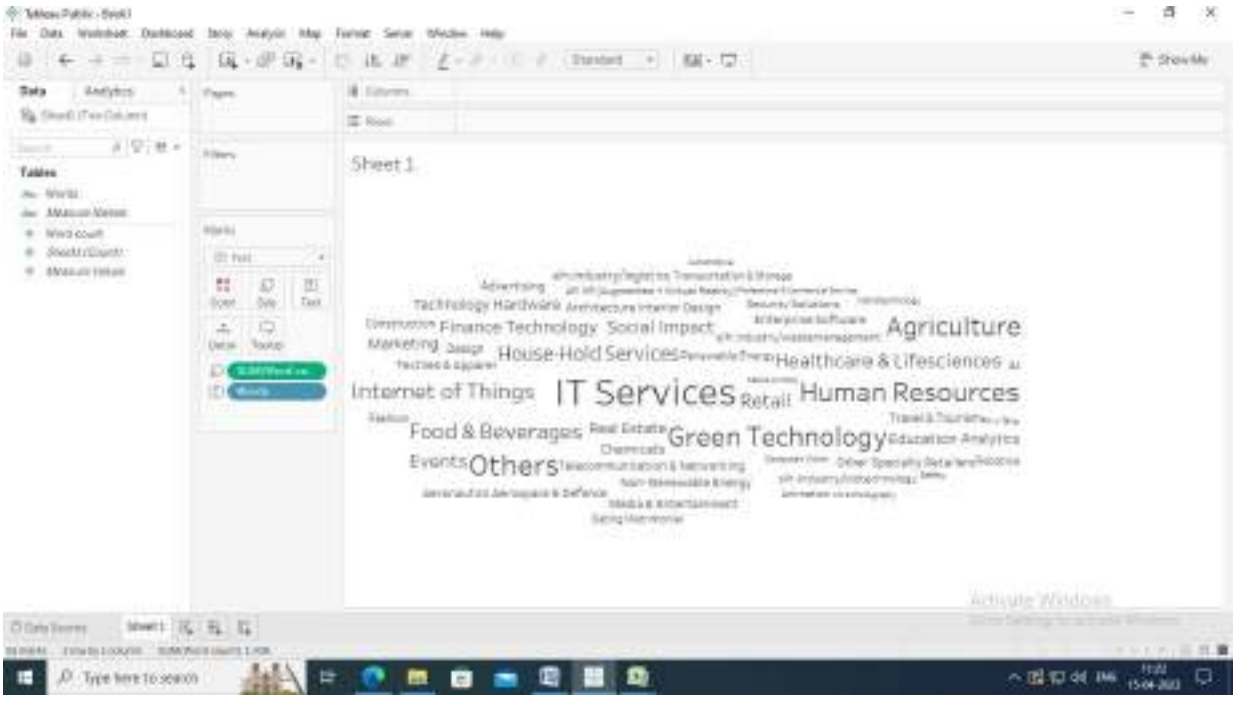
Step 1: Launch Tableau and connect data source Two Column.xls



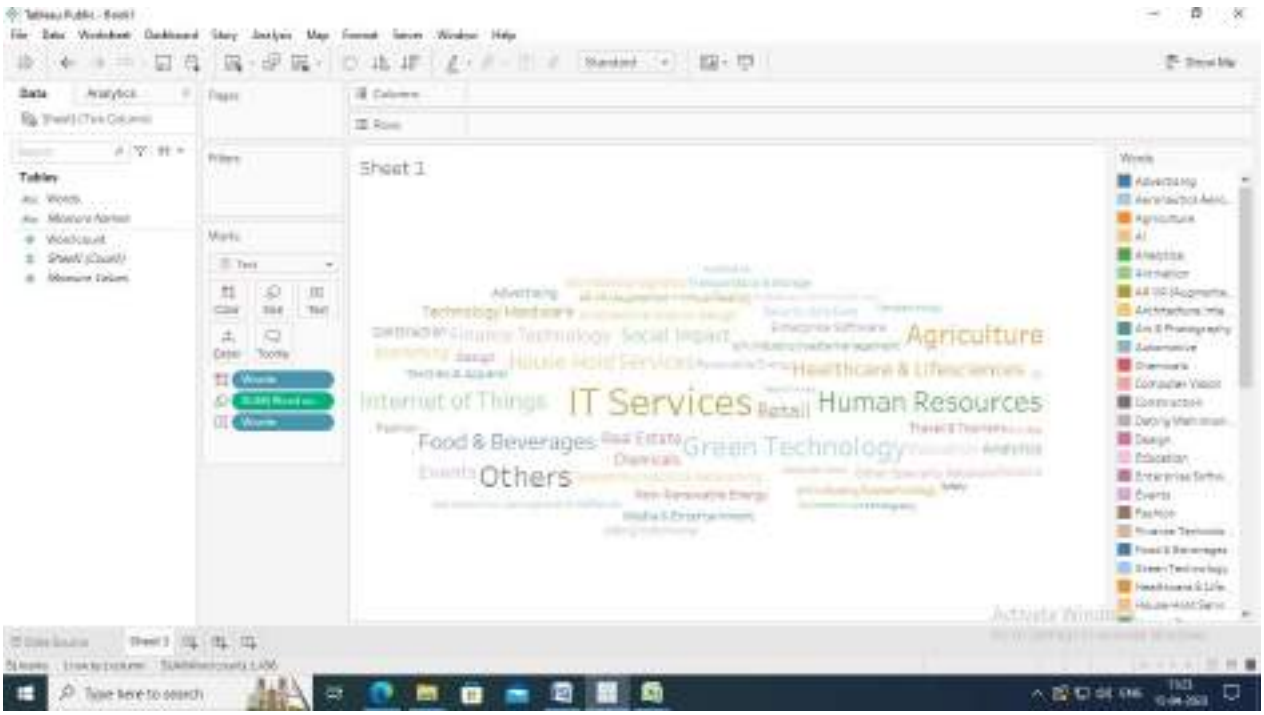
Step 2: Drag dimension Words on the text on the Marks Card



Step 3: Drag measure Word Count on the size on the Marks Card



Step 4: Drag dimension words on the color of the Marks card



TASK 11: BULLET CHART

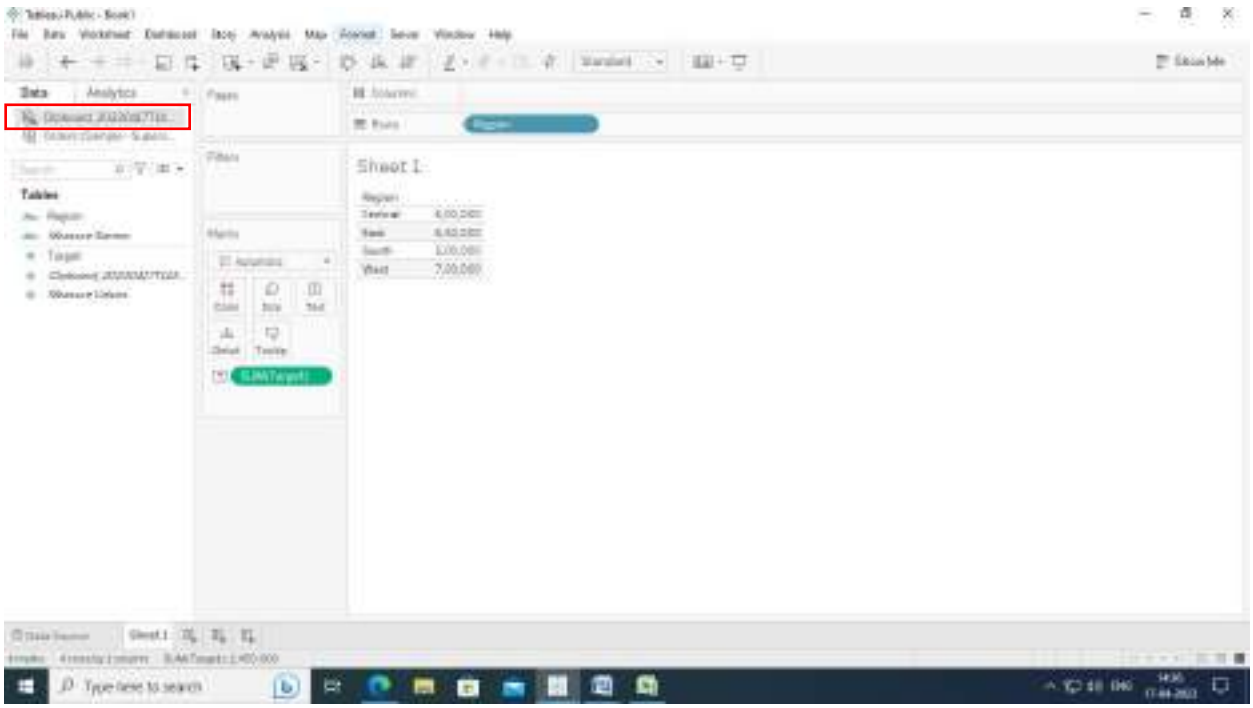
Step1: Launch Tableau and connect excel file Sample-Superstore

Step 2: Drag table Orders on to the canvas and select Sheet1

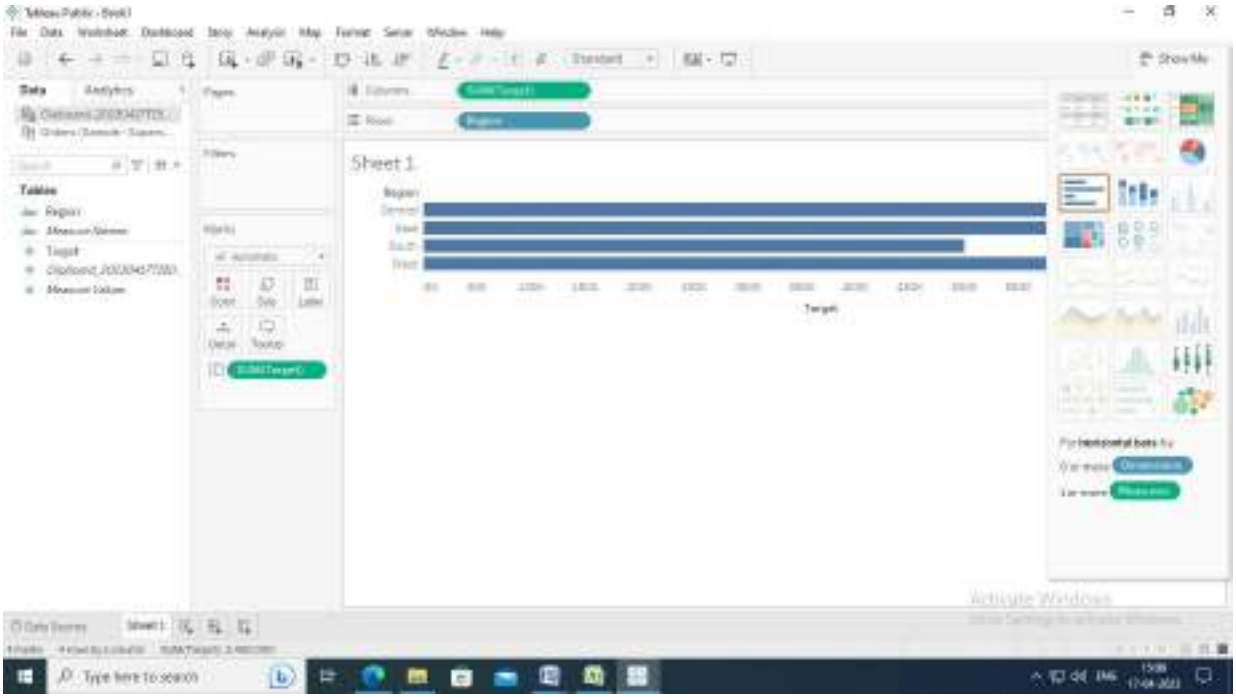
Step 3: Crate a excel file Region - Target

Region	Target
Central	600000
East	650000
South	500000
West	700000

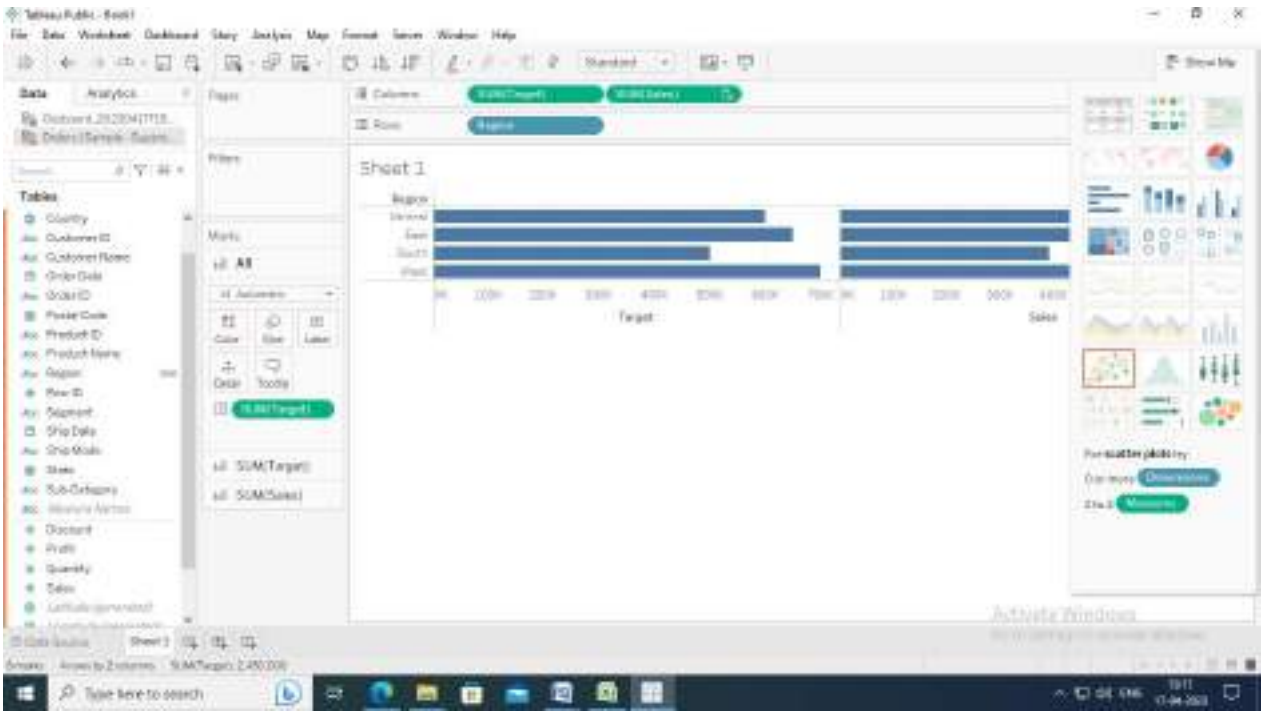
Step 4: Copy the content of excel sheet Region - Target on to the Tableau - Book1



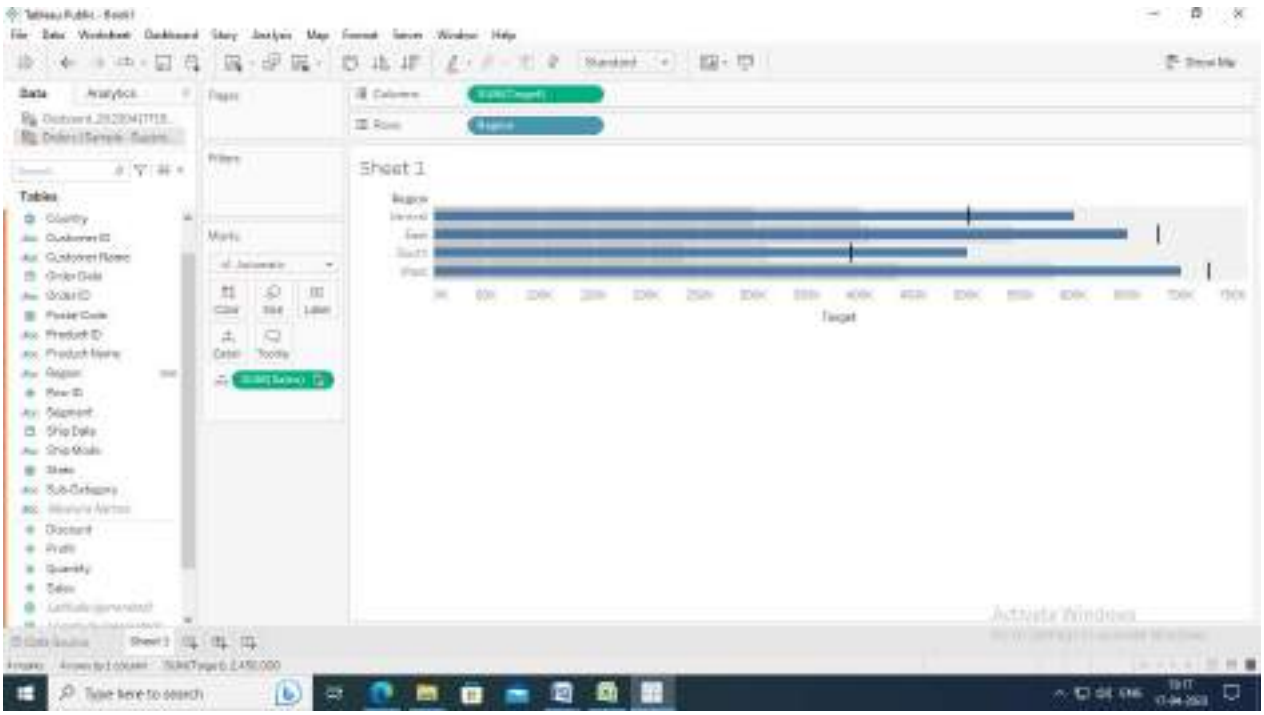
Step 5: Drag measure Target on to the columns shelf (Here data source is Clipboard)



Step 7: Step 5: Drag measure Sales on to the columns shelf (Here data source is Orders)



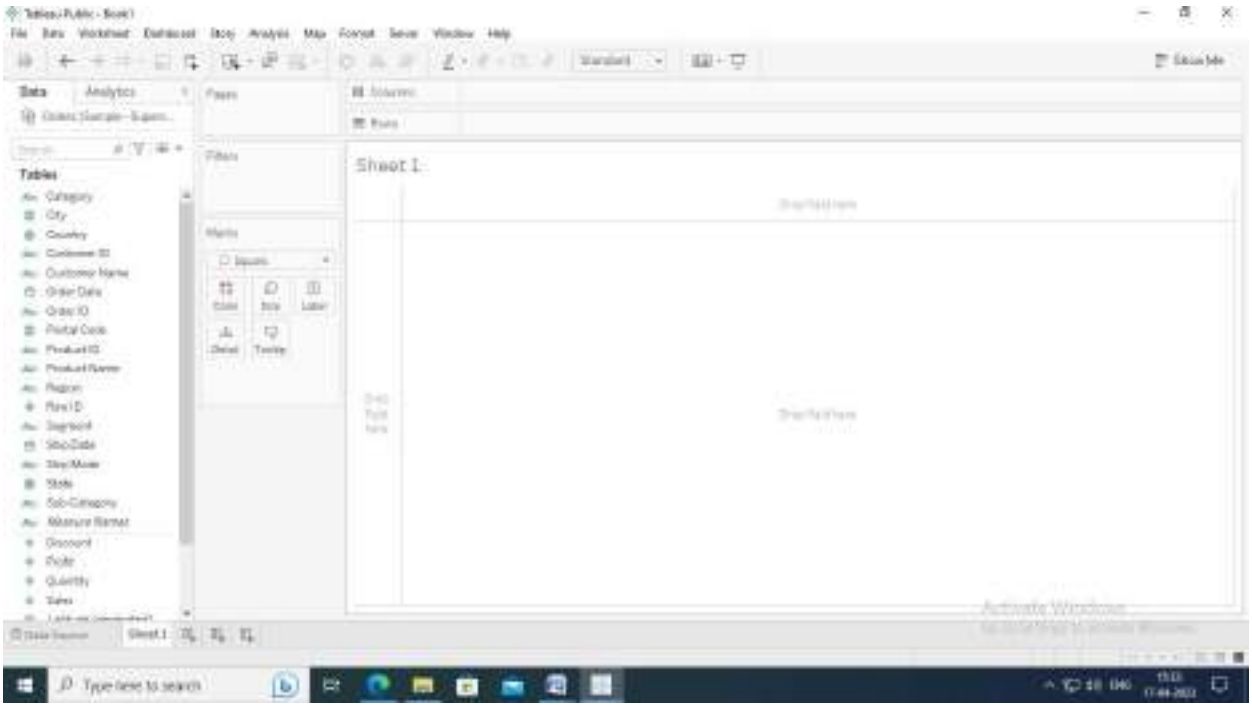
Step 8: Go to Show Me tab and choose bullet graph



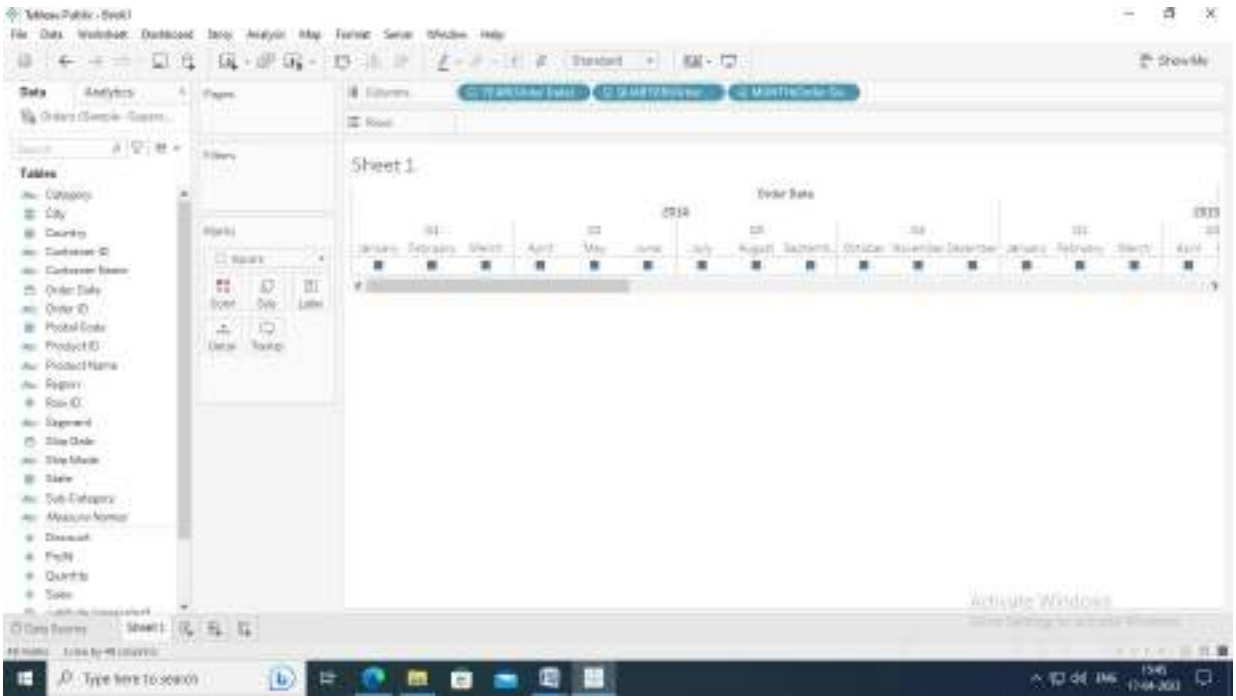
TASK 12: CREATING HIGHLIGHT TABLE

Step1: Launch Tableau and connect excel file Sample-Superstore

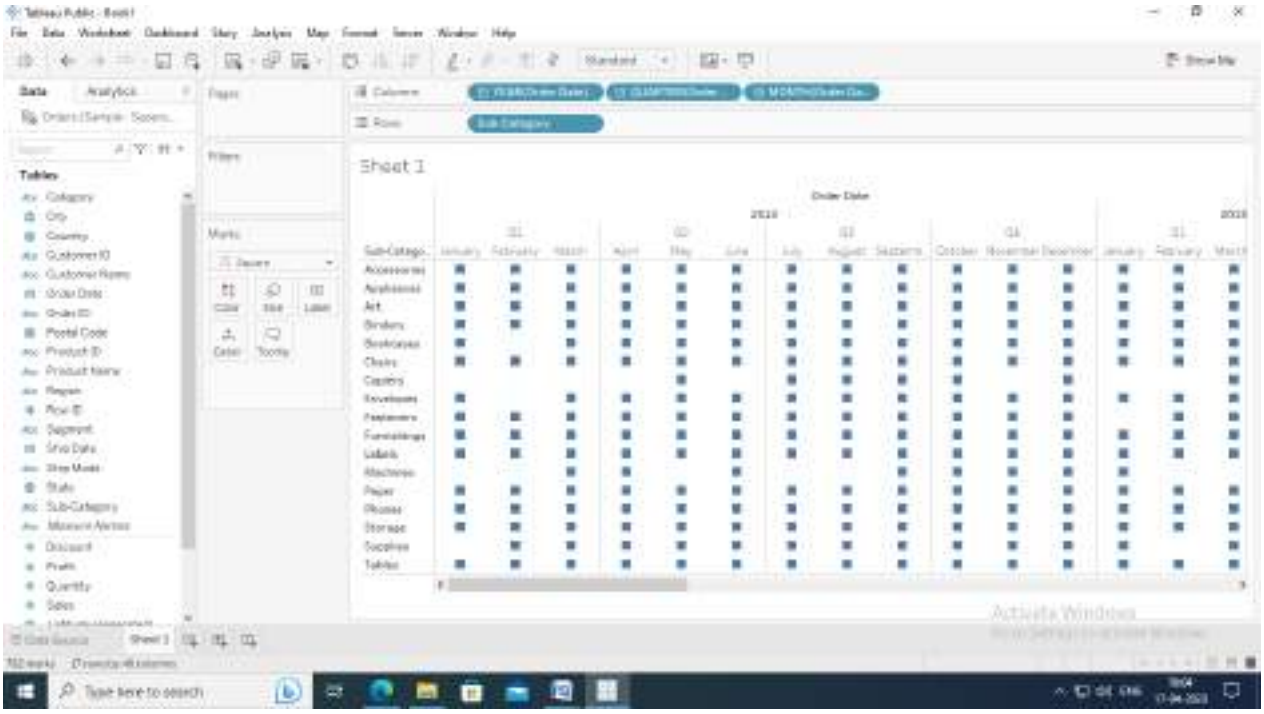
Step 2: Drag table Orders on to the canvas and select Sheet1



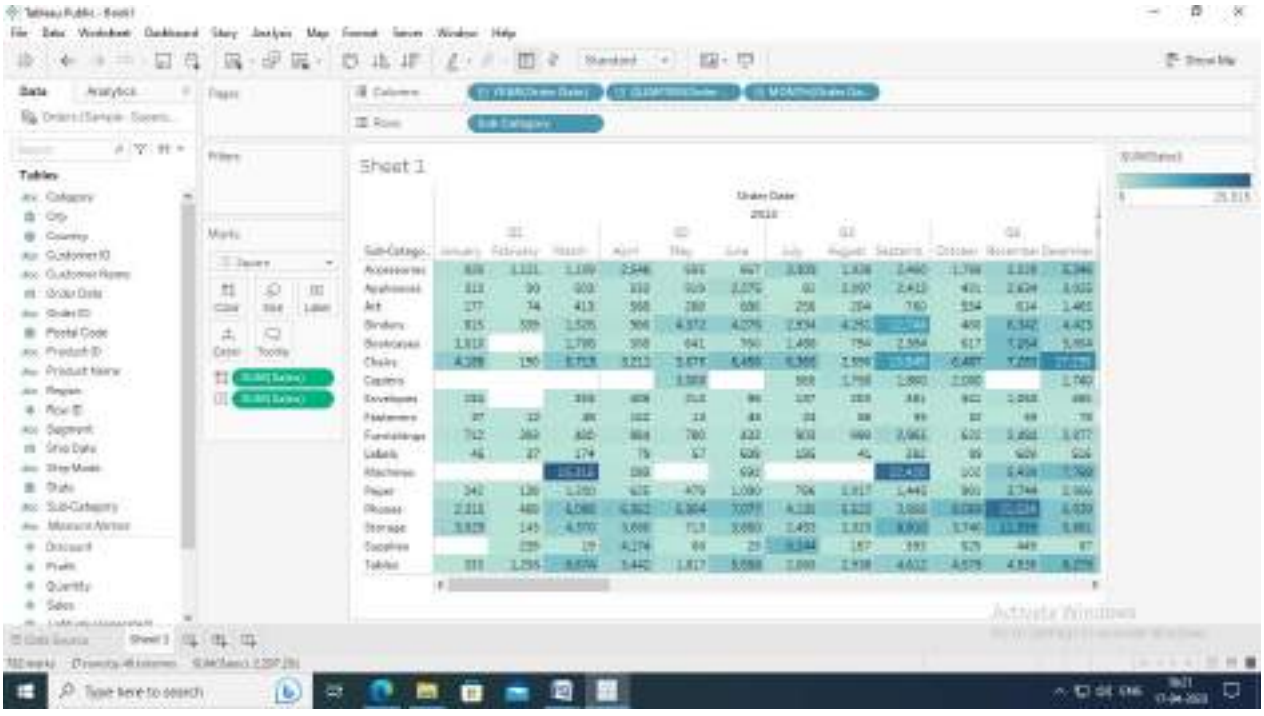
Step 3: Drag the measure Order Date on to the Columns shelf and click on + to expand it as YEAR, QUARTER and MONTH



Step 4: Drag the measure Sub-Category on to Rows shelf



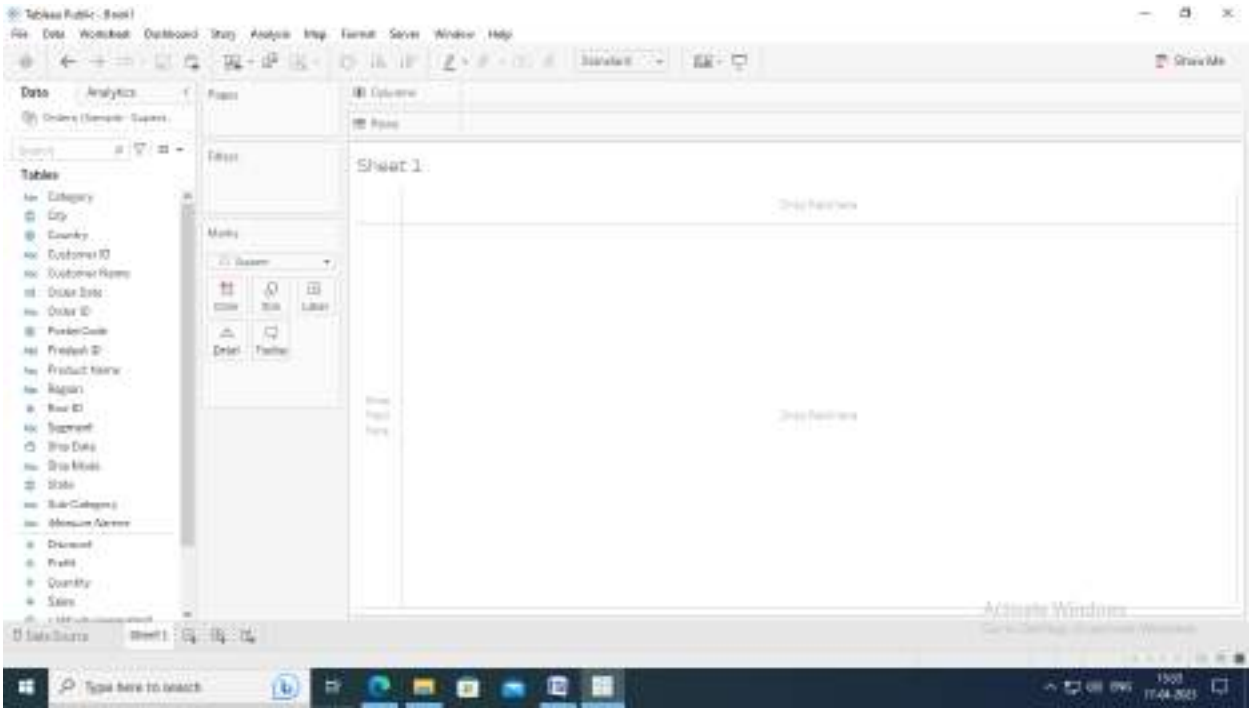
Step 5: Drag measure sales on the Label and Color shelf's of Marks card



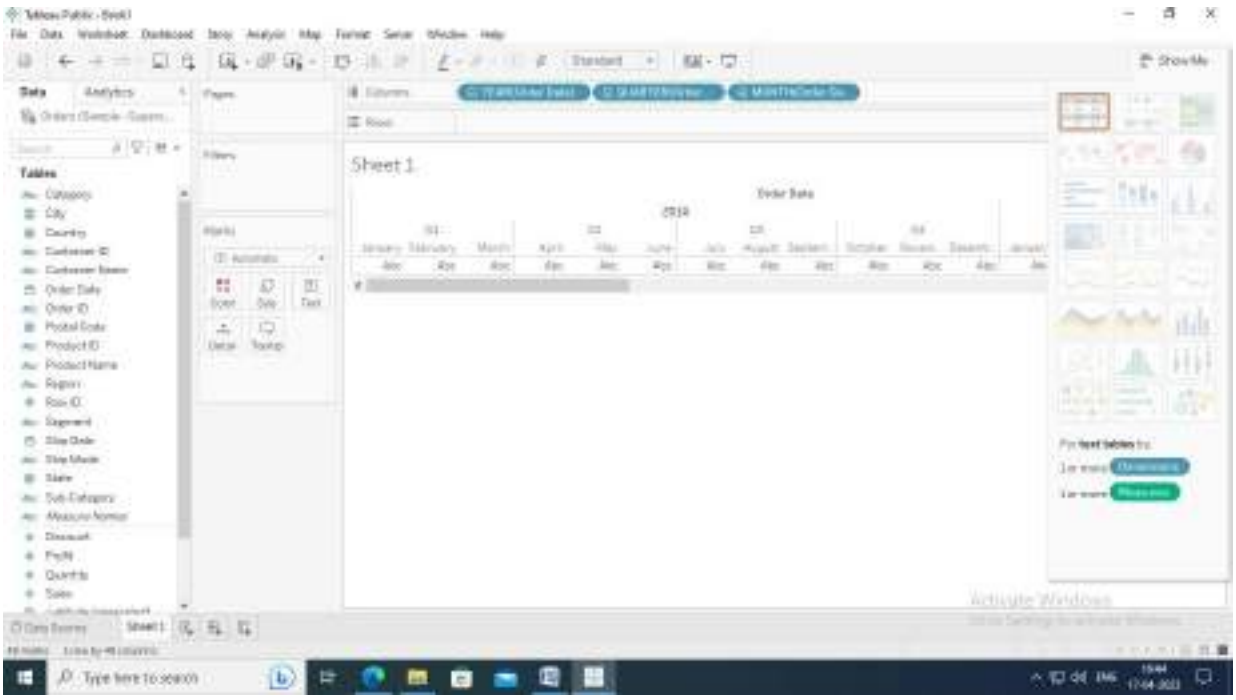
TASK 13: CREATING HEAT MAP

Step1: Launch Tableau and connect excel file Sample-Superstore

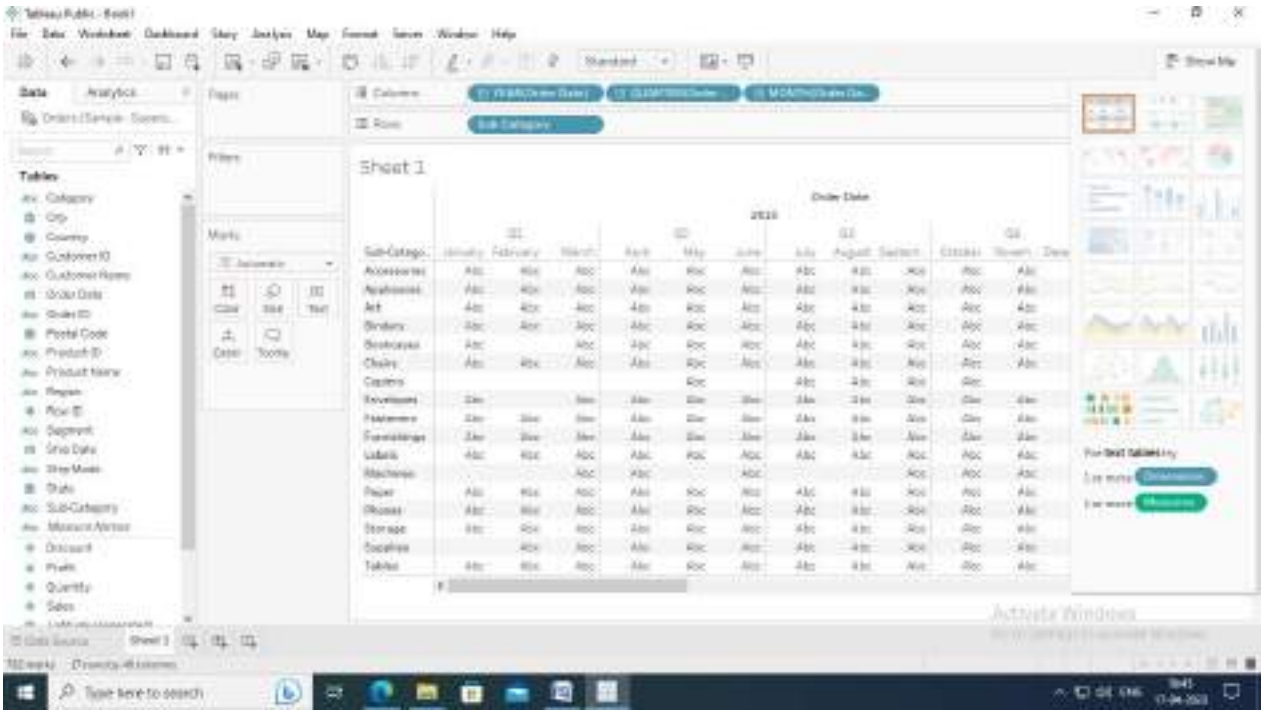
Step 2: Drag table Orders on to the canvas and select Sheet1



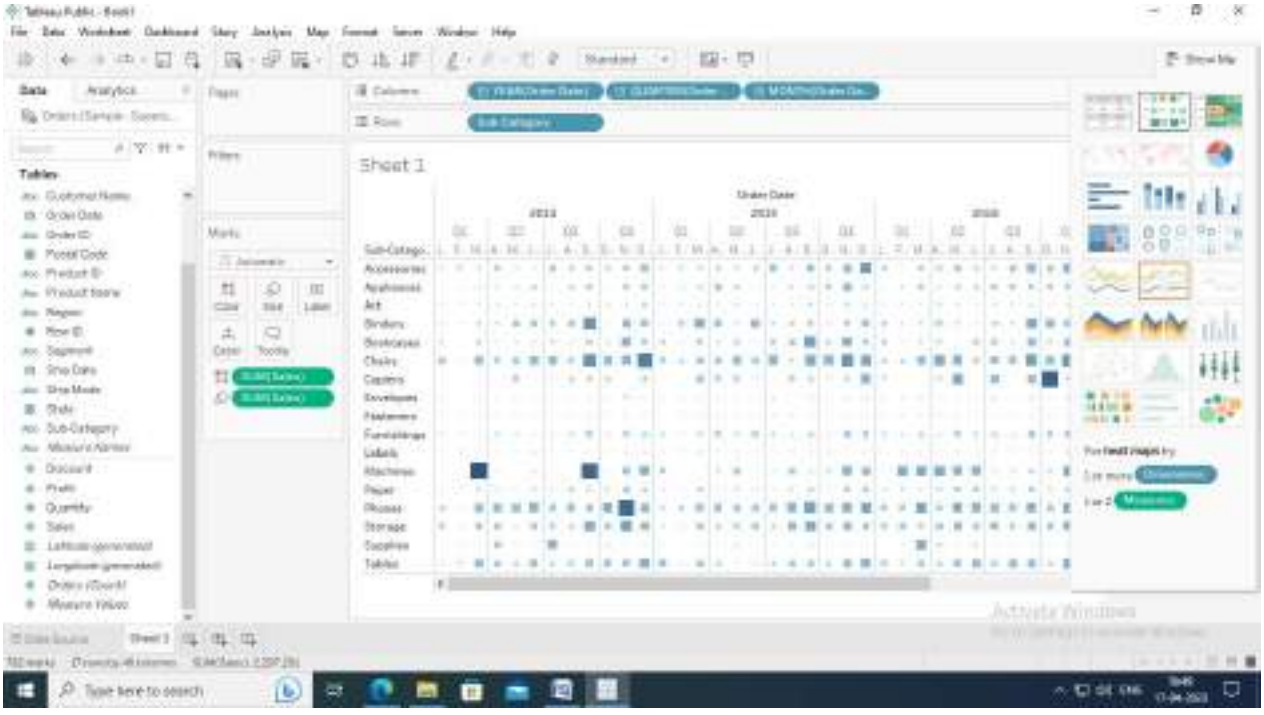
Step 3: Drag the measure Order Date on to the Columns shelf and click on + to expand it as YEAR, QUARTER and MONTH



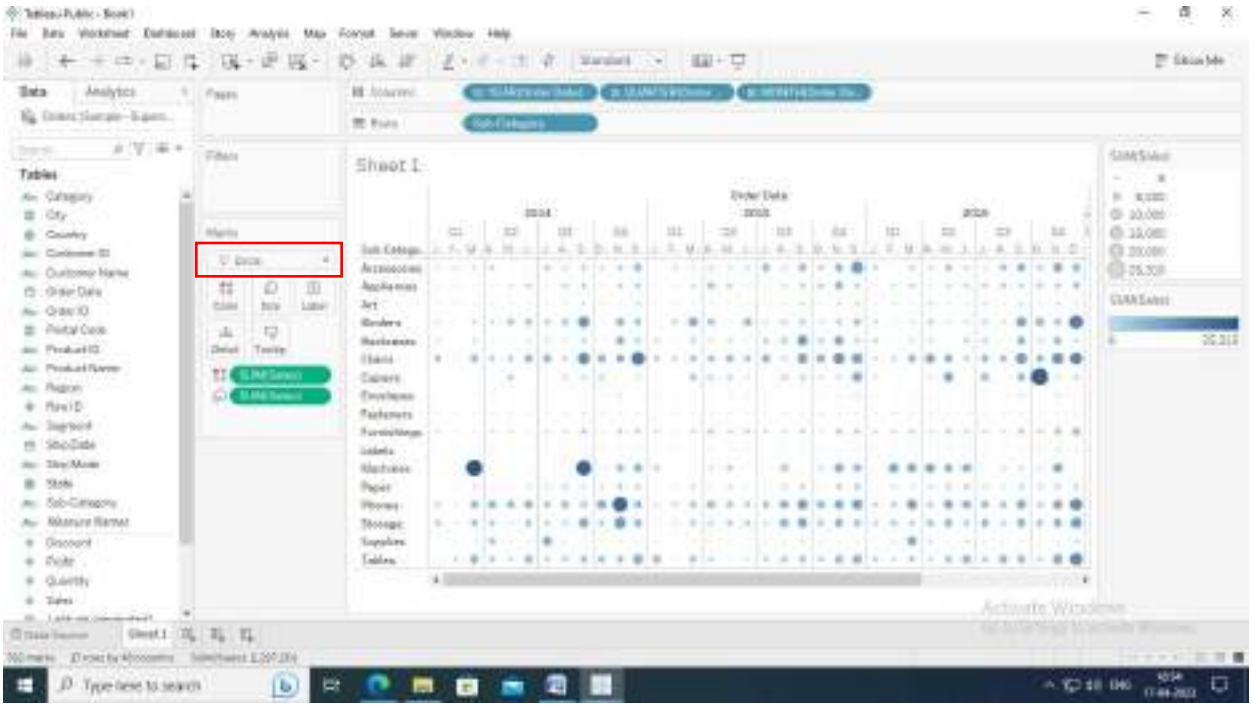
Step 4: Drag the measure Sub-Category on to Rows shelf



Step 5: Drag measure sales on the Size and Color shelf's of Marks card and choose the option heat maps from Show Me panel



Step 6: In marks select the symbol circle

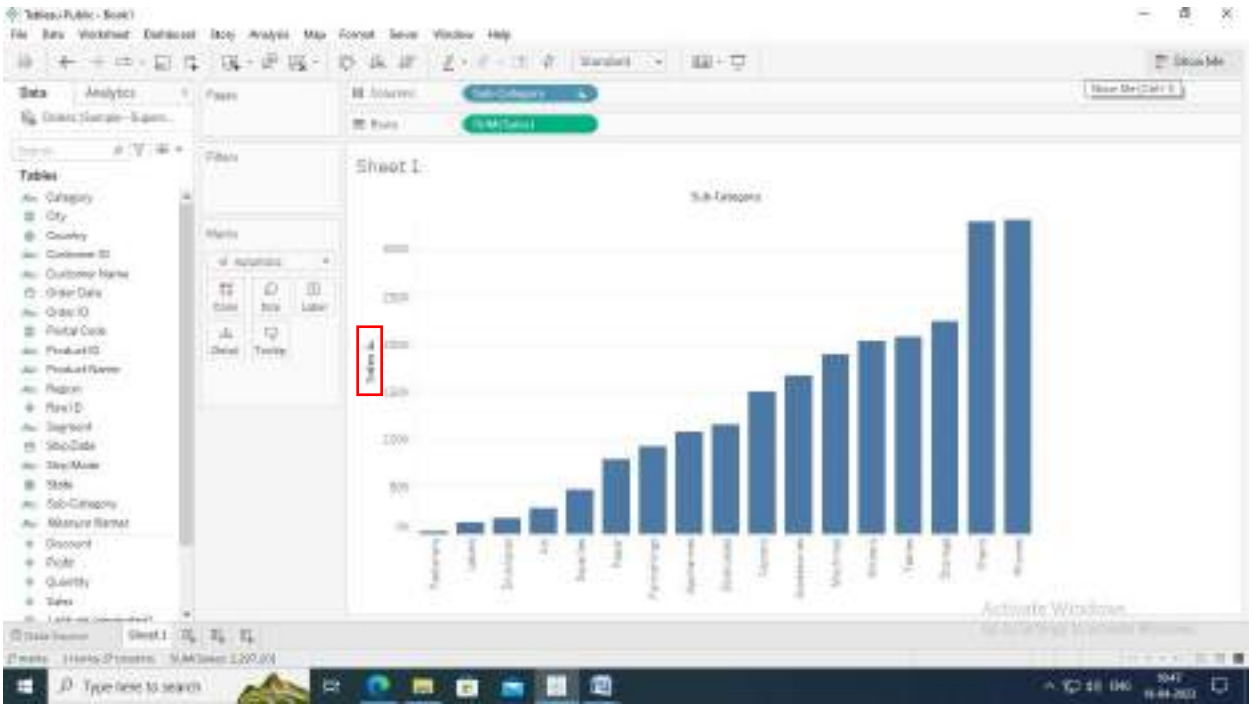


TASK 14: CREATING WATERFALL CHART

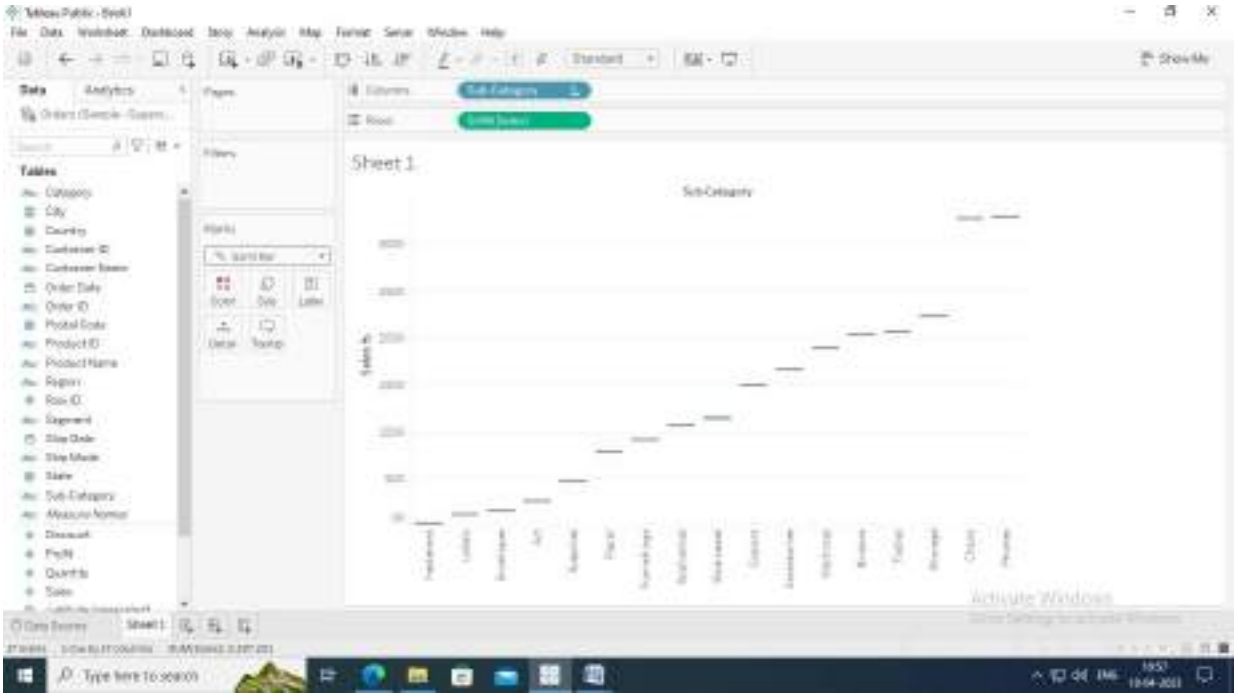
Steps to create cumulative sums with waterfall charts

SORTED BAR CHART

1. Connect to the Superstore-Sample database and create a new worksheet.
2. To create a waterfall chart, you need a dimension and a measure.
3. Pull the Sales measure onto Rows.
4. The Sub-Category dimension onto the Columns shelf.
5. Then sort the data by sales revenue, in ascending order, by twice clicking the sort button that appears when you hover with the mouse over the vertical axis.

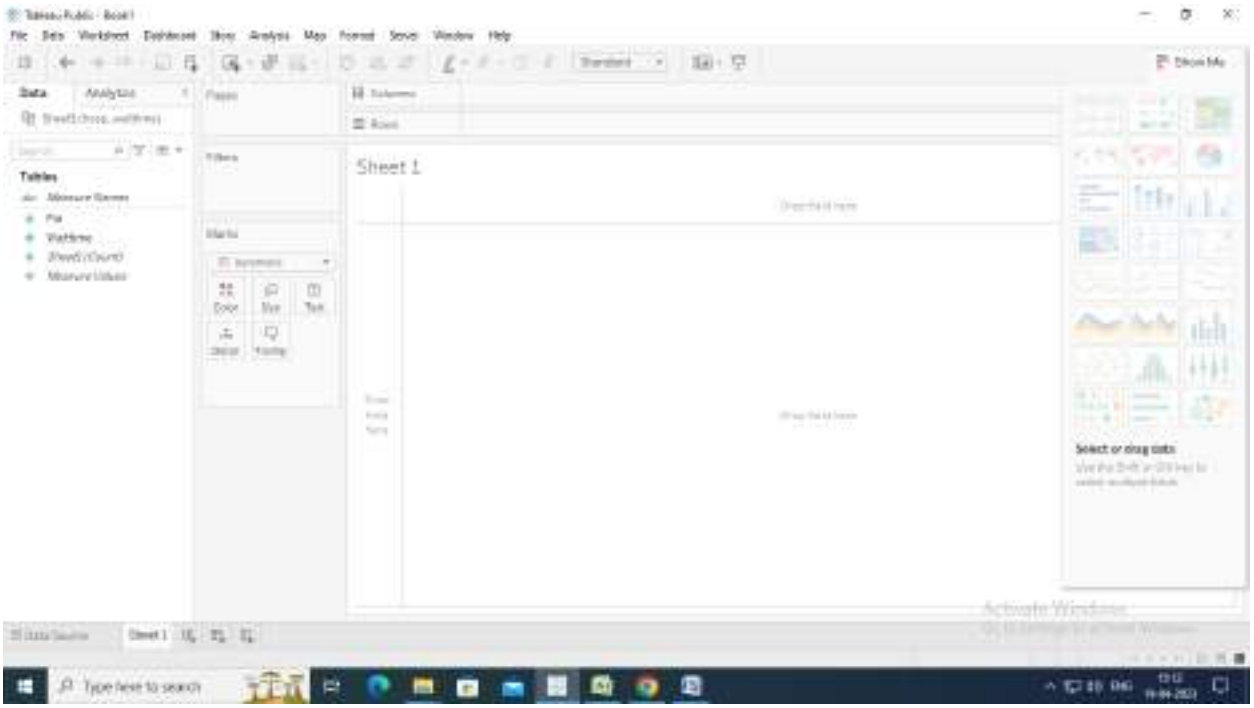


CUMULATIVE SUM AND GANTT BAR

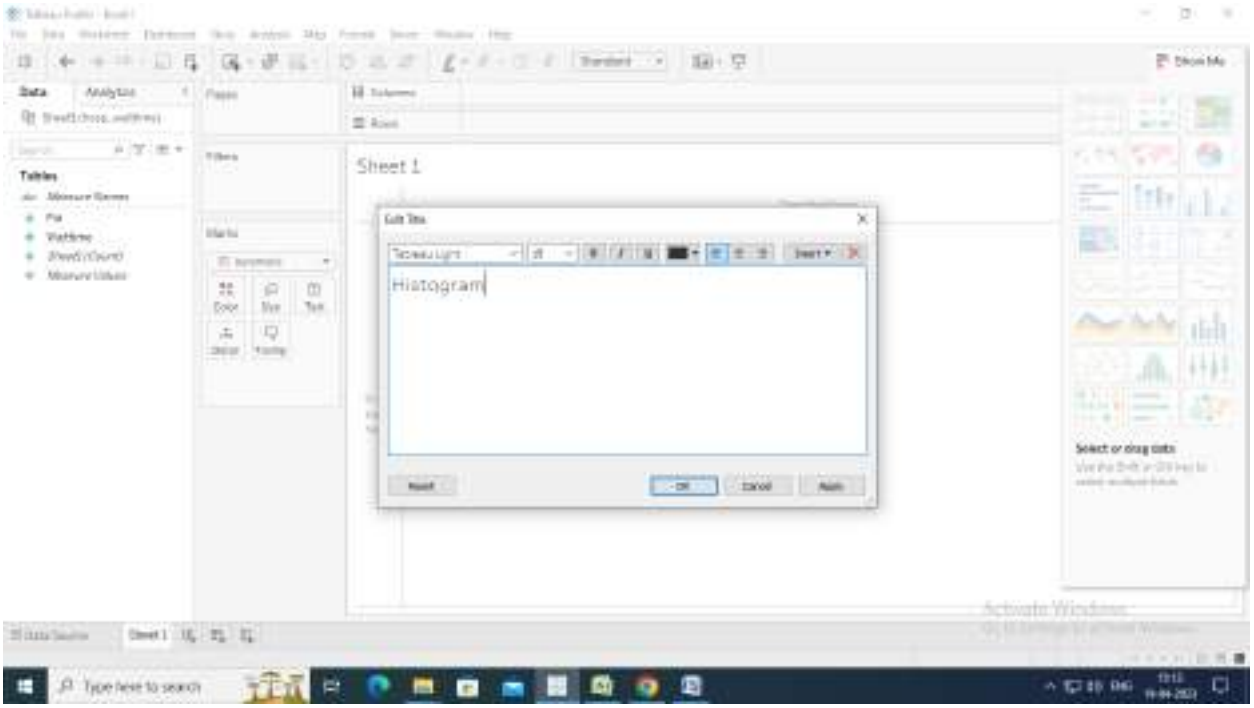


TASK 15: HISTOGRAM

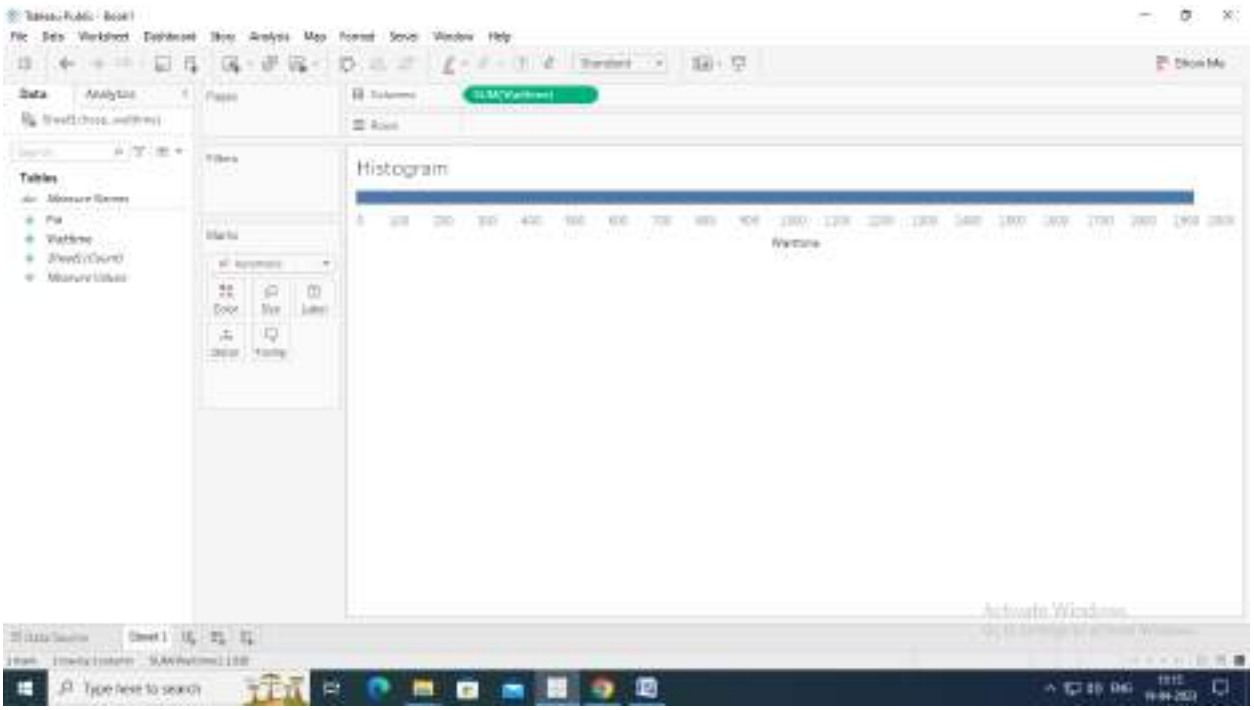
Step1: Launch Tableau, and connect data source hosp_waittime (Excel File)



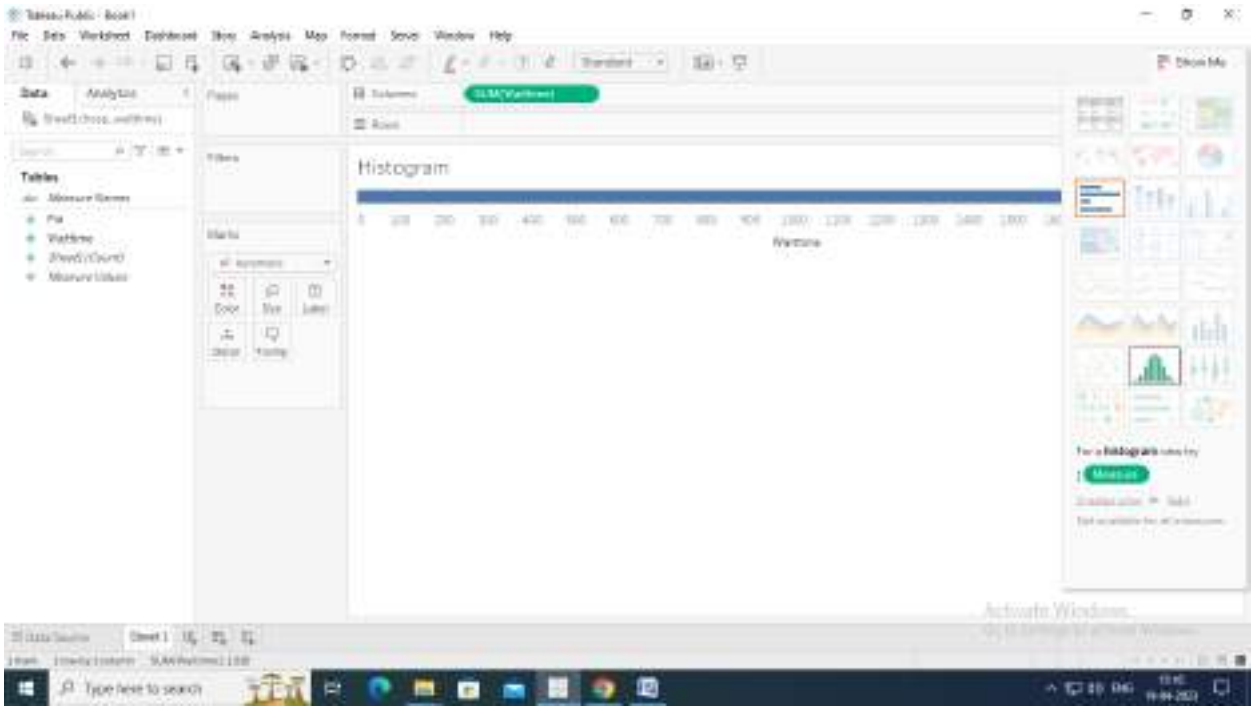
Step 2: Name the canvas as Histogram



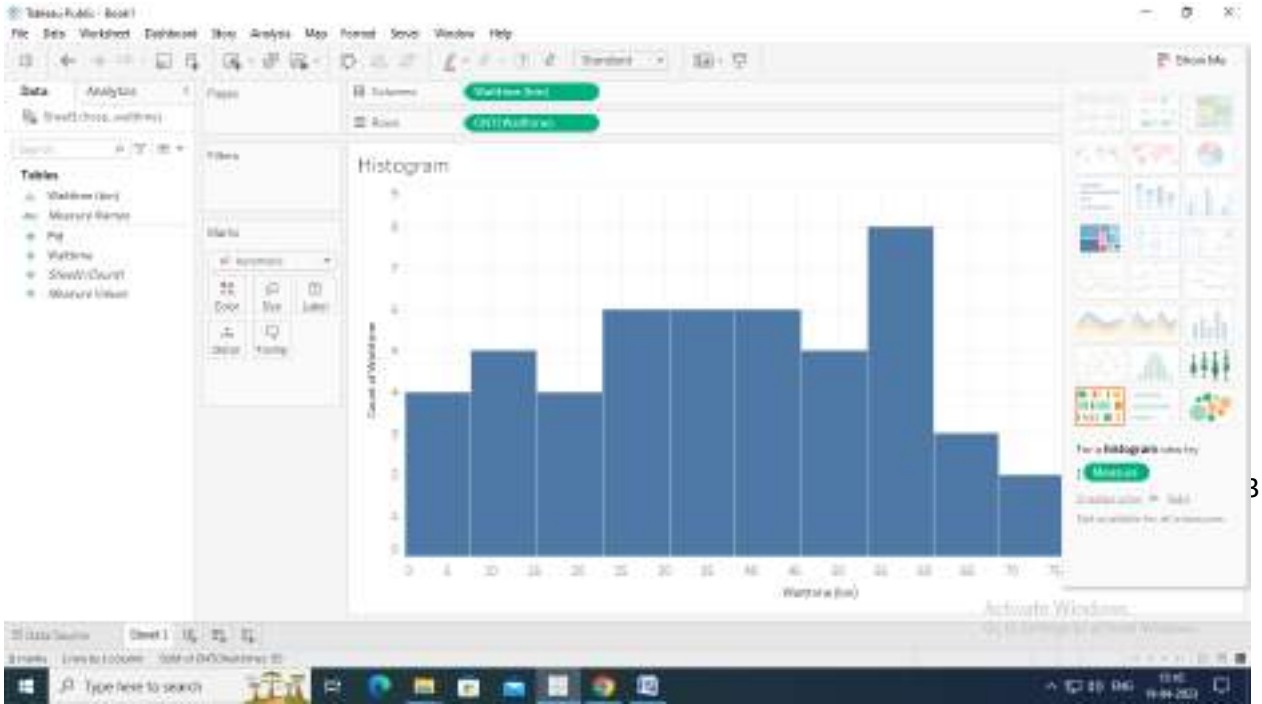
Step 3: Drag measure waittime on the column shelf



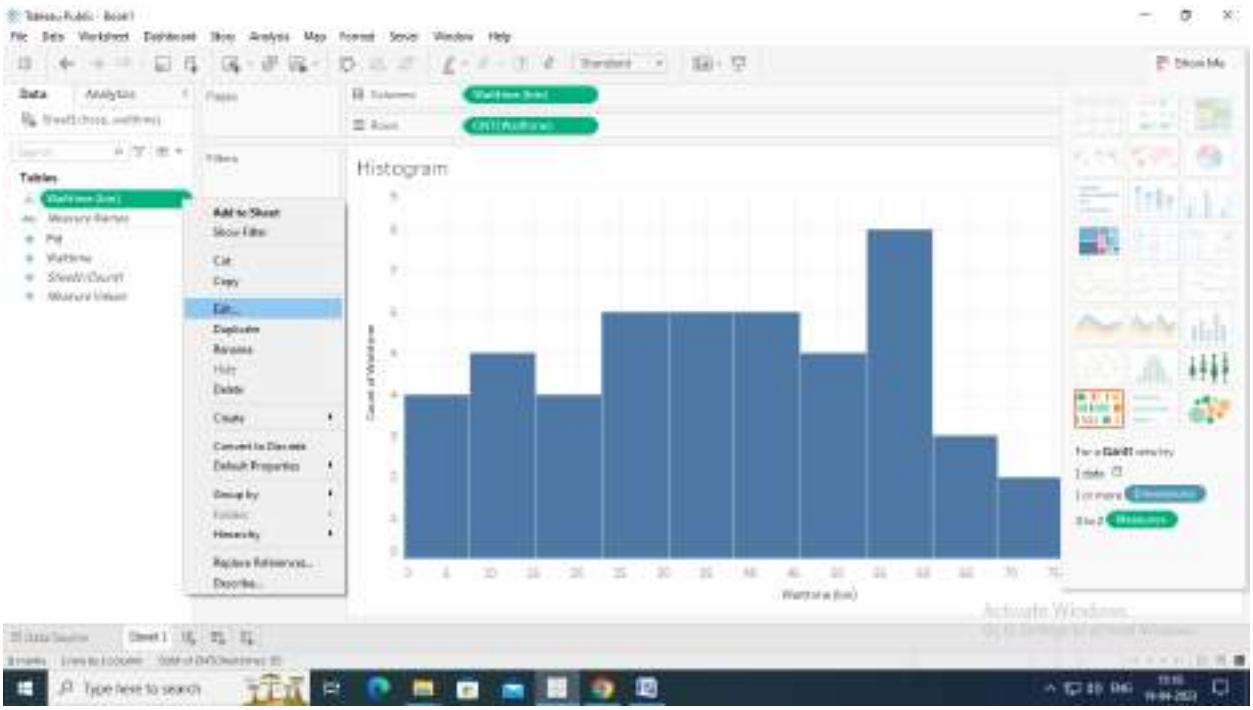
Step 4: Click on



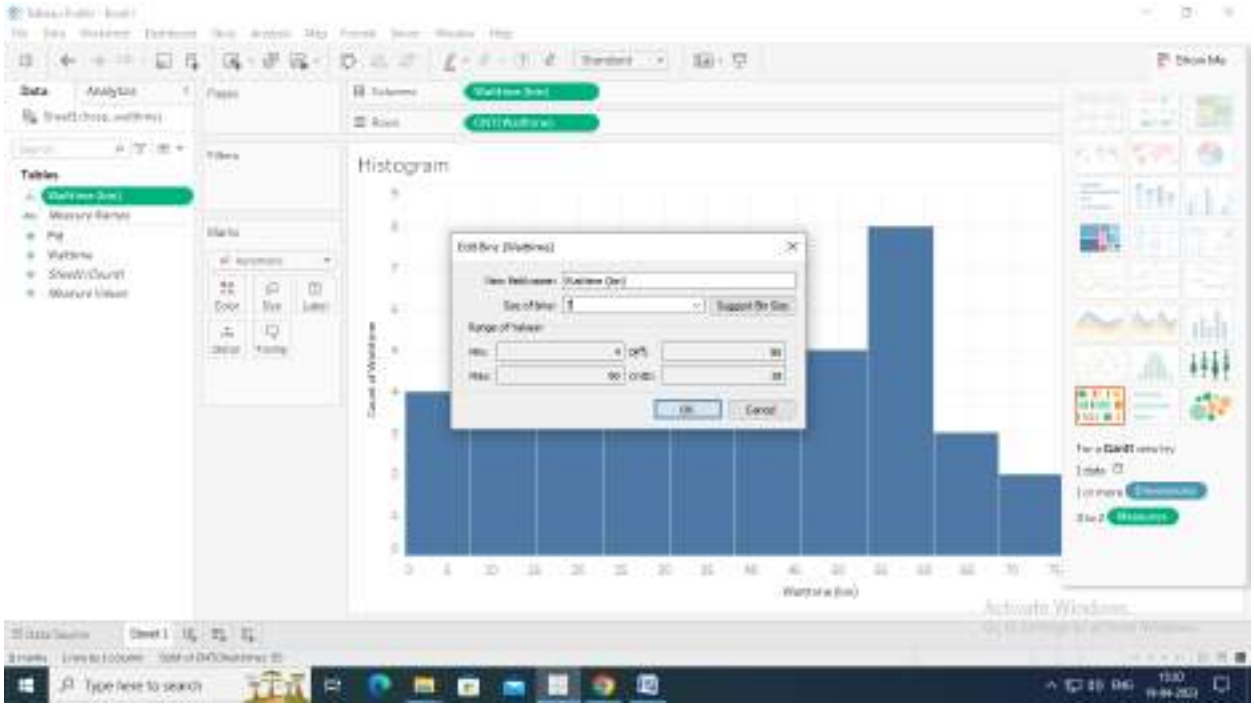
Show Me and select Histogram



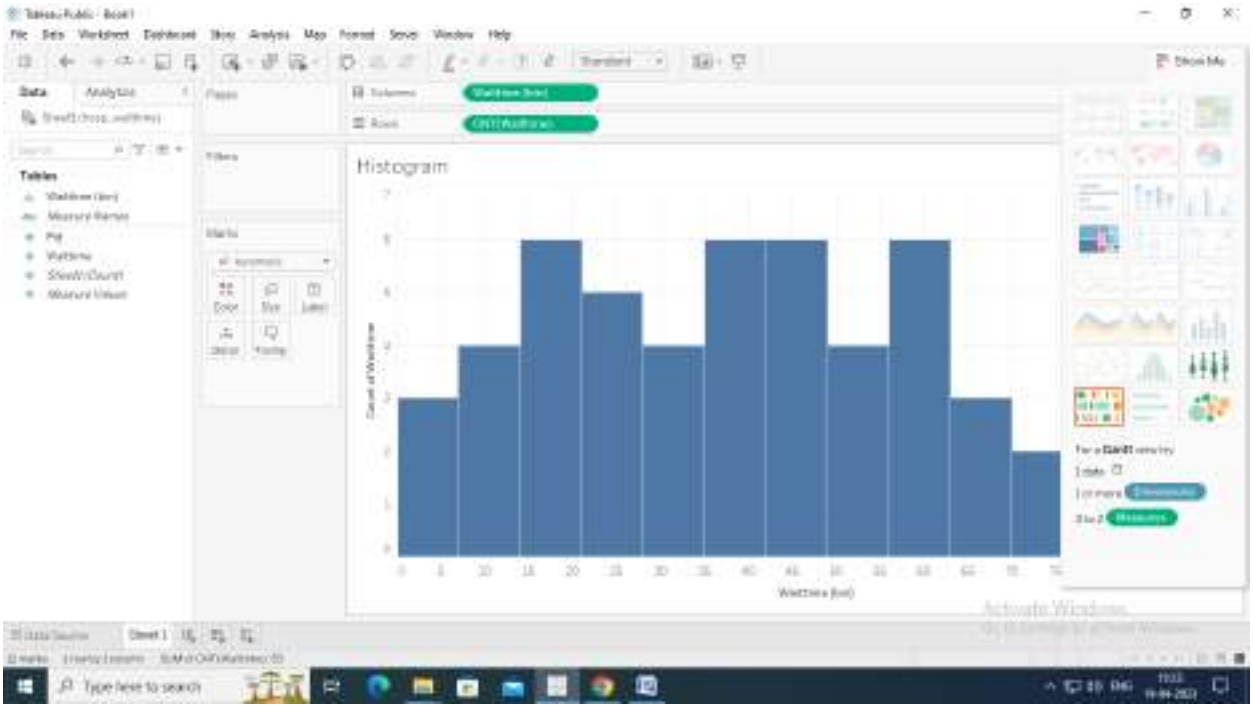
Step 5: Select inverted triangle of Waittime(bin) and choose the option edit



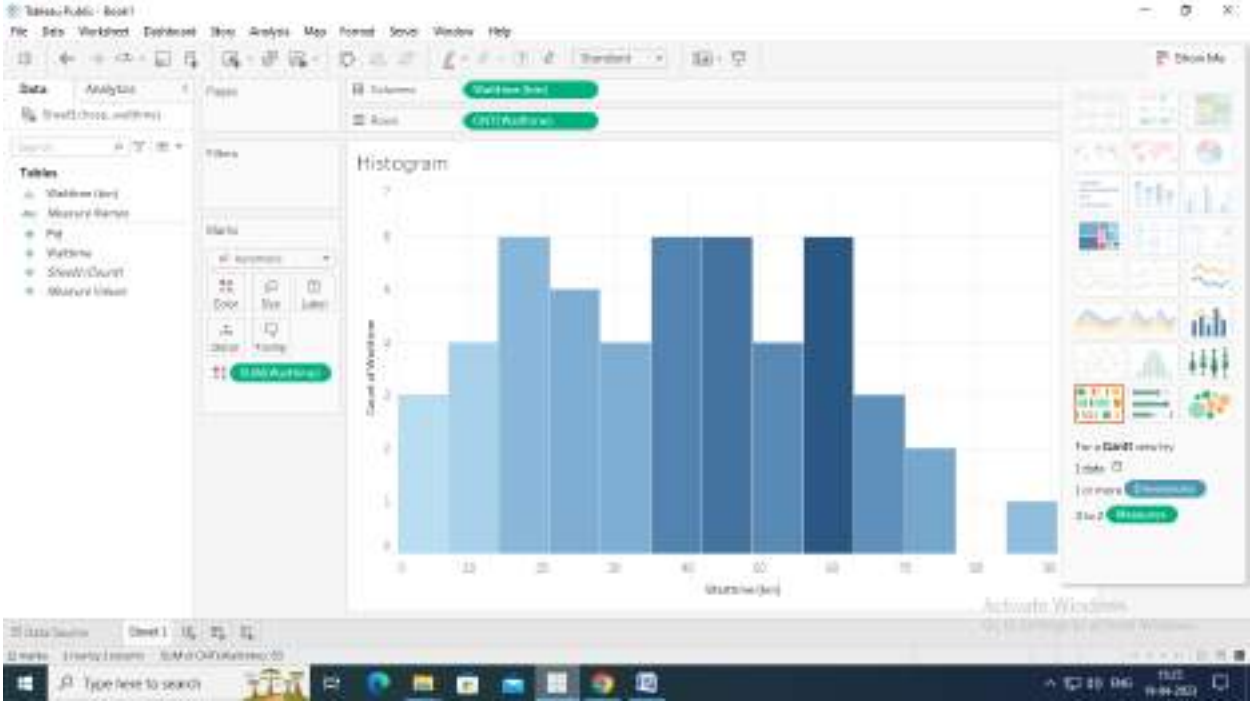
Step 6: Select Size of bin as 10 of pop up window Edit bins and click on



Step 7: Now drag measure Waittime on the Color tab of Marks Card



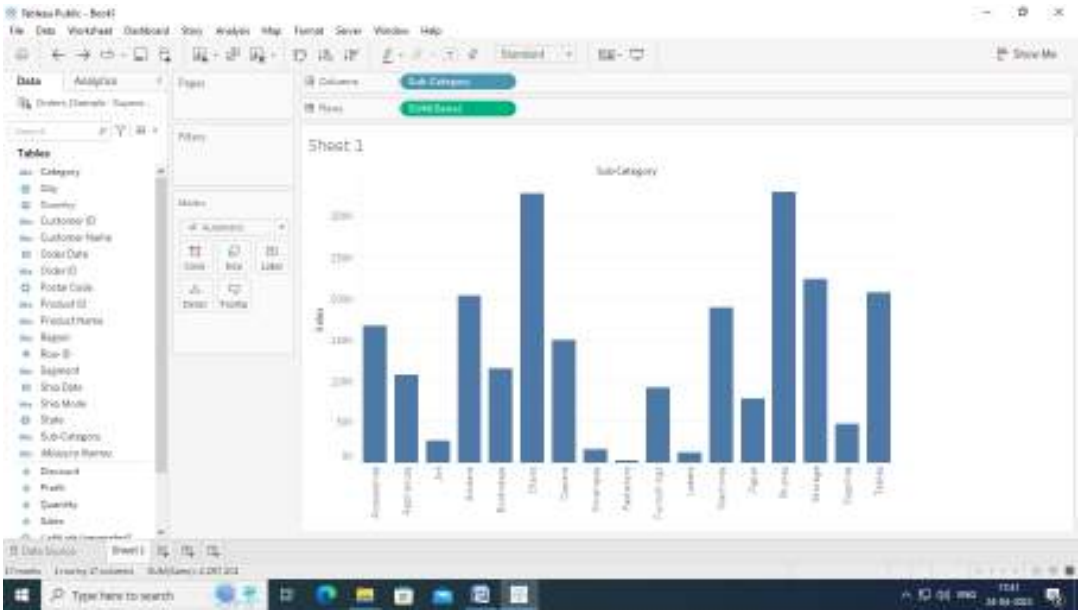
Step 8: Drag measure Sheet 1(Count) on the Label of the Marks Card



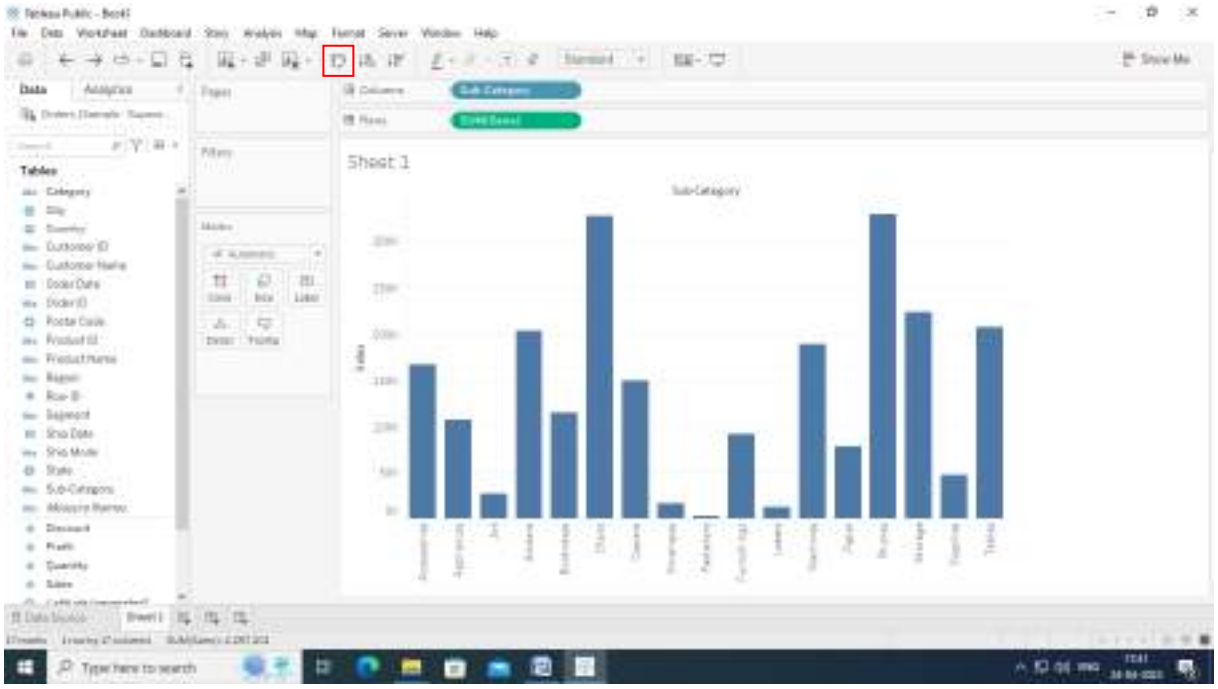
TASK 16: CREATING PARAMETERS

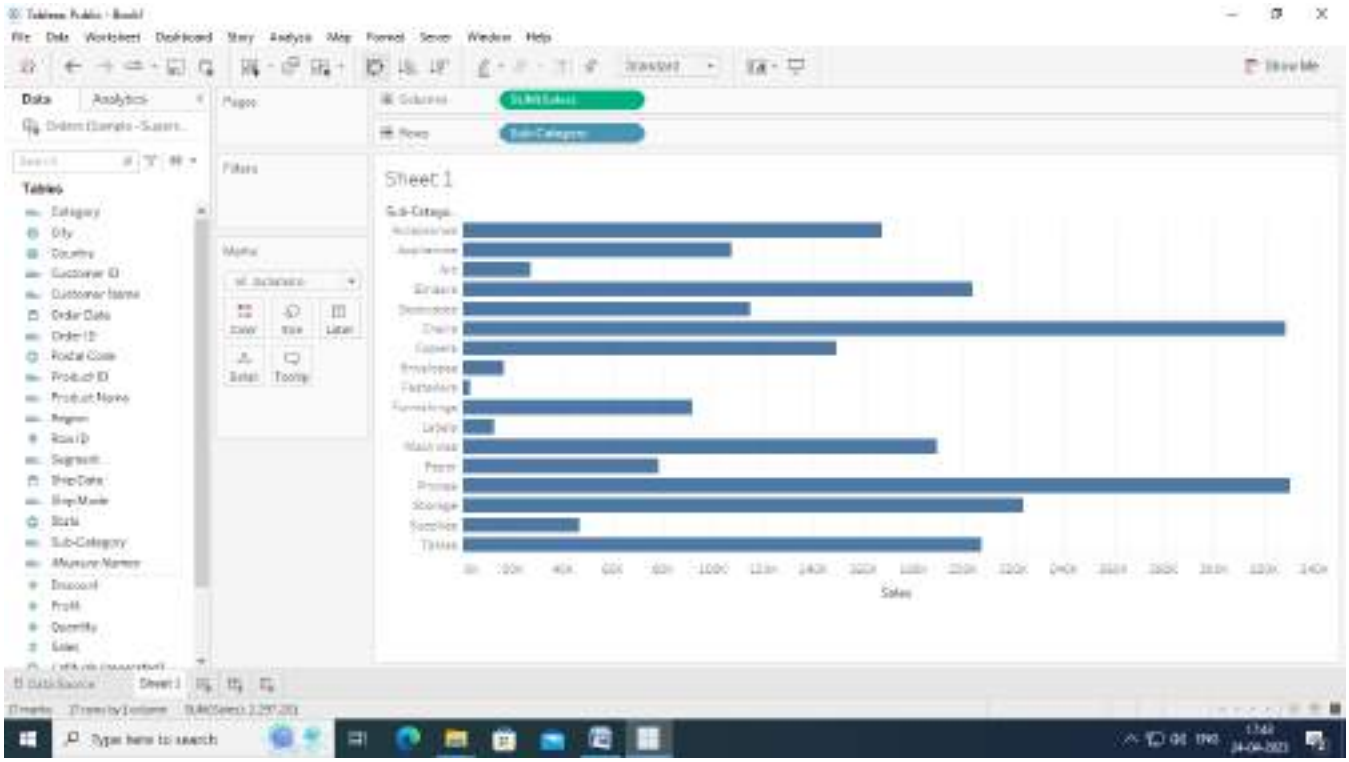
Step1: Launch Tableau and add data source Sample - Store

Step 2: Go to Sheet, create a Bar chat with dimension Sub Category on the column and measure Sales on the row.



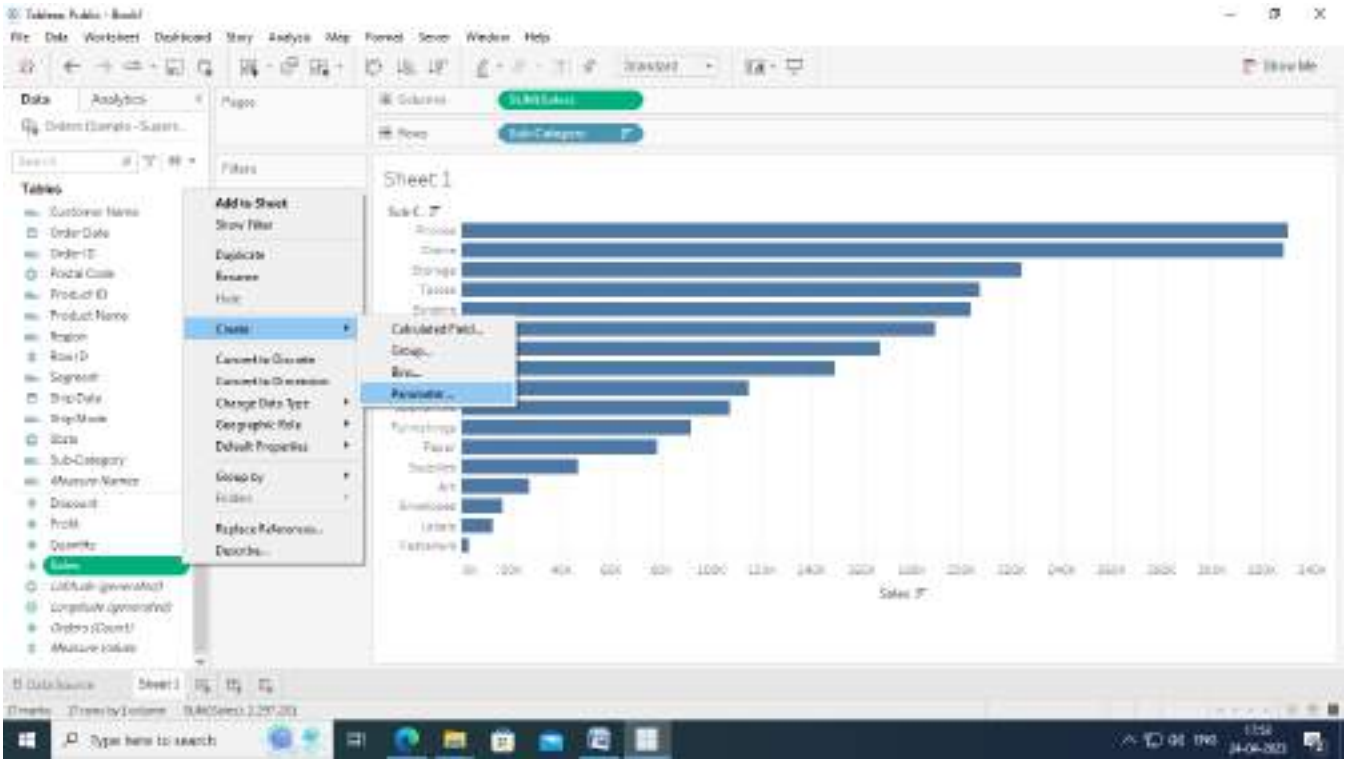
Step3: A Bar Chart appears with Vertical Bars, Now change the bars to the horizontal by clicking



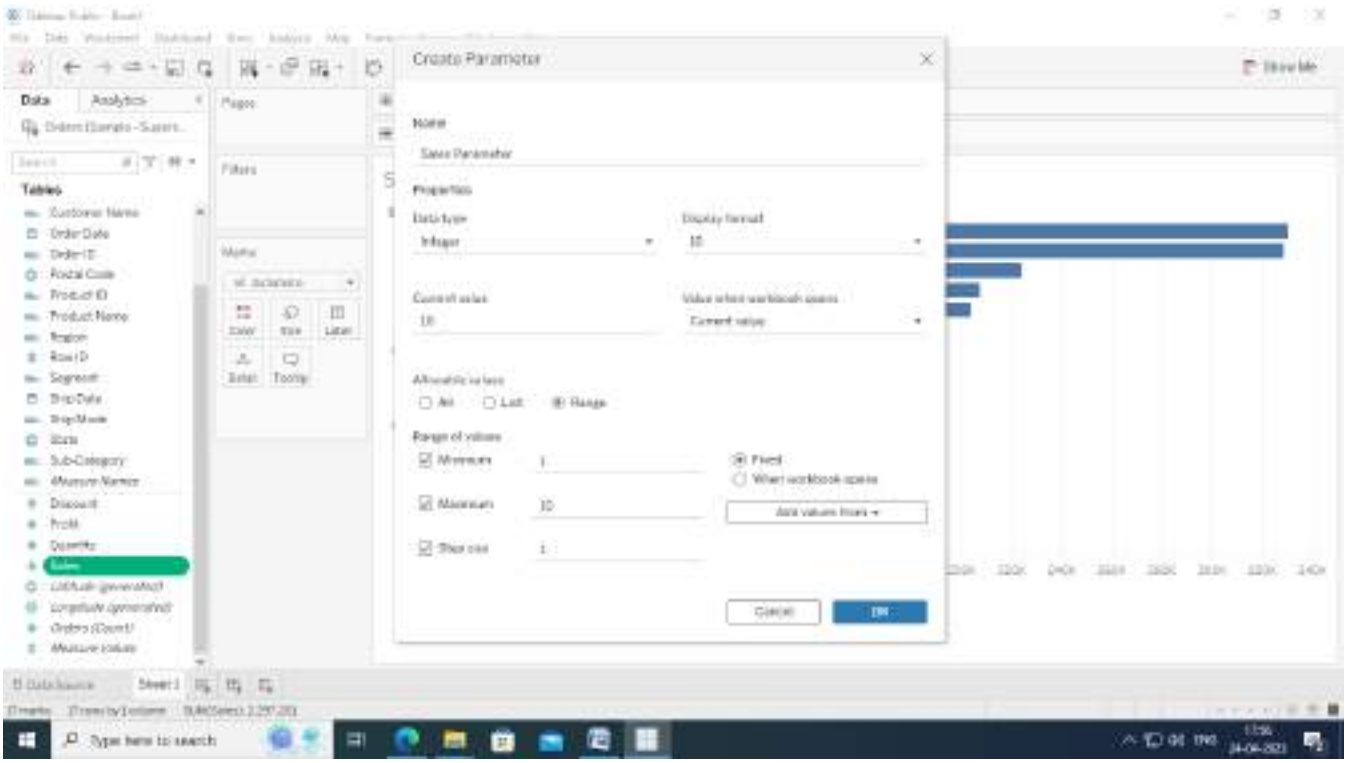


Step 4: Now, Sort the Horizontal Bars to descending order

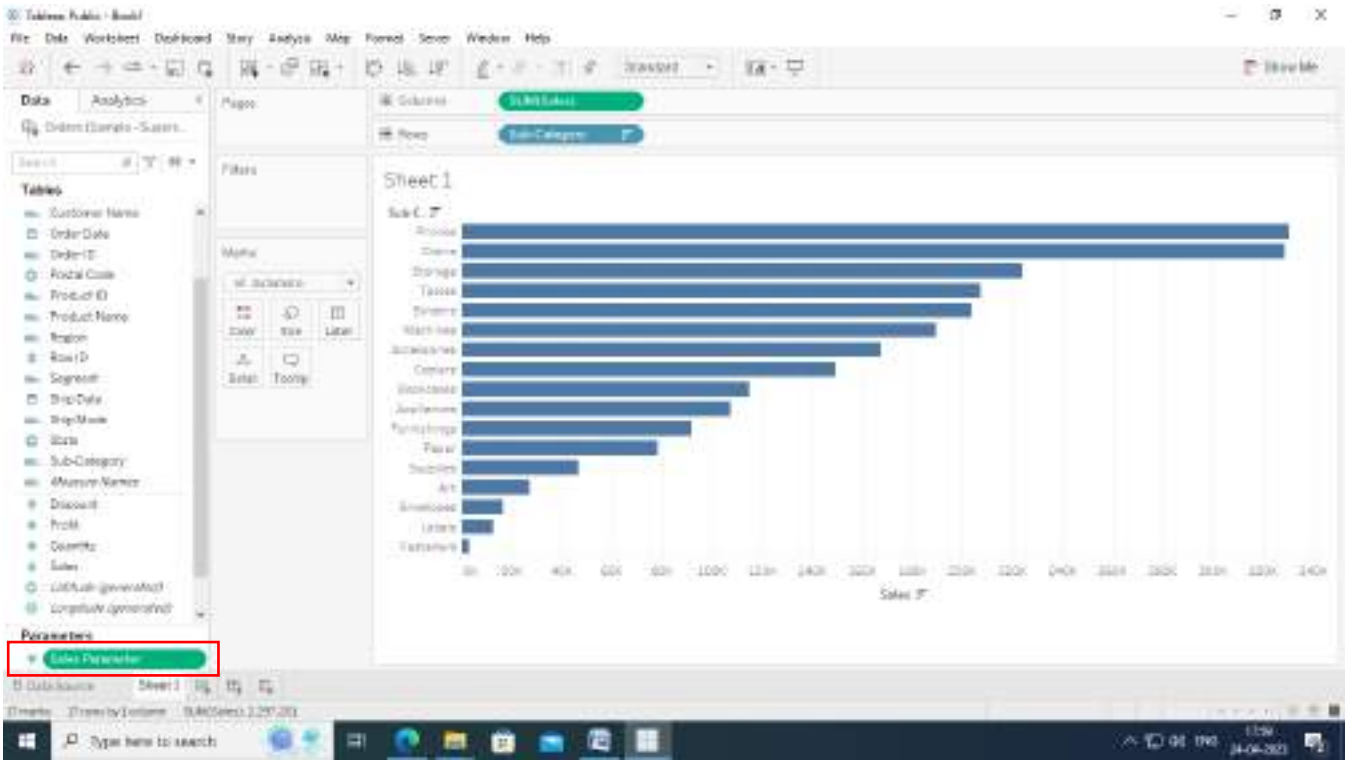
Step 5: Select measure Sales and right click choose the options Create and choose the option Parameter



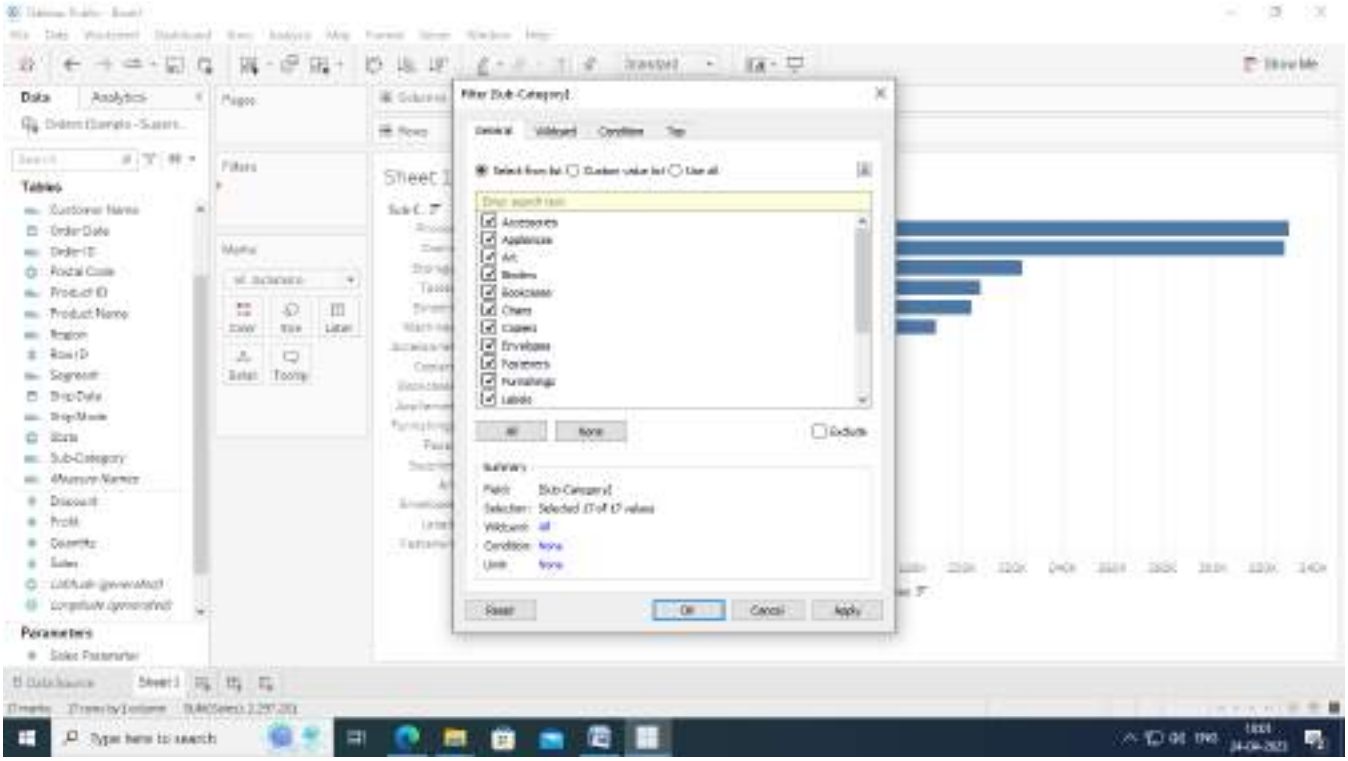
Step 6: Fill the options of the Popup Window as follows and click on OK



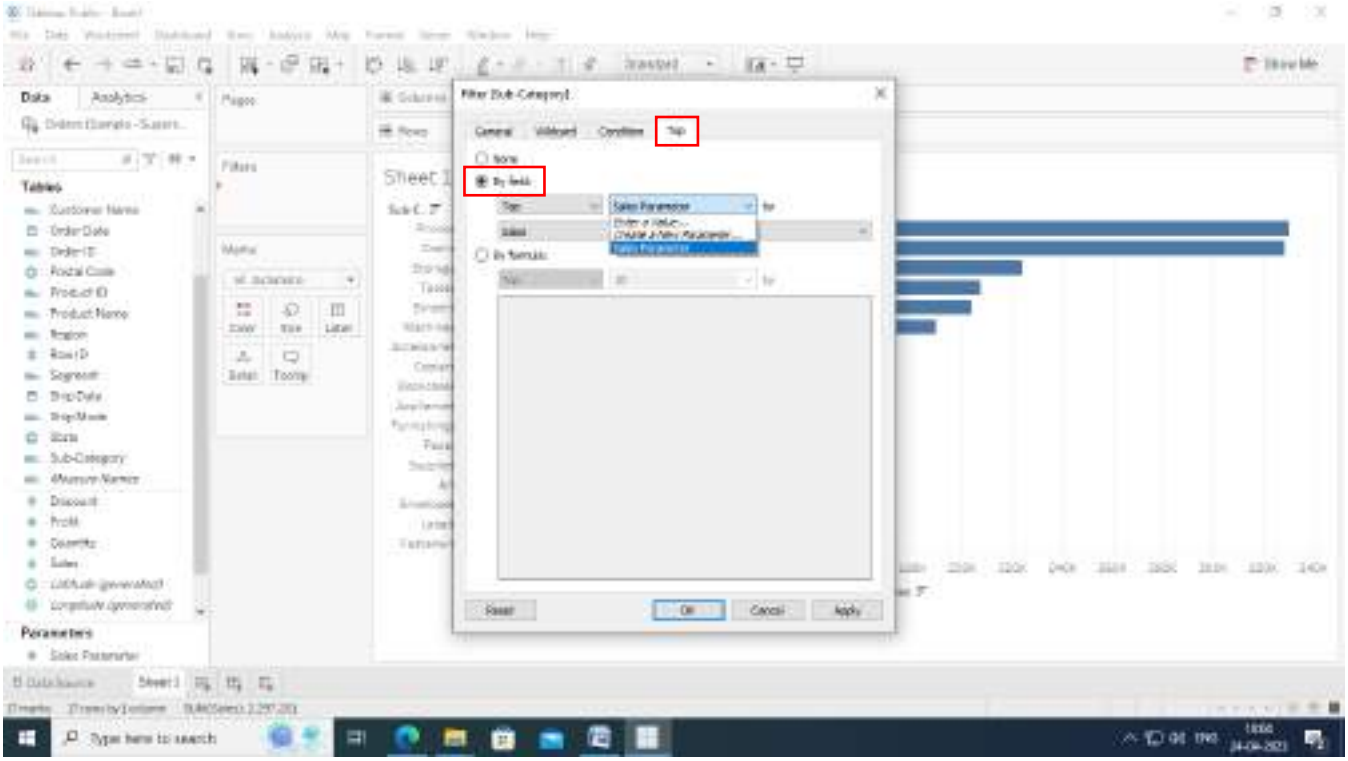
Step 7: Sales Parameter appears in Parameters

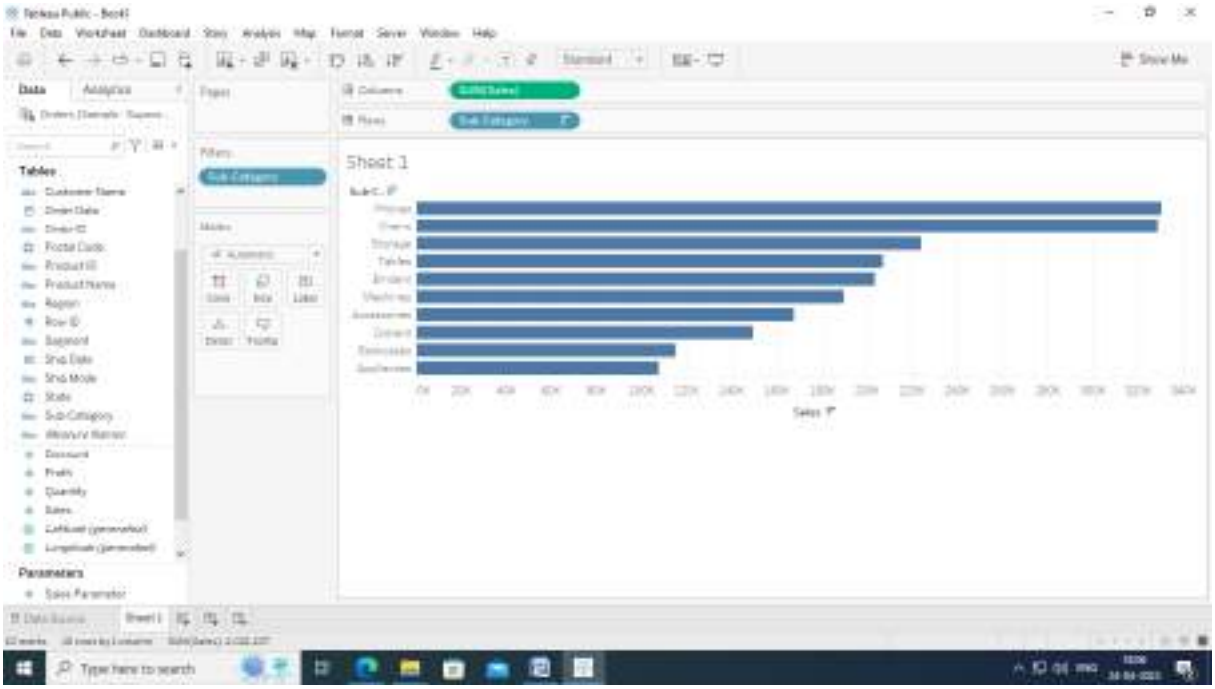


Step 8: Drag Sub Category to filter shelf – Right click subcategory in filter shelf pops up

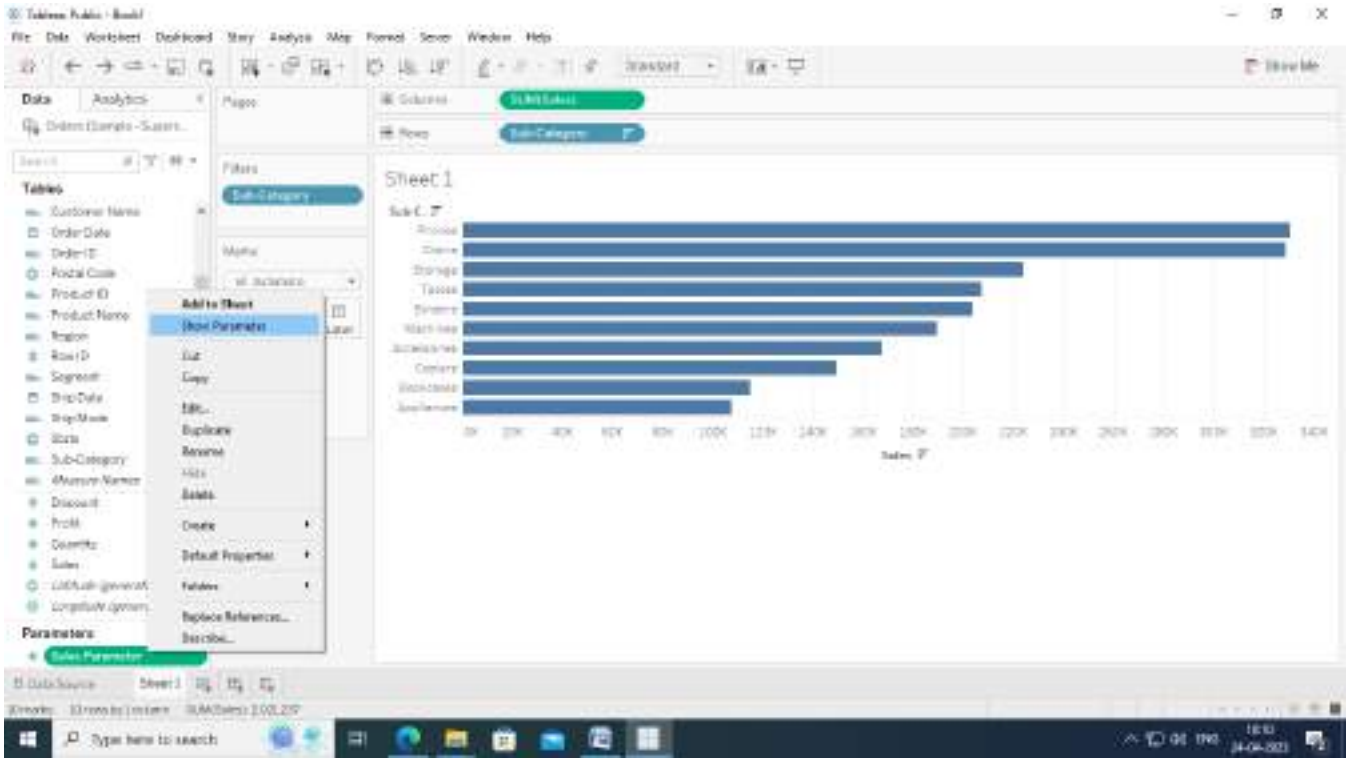


Step 9: Go to tab Top ---> select by field ---> Then select sales parameter ---> click apply ---> ok



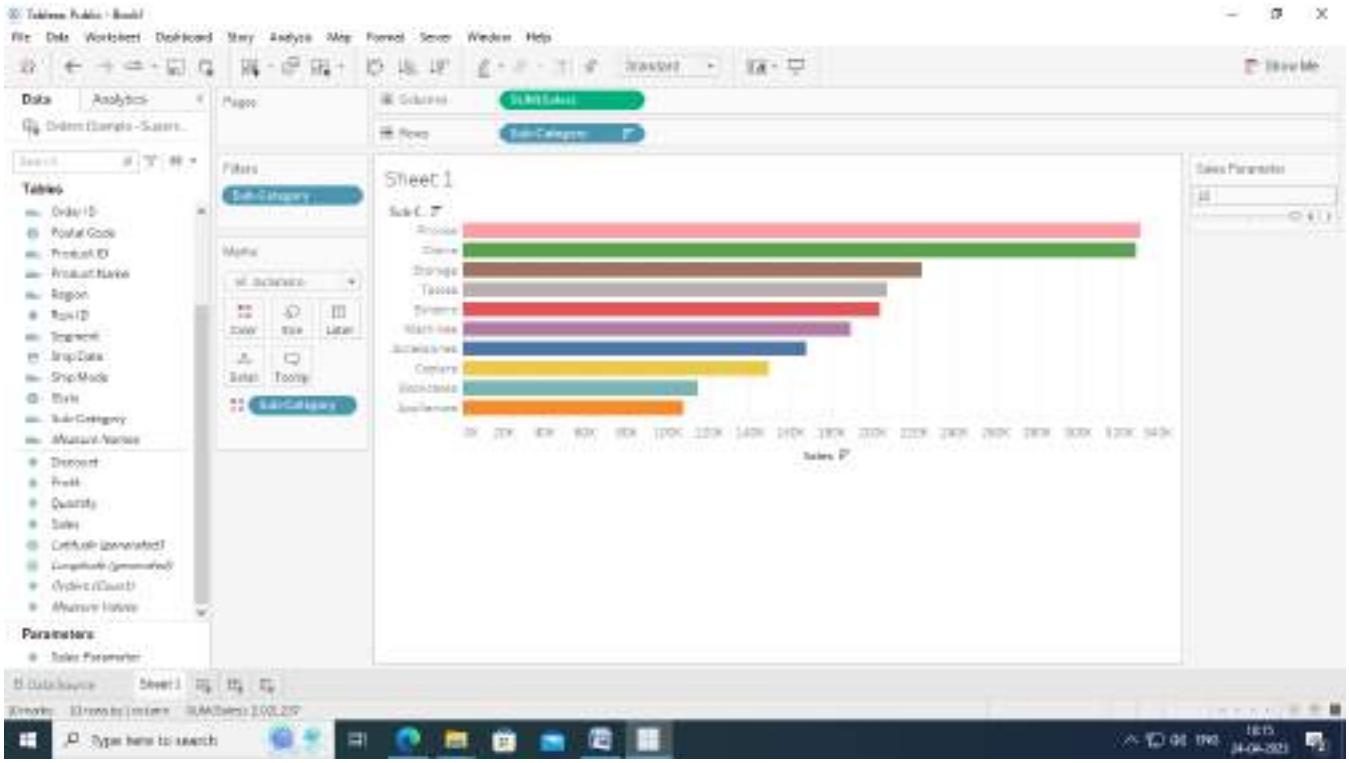


Step 10: Now Right click on Show Parameter in Parameter ---> click on Show Parameter

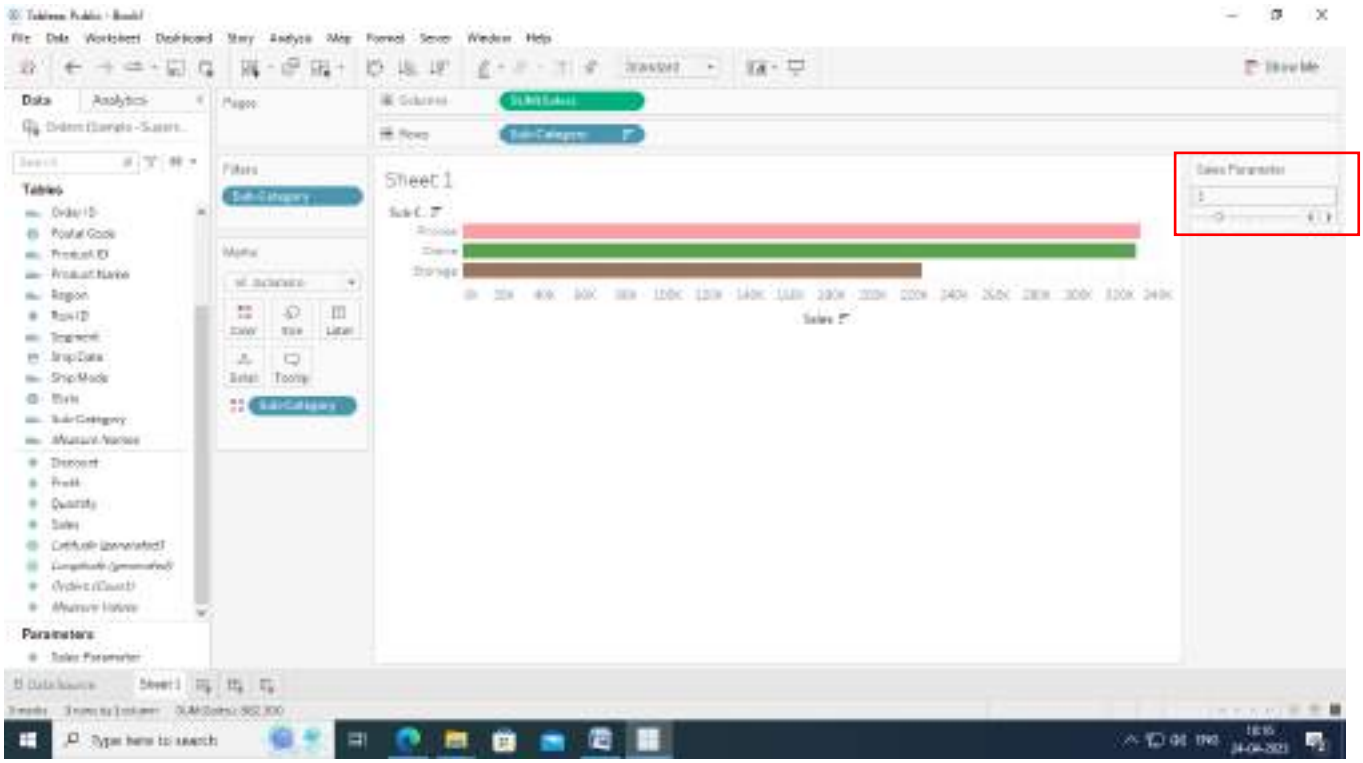


Step 11: A rider Sales Parameter appears top right side

Step 12: Drag Measure Sub Category on to the Color of the Marks Card.



Step 13: Now drag the rider on the top right side to left



TASK 17: CREATING PARAMETERS WITH CALUCULATED FIELDS

Step 1: Launch Tableau

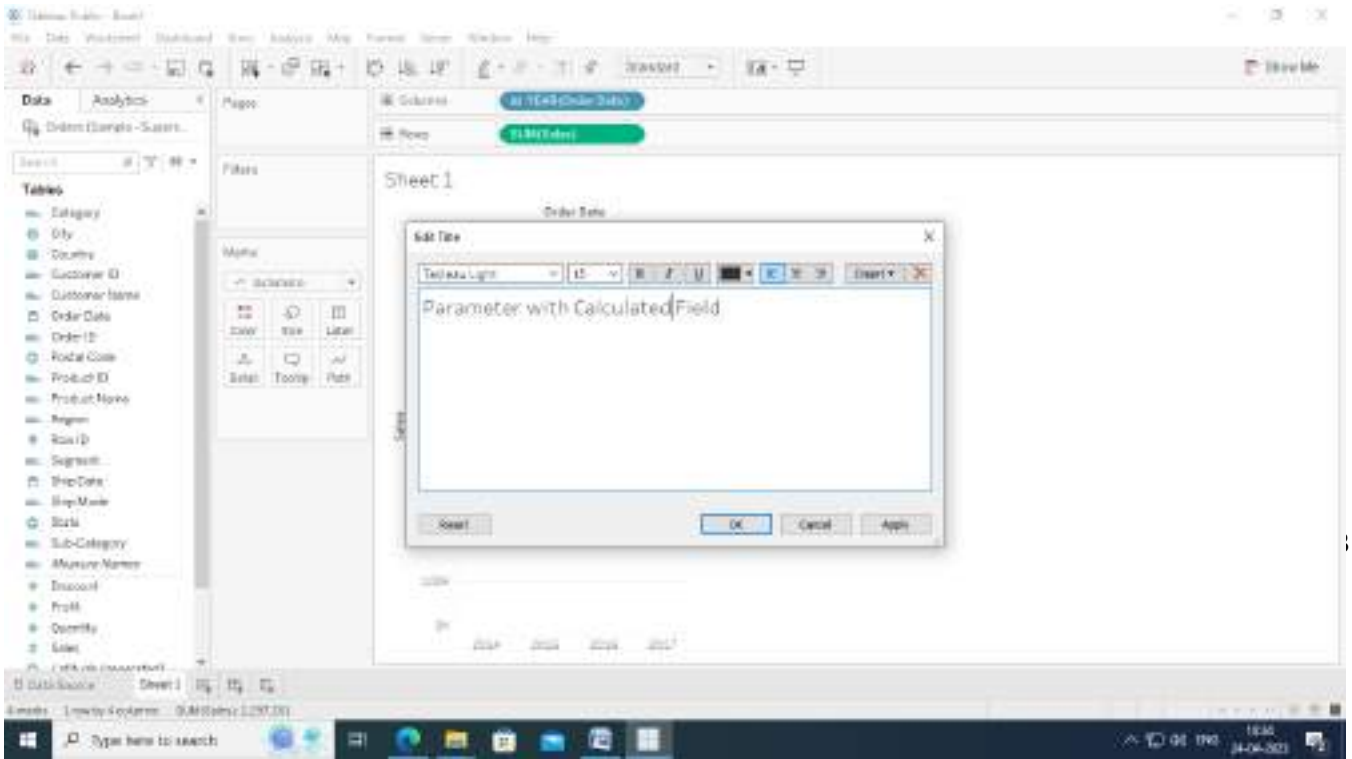
Step2: Load Sample Super Stores

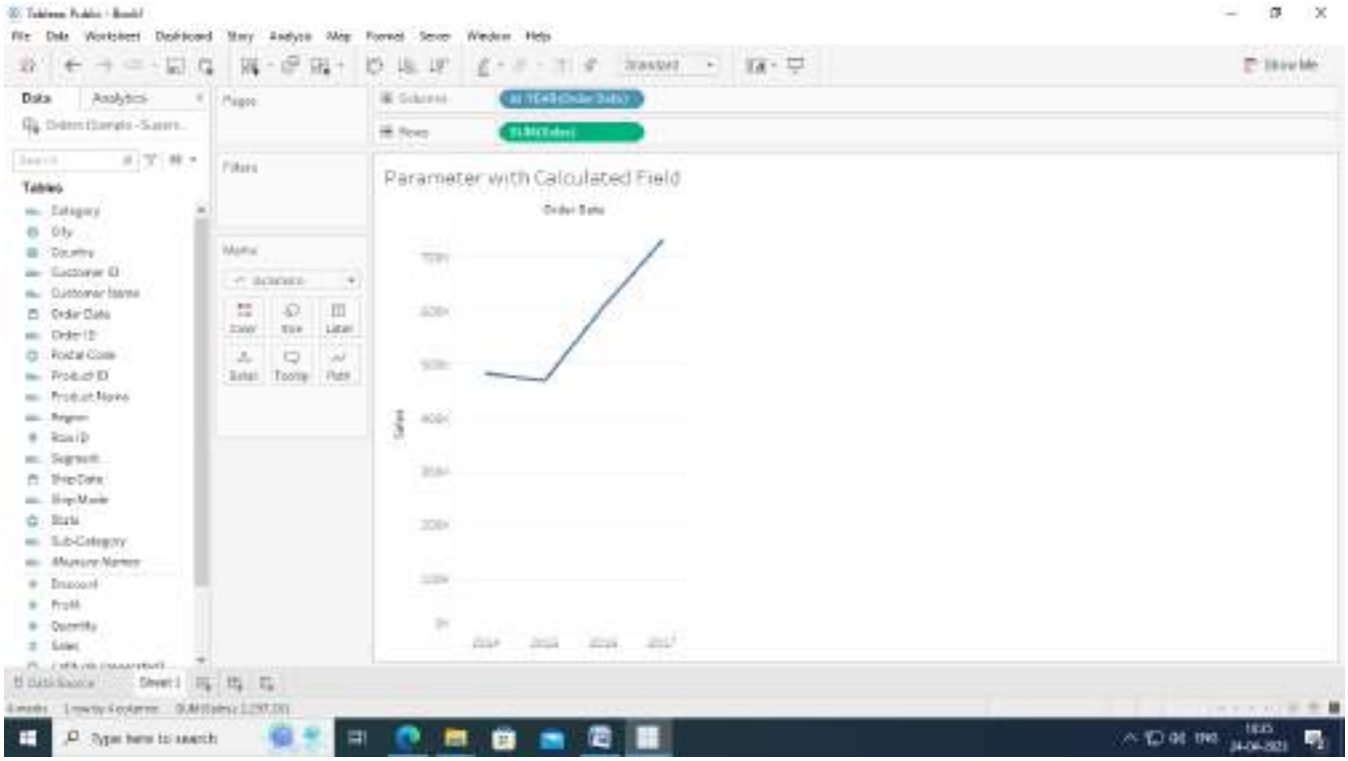
Step3: Go to Sheet ---> set name as "Parameter with Calculated Field"

Step 4: Drag "Order Date" on to columns

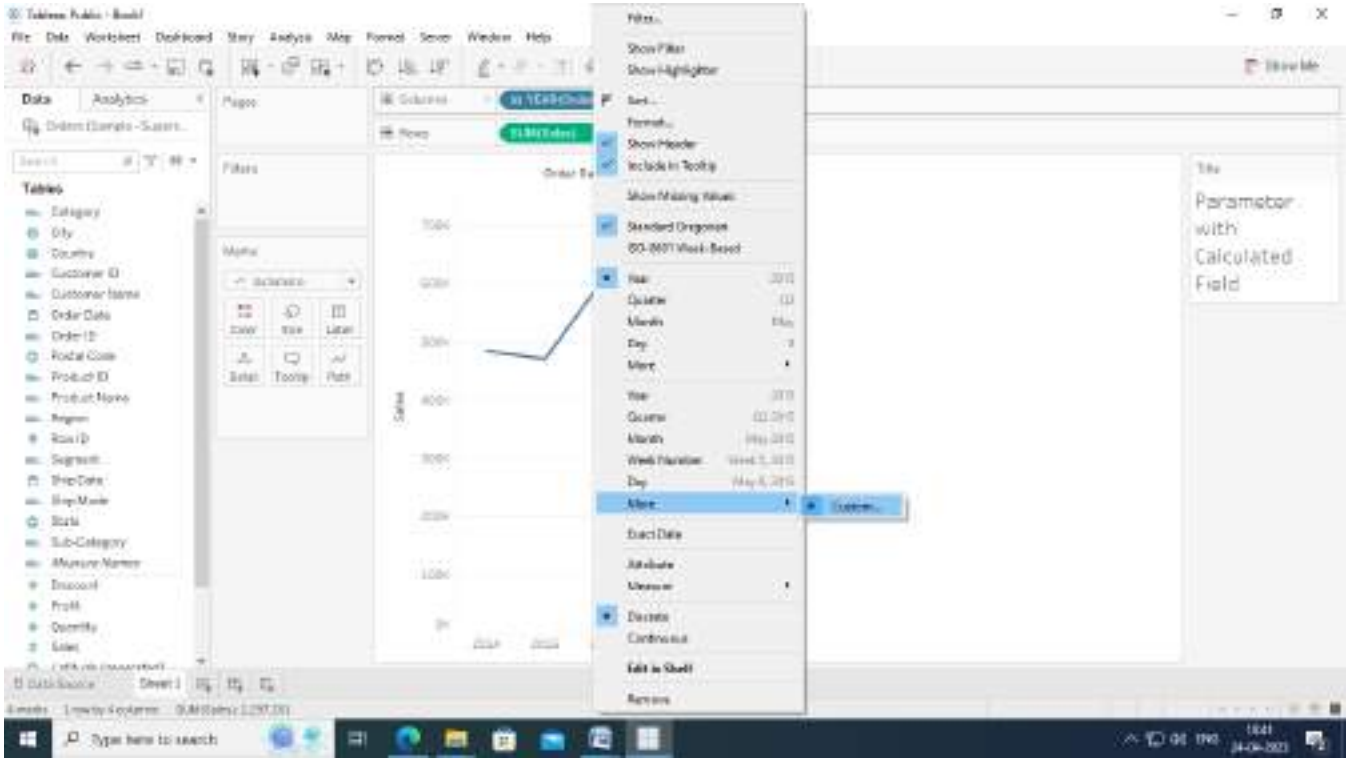
Step 5: Drag "Sales" on to Row

Step 6: by Default line appears

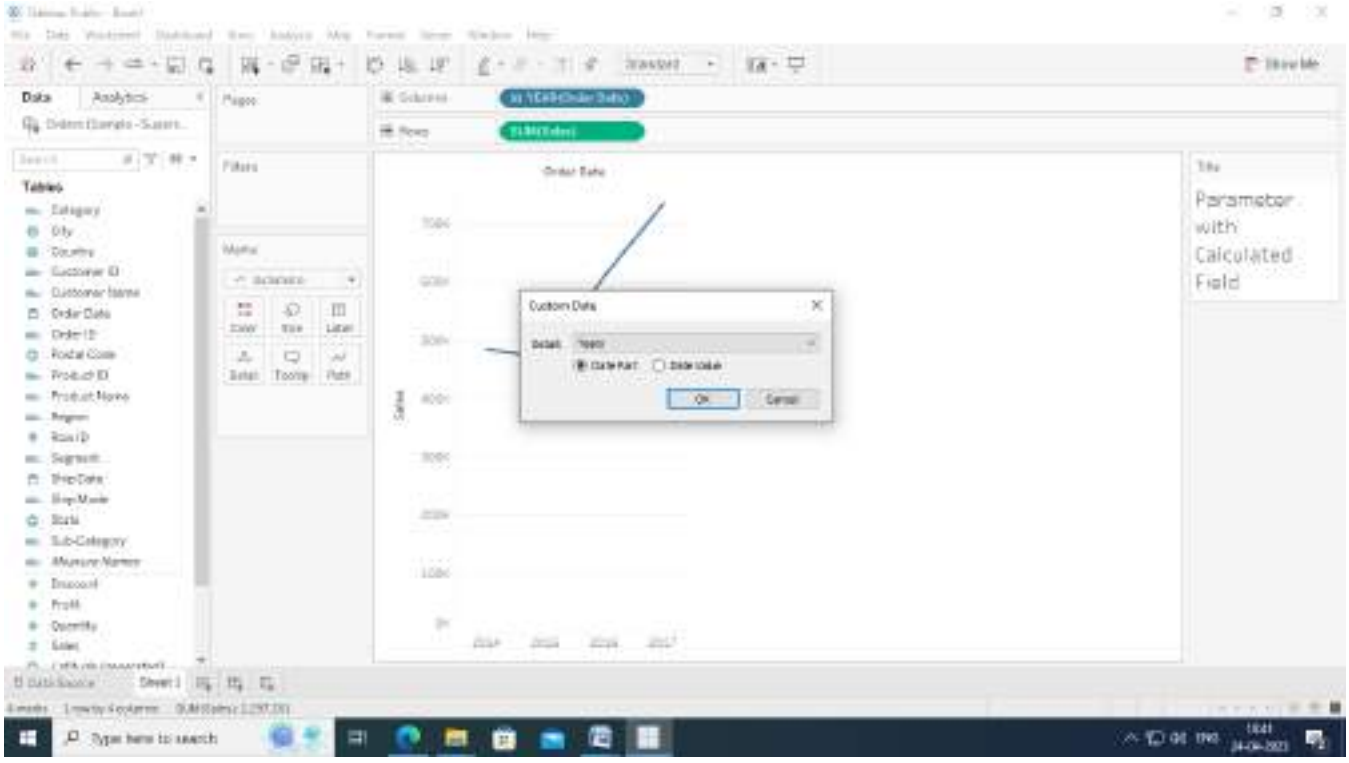




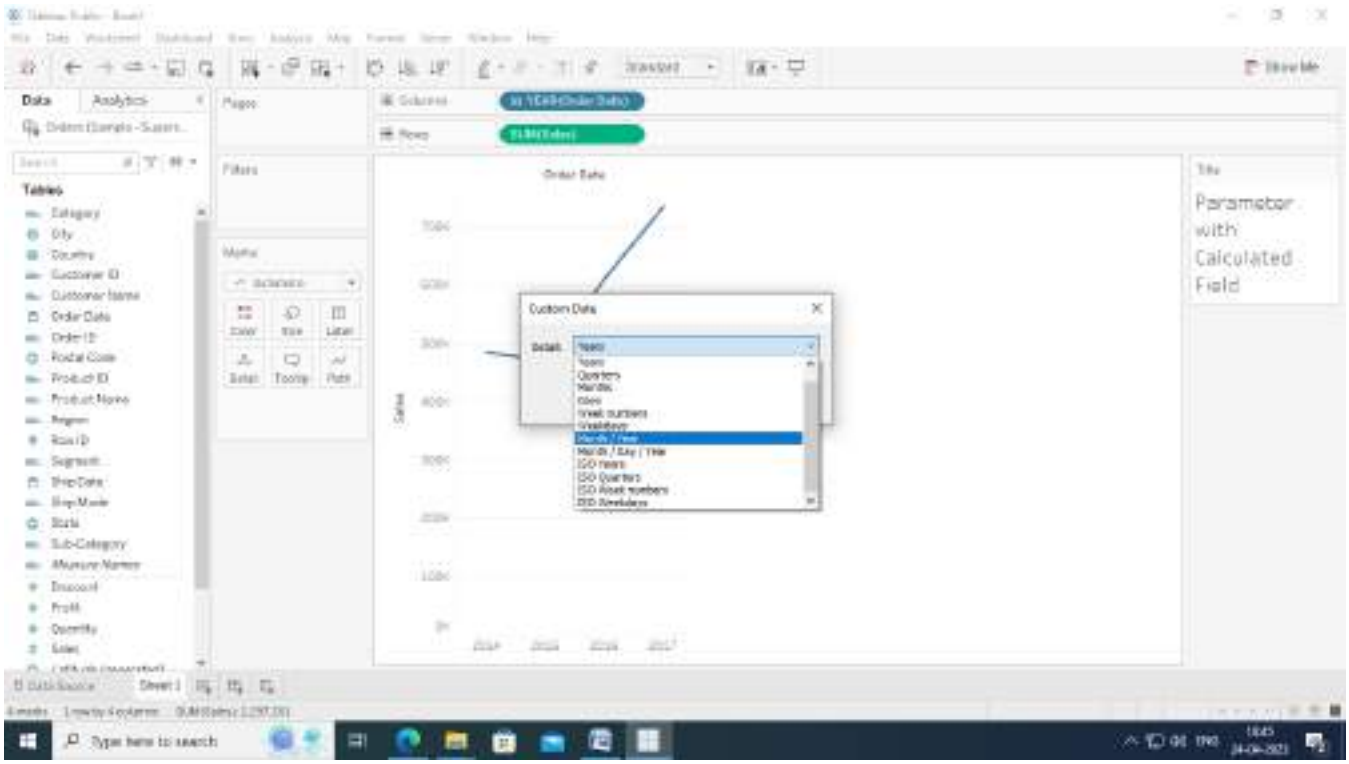
Step 7: Now right click on the Order Date of Column Shelf ----> More ----> Custom



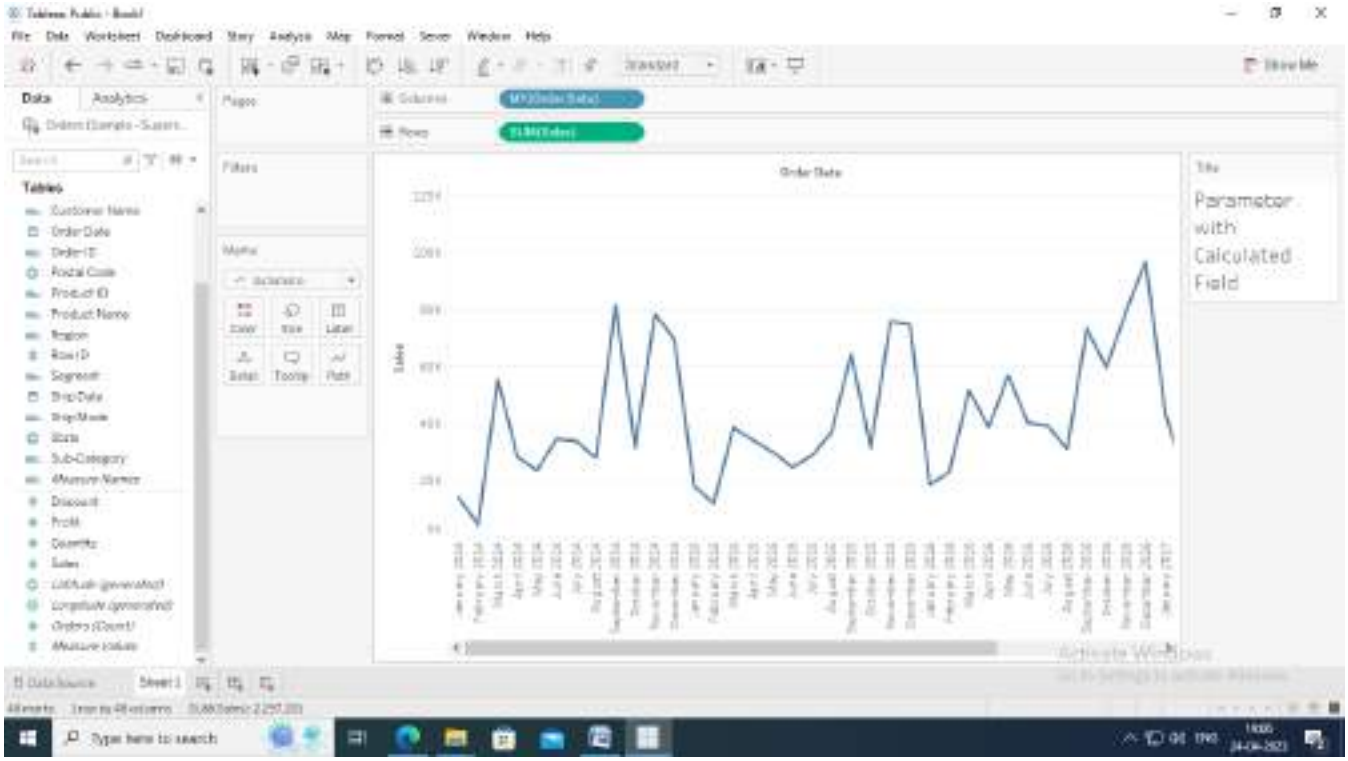
Step 8: A popup menu titled Custom Date appears



Step 9: Now Click at Invert triangle ---> Month/year, Click on OK



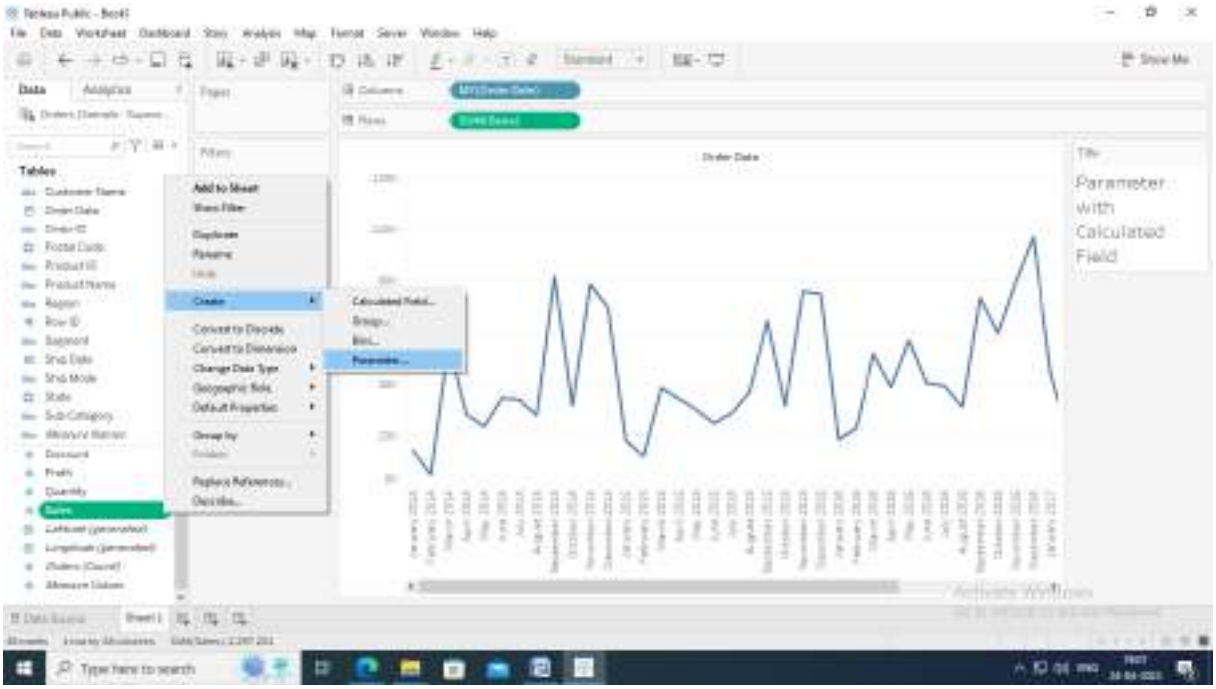
Step 10: Now Line Chart appear as



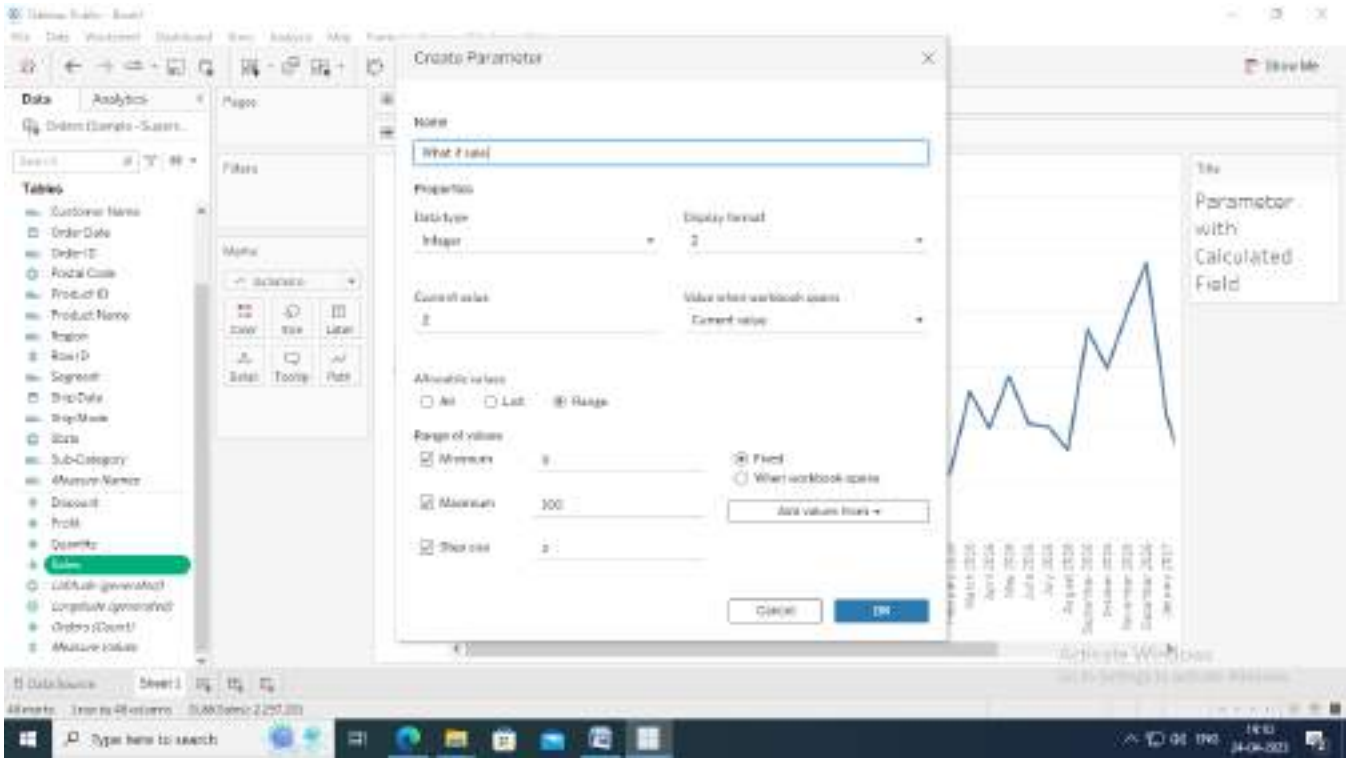
Step 11: Now we create What-If-Scenario (For example If sales hiked by 3%)

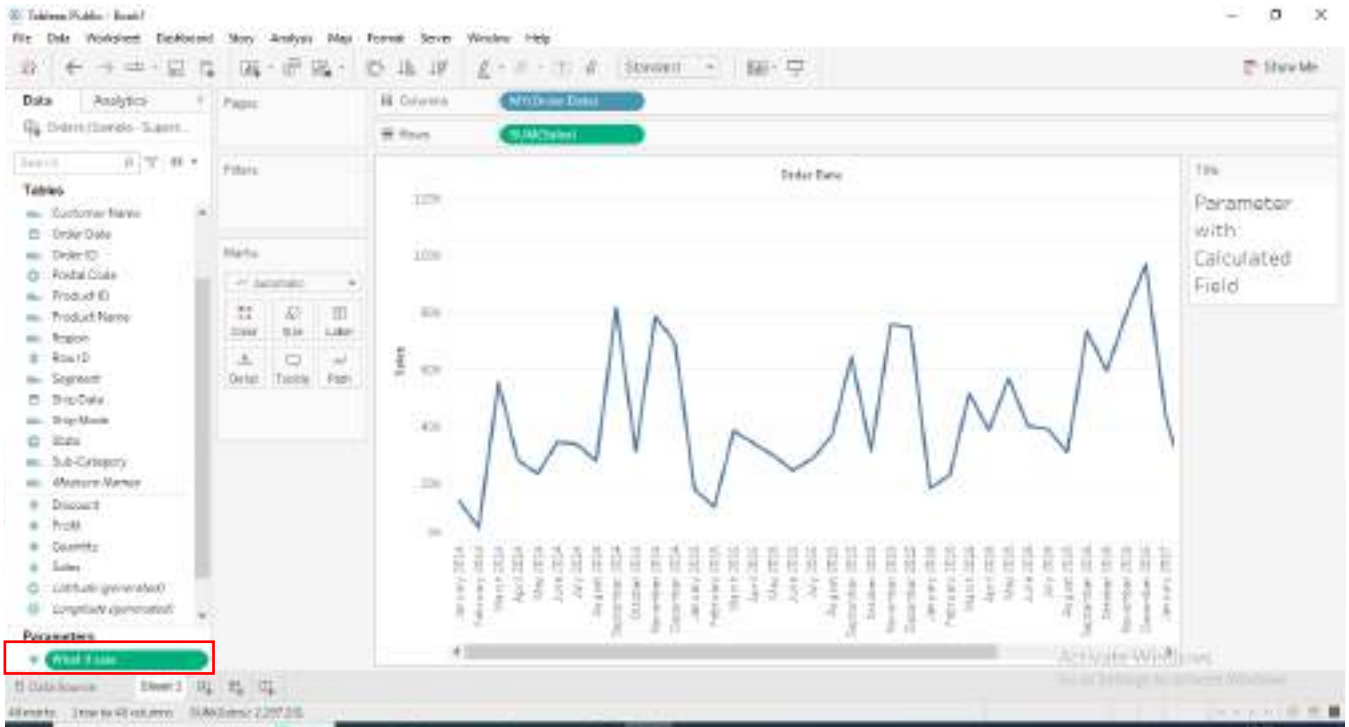
Step 12: In order to create parameter with Caluculated field

Step 13: Now we are creating parameter by Right click Sale ---> CREATE ---> parameter Fill the details as follows

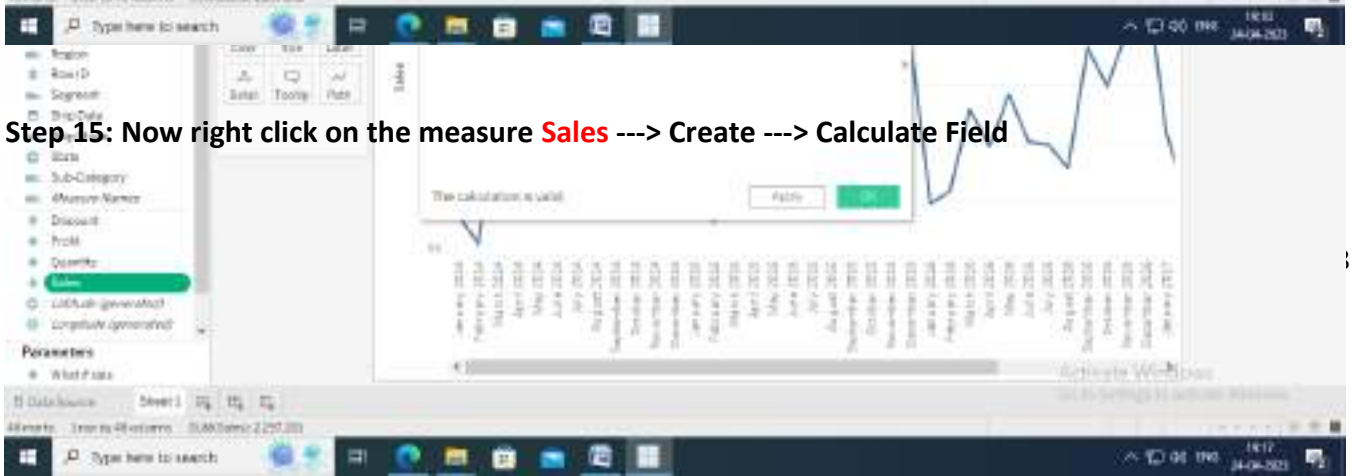


Step 14: The parameter What if sale amperes on bottom left side of the in Parameters



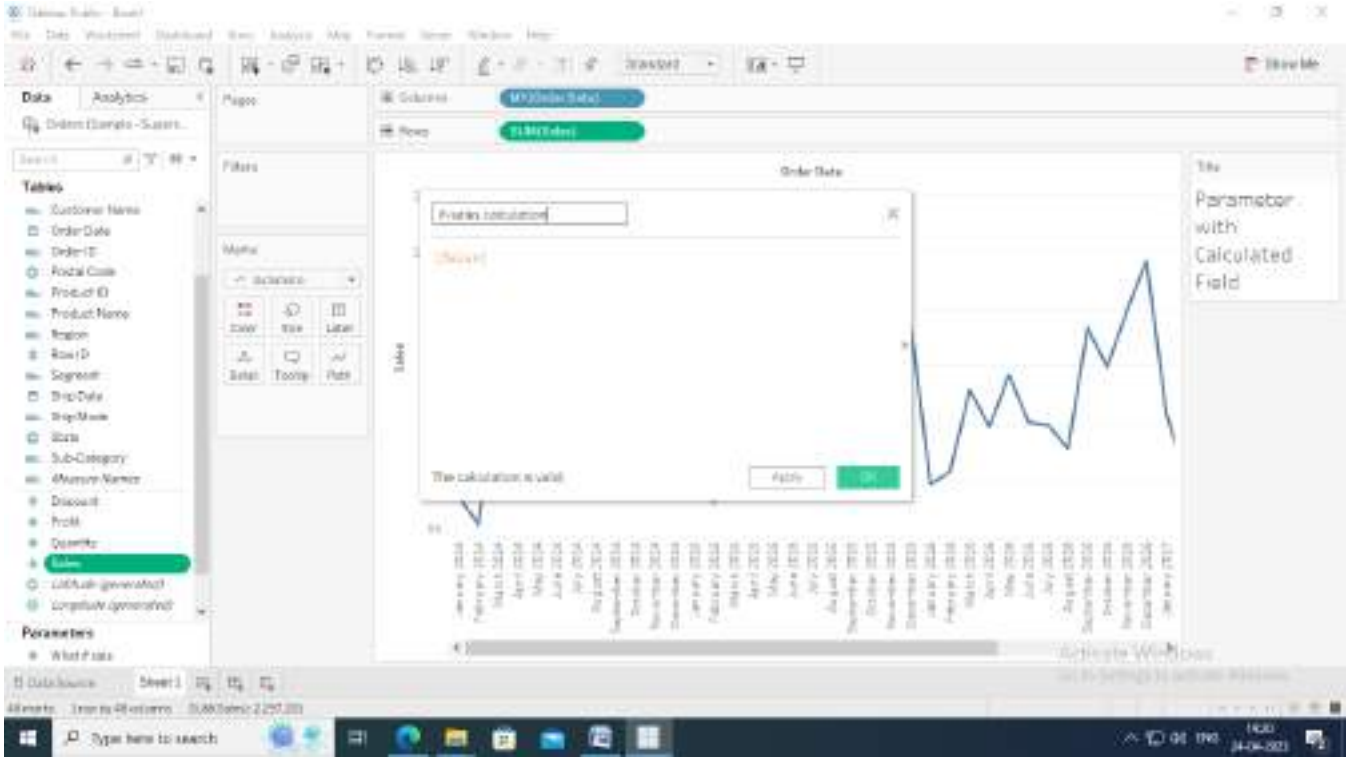


Step 15: Now right click on the measure Sales ---> Create ---> Calculate Field

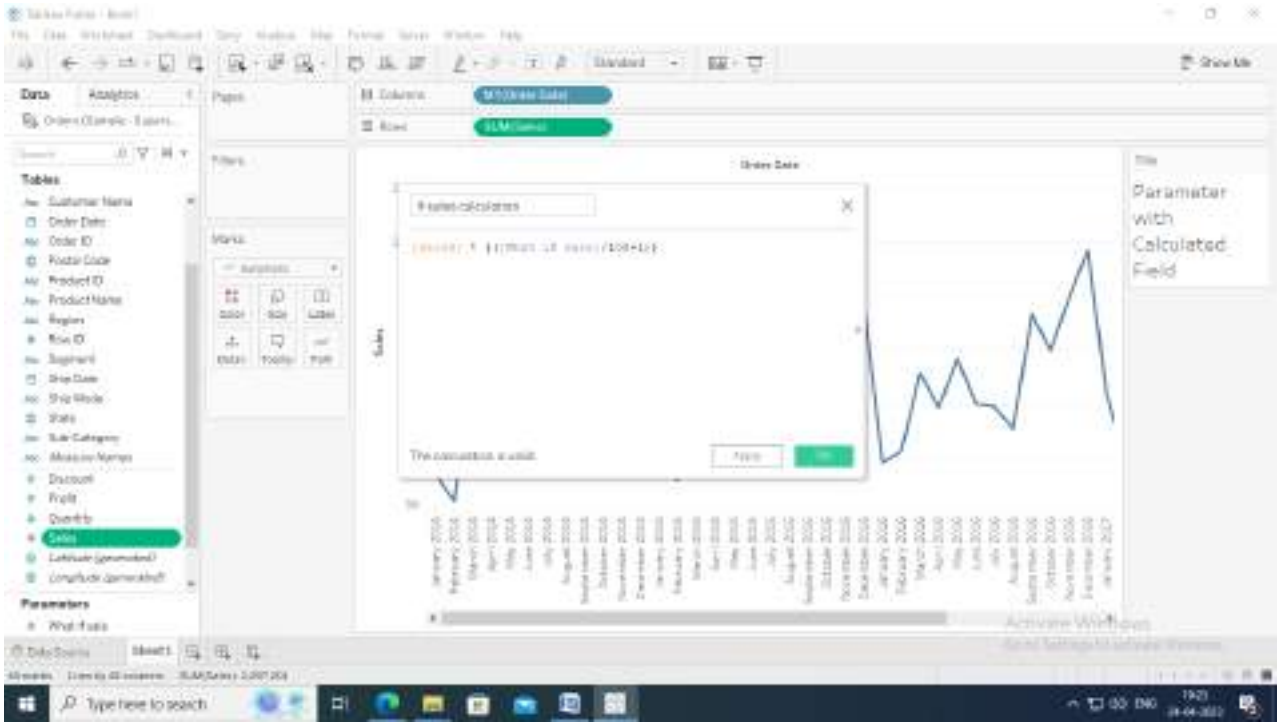


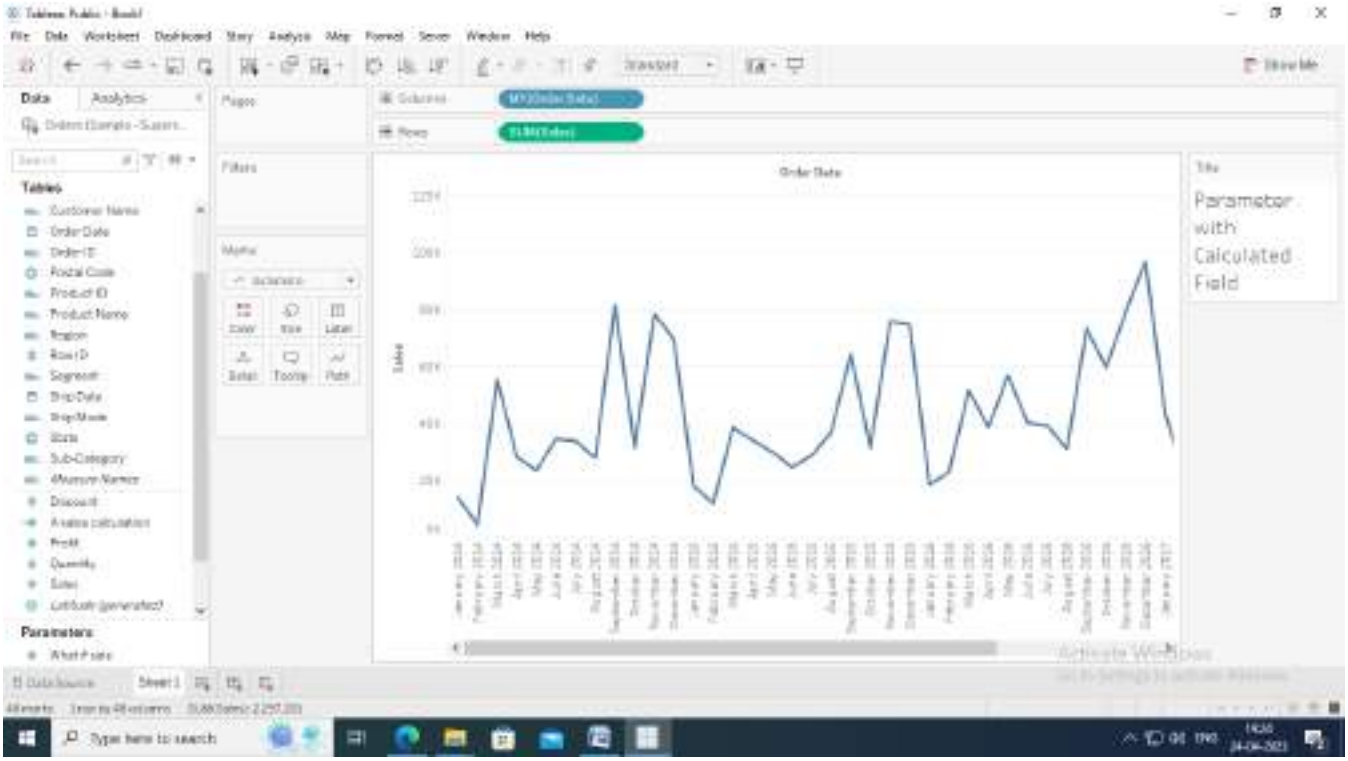
A popup menu Appears

Step 16: Now name the calculation field as if-sales calculation

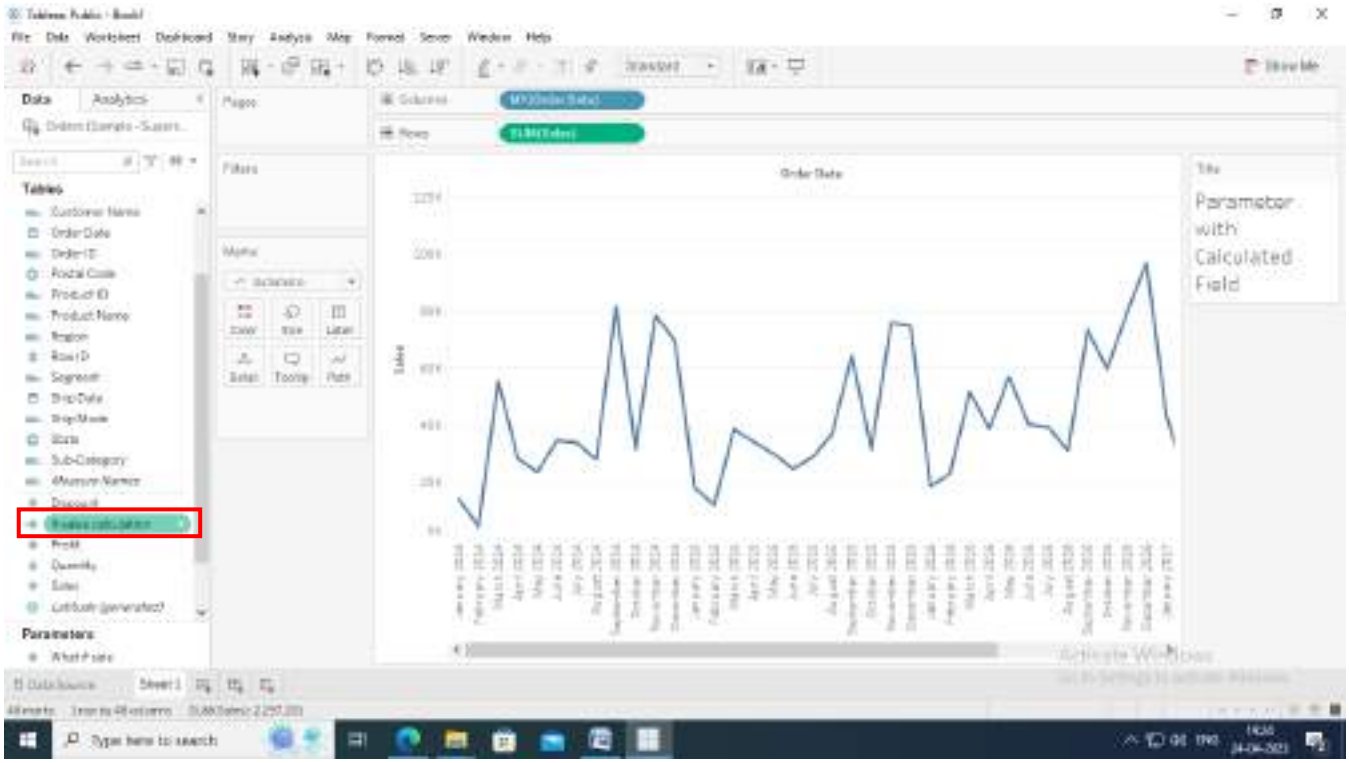


Step 17: In if-sales calculation write the formula and click on OK
[Sales] * (([What if sale]/100+1))

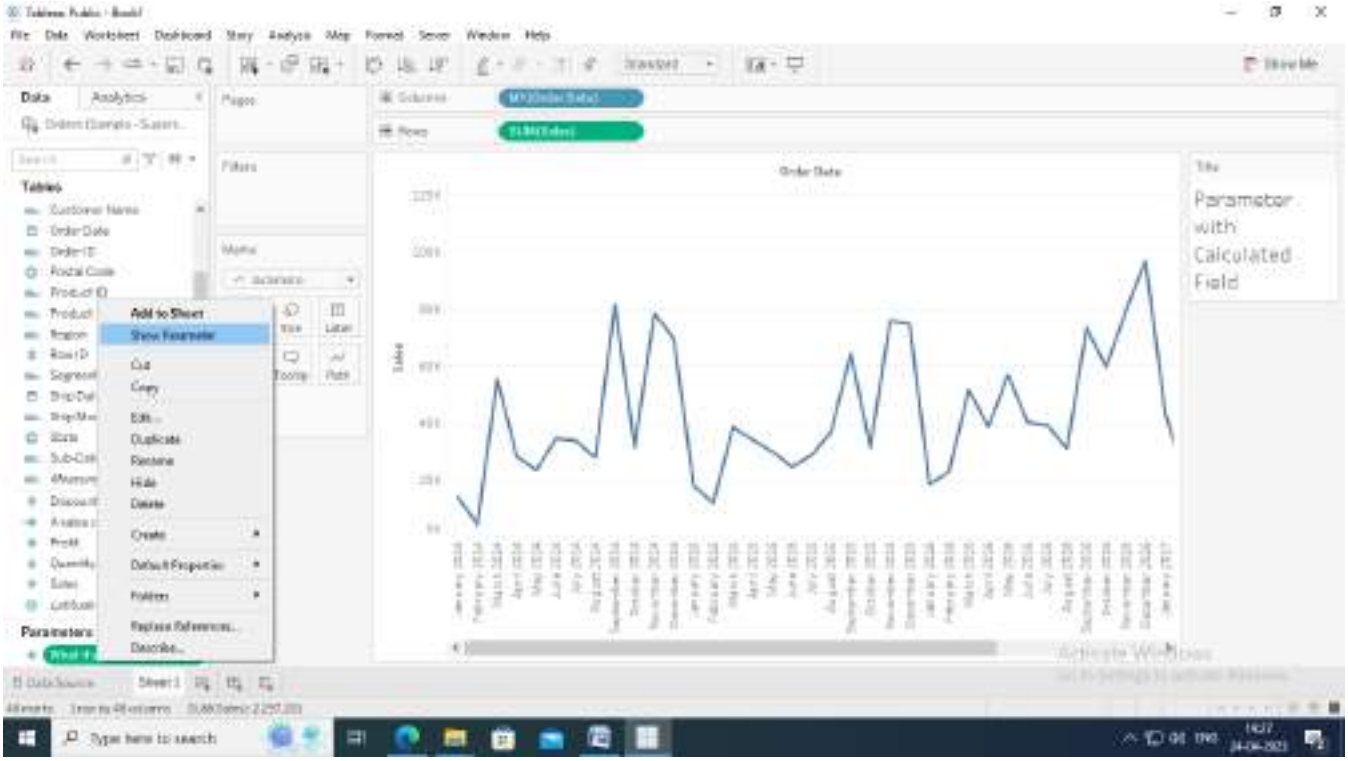




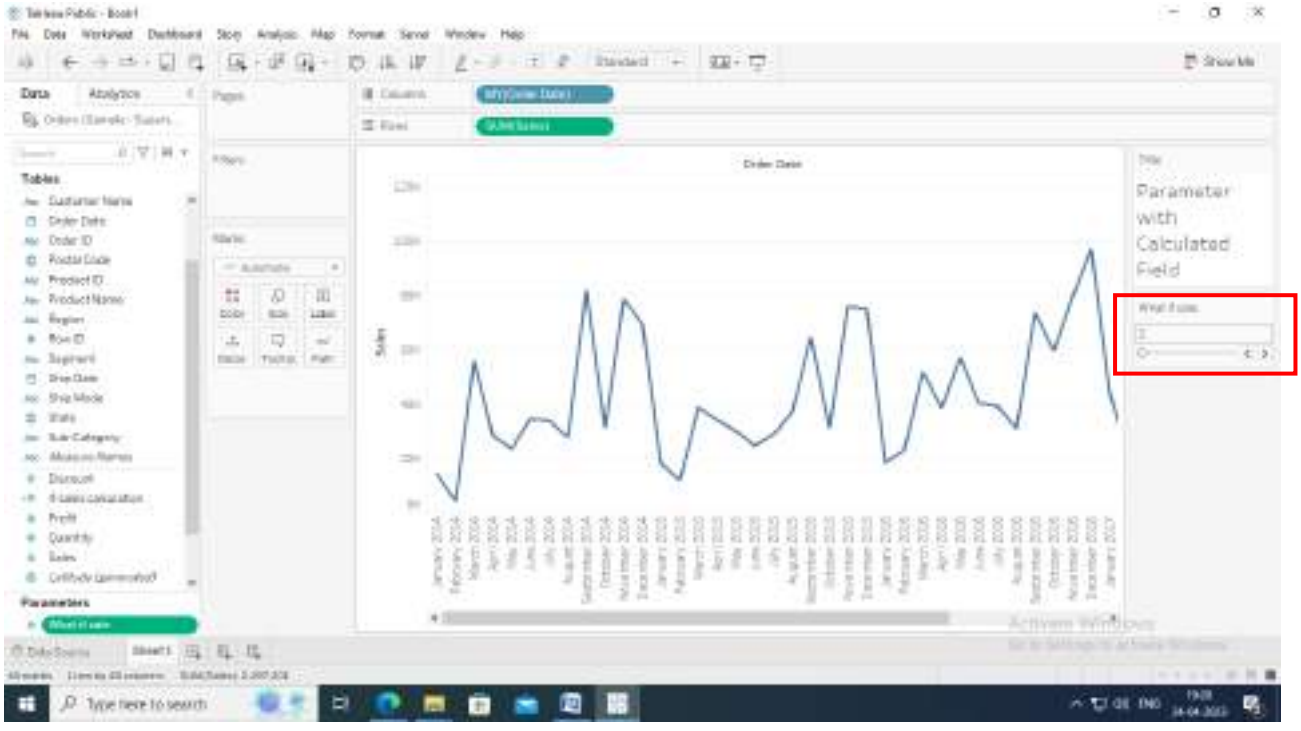
Step 18: Now if-sales calculation appears



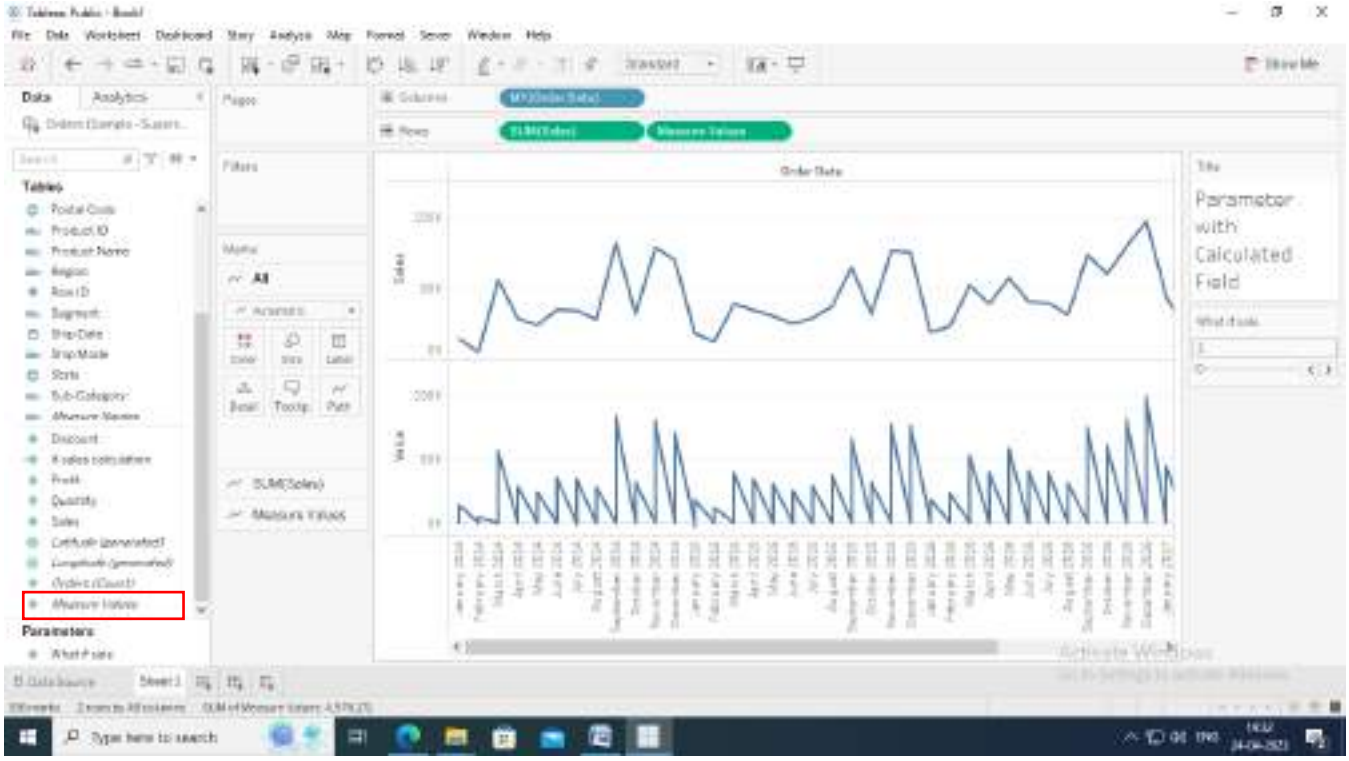
Step 19: Now Go to parameter Shelf ---> Right Click ---> What if sale Parameter --- > Show parameter



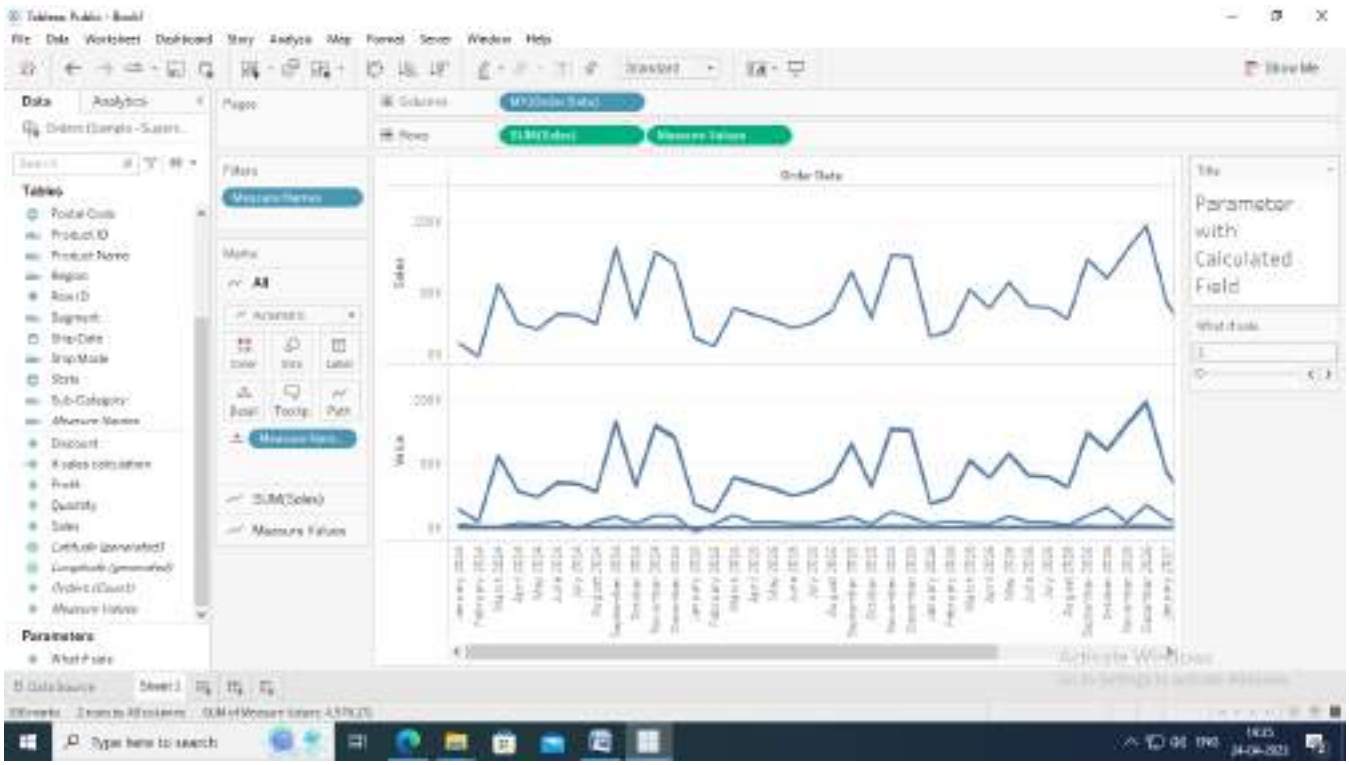
Step 20: Now What if sale appears with rider on top right corner



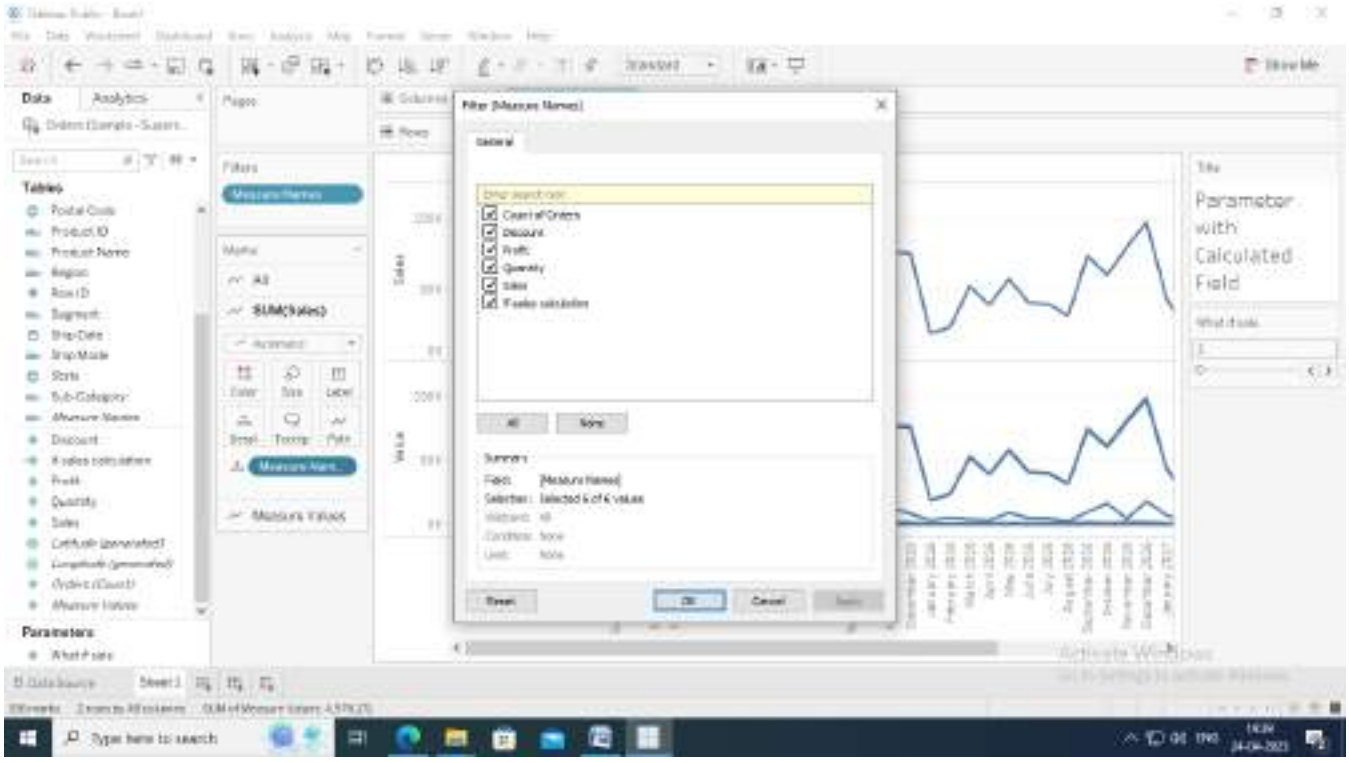
Step 21: Now drag measure Measure Values next to the sales on to the row shelf



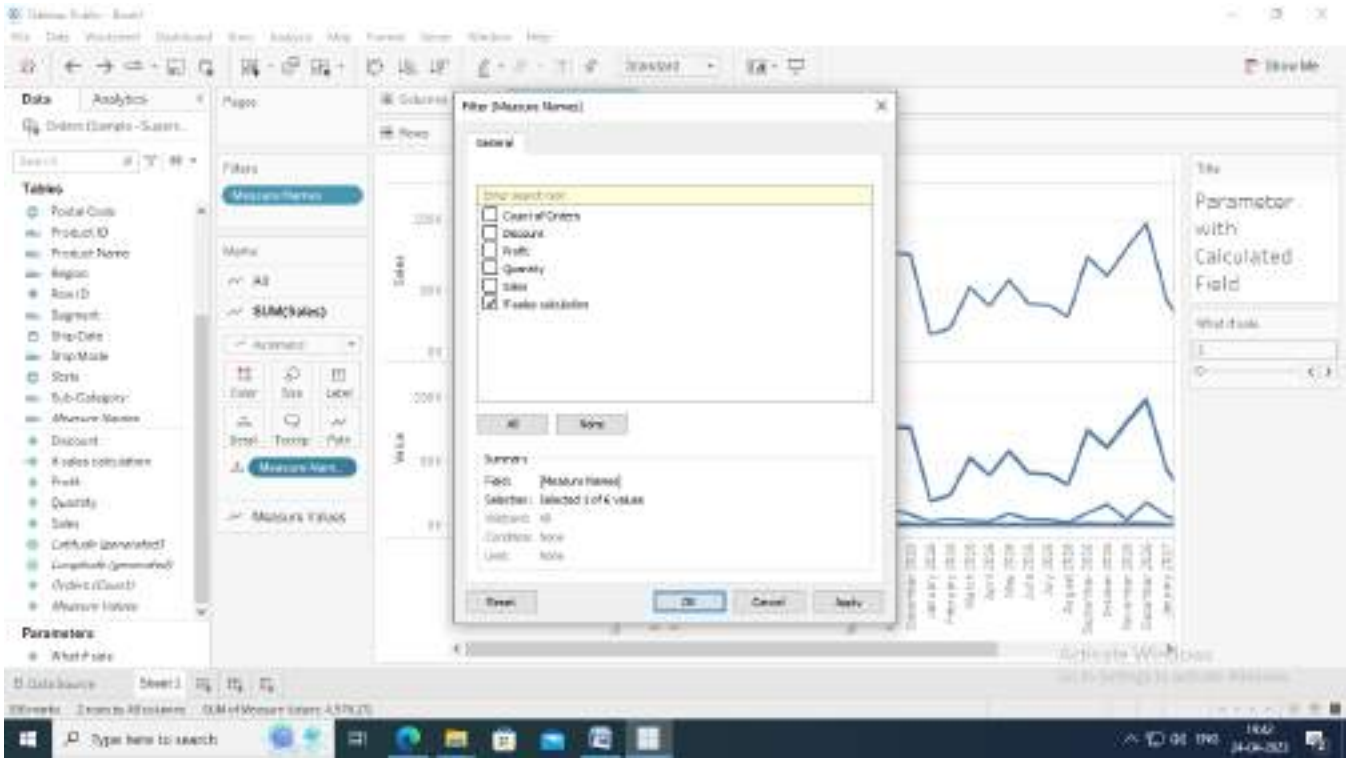
Step 22: Now drag dimension Measure Names to Details of Marks Card

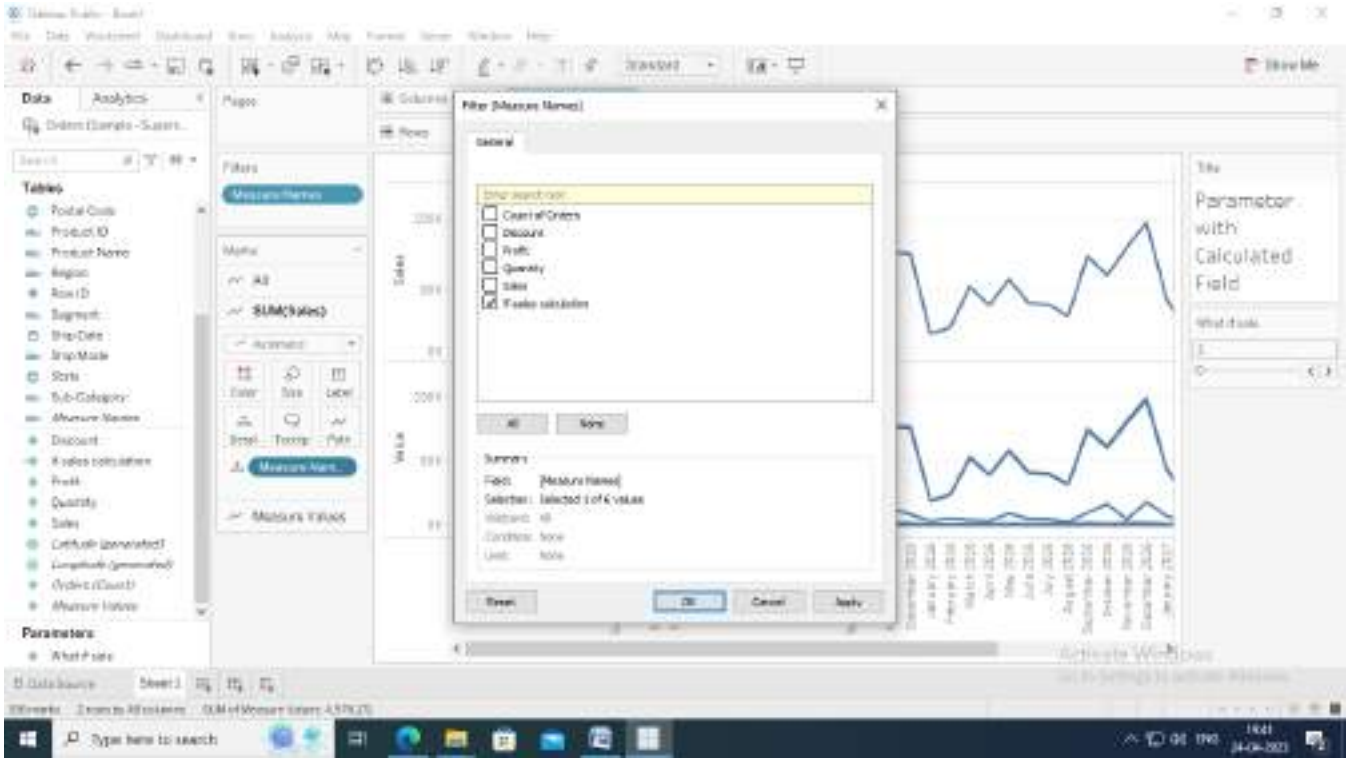


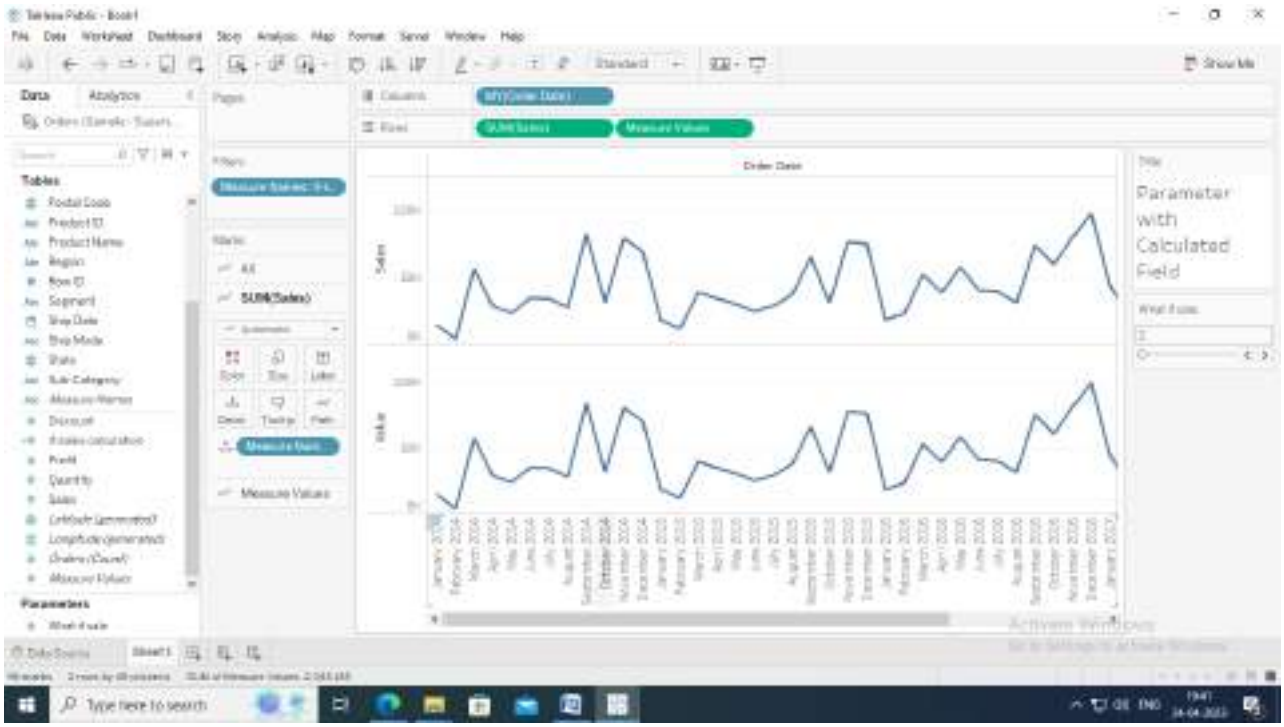
Step 23: Now in marks card, right click on Measure Names ---> edit filter



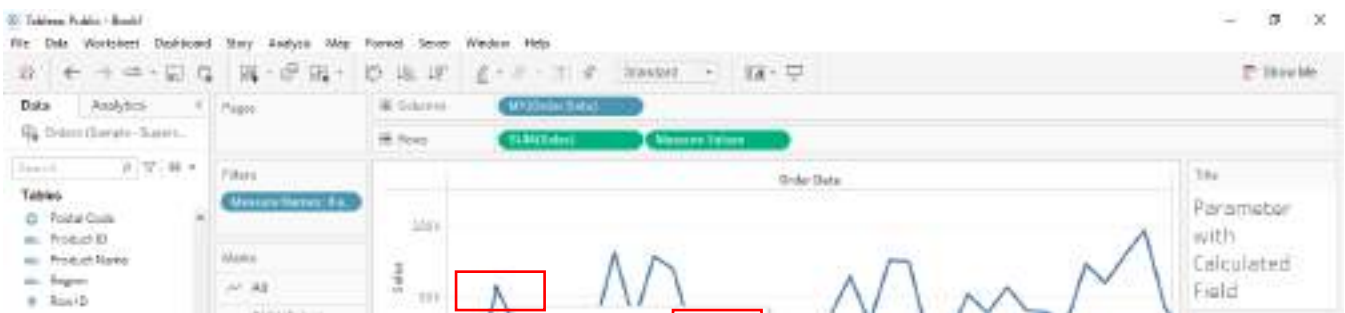
Step 24: Un check all the options in filter menu except if-sale calculation, click on apply & OK

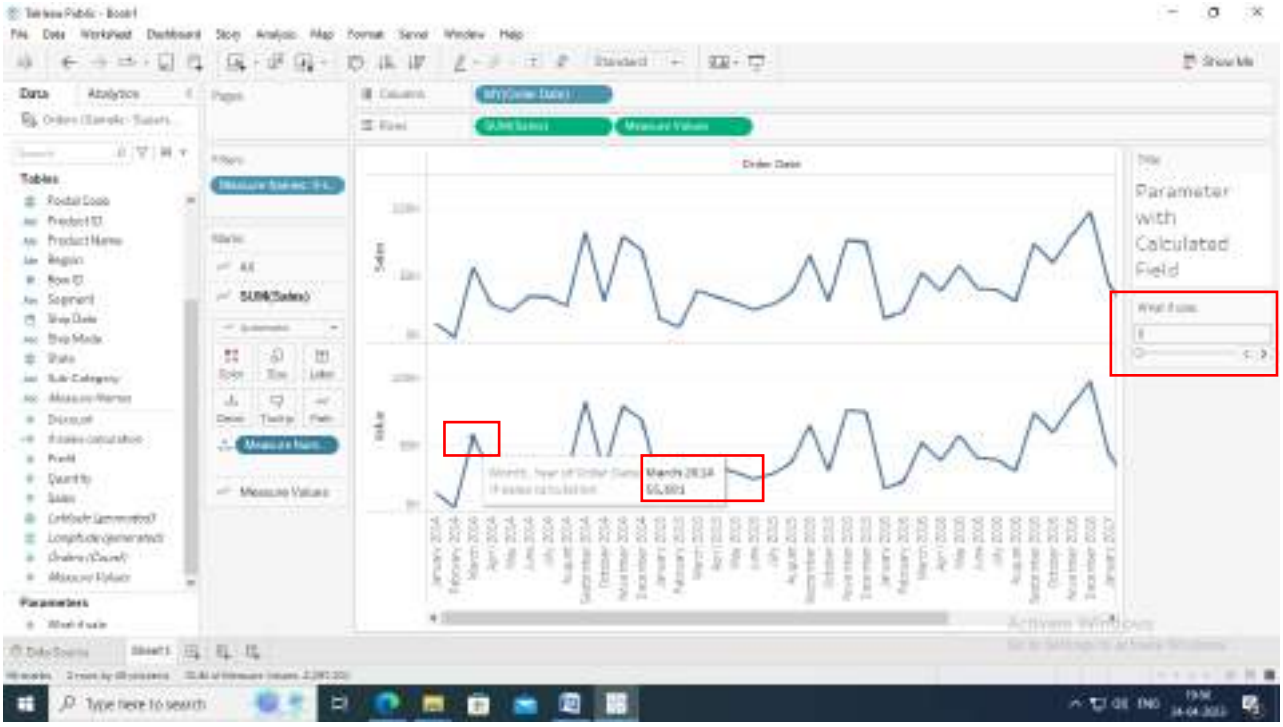

Parameter with Calculated Field





Step 25: Now the value in the Riders set as zero we can observe both sale and projected values are same.



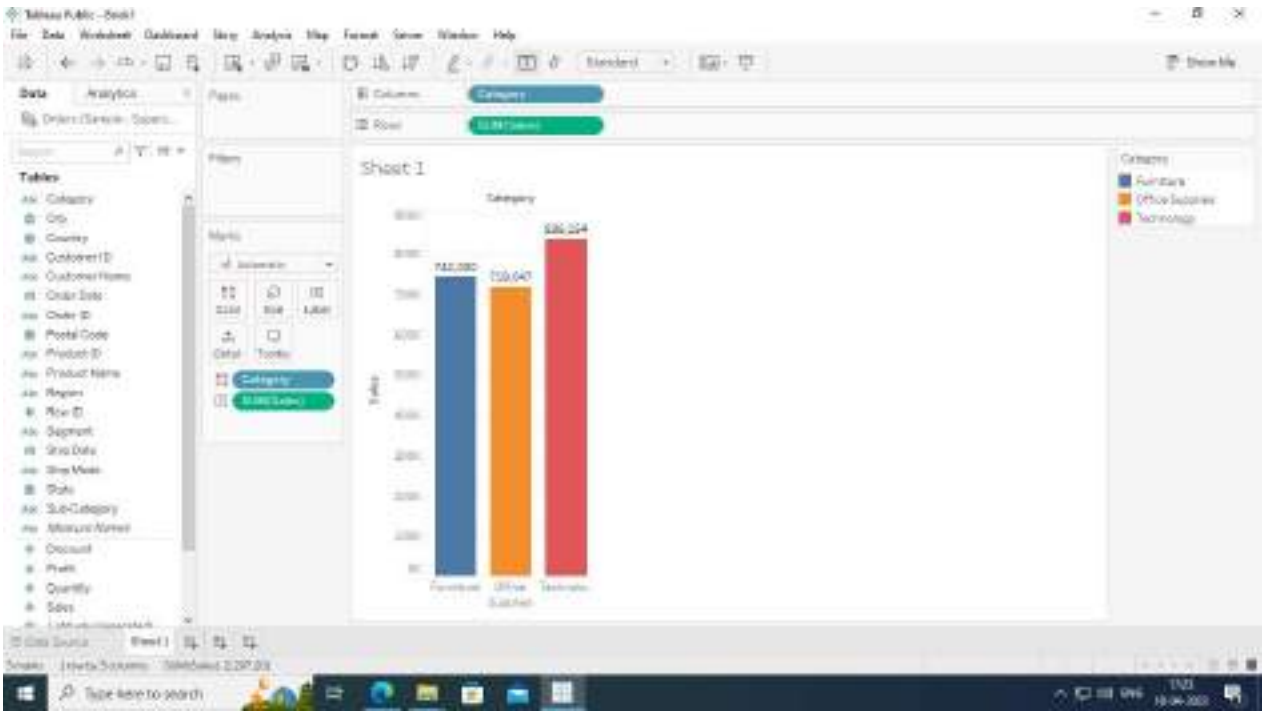


Step 25: Now drag the rider and set the value as 30 we can observe that the plot of sale remains same where as the projected values changes.

TASK 18: CREATING SIMPLE DASH BOARD

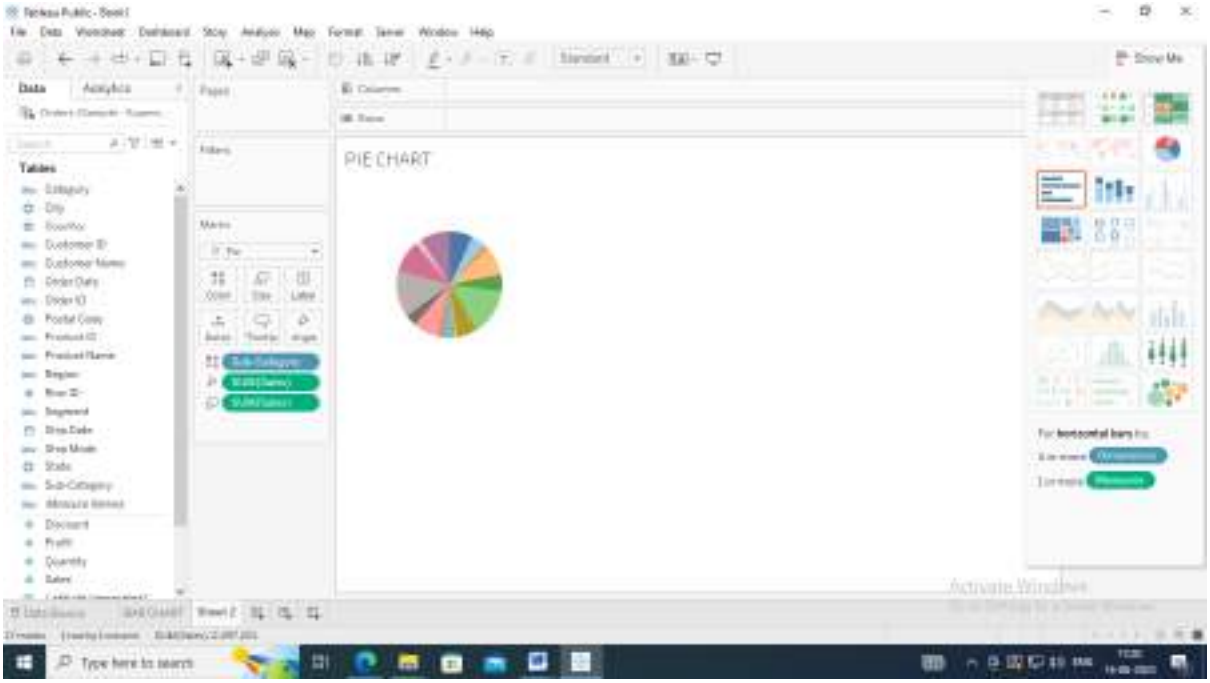
Step1: Create a BAR CHART

- Connect excel sheet **Sample - Super Store** and create the following Bar Chart in Sheet1 and rename it as **BAR CHART**



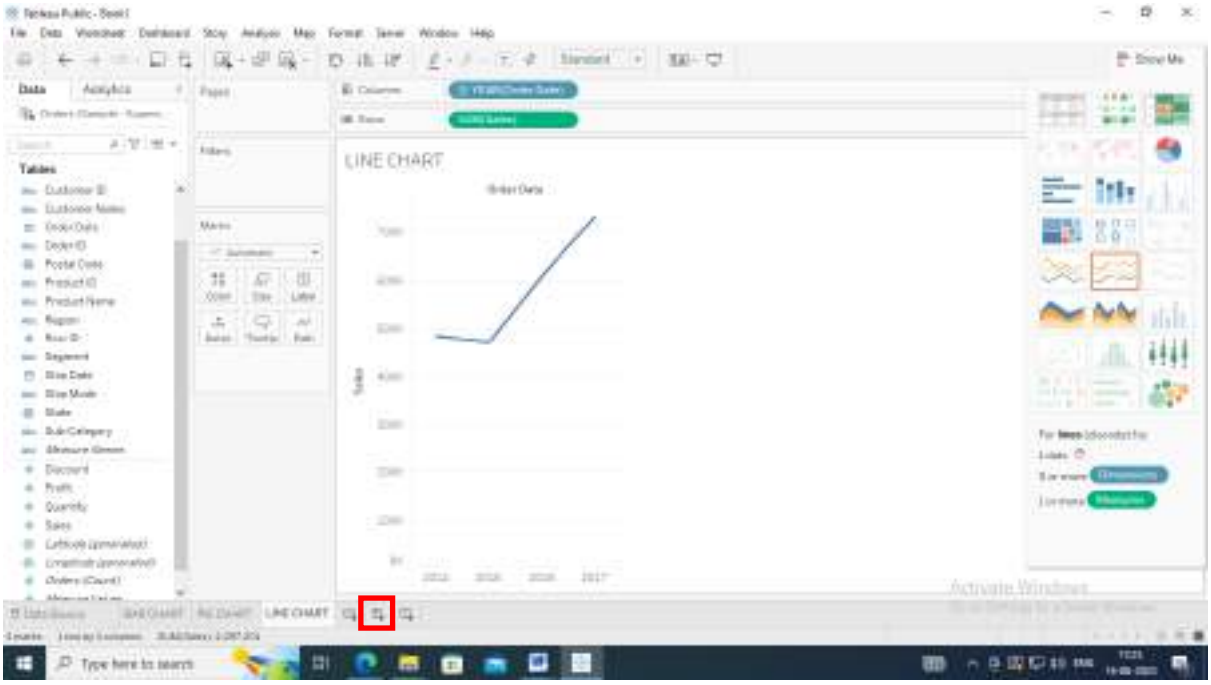
Step2: Create a PIE CHART

- Create the following Pie Chart in Sheet2 and rename it as **PIE CHART**

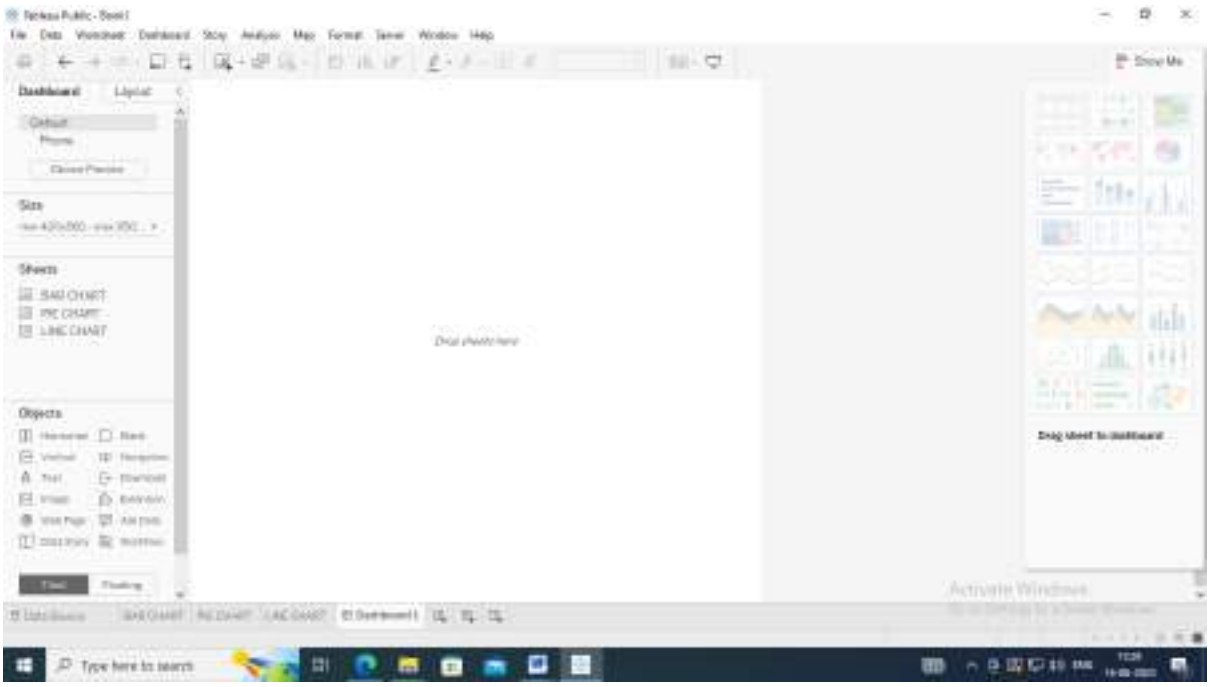


Step 3: Create a LINE CHART

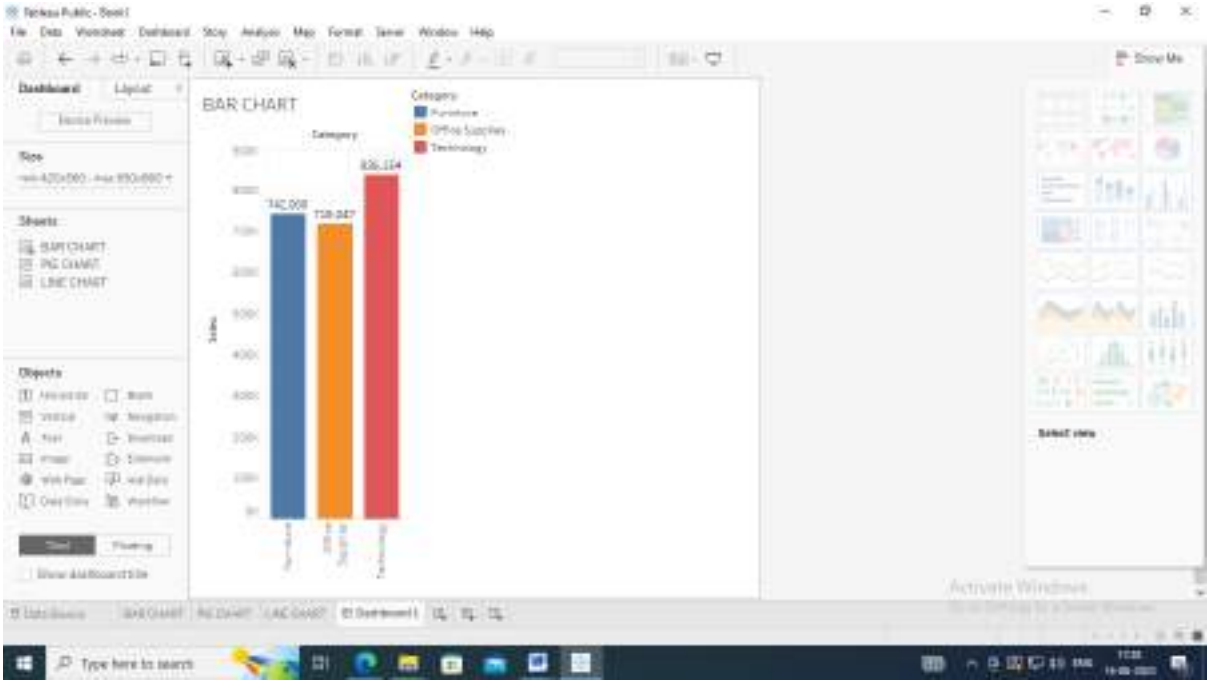
- Create the following Line Chart in Sheet2 and rename it as **LINE CHART**



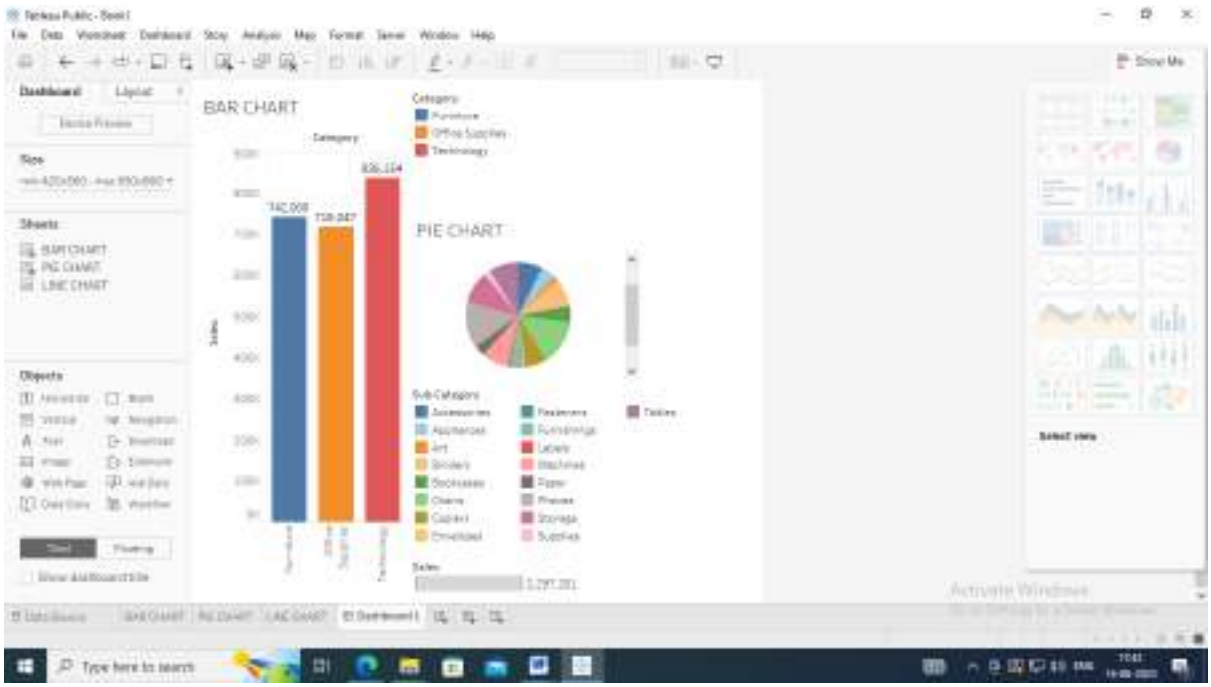
Step 4: Choose the icon DASH BOARD



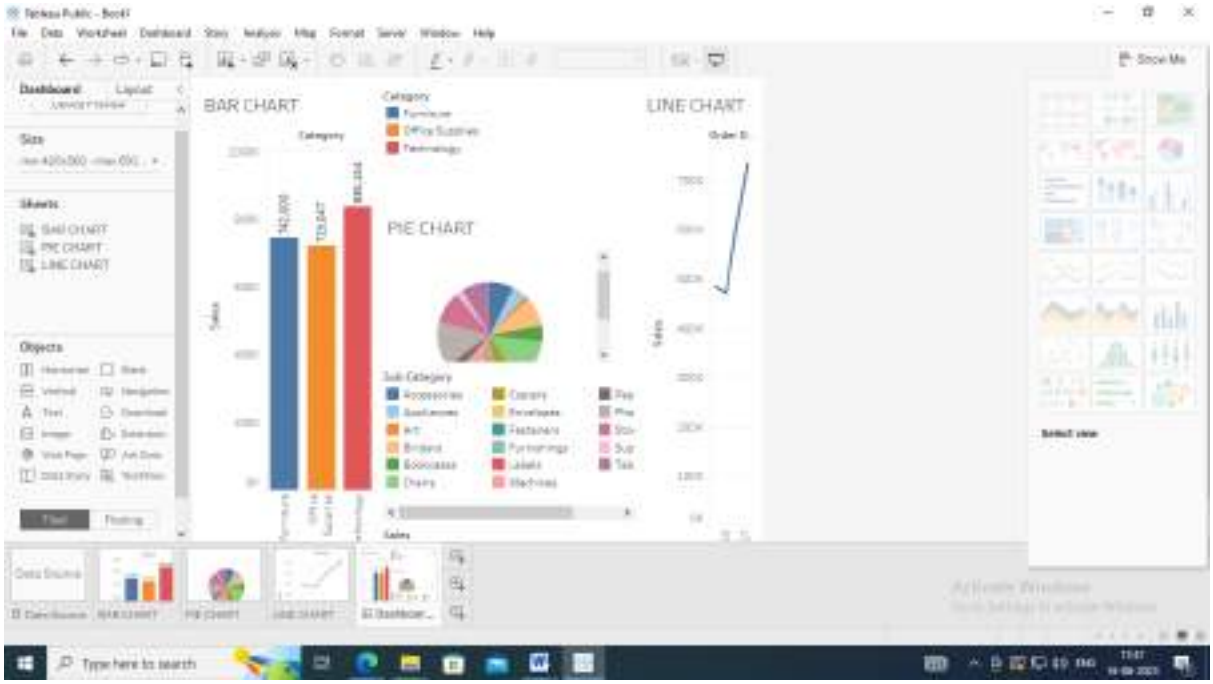
Step 5: Drag BAR CHART on to the canvas



Step 6: Drag PIE CHART on to the canvas



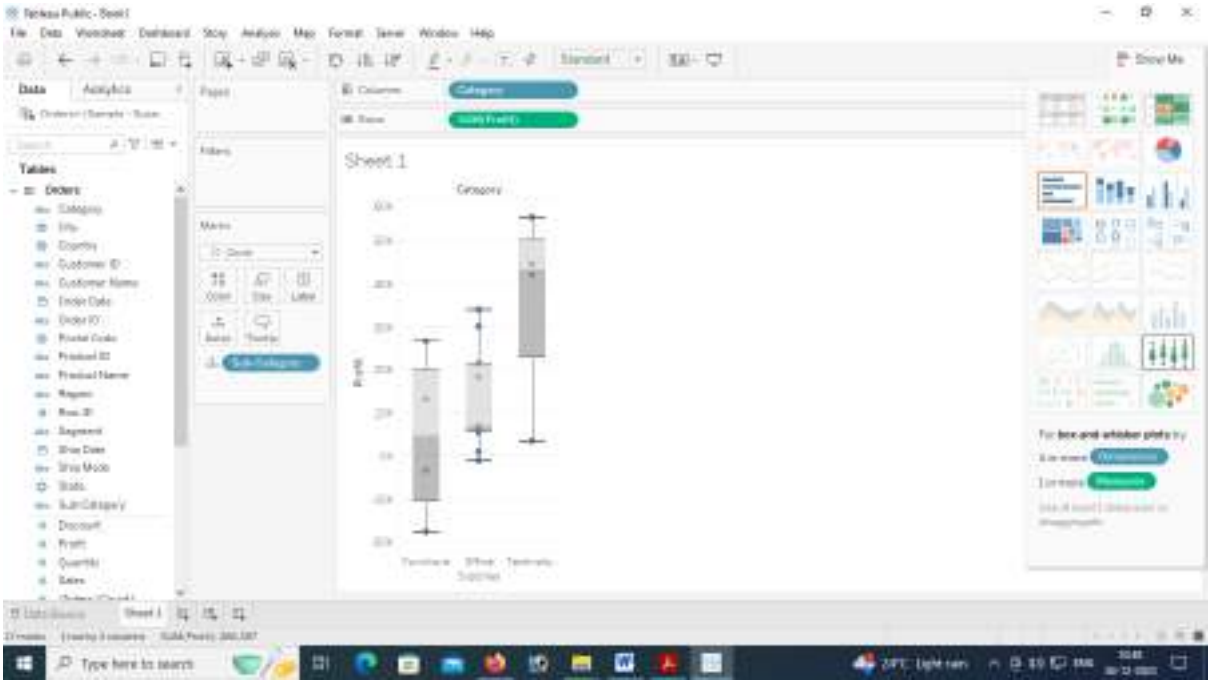
Step 7: Drag LINE CHART on to the canvas



TASK 19: BOX PLOTS

Box and whisker plots, sometimes known as box plots, are a great chart to use when showing the distribution of data points across a selected measure. These charts display ranges within variables measured. This includes the outliers, the median, the mode, and where the majority of the data points lie in the "box".

Step 1: Connect to the Sample - Superstore data source.
Step 2: Drag the dimension Category to Columns.
Step 3: Drag the Measure Profit to Rows.
Step 4: Drag the Measure Sub-Category on to the Marks Card.
Step 5: In Show Me Show Me choose the option box-and-whisker plats

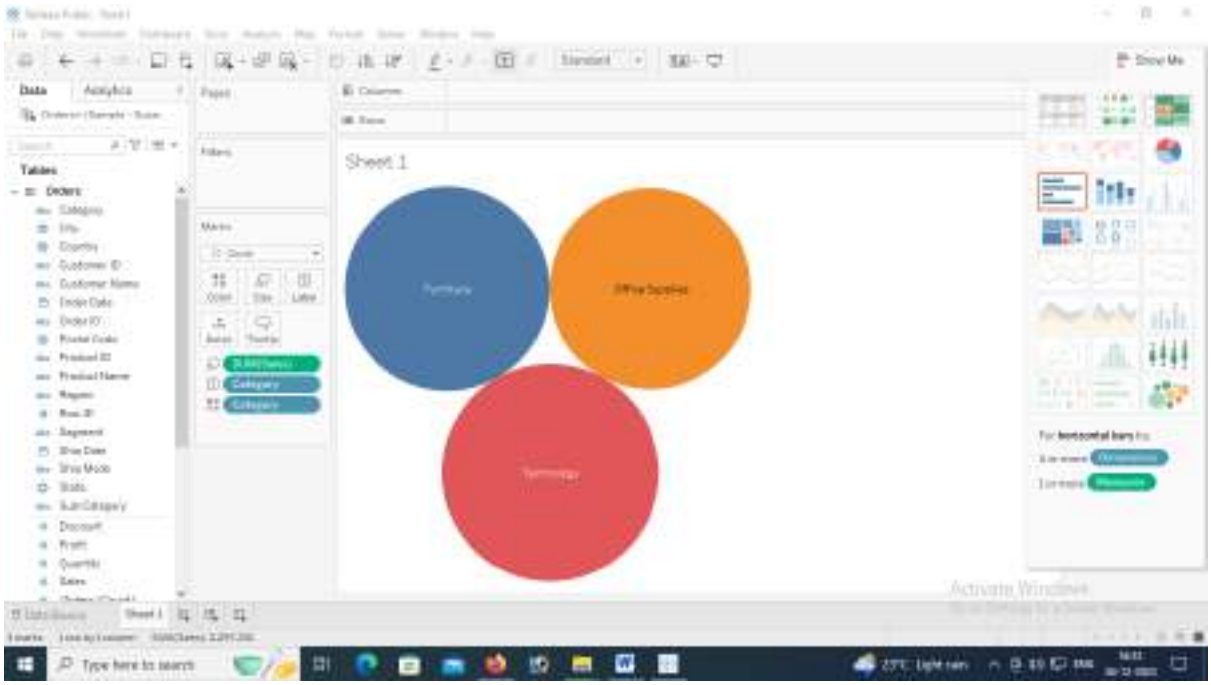


TASK 20: BUBBLE CHART

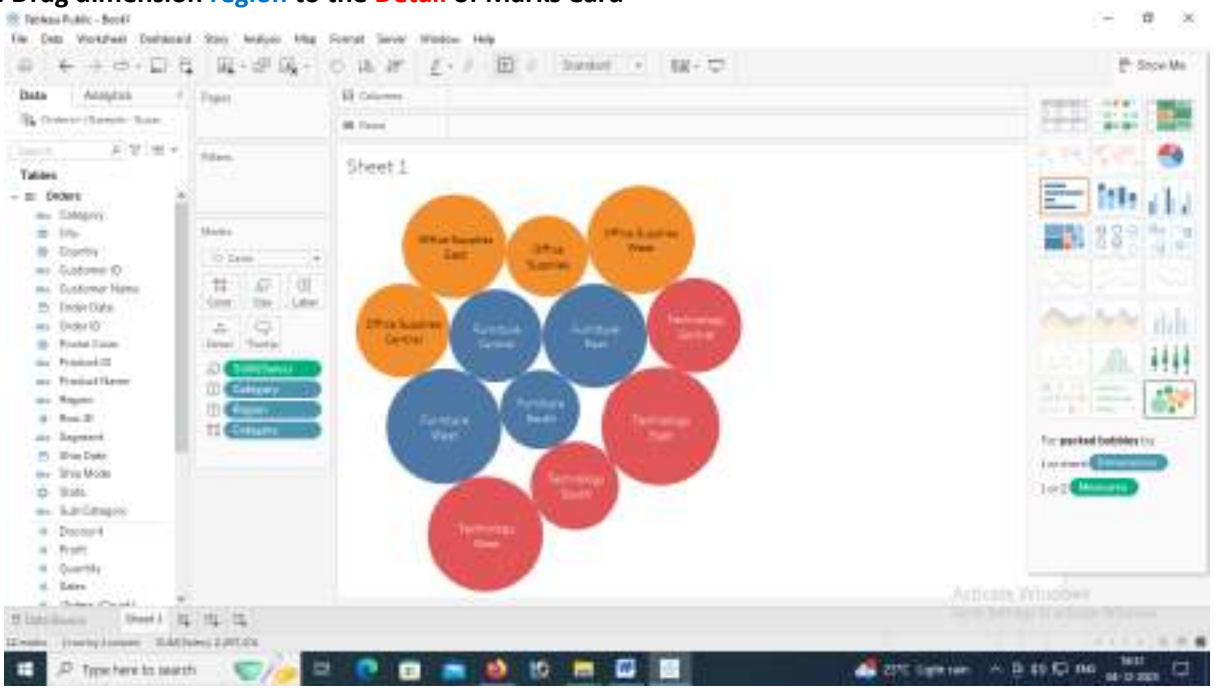
A Bubble chart is a visualization that can be useful in showing high-level comparisons between members of a field.

Step1: Connect to the Sample - Superstore data source.
Step 2: Drag the dimension Category to Columns.
Step 3: Drag the measure Sales to Rows.

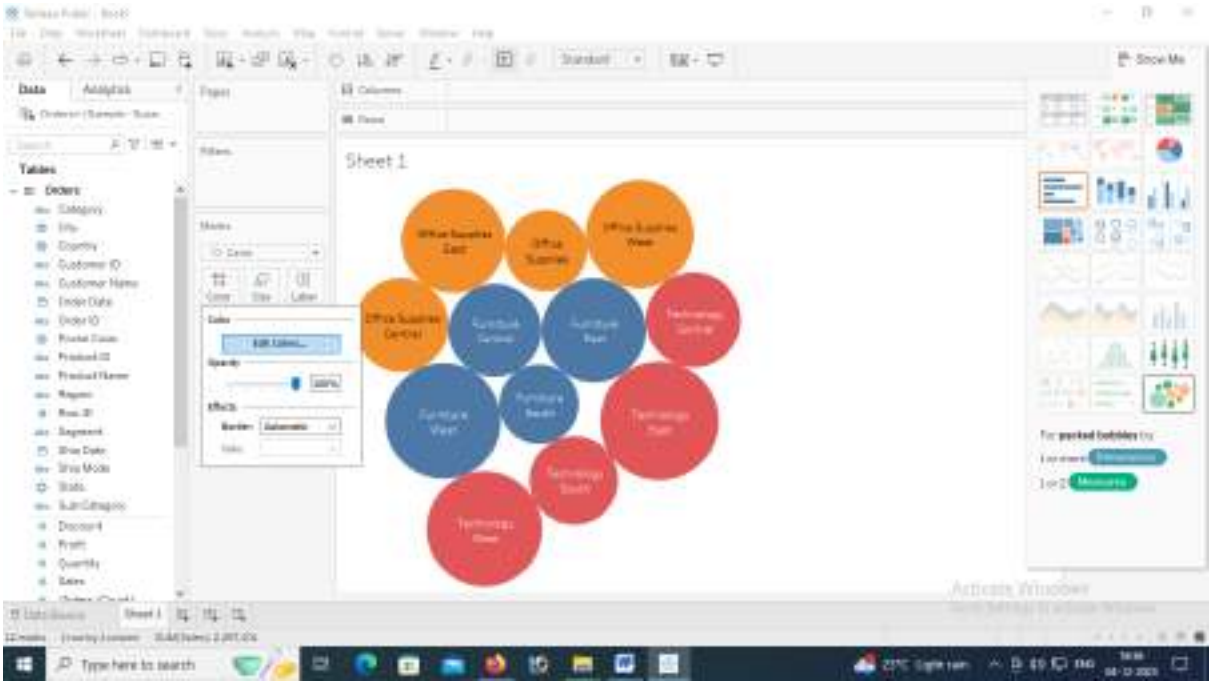
Step 4: Go to Show me select choose the option packed bubble



Step 5: Drag dimension region to the Detail of Marks Card



Step 6: Go to Show me select choose the option packed bubble.
Step 7: Your edit color of packed bubble by editing Color of Marks Card.



TASK 21: SCATTER PLOT

A scatter plot displays data points on a chart at the point at which two measures intersect. Scatter plots make it easy to analyze the relationship between two numbers, as they display all data points in the same view.

Step 1: Connect to the Sample - Superstore data source.

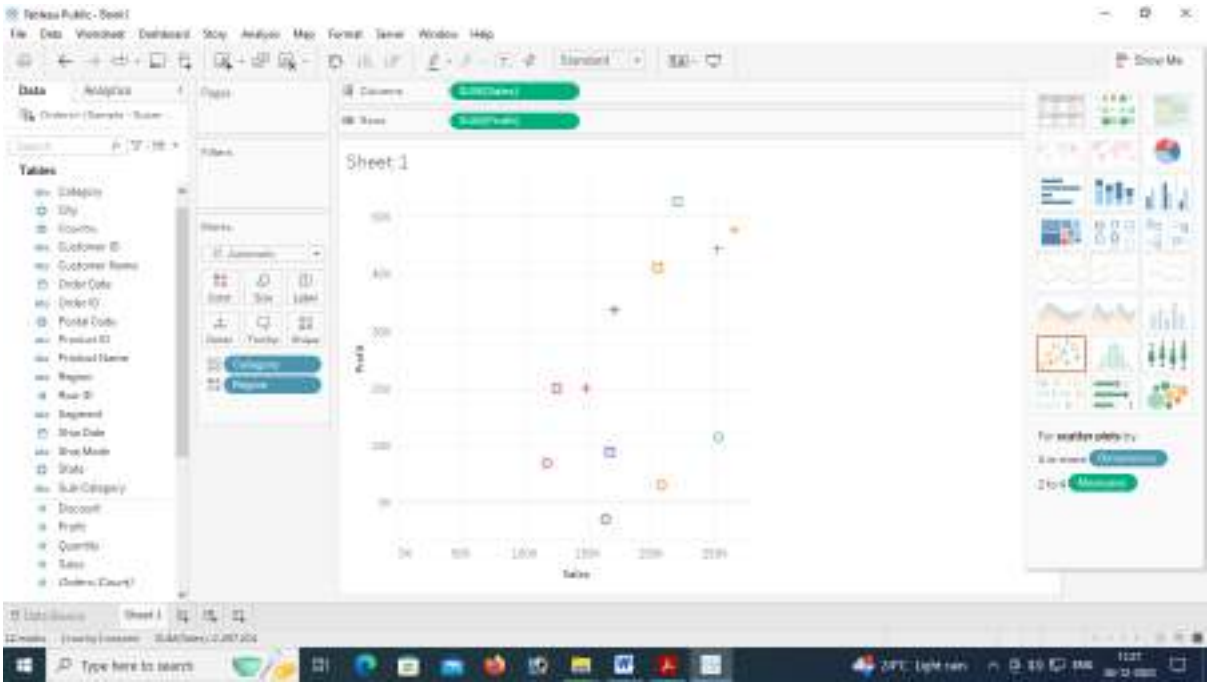
Step 2: Drag the measure Sales to Columns.

Step 2: Drag the measure Profit to Columns.

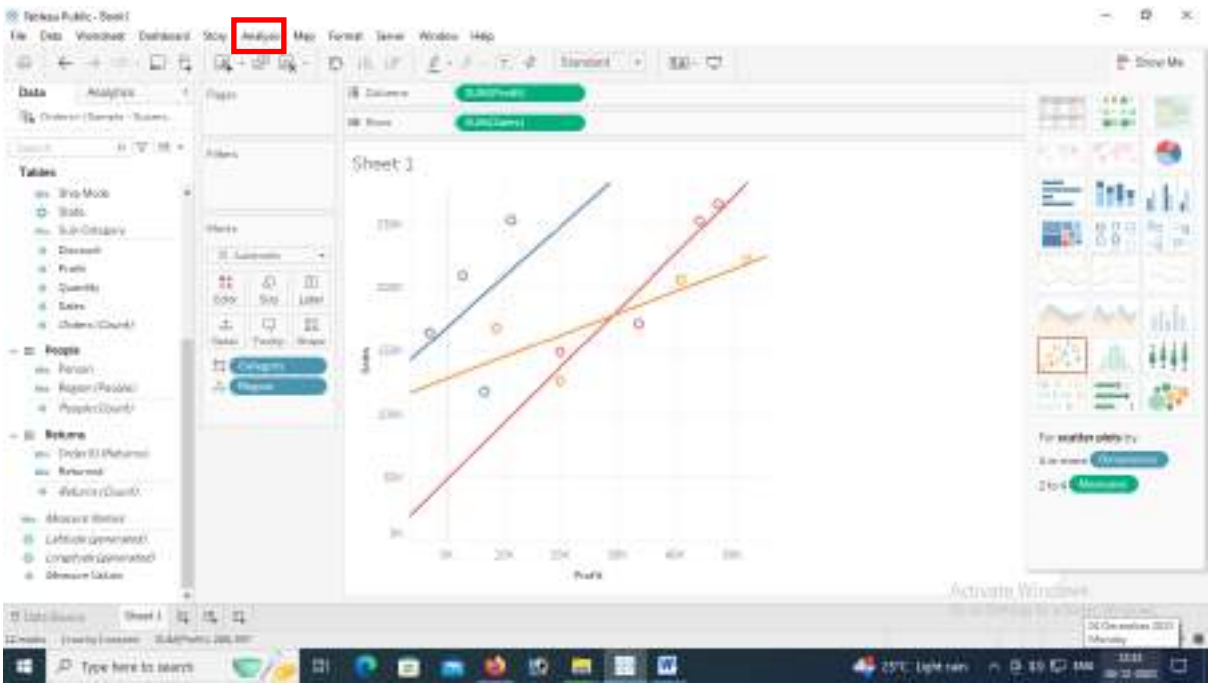
Step 3: Drag the dimension Category to Color of Marks Card.

Step 4: Drag the dimension Region to Detail of Marks Card.

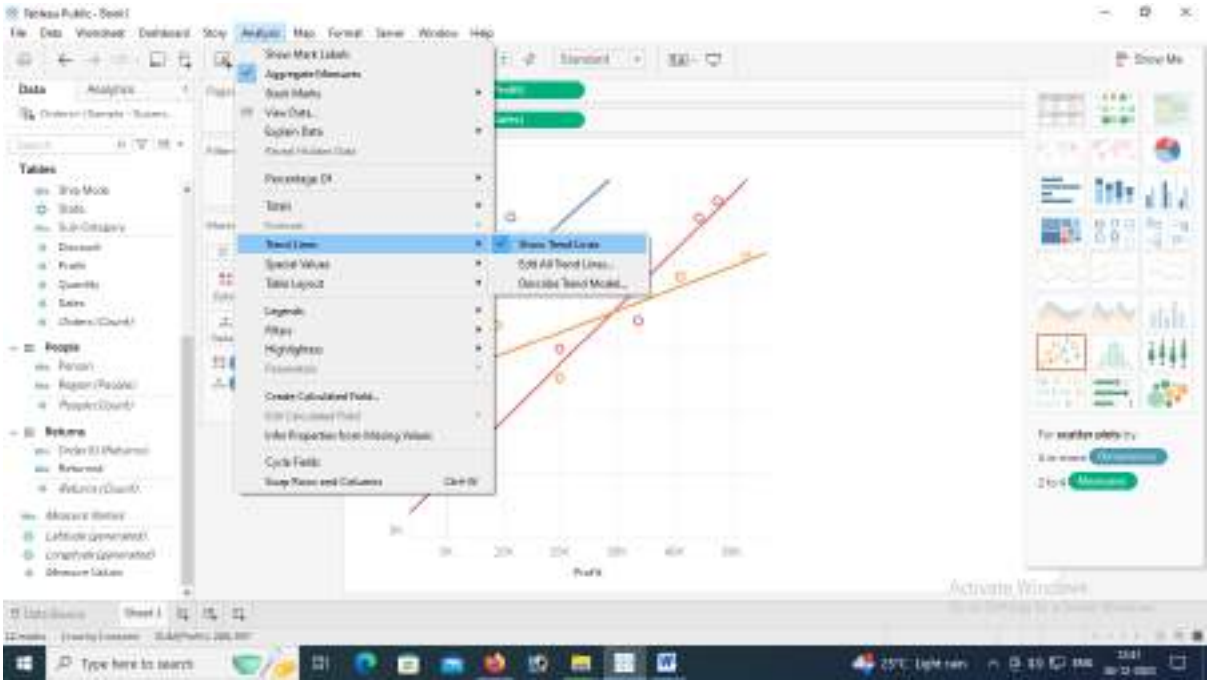
Step 5: In Show Me Show Me choose the option scatter plots.



Step 6: From the Menu Bar choose the option Analysis.



Step 7: Choose the option Trend Line from that chose option Show Trend Lines.



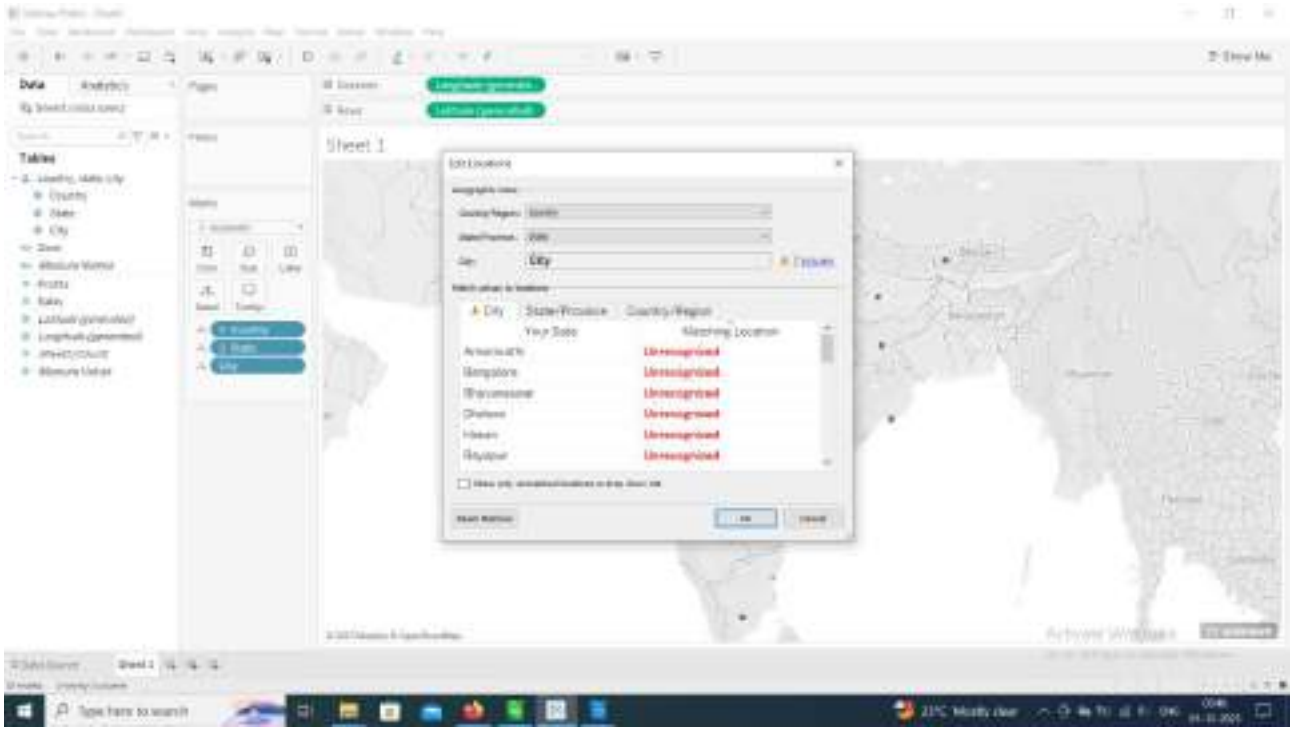
TASK 22: CUSTOM GEOTAGGING

- In earlier task of geographic hierarchy we observed that there are some anamolies in names of cities
- let us assume that new cities like Amaravathi in AndhraPradesh, Dholera in Gujarat these are under construction. Where as city rayapur (we spelt), it was raipur new capital built for Chattisgarh.

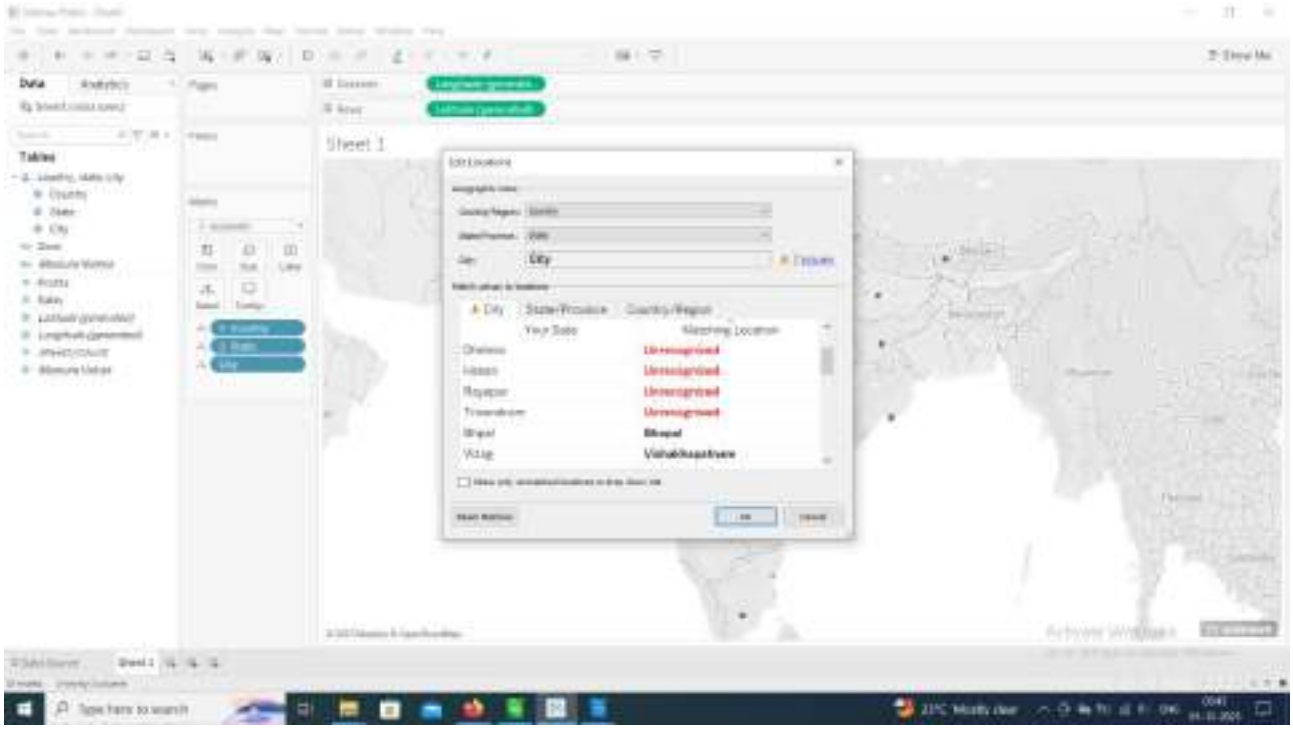
- We need to add these to maps we need to opt for custom Geocoding by giving both latitude and longitude coordinates of that place.

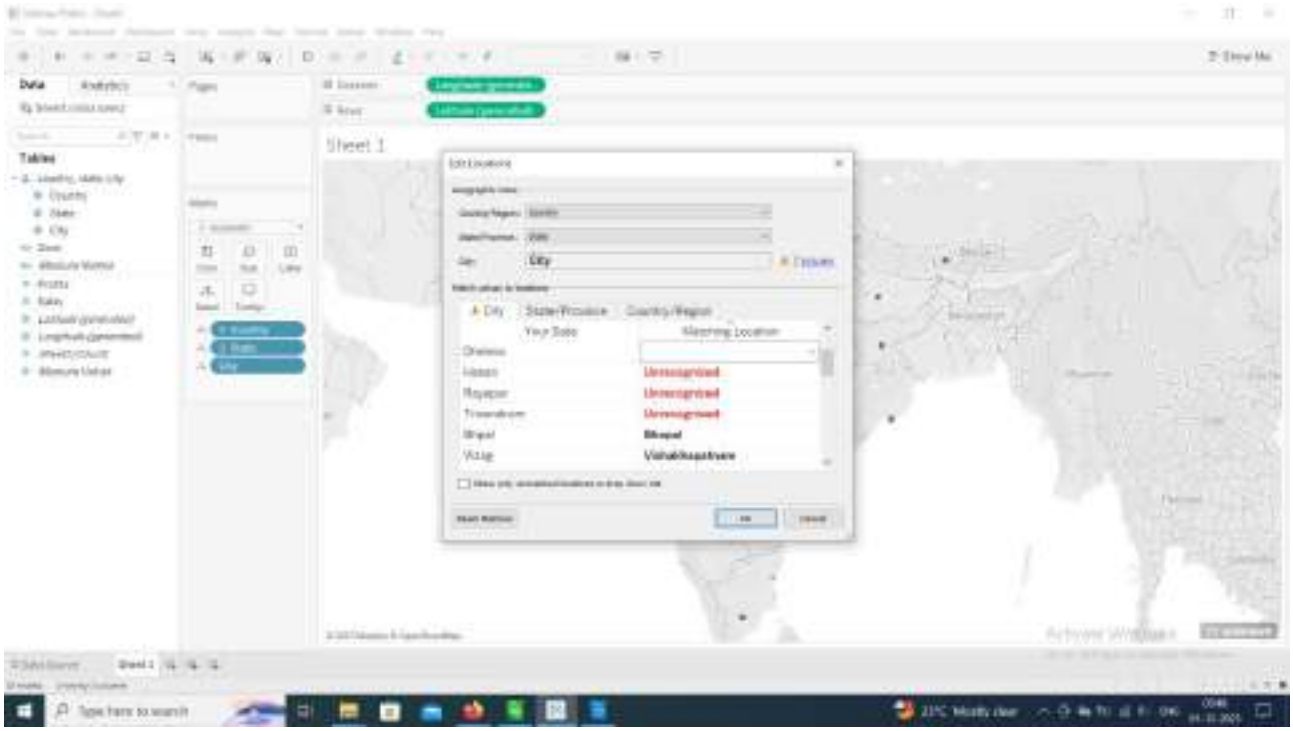
- We first try with Dholera, new smart city in Gujarat state

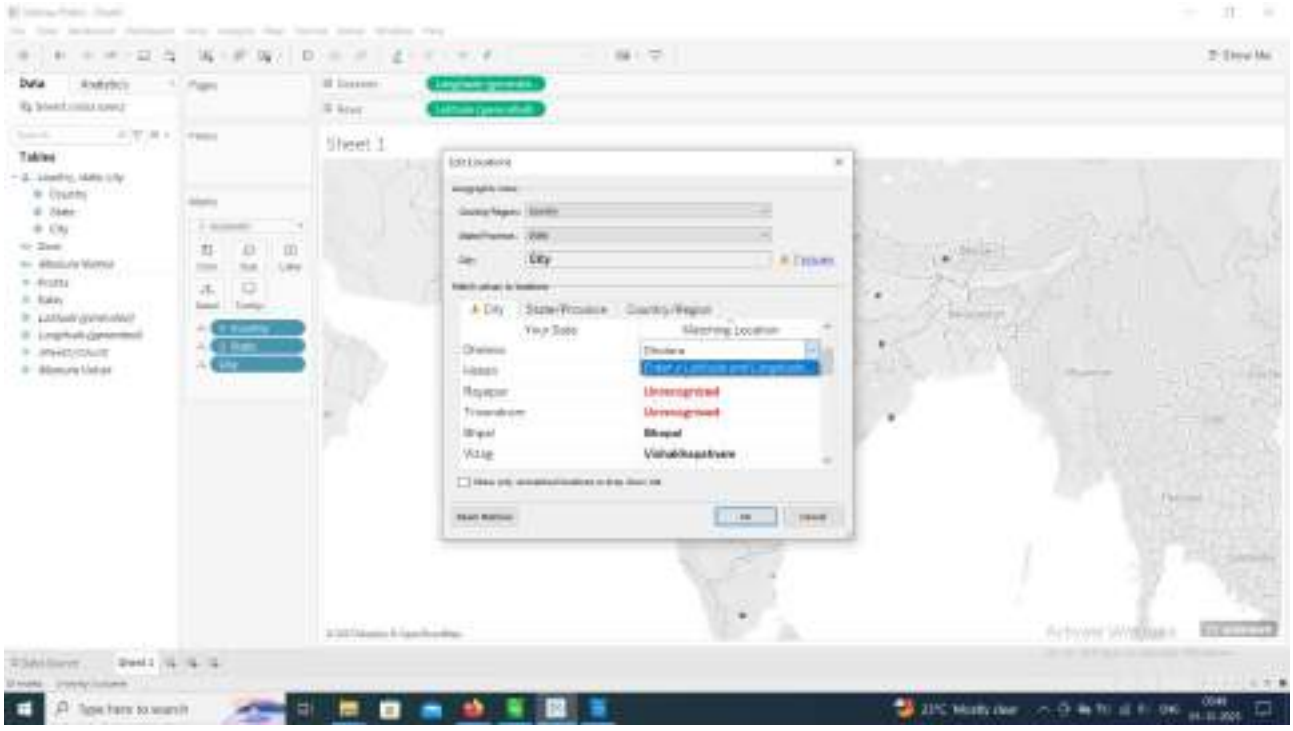
- We start from the stage we left for previous task



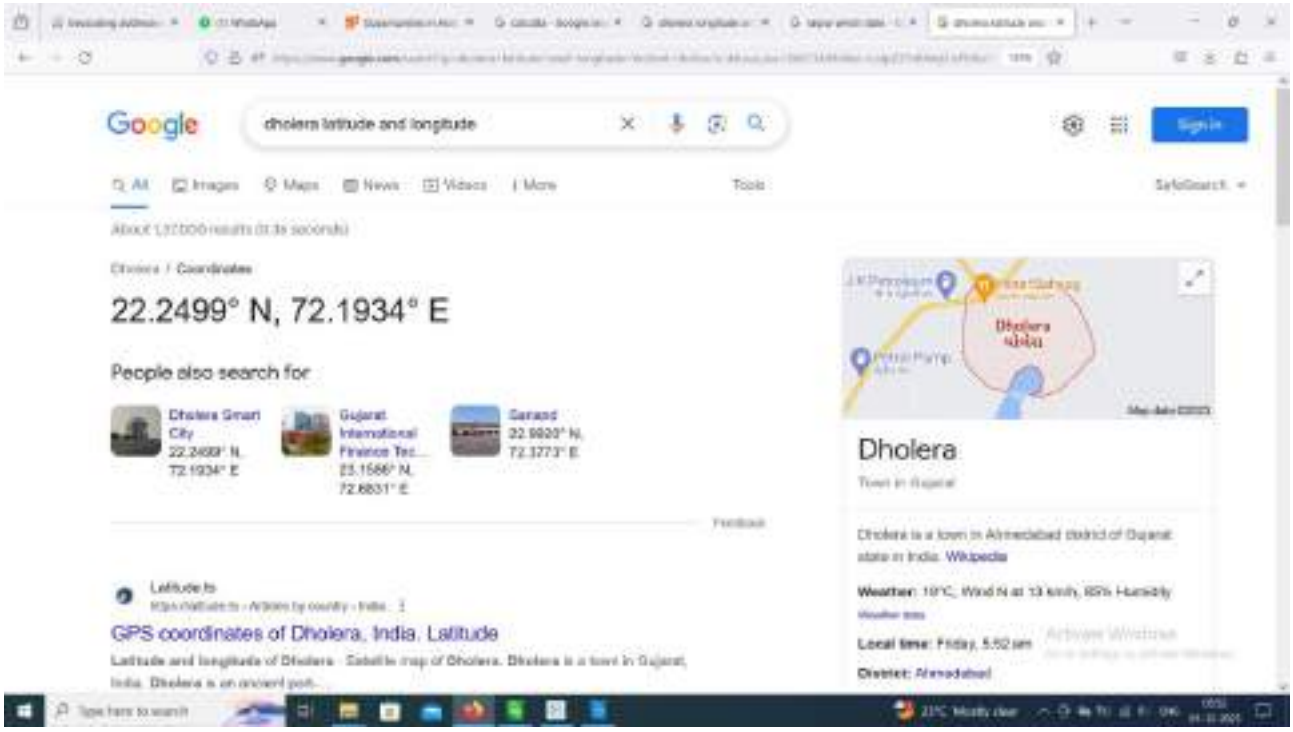
Now go to city Dholera



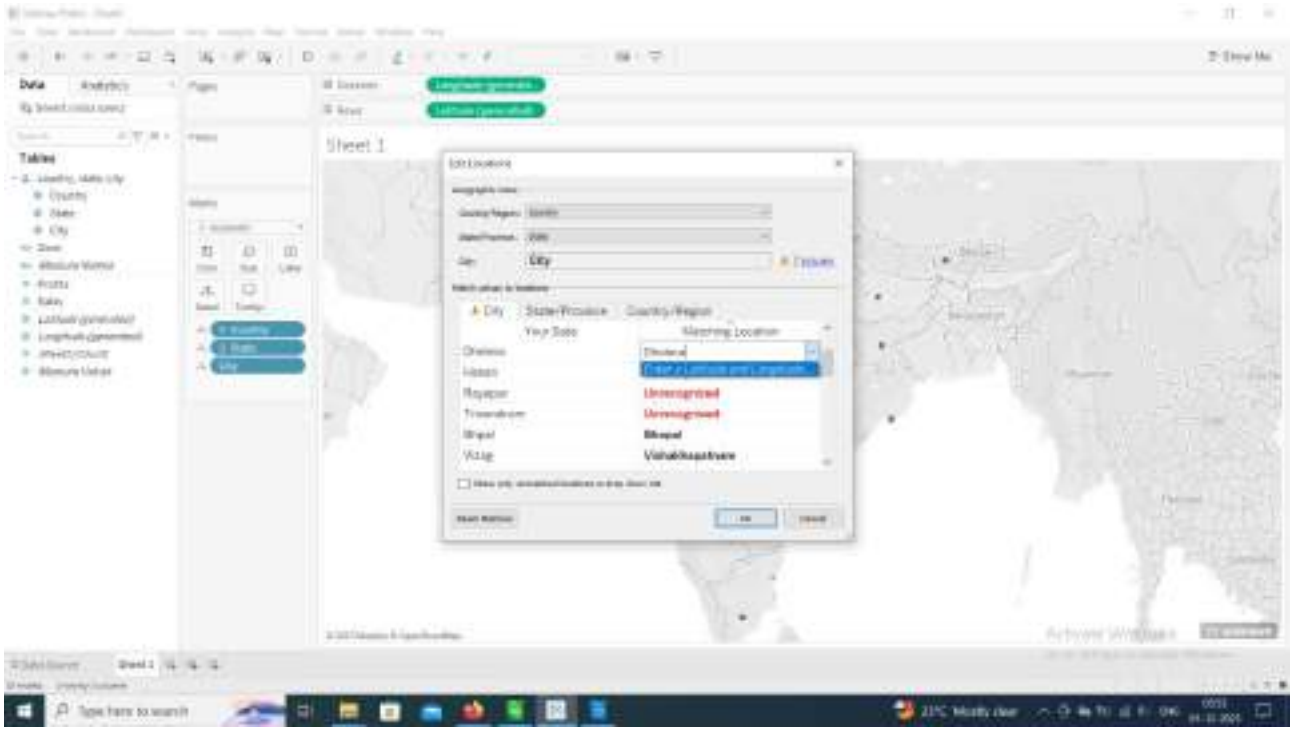

Sheet 1
City
Unrecognised
Unrecognised
Unrecognised
Bhopal
Vishakhapatnam


Sheet 1
City
Unrecognised
Unrecognised
Bhopal
Vishakhapatnam

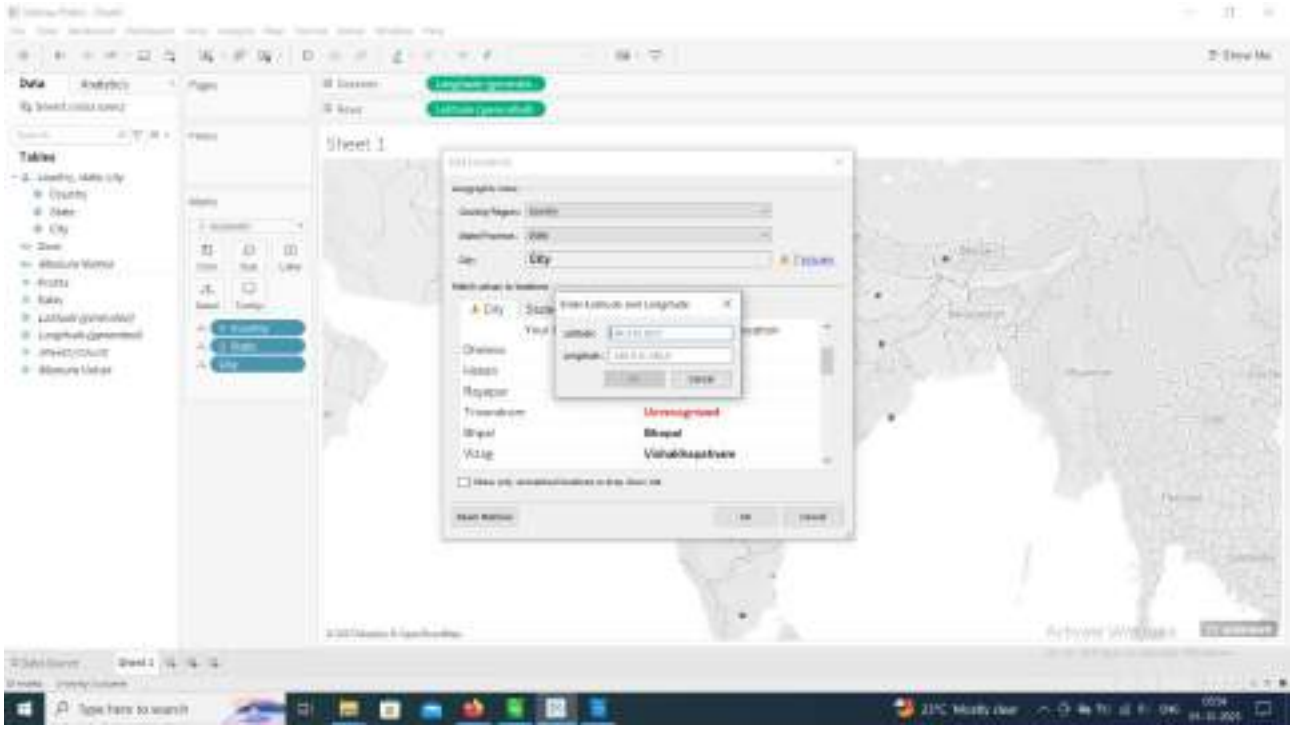
- Even if we give Dholera in specified column it is not recognizing, as it was not updated in maps
- We can observe that enter latitude and latitude, Now we need the latitude and longitude of Dholera of Gujarat state by surfing the internet.
- With keywords: dholera latitude and longitude coordinates



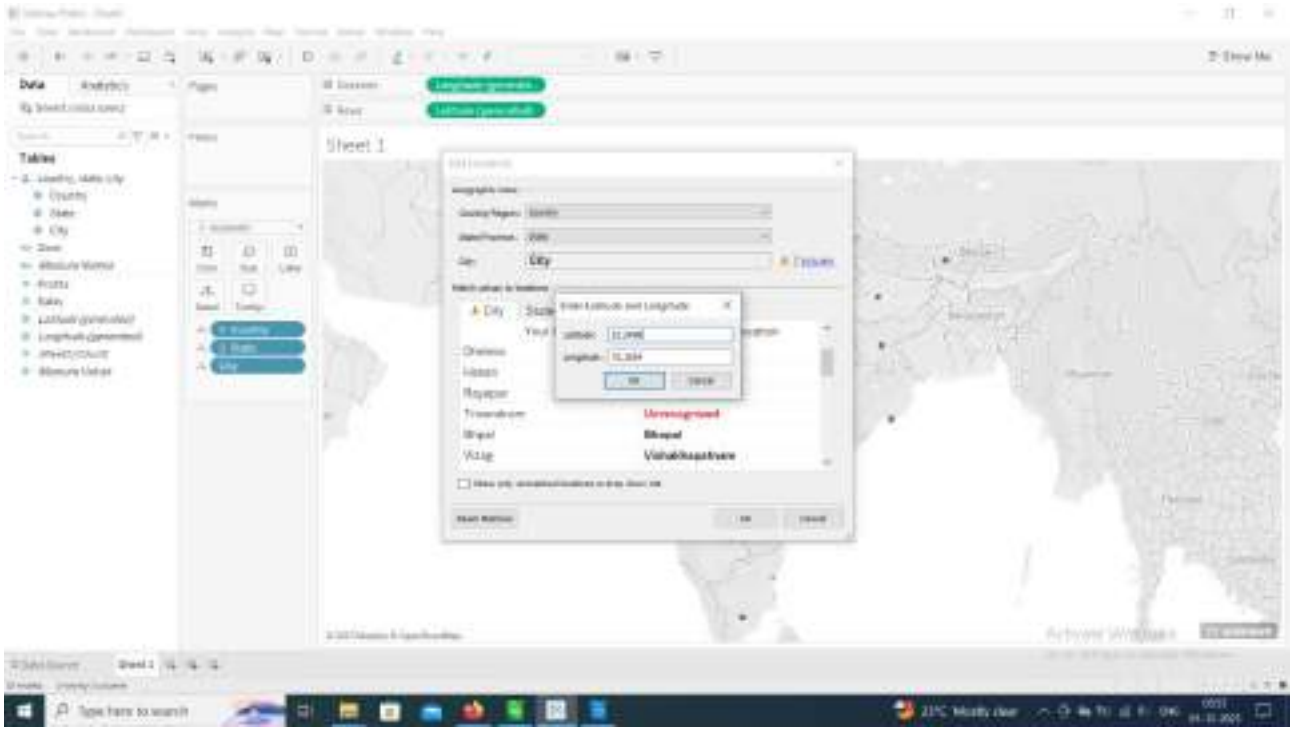
Dholera/Coordinates
22.2499° N, 72.1934° E



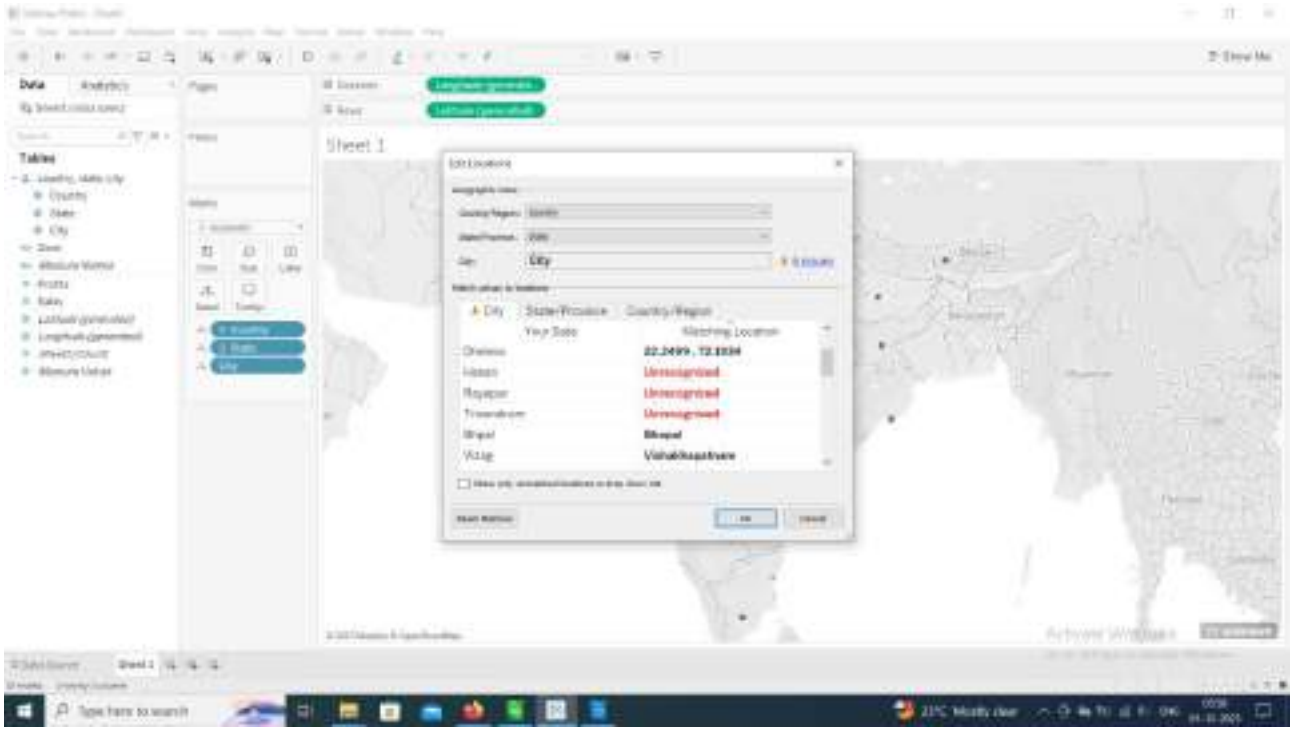
Now click on enter latitude and longitude



Now enter latitude as 22.2499 and longitude as 72.1934

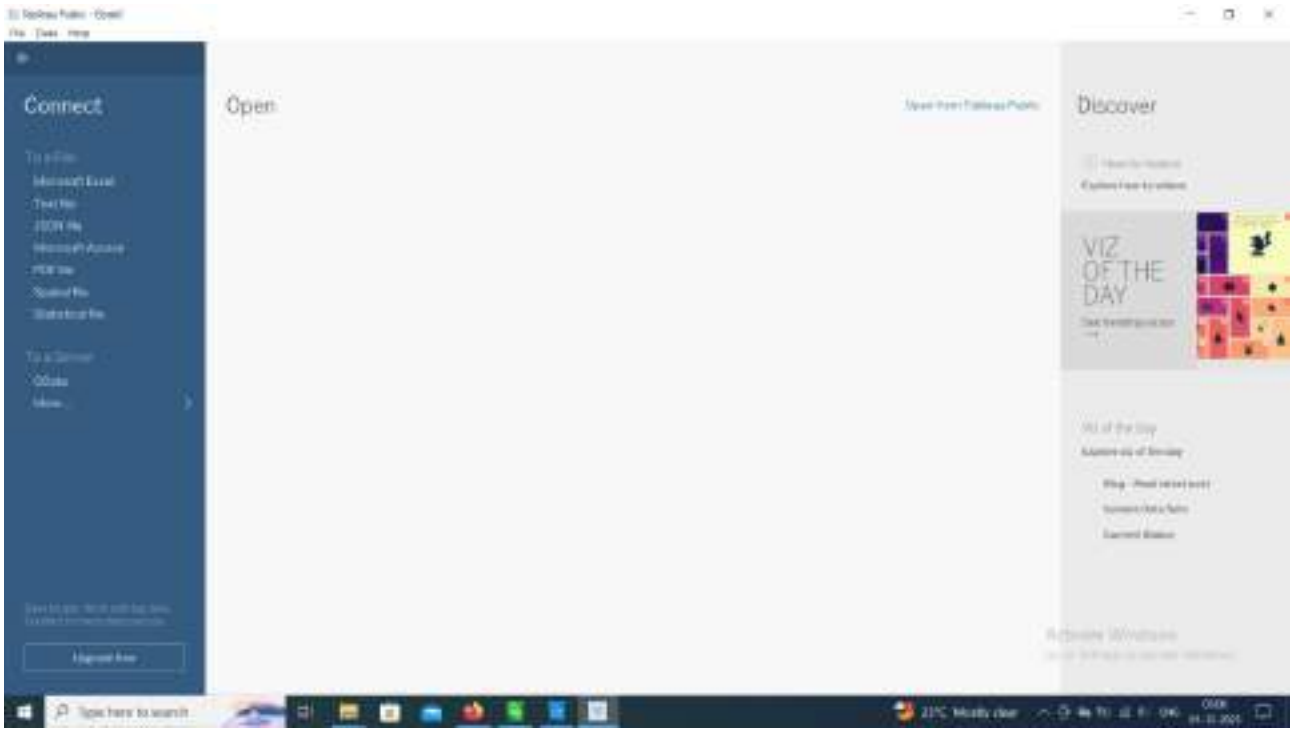


Now click on ok

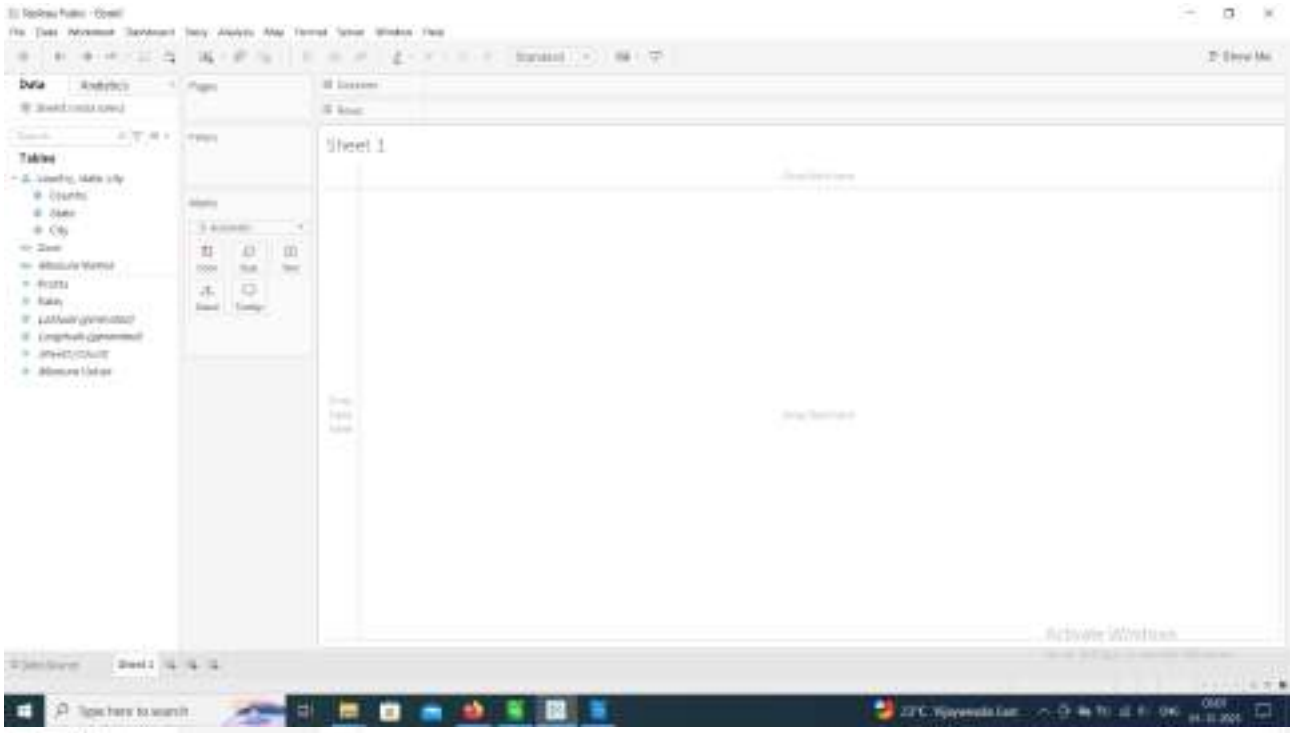


TASK 23: GEOGRAPHICAL AMBIGUITY

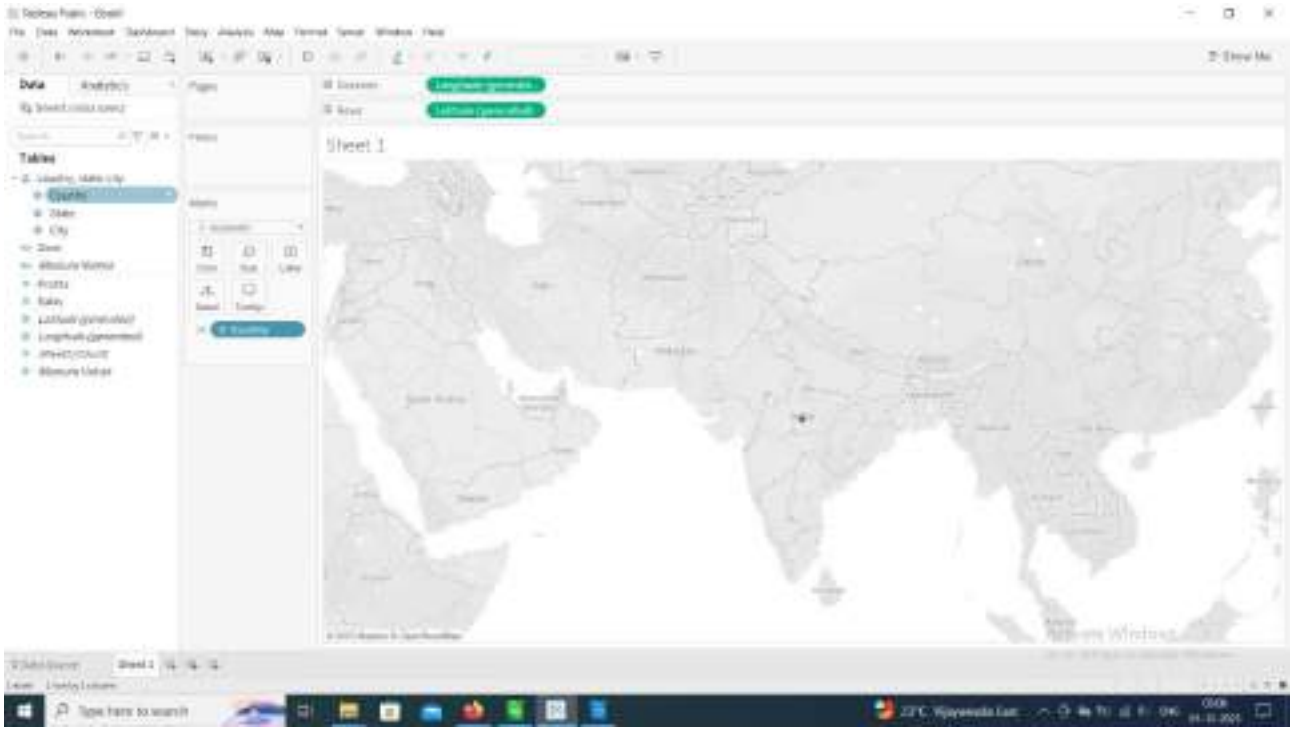
Launch tableau public



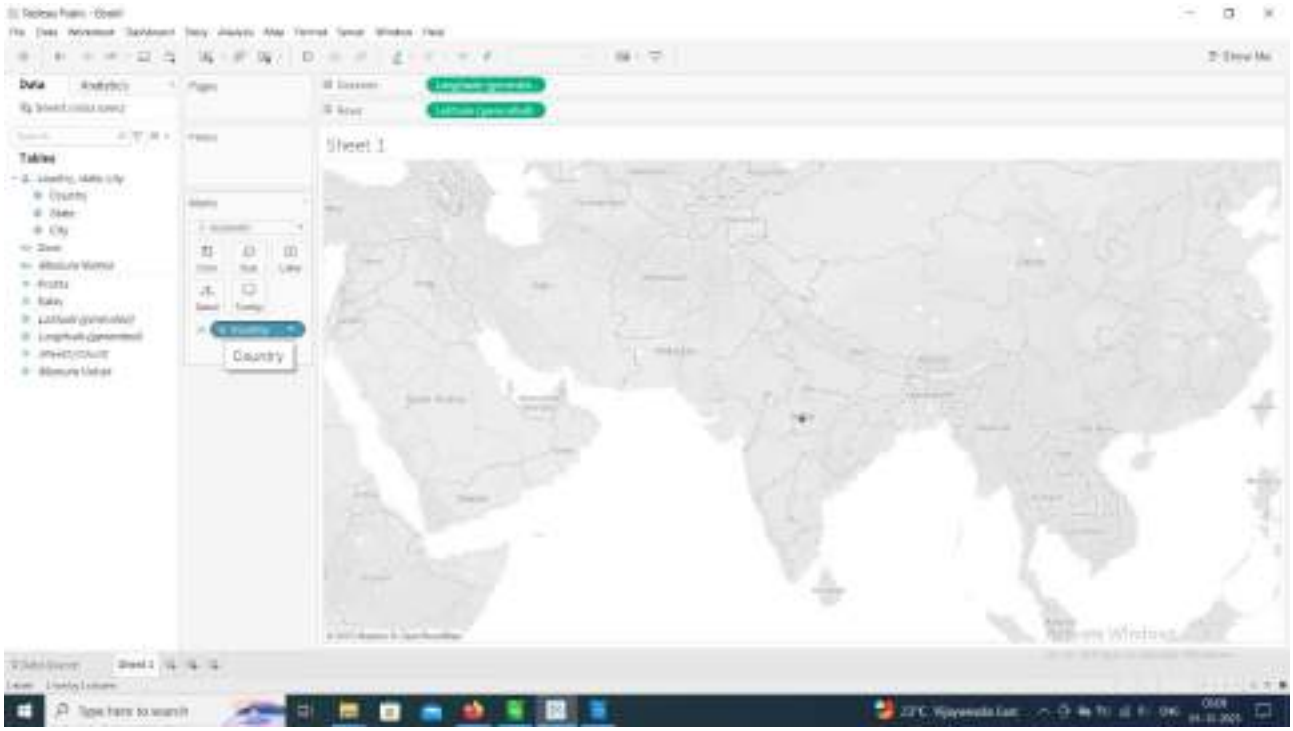
- Select excel file indiasales.xlsx



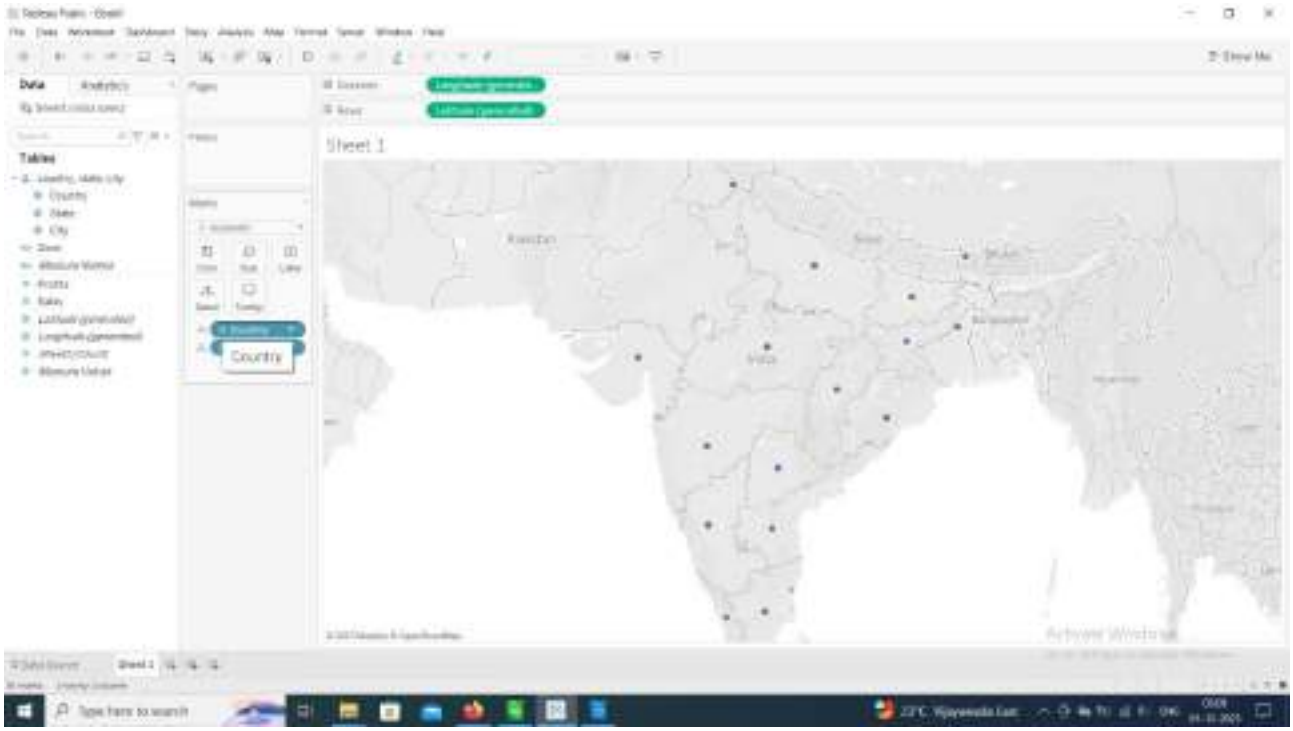
-



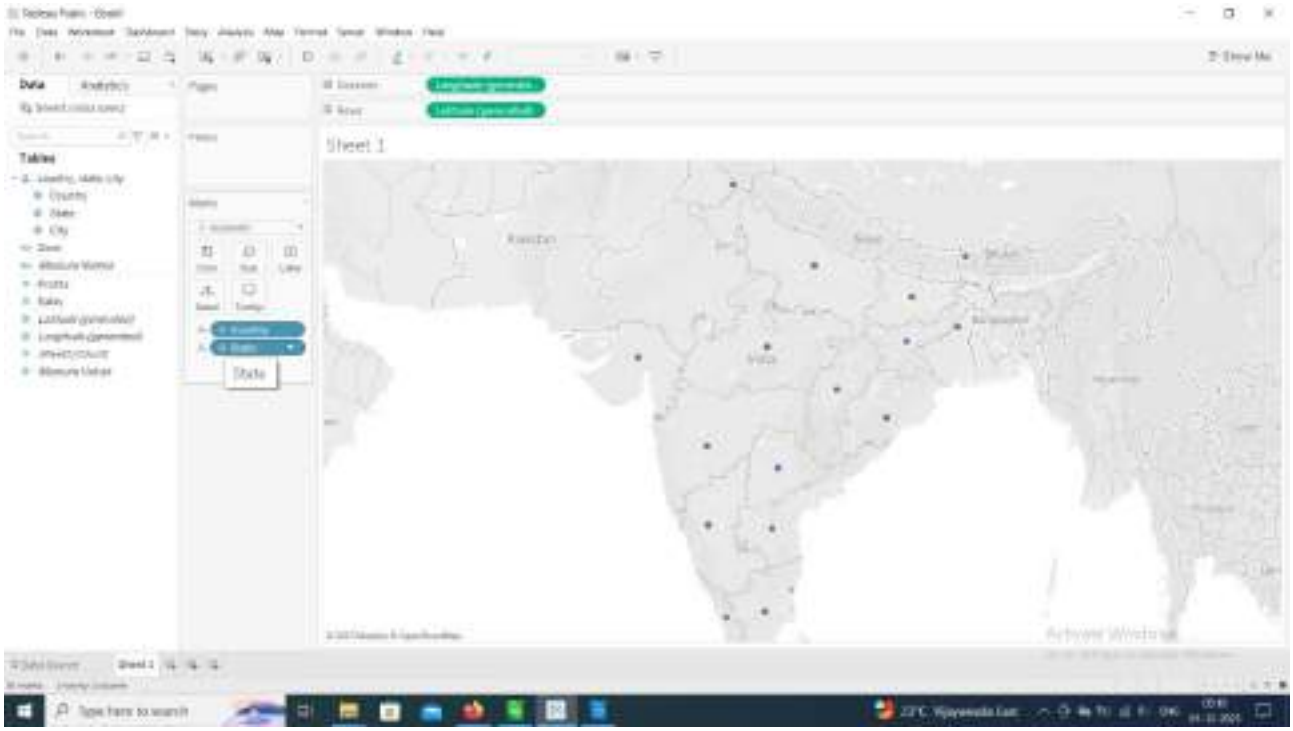
- Go to marks card and go to + symbol on country

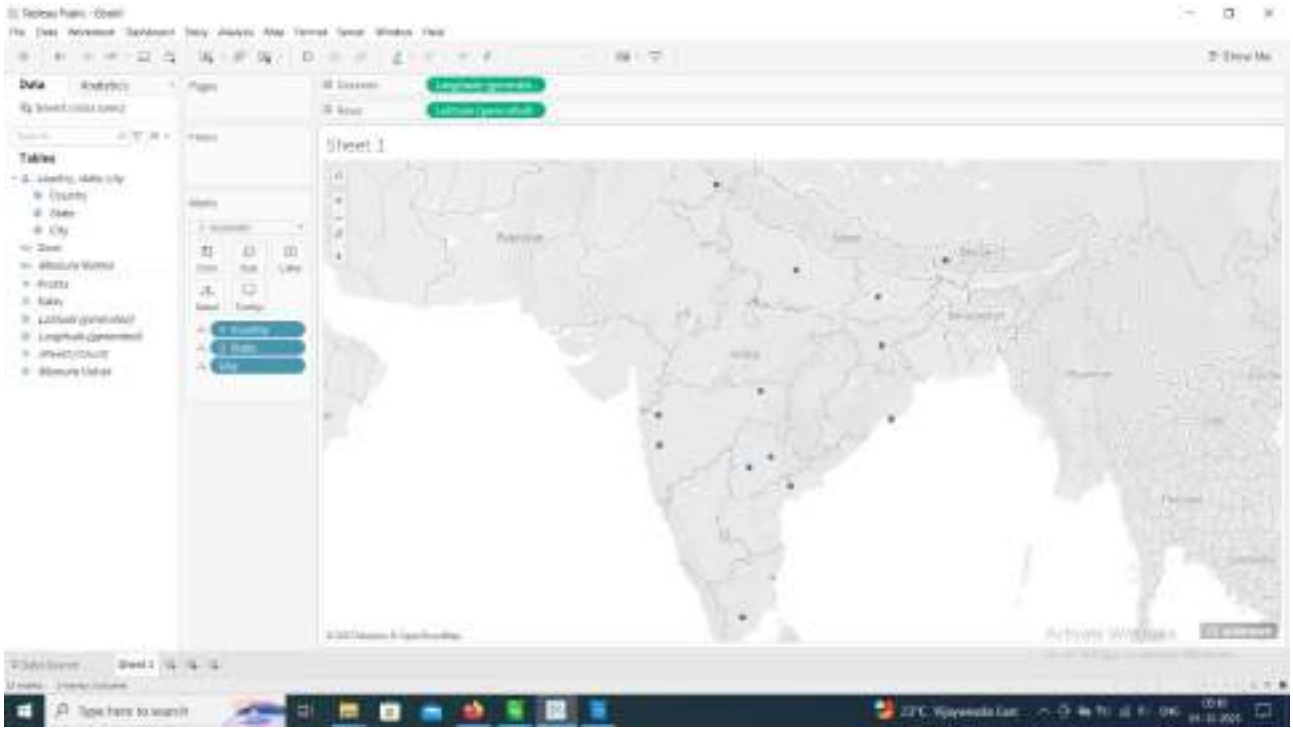


- Click on + symbol

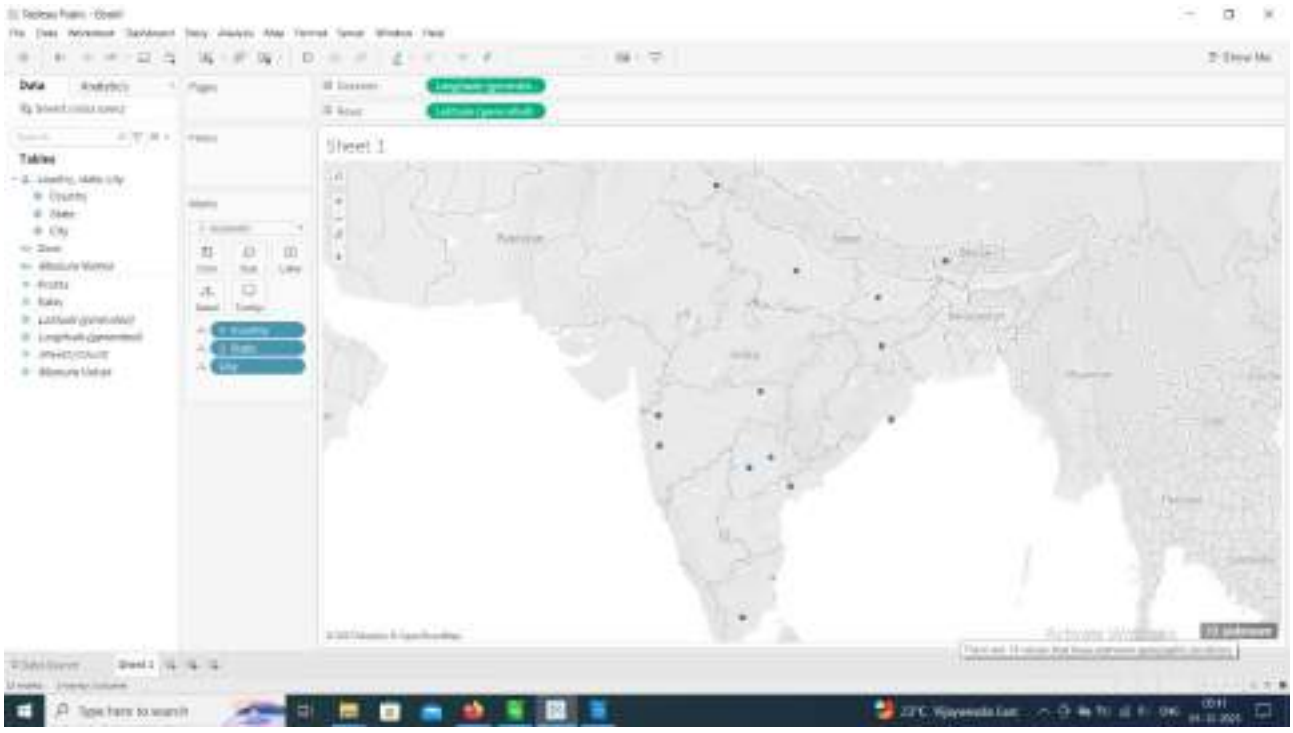


- Now click on + symbol of state



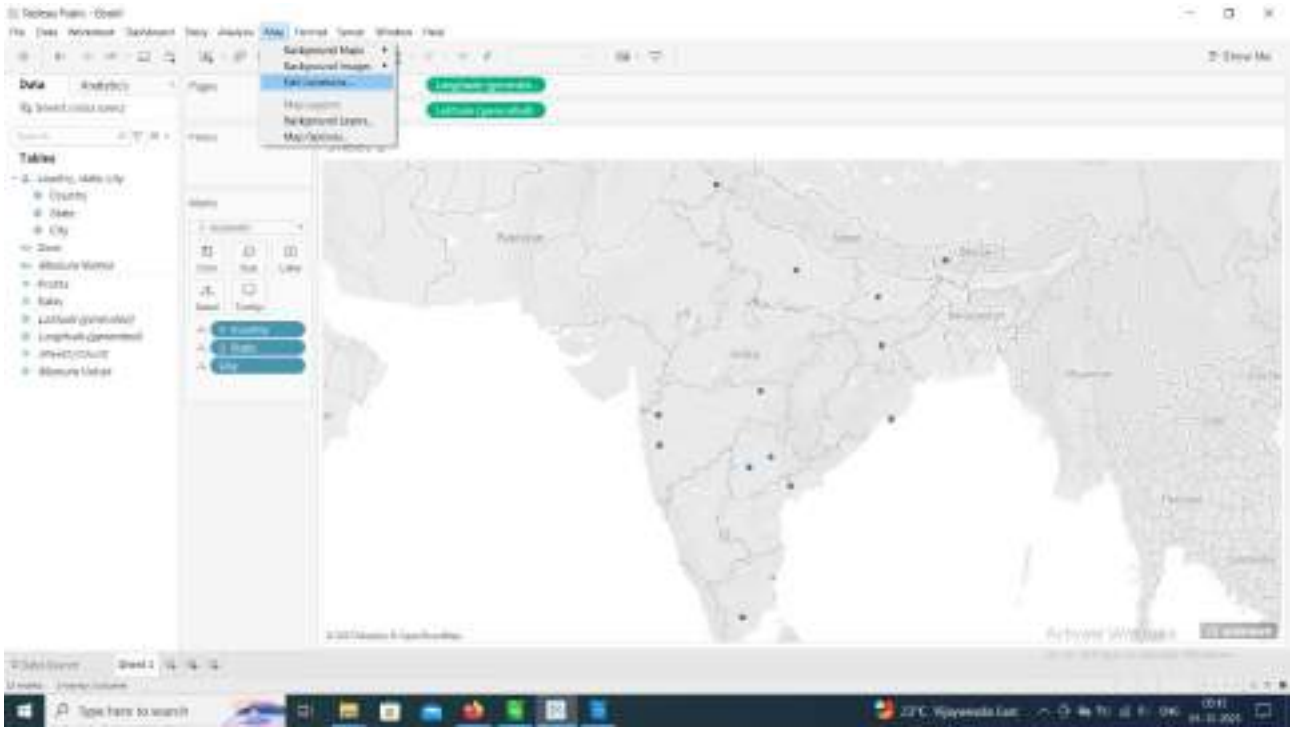


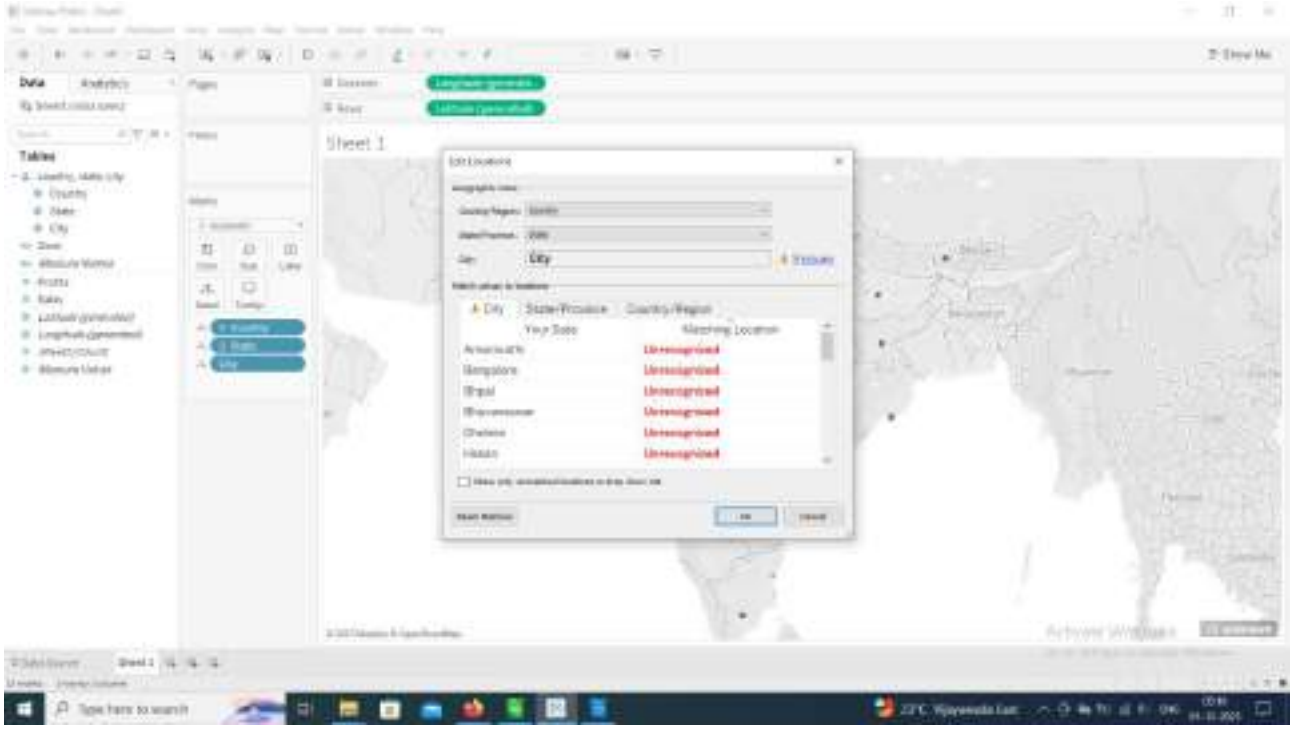
- On canvas at bottom locations you can observer unknown locations



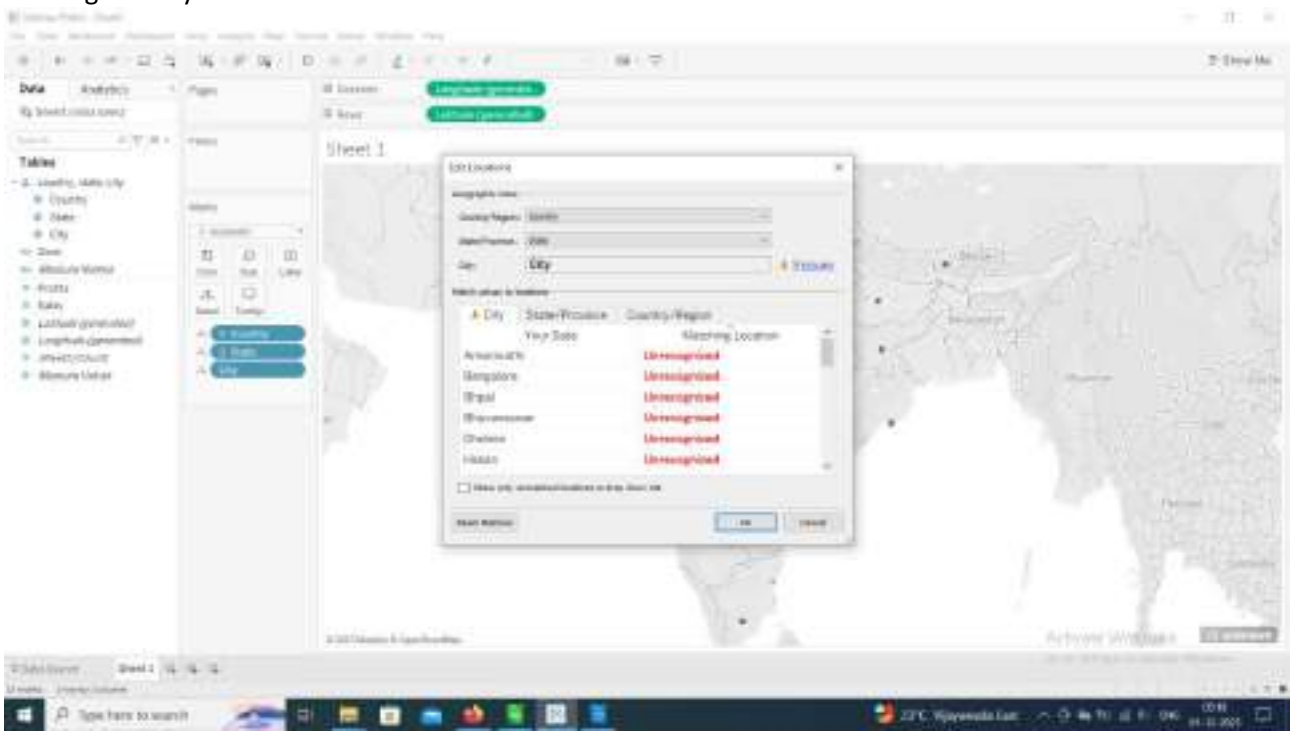
- These locations are ambiguity as their location names **misspelt** or name **does not exists** or **name changed** or **maps does not update**

- **In order to correct the location go to map**

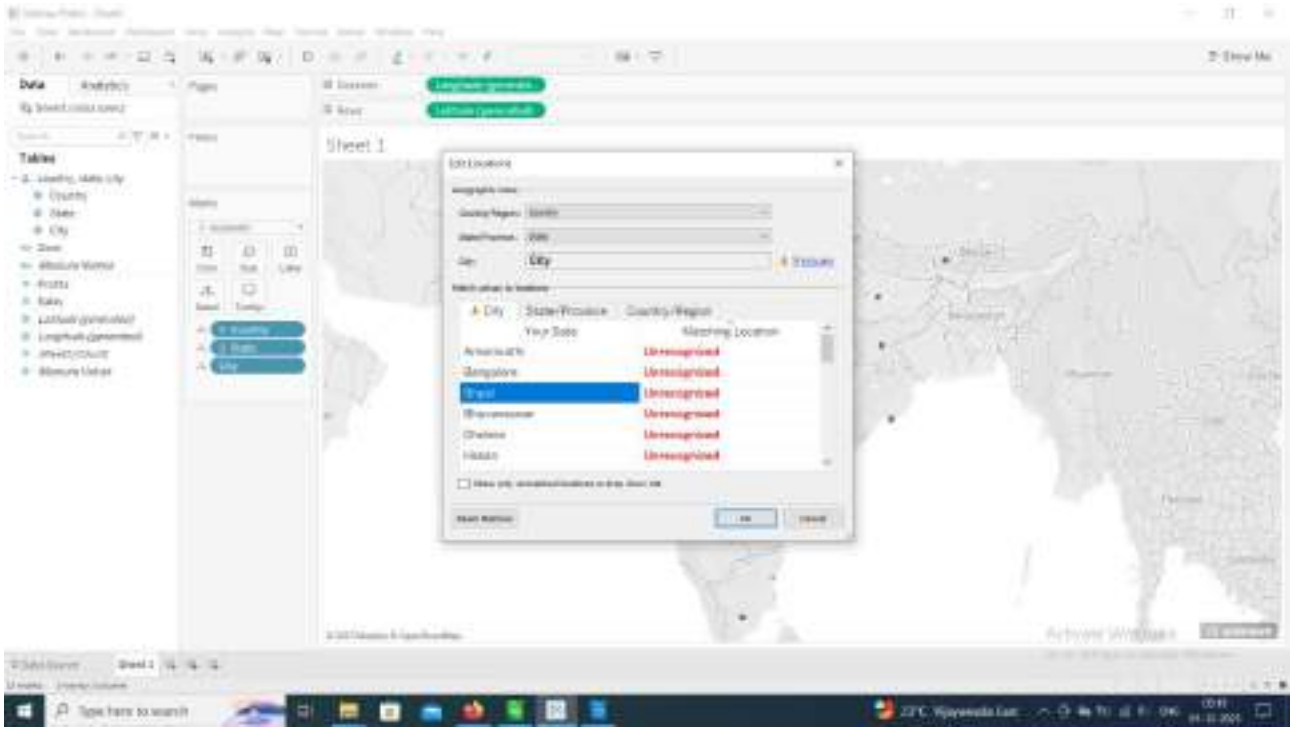


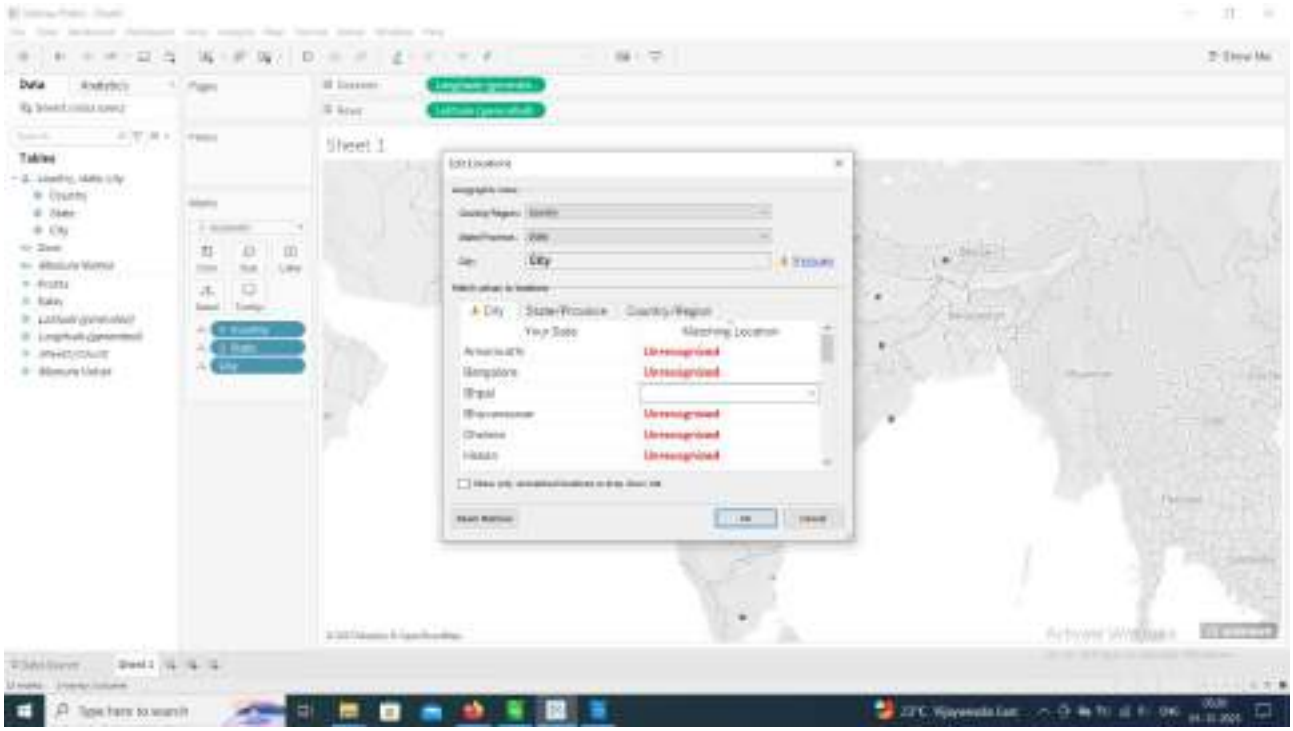


- Now go to city

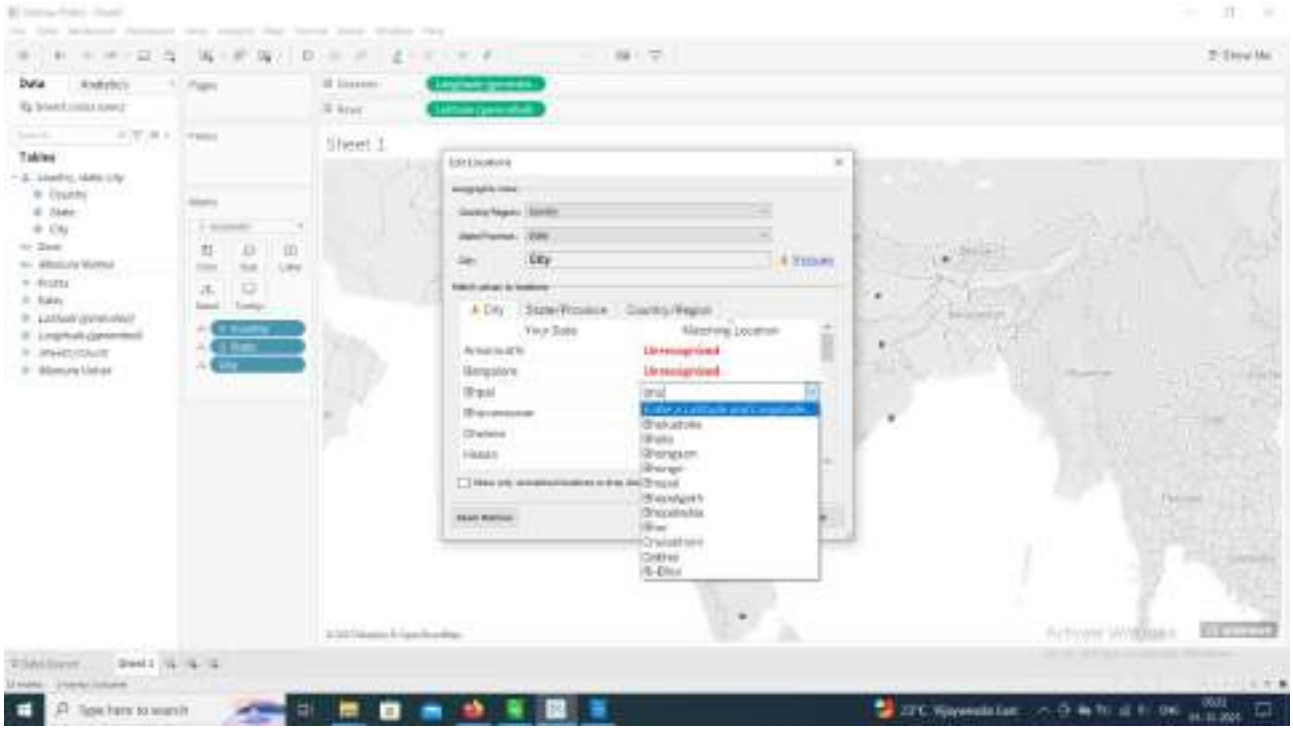


- Now click on city Bhpal, it was misspelt

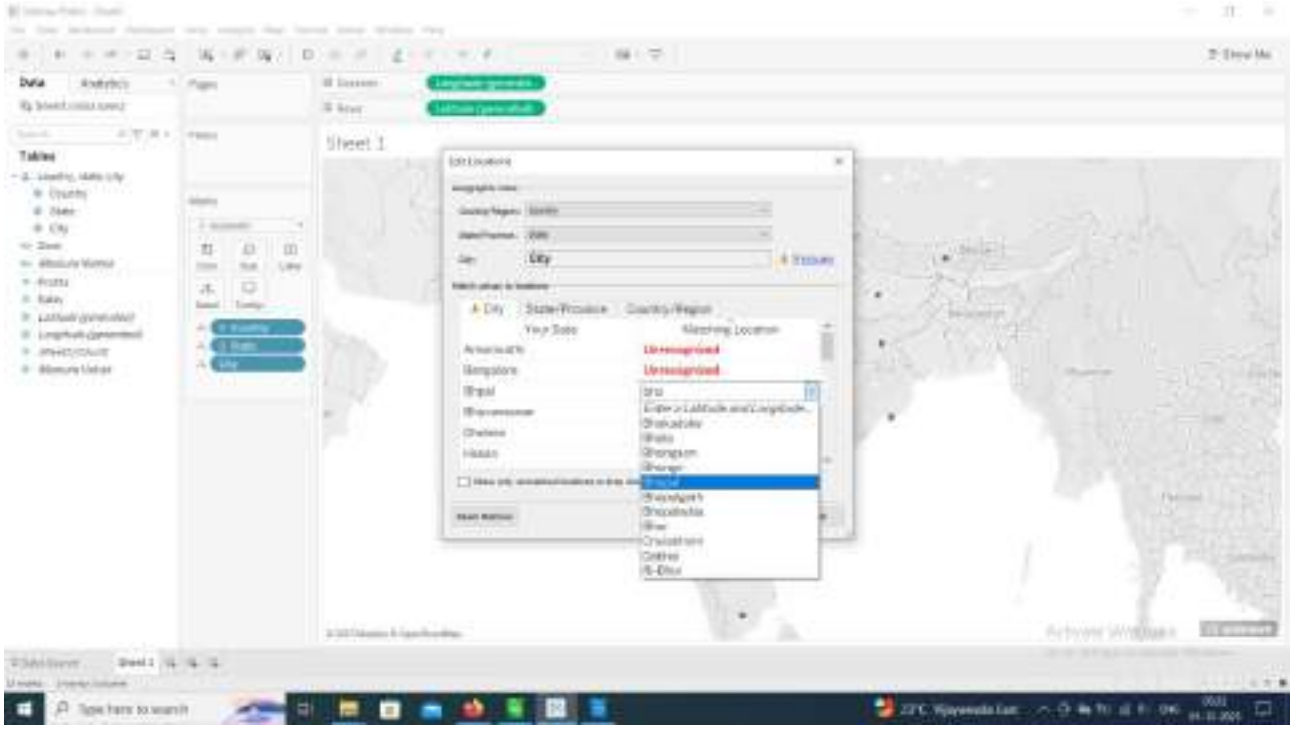


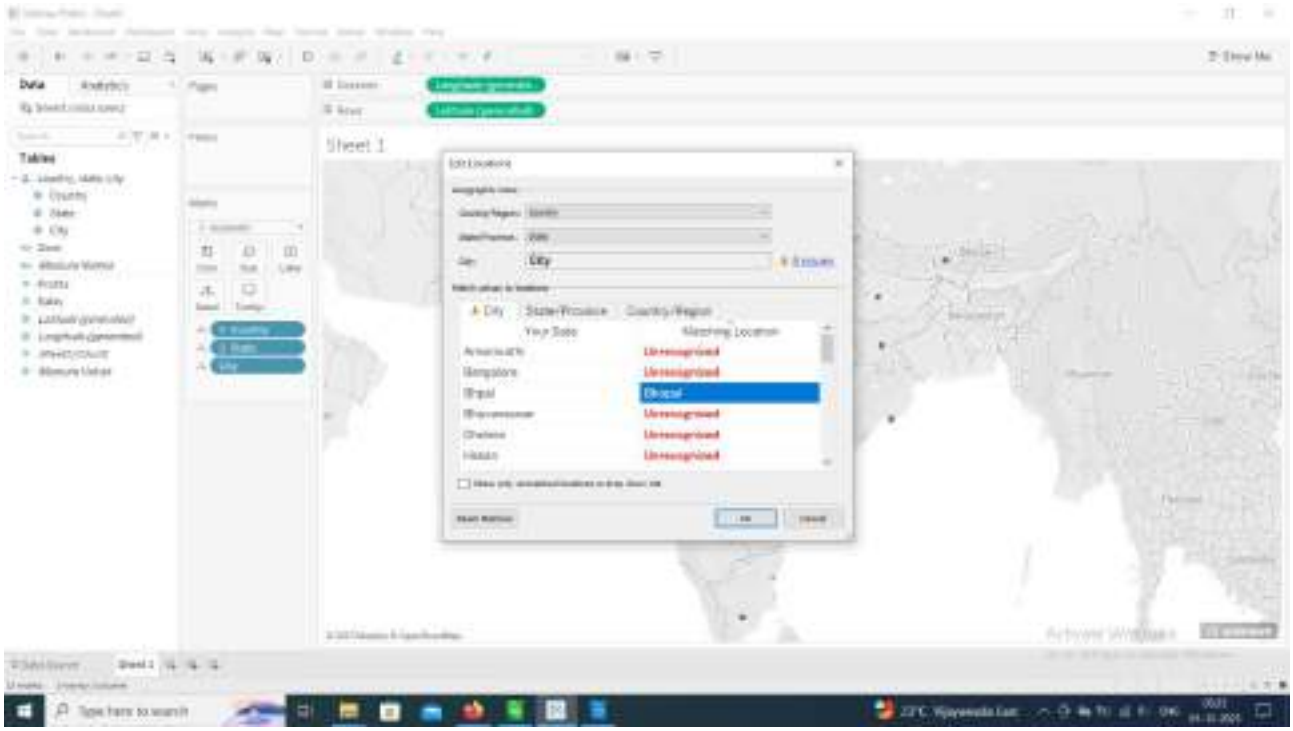


- It’s not Bhpal, it was Bhopal, now in window Bhopal

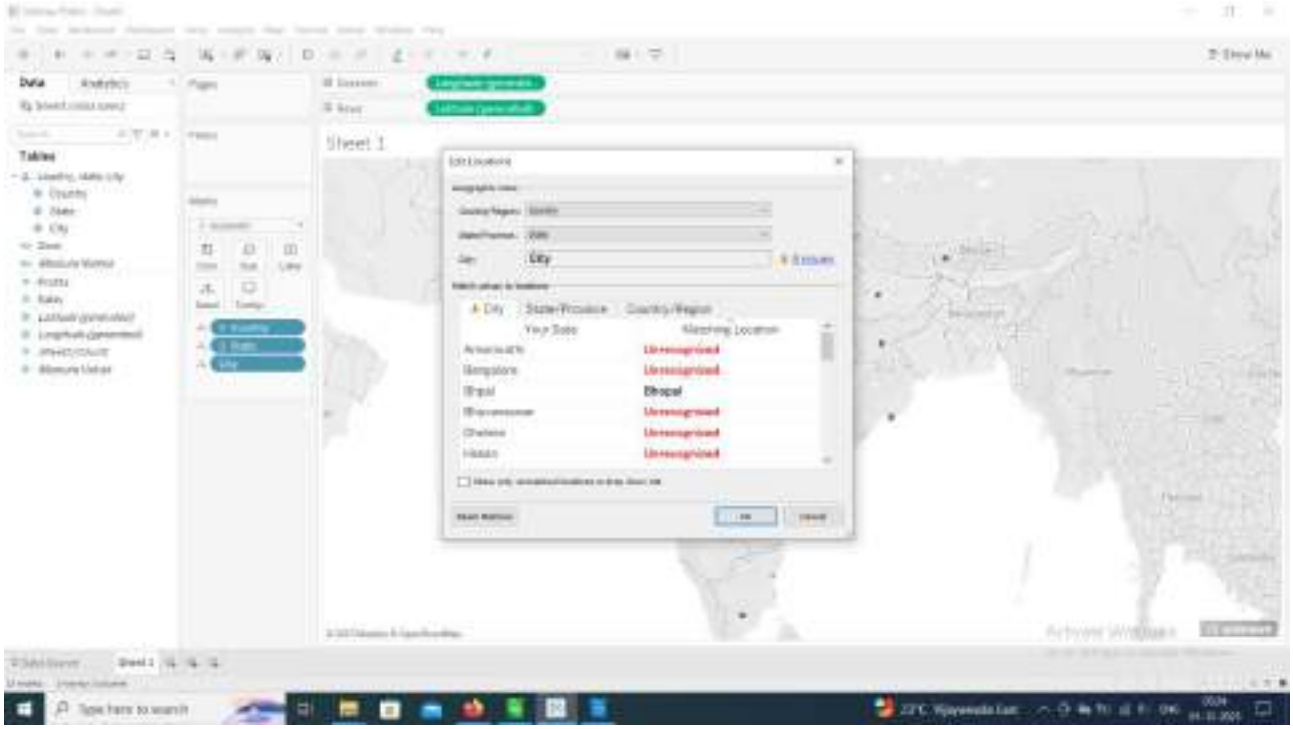


- It also give the matching's too, select /type Bhopal

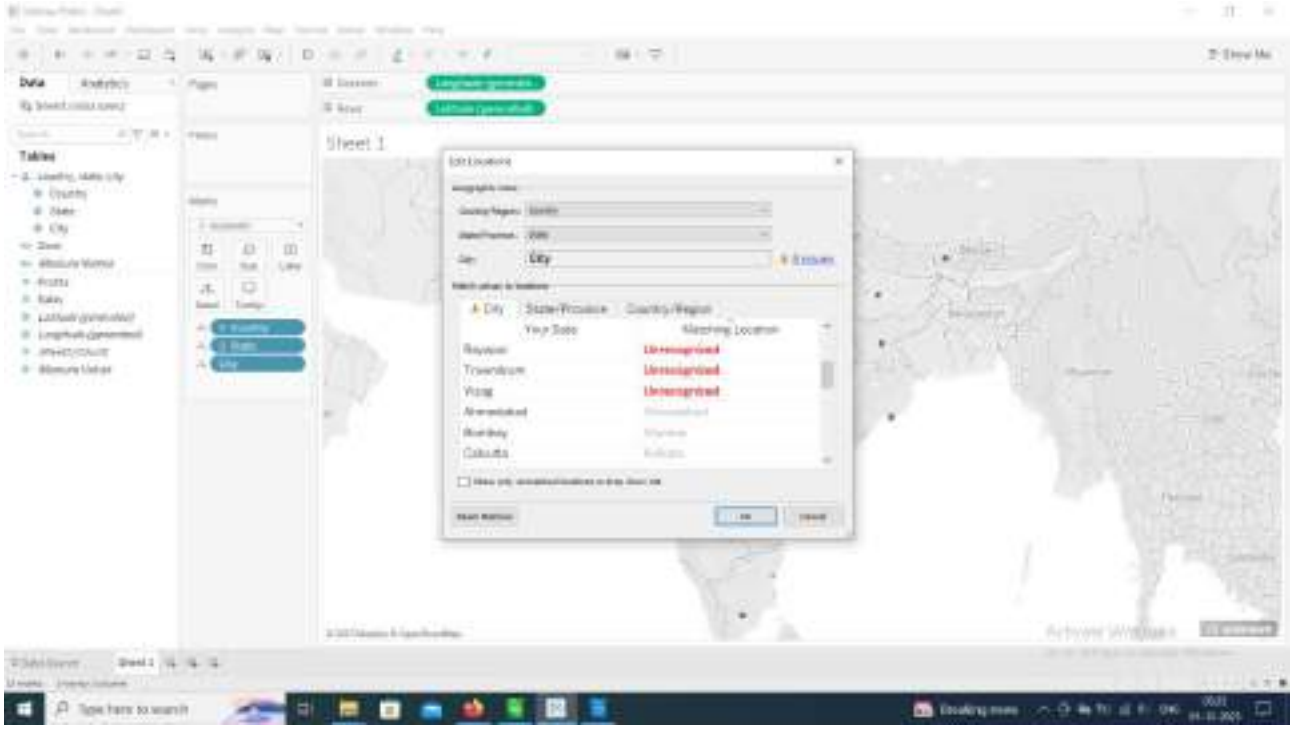




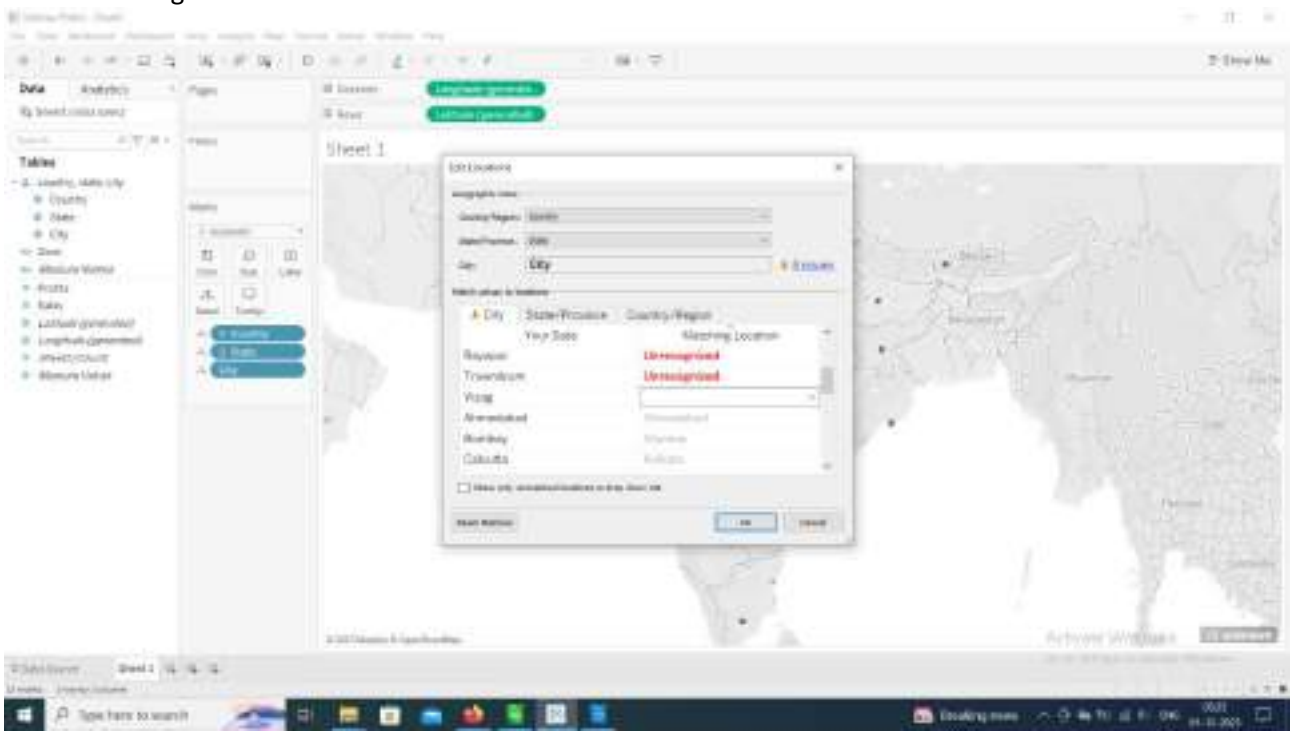
- Now you can observe city issues reduced to 8 from 9



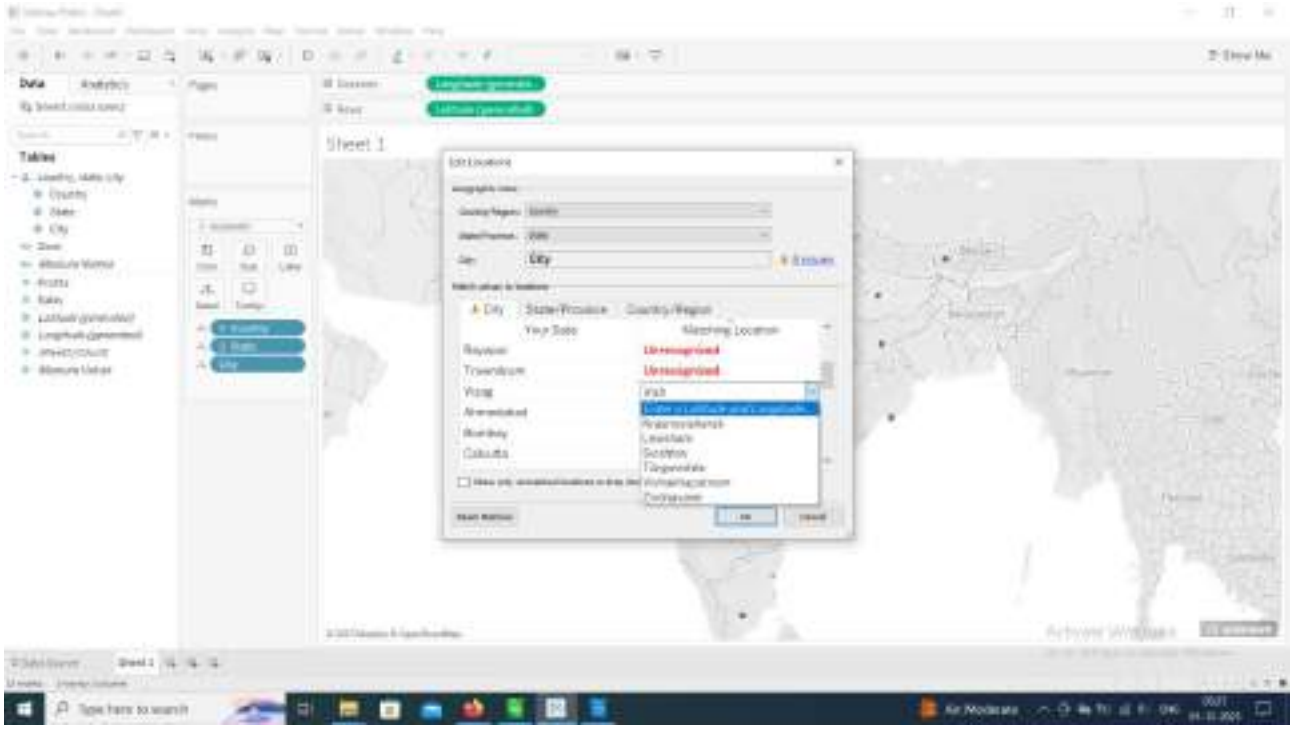
- Now similarly we can try for Vizag



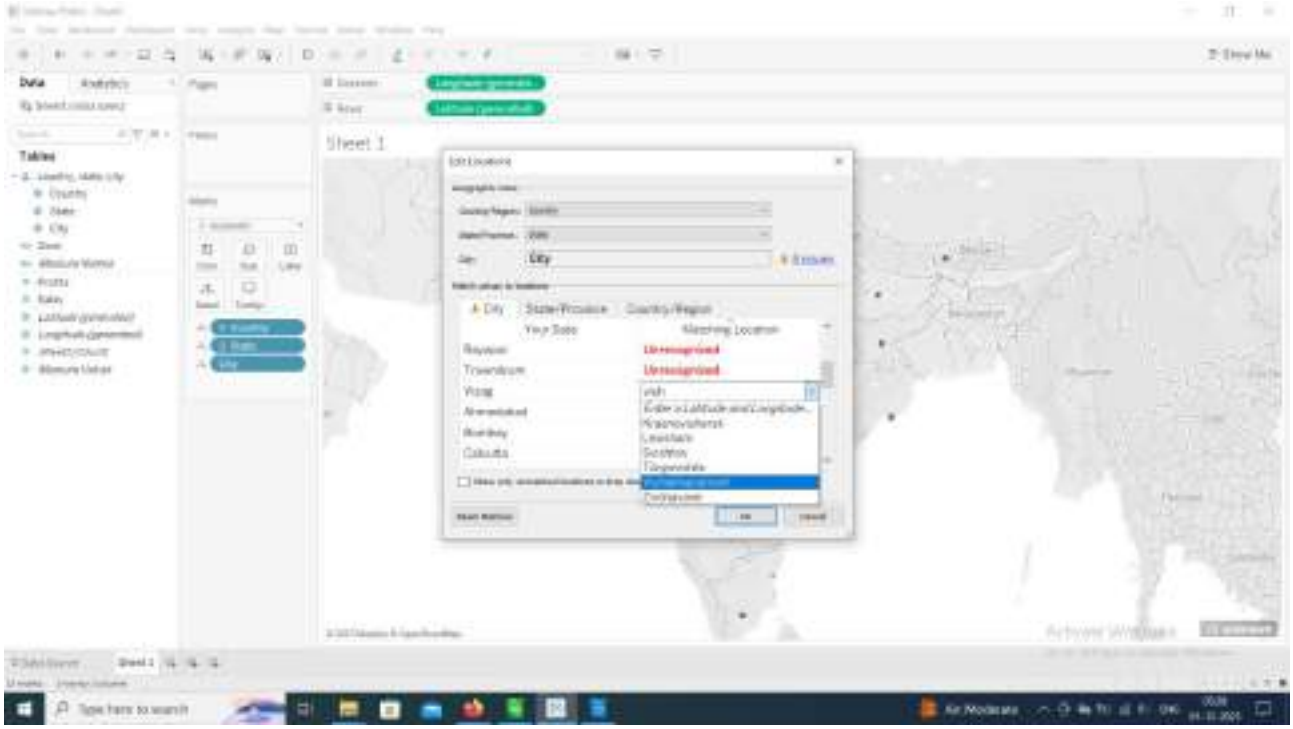
- Click on Vizag

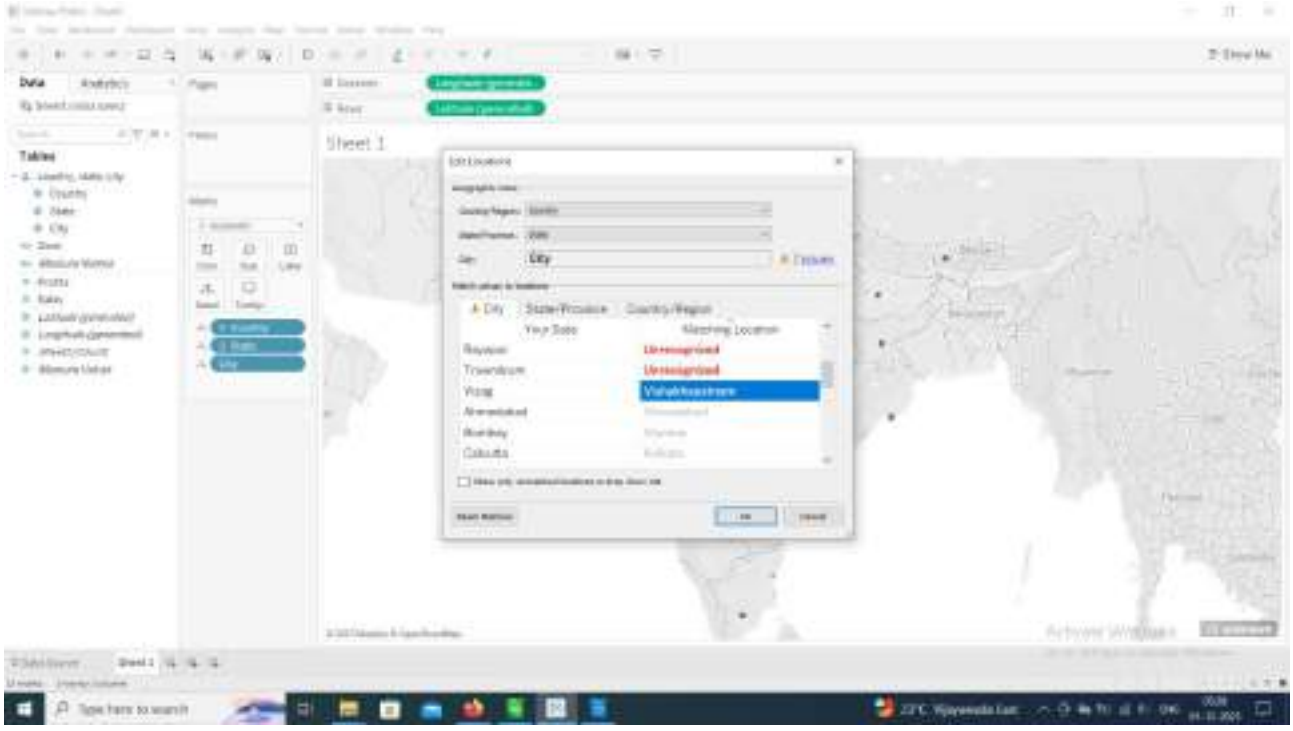


- It is not Vizag, it is Vishakapatnam, try with Vishakapatnam

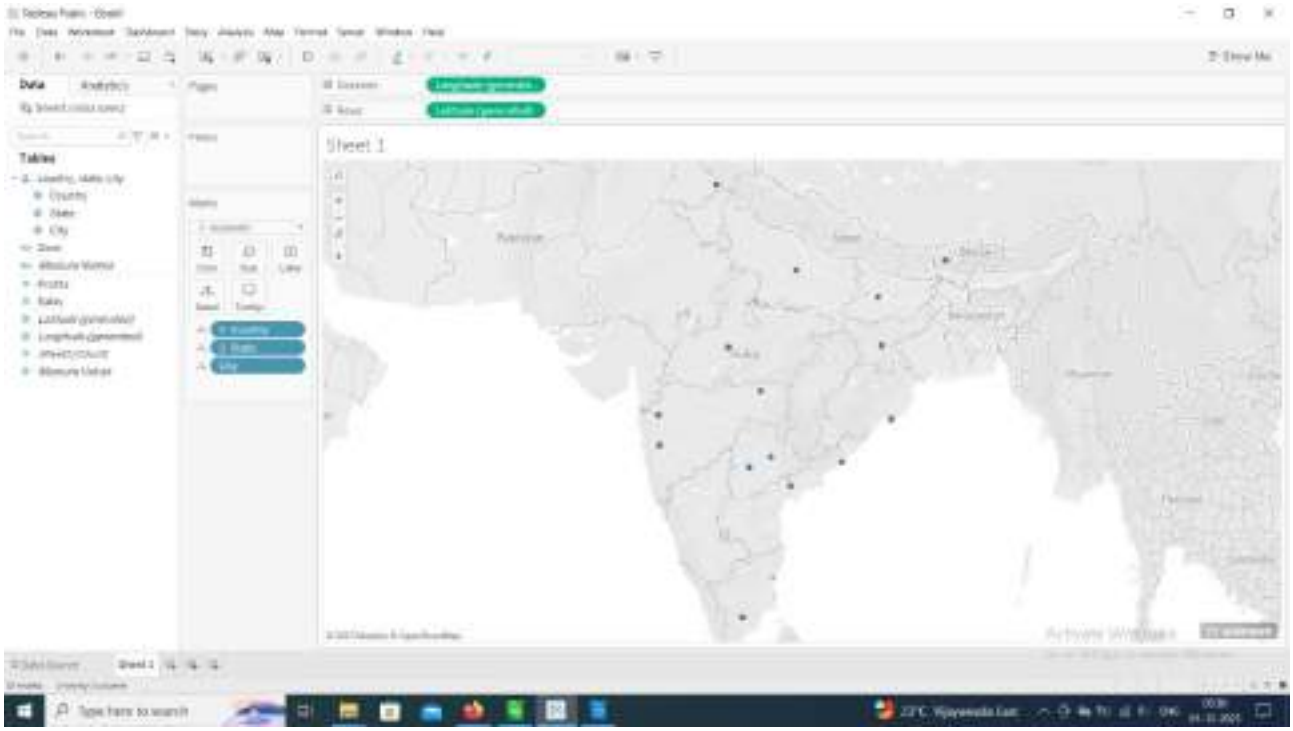


- Now select or type Vishakapatnam





- Now we can observe that city issues reduced to 7
- Similarly do for other cities and click ok



- Now we can observe names corrected cities were spotted on map

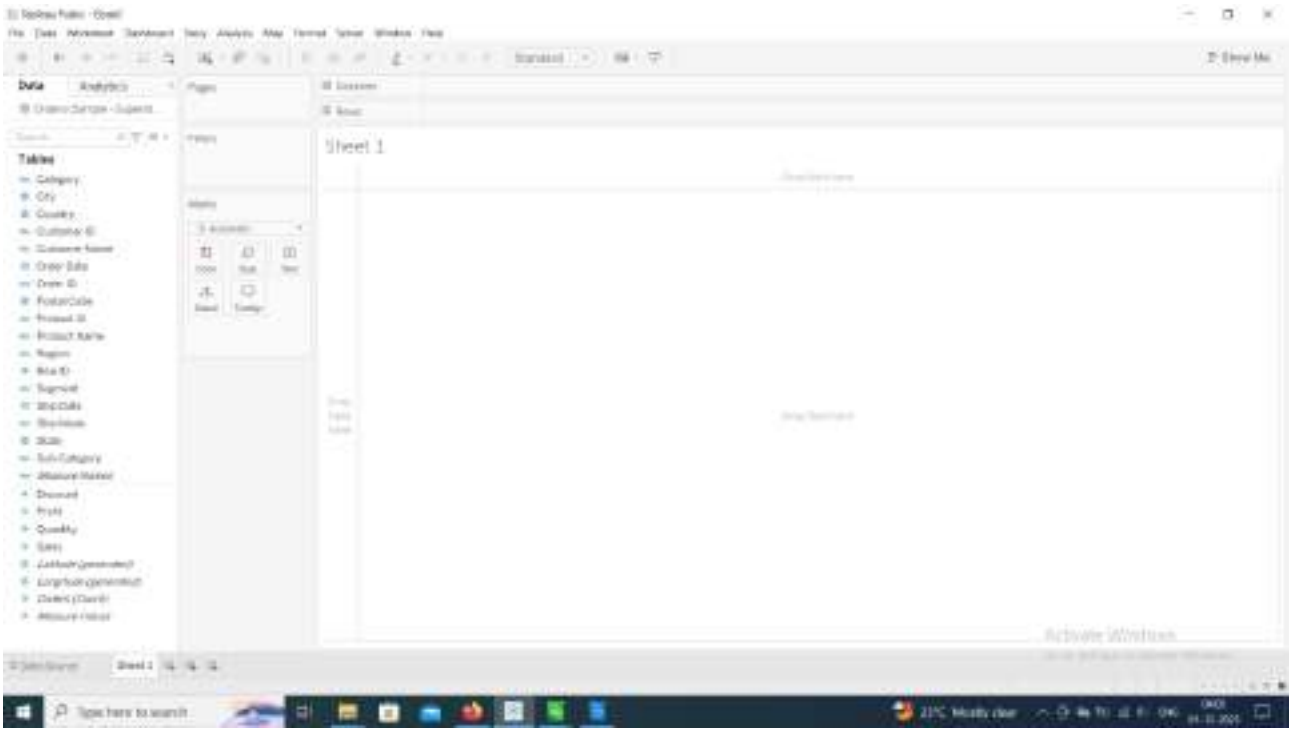
---

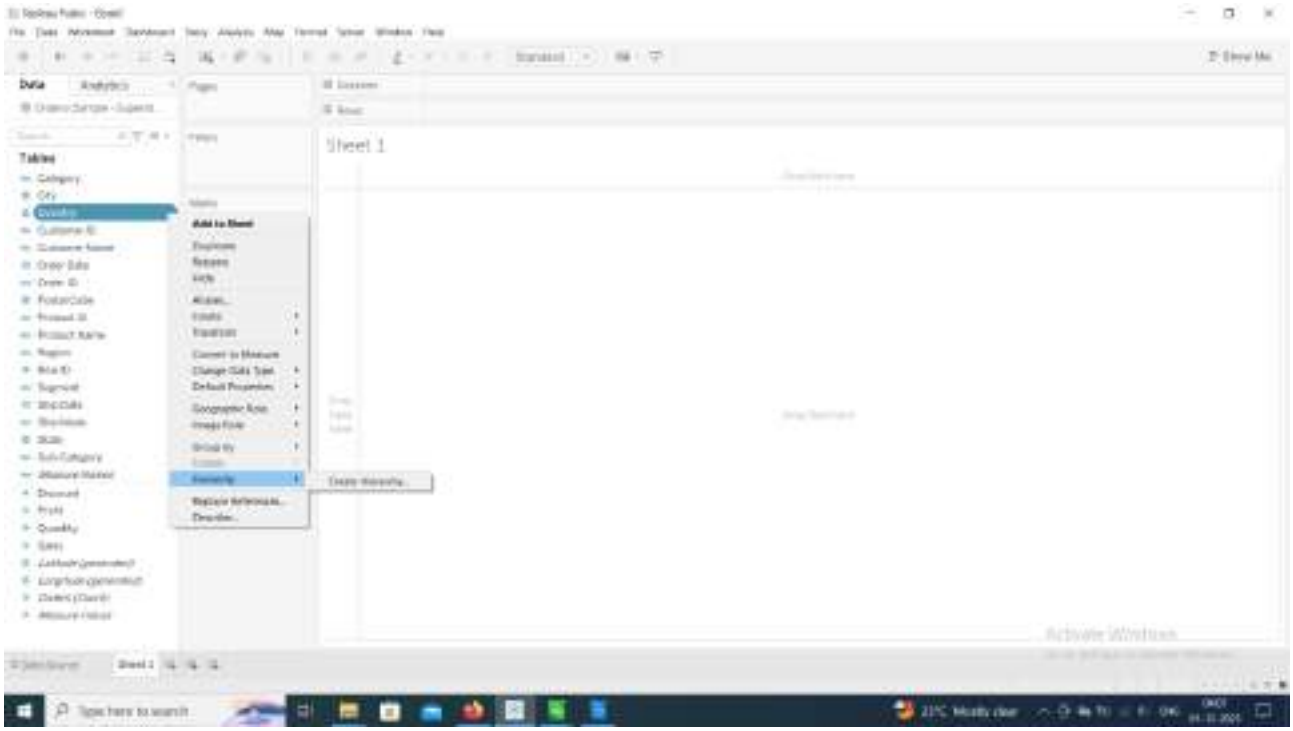
TASK 24: GEOGRAPHICAL HIERARCHY

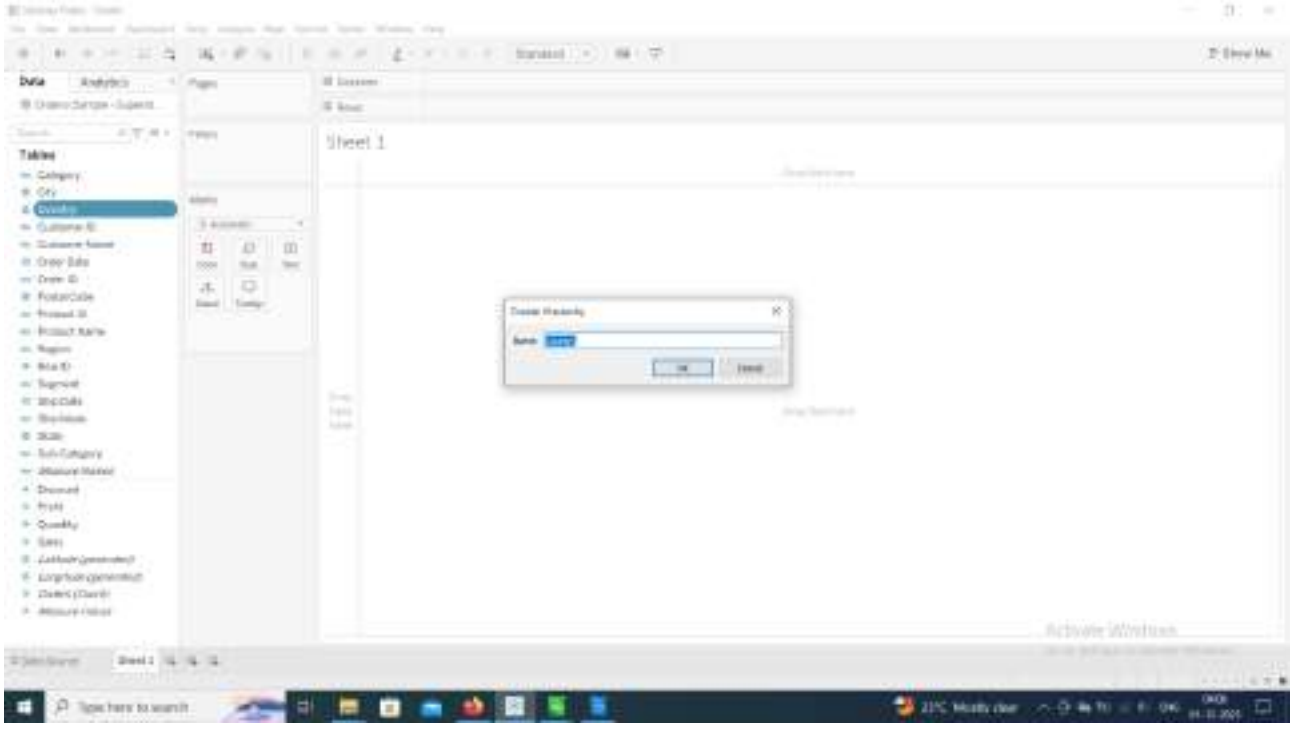
https://help.tableau.com/current/pro/desktop/en-us/buildexamples_maps.htm#step-4-create-a-geographic-hierarchy

- Get sample super store

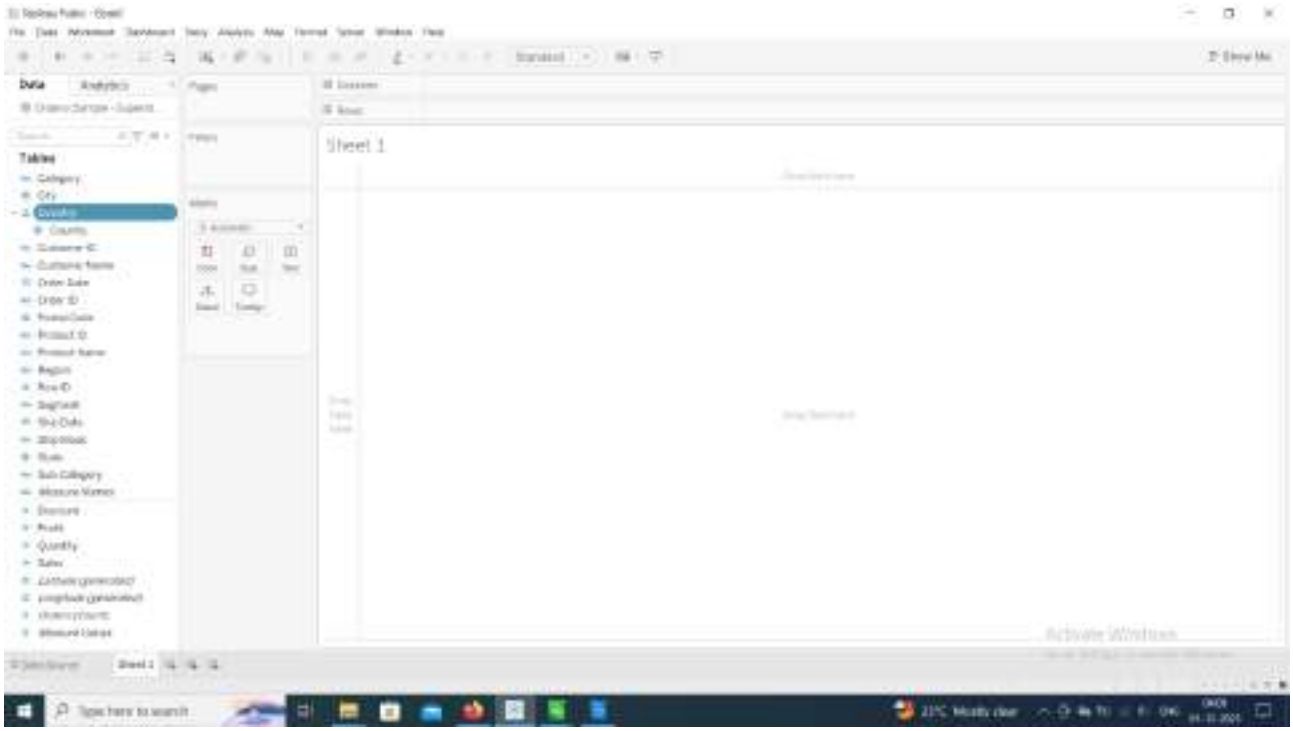
- Now make geographic hierarchy, go to data pane go to country right click and select hierarchy



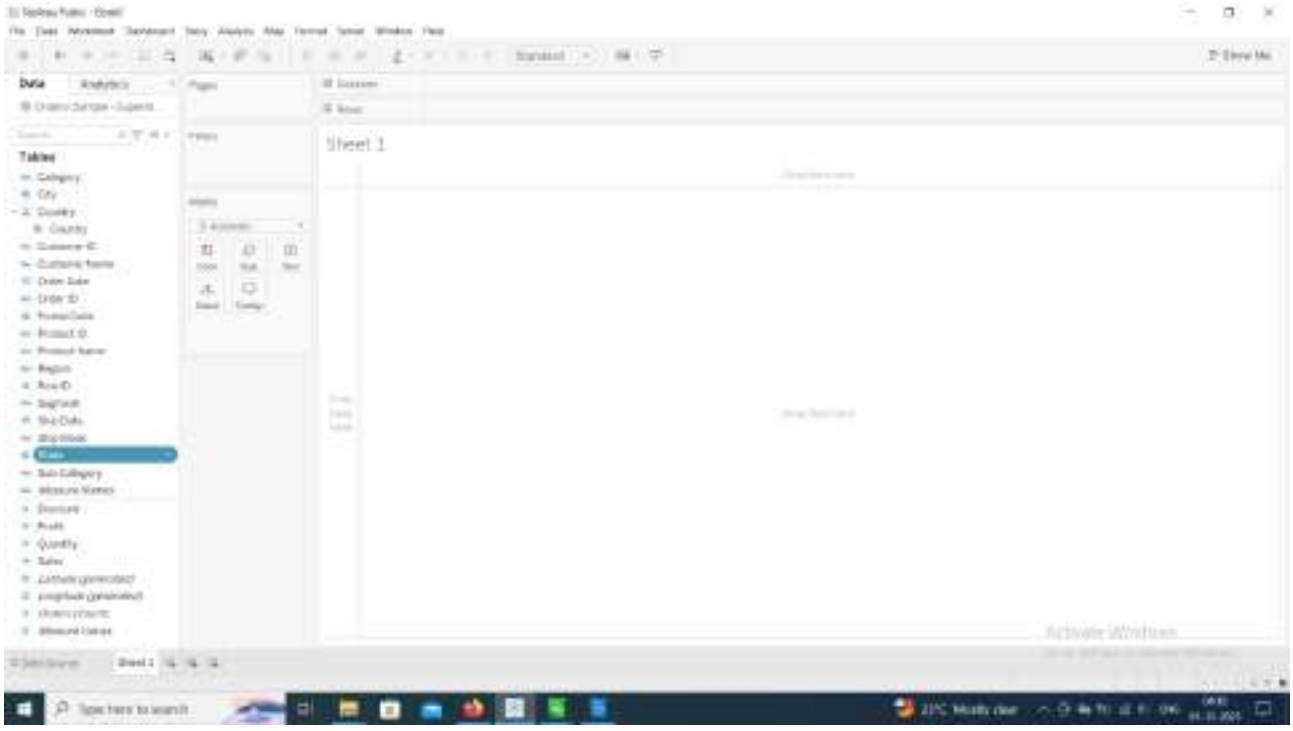

Sheet 1

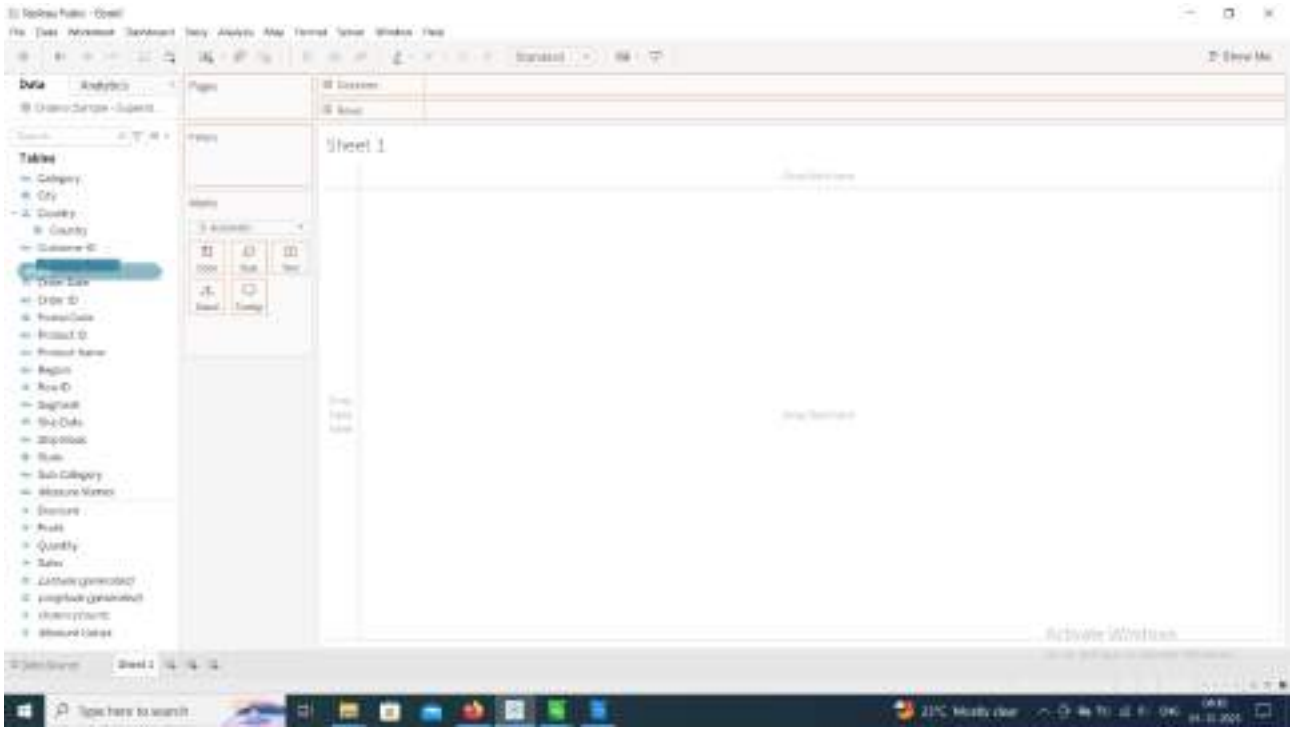

Sheet 1

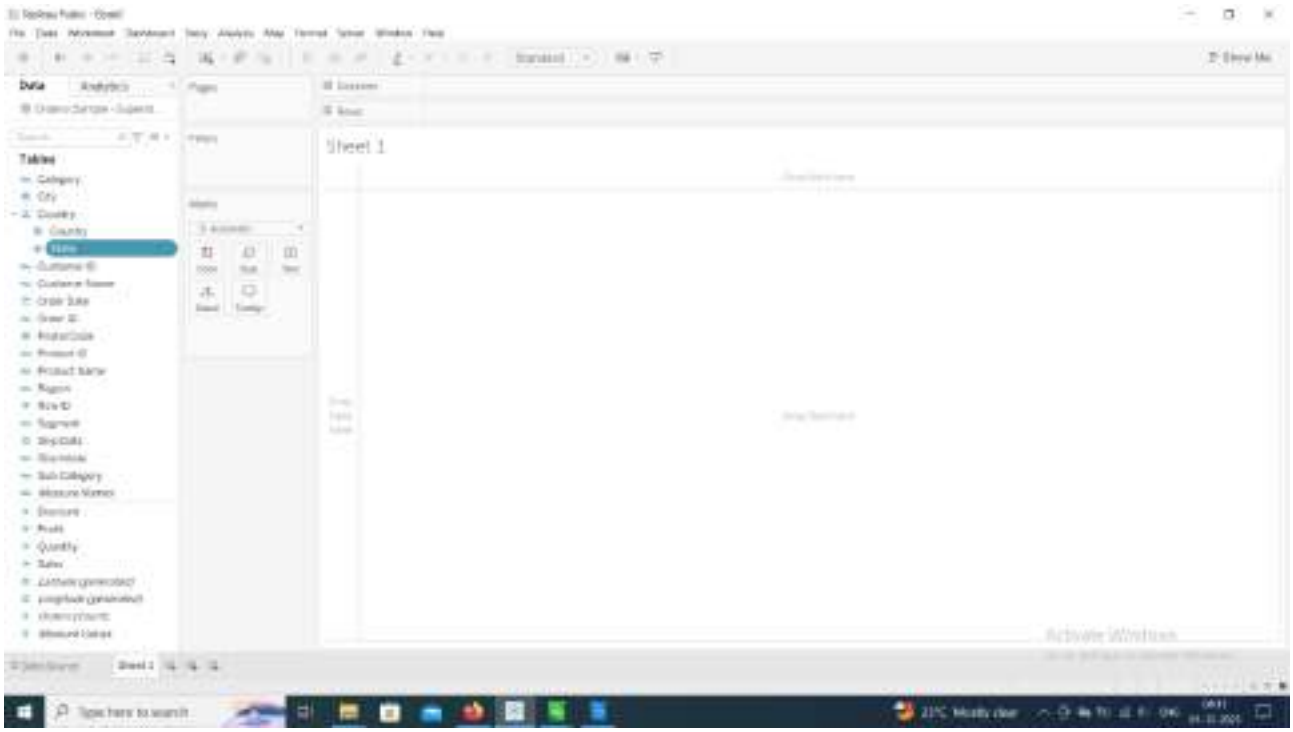
- Click Ok



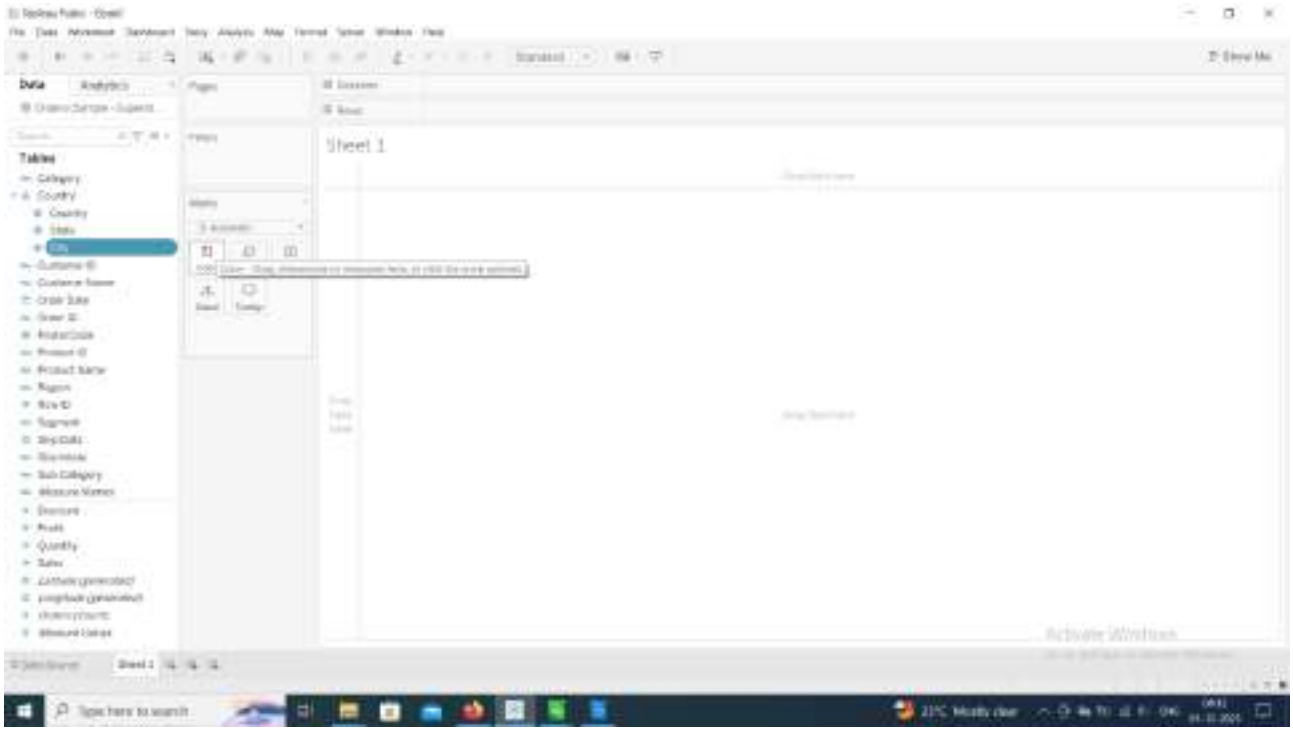
- Now select state and drag below to country

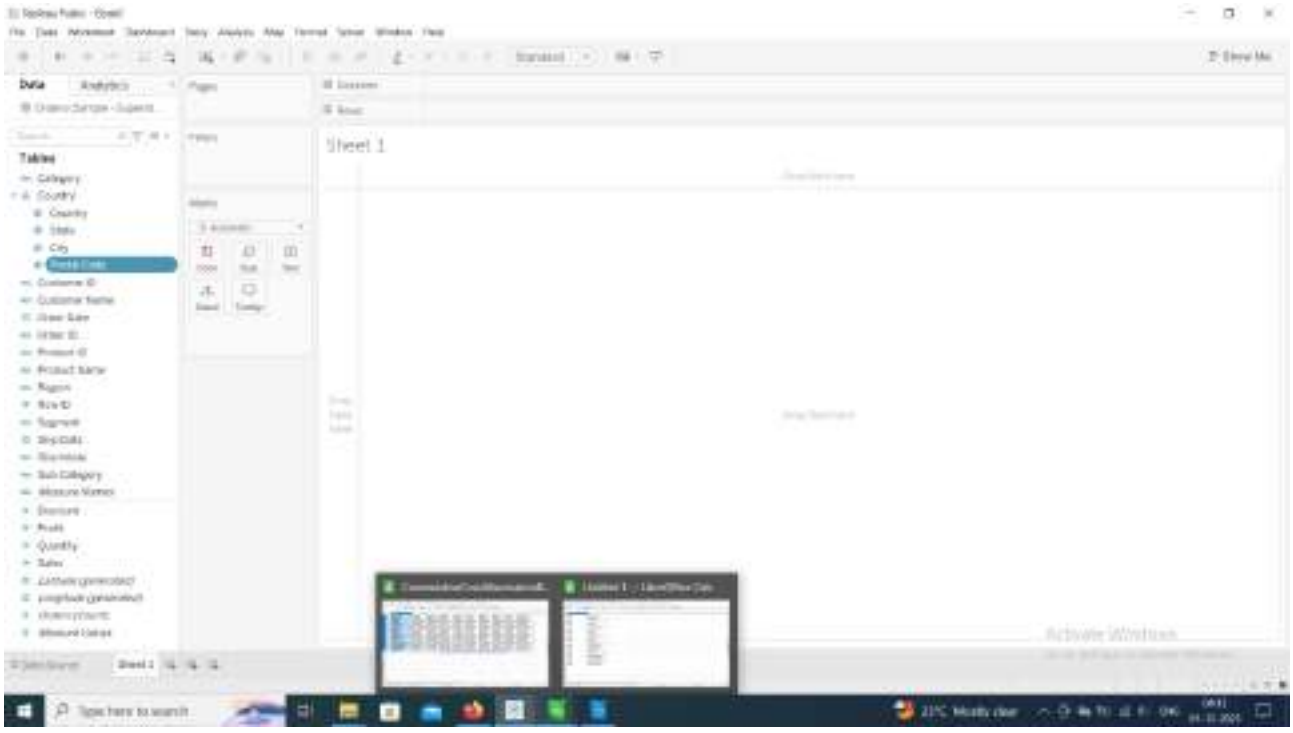



Sheet 1

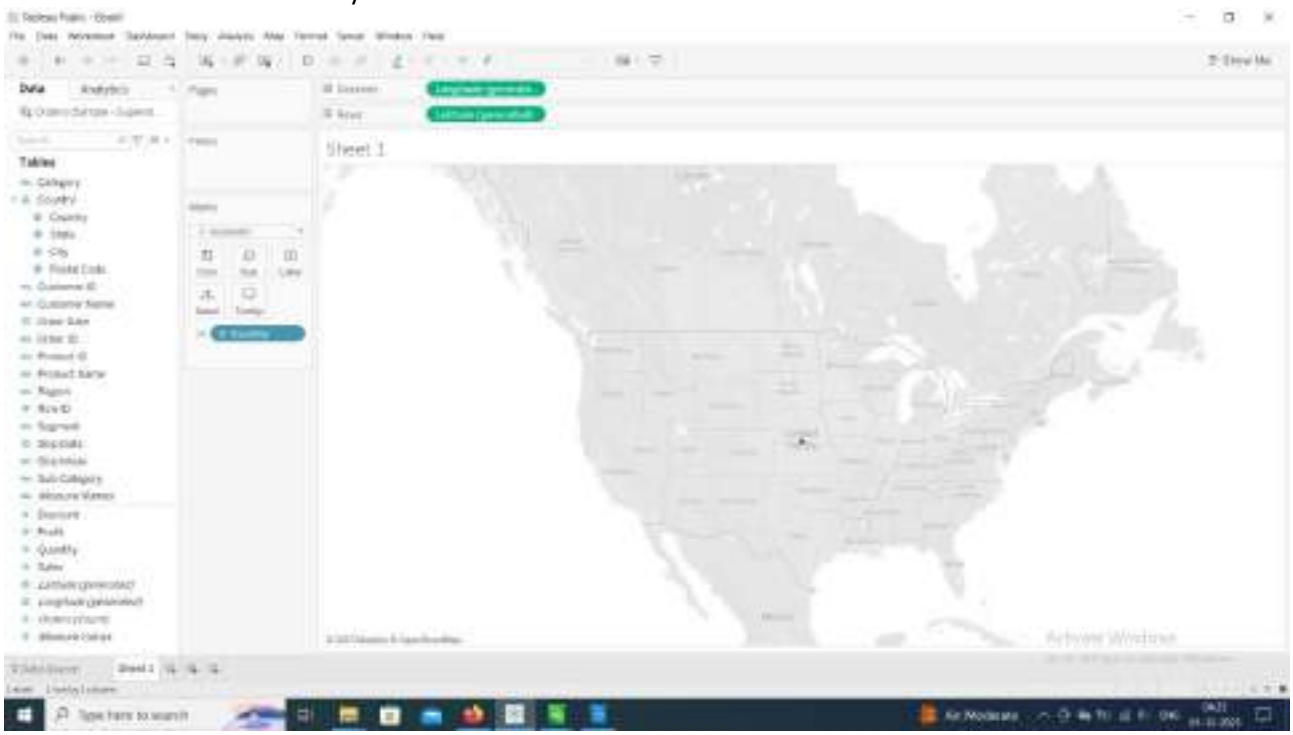

Sheet 1

- Similarly drag city and postal code next to state

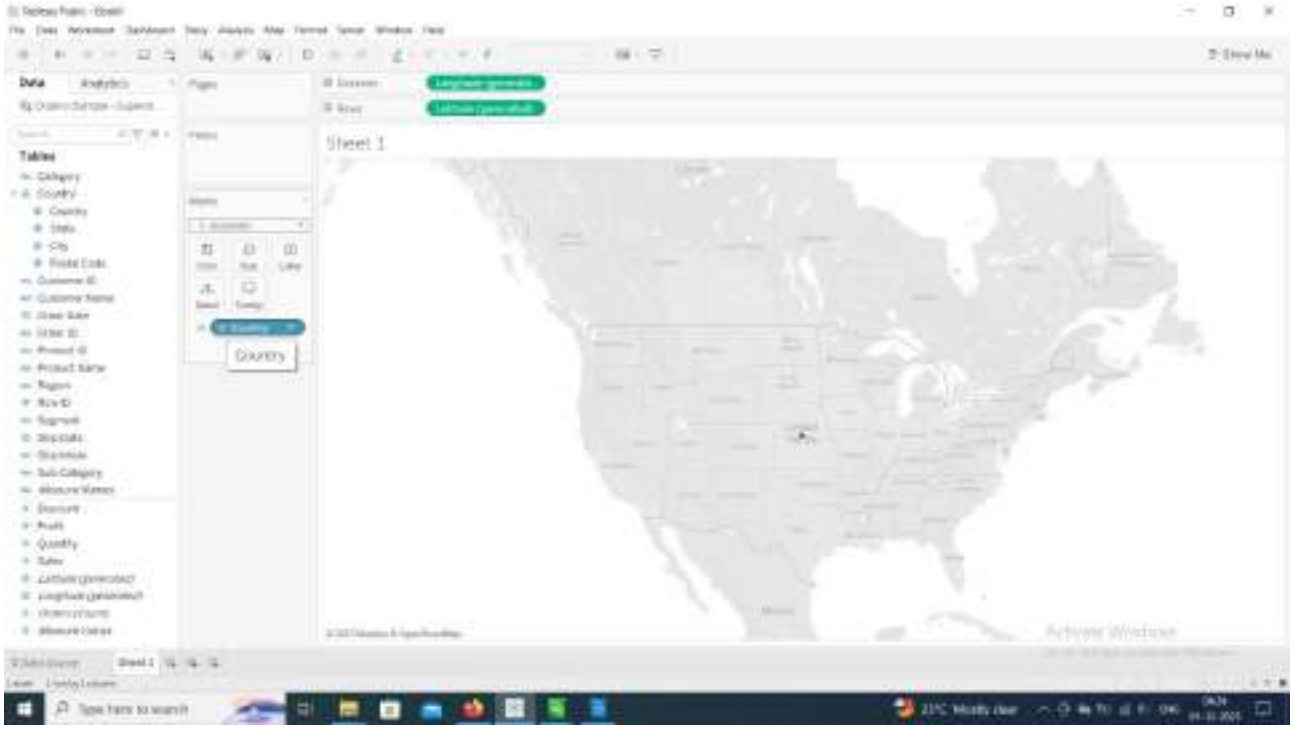


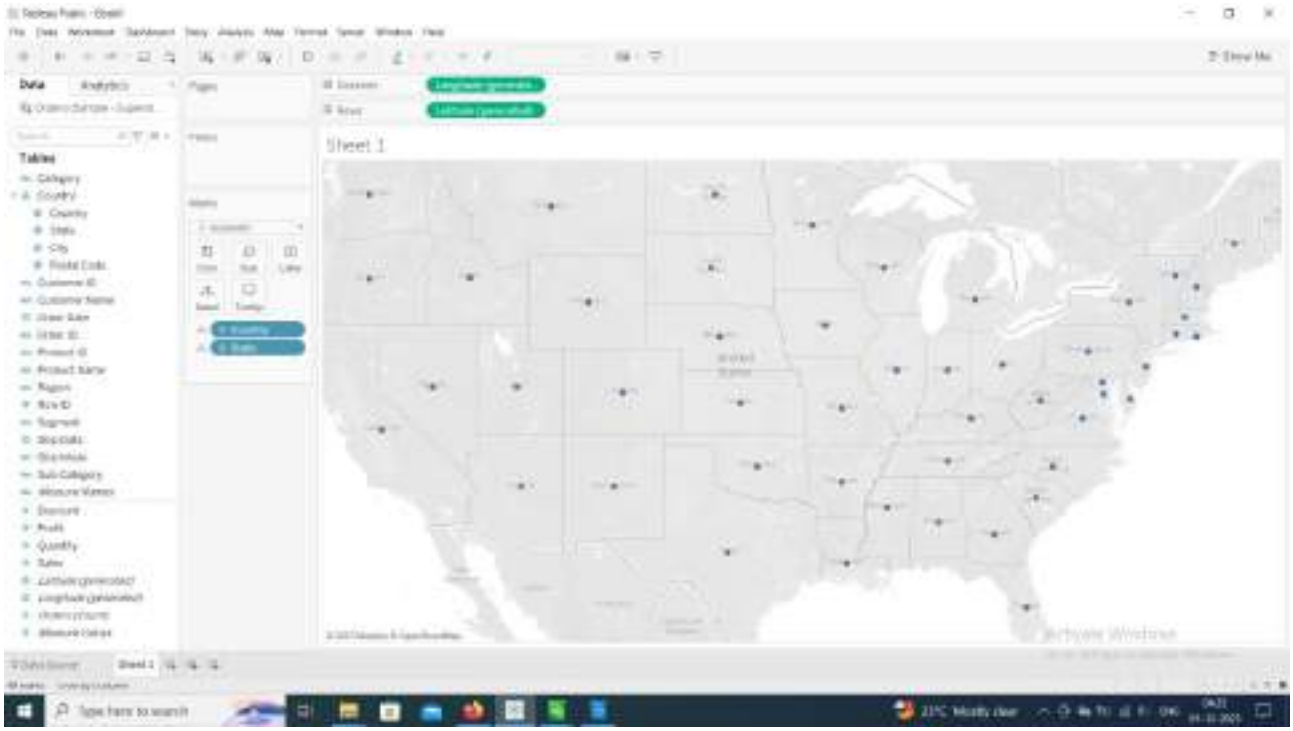


- Now geographical hierarchy is created
- Now double click on country

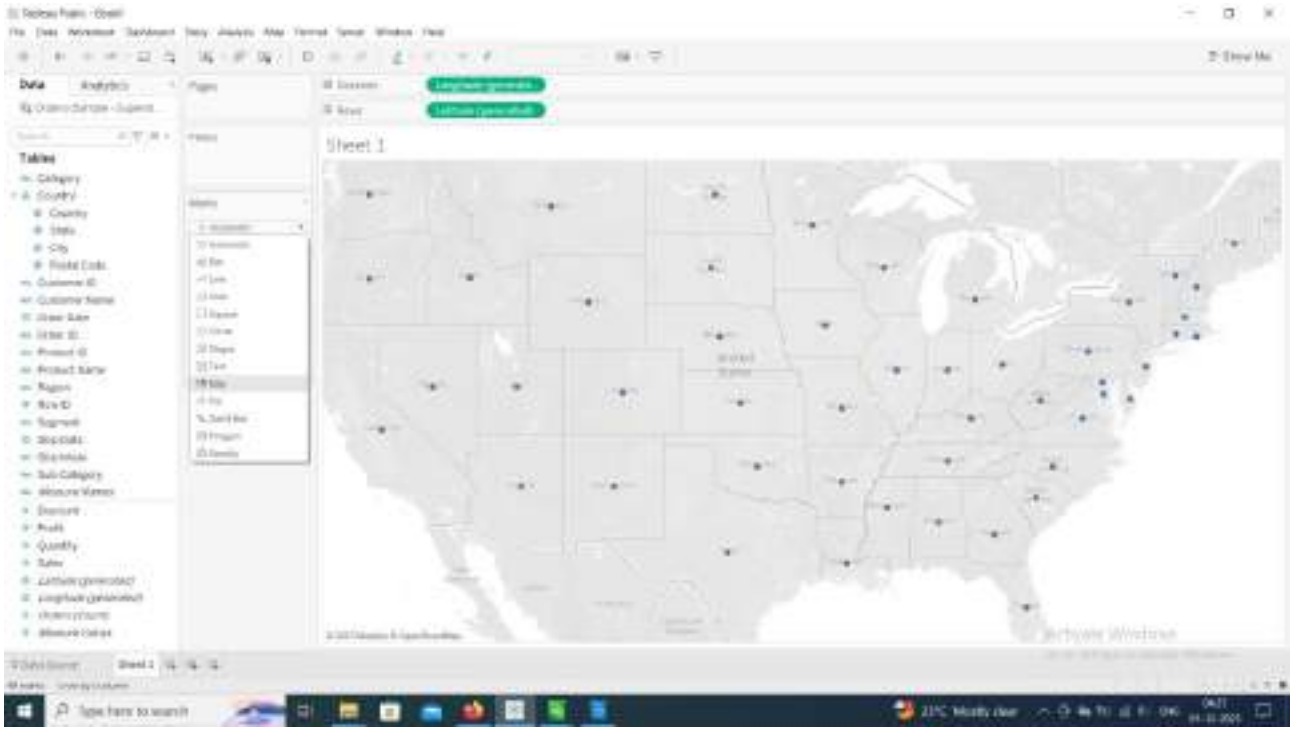


- Now go to Marks card, click the + icon on the Country field.





- Go to the Marks card, select the Map.



- Now we can drag measure sales on to the marks card