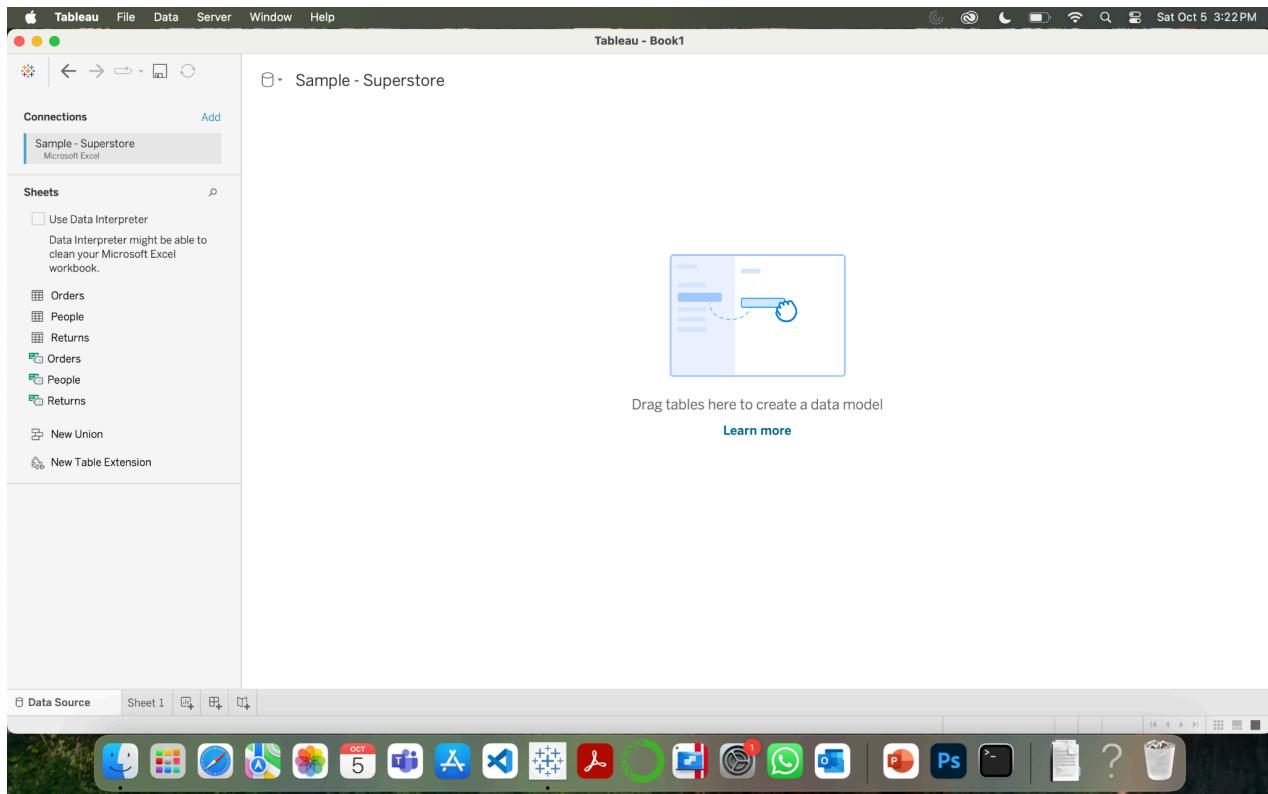


Name: Sai Sandhya Nannapaneni

ID: 11683731

TASK -1

Step 1 : Connecting the Sample-Superstore excel file.



Step 2: In the Data Source tab we are dragging the Orders table from the left pane to the data canvas and the table will be displayed.

The screenshot shows the Tableau desktop interface. The top menu bar includes Tableau, File, Data, Server, Window, and Help. The status bar at the bottom right shows the date as Sat Oct 5 3:23PM. The main workspace displays a connection to 'Orders (Sample - Superstore)' via a Microsoft Excel file. The 'Orders' sheet is selected. On the left, the 'Sheets' pane lists 'Orders', 'People', 'Returns', and a 'New Union'. The central area shows a preview of the 'Orders' table with 21 fields and 9994 rows. The table structure includes columns for Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, and Customer Name. The bottom of the screen shows the Mac OS X dock with various application icons.

Step 3:

The Order Table will be displayed after double clicking on the Orders Table box.

This screenshot is identical to the previous one, showing the Tableau desktop interface with the 'Orders' table selected. The preview area now displays a message stating 'Orders is made of 1 table.' Below this, the table structure is shown again with 21 fields and 9994 rows. The bottom of the screen shows the Mac OS X dock with various application icons.

Step 4:

Adding the Return table onto the canvas and join it to orders

Tableau - Book1

File Data Server Window Help Sat Oct 5 3:24PM

Orders+ (Sample - Superstore)

Connection Live Extract Filters 0 | Add

Orders is made of 2 tables.

Orders Returns

Sheets

- Orders
- People
- Returns
- Orders
- People
- Returns
- New Union
- New Table Extension

Orders 23 fields 3226 rows 100 rows

| # | Abc | Orders | Orders | Orders | Abc | Orders | Abc | Orders |
|--------|----------------|------------|-----------|--------------|-------------|-------------|-------------|-------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Customer ID | Customer ID | Customer ID |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |

Data Source Sheet 1 Go to Worksheet

Step 5

Joining the return to orders based on order id using the Inner join.

Tableau - Book1

File Data Server Window Help Sat Oct 5 3:24PM

Orders+ (Sample - Superstore)

Connection Live Extract Filters 0 | Add

Orders is made of 2 tables.

Orders Returns

Join

Inner Left Right Full Outer

Order ID = Order ID ...

Add new join clause

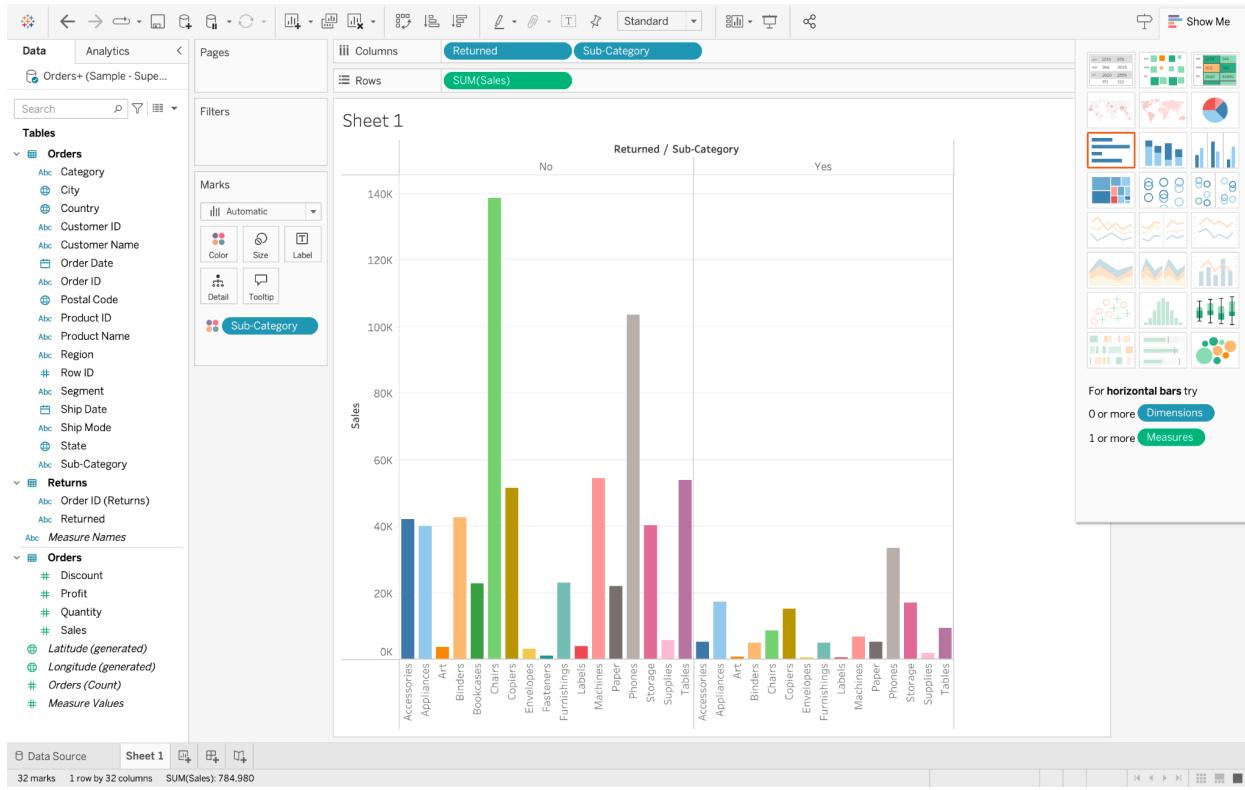
Orders 23 fields 3226 rows 100 rows

| # | Abc | Orders | Orders | Orders | Abc | Orders | Abc | Orders |
|--------|----------------|------------|-----------|--------------|-------------|-------------|-------------|-------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Customer ID | Customer ID | Customer ID |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschr | Zuschr | Zuschr |

Data Source Sheet 1 Go to Worksheet

Step 6

Creating the sheet 1 and building the visualization. Showing Sales by Sub-Category with colors representing whether items are returned or not.



Step 7

Add the people table to the data source and join it with orders on Customer Name and person from people using inner join

Orders+ (Sample - Superstore)

Connection: Live | Extract | Filters 0 | Add

Orders is made of 3 tables.

Orders

People

Returns

Orders

People

Returns

New Union

New Table Extension

Orders

25 fields 3226 rows

| # | Abc Orders | Orders | Orders | Abc Orders | Abc Orders | Abc Orders |
|--------|----------------|------------|-----------|--------------|-------------|------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Custom... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 21 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 21 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |

Data Source | Sheet 1 | | 100 → rows | |

Orders+ (Sample - Superstore)

Connection: Live | Extract | Filters 0 | Add

Orders is made of 3 tables.

Orders

Join

Inner

Left

Right

Full Outer

Data Source = People

Region = Region (People)

Add new join clause

Orders

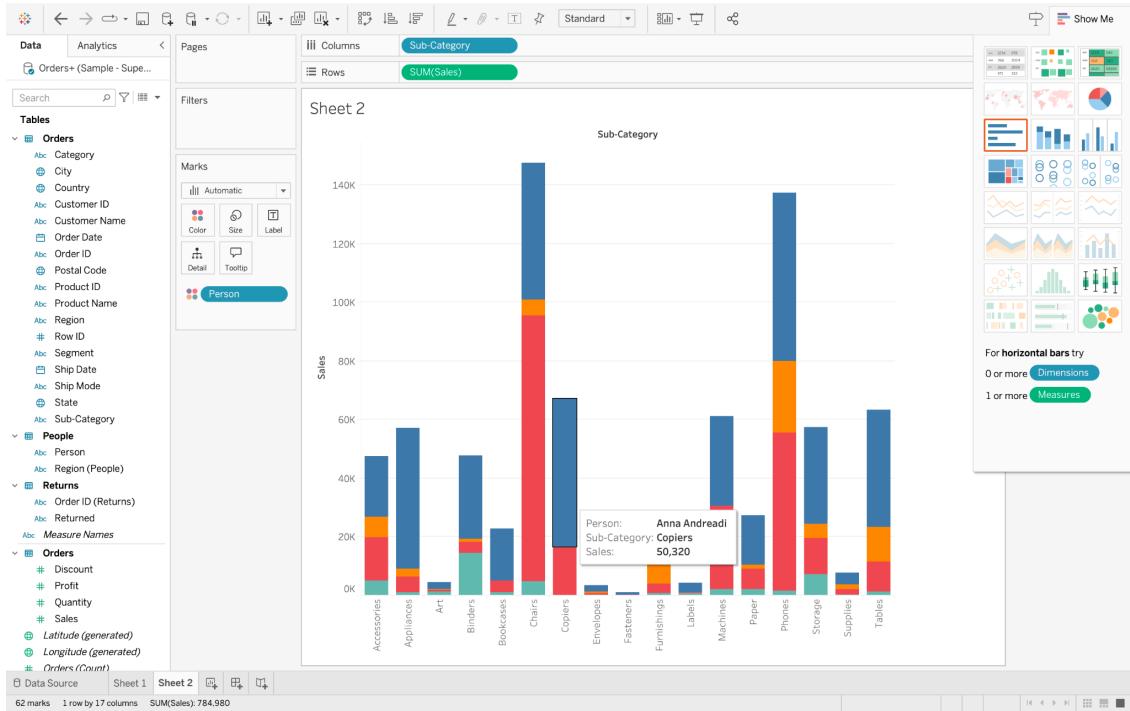
25 fields 3226 rows

| # | Abc Orders | Orders | Orders | Abc Orders | Abc Orders | Abc Orders |
|--------|----------------|------------|-----------|--------------|-------------|------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Custom... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 19 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 20 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 21 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |
| 21 | CA-2015-143336 | 8/27/2015 | 9/1/2015 | Second Class | ZD-21925 | Zuschu... |

Data Source | Sheet 1 | | 100 → rows | |

Step 8 :

Creating the step 2 and building the visualization. Placing the Sales in row, sub-category on columns and people to the color shelf.

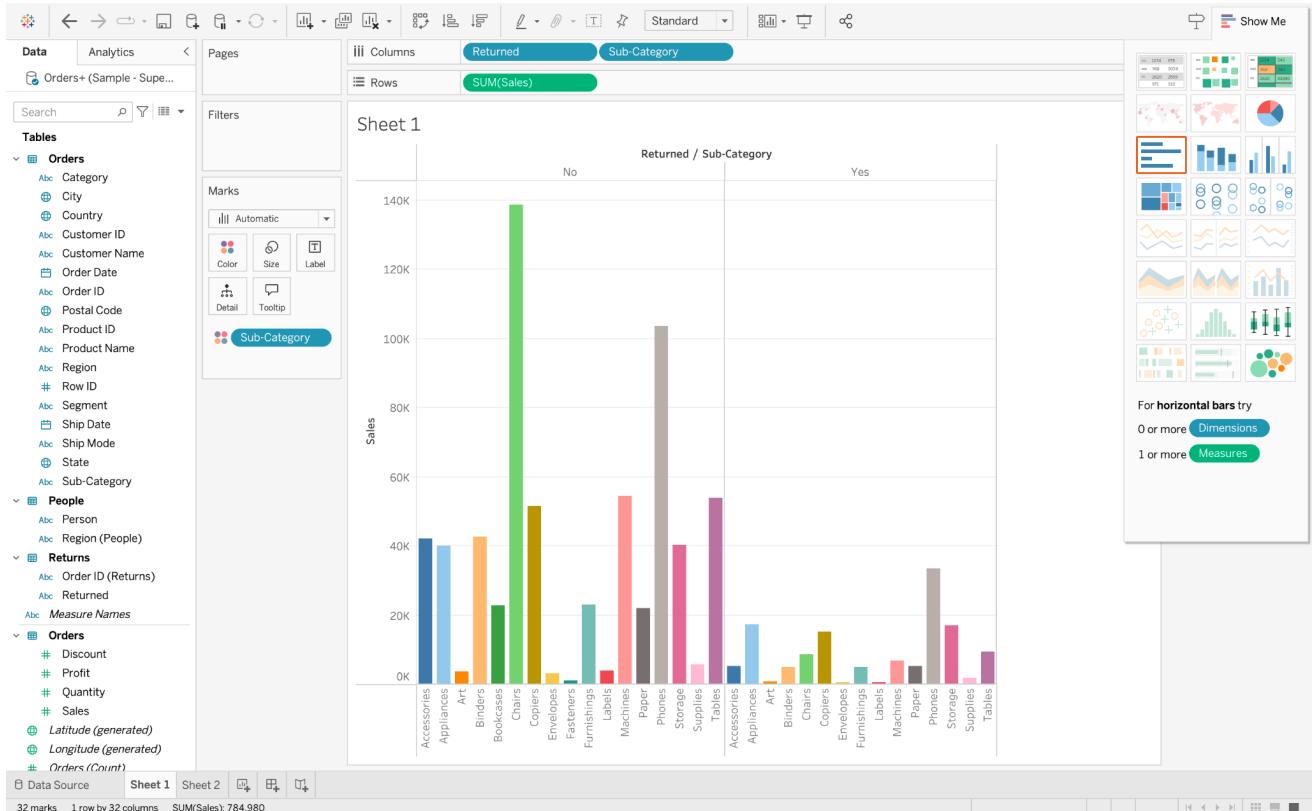


QUESTION 1

-> Analyzing the impact of joins and visualizing the changes.

=> Inner Joins

The screenshot shows the Tableau Data Prep interface for the "Orders+ (Sample - Superstore)" connection. On the left, there's a sidebar with "Connections" (Sample - Superstore), "Sheets" (Orders, People, Returns, Orders, People, Returns, New Union, New Table Extension), and "Data Interpreter" settings. The main area shows a dialog titled "Orders is made of 3 tables." with a "Join" tab selected. It shows a join between the "Orders" and "People" tables on the "Region" field. Below this, a preview of the joined data is shown in a table with columns: Name, Row ID, Order ID, Order Date, Orders, Order Date, Ship Date, Ship Mode, Customer ID, and Customer Name. The preview shows 25 fields and 3226 rows of data.



=> Left Join

Orders+ (Sample - Superstore)

Connection: Live | Extract

Filters: 0 | Add

Orders is made of 3 tables.

Join

Region = Region (People)

Fields

| Type | Field Name | Physical Table | Remote Field |
|------|------------|----------------|--------------|
| # | Row ID | Orders | Row ID |
| Abc | Order ID | Orders | Order ID |
| Abc | Order Date | Orders | Order Date |
| Abc | Ship Date | Orders | Ship Date |
| Abc | Ship Mode | Orders | Ship Mode |

Orders 25 fields 12420 rows

| # | Abc Orders | Orders | Orders | Abc Orders | Abc Orders | Abc Orders |
|--------|----------------|------------|------------|----------------|-------------|------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Customer |
| 1 | CA-2017-152156 | 11/8/2017 | 11/11/2017 | Second Class | CG-12520 | Claire |
| 2 | CA-2017-152156 | 11/8/2017 | 11/11/2017 | Second Class | CG-12520 | Claire |
| 3 | CA-2017-138688 | 6/12/2017 | 6/16/2017 | Second Class | DV-13045 | Darrin |
| 4 | US-2016-108966 | 10/11/2016 | 10/18/2016 | Standard Class | SO-20335 | Sean C |
| 5 | US-2016-108966 | 10/11/2016 | 10/18/2016 | Standard Class | SO-20335 | Sean C |
| 6 | CA-2015-115812 | 6/9/2015 | 6/14/2015 | Standard Class | BH-11710 | Brosin |
| 7 | CA-2015-115812 | 6/9/2015 | 6/14/2015 | Standard Class | BH-11710 | Brosin |
| 8 | CA-2015-115812 | 6/9/2015 | 6/14/2015 | Standard Class | BH-11710 | Brosin |

Analytics

Data Source: Orders+ (Sample - Superstore)

Sheets: Sheet 1, Sheet 2

Tables:

- Orders
- People
- Returns
- Orders
- People
- Returns

Search: Orders

Filters:

Marks:

Sheet 1

Returned / Sub-Category

Sales

For horizontal bars try 0 or more Dimensions 1 or more Measures

Dimensions: Sub-Category

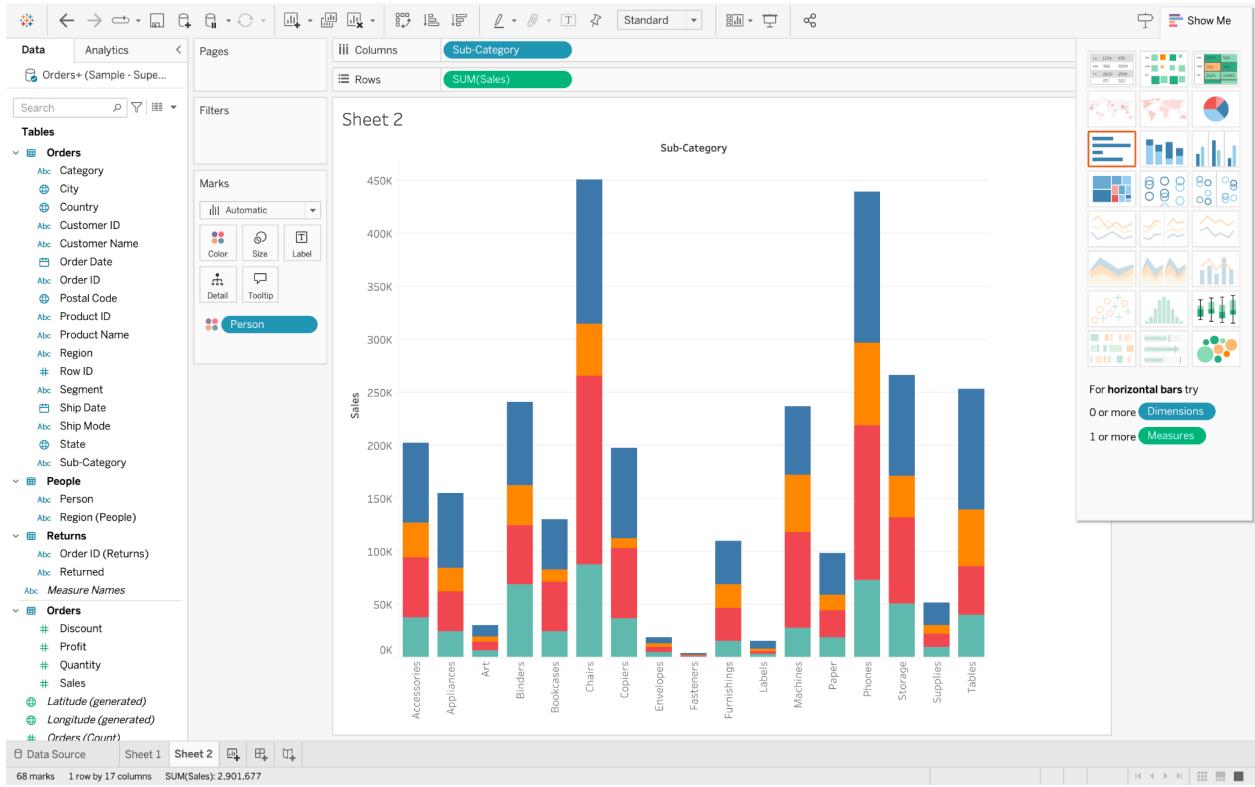
Measures: SUM(Sales)

Legend: Sub-Category

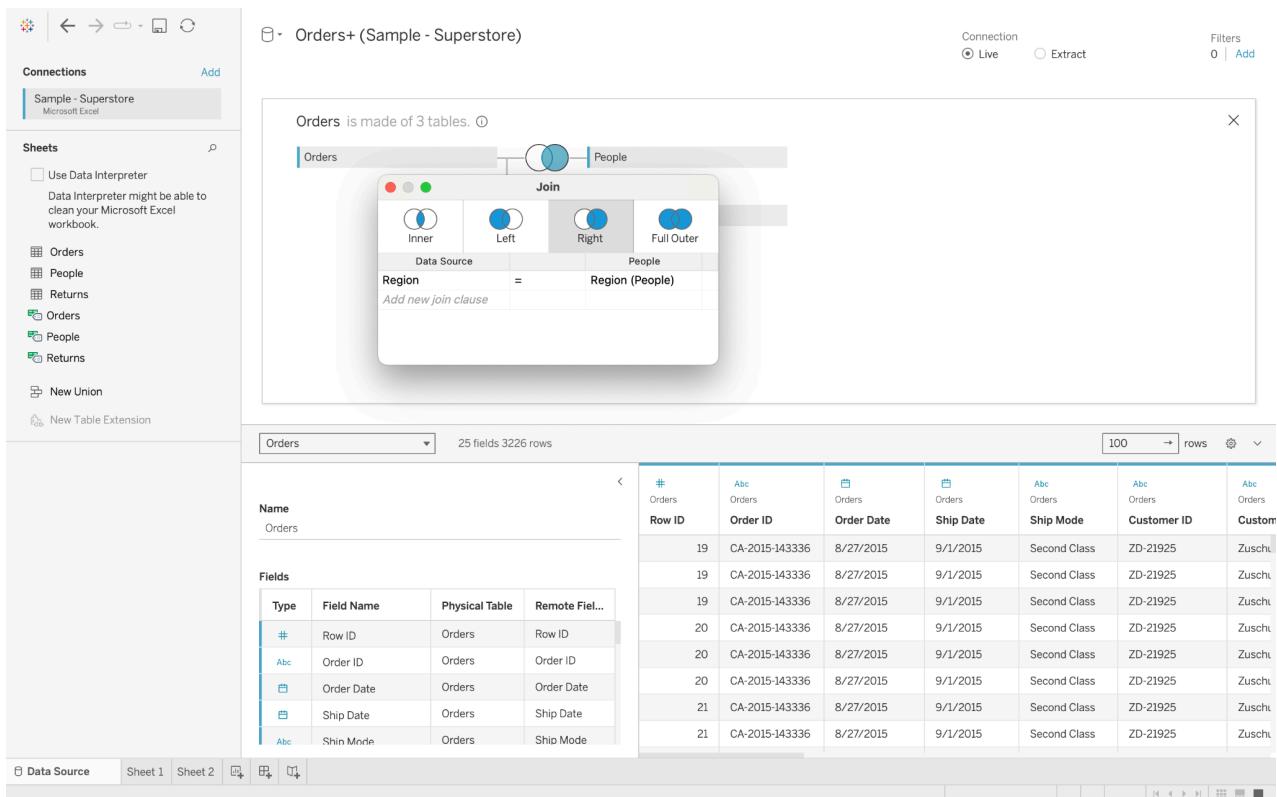
Controls: Columns, Rows, Standard, Show Me

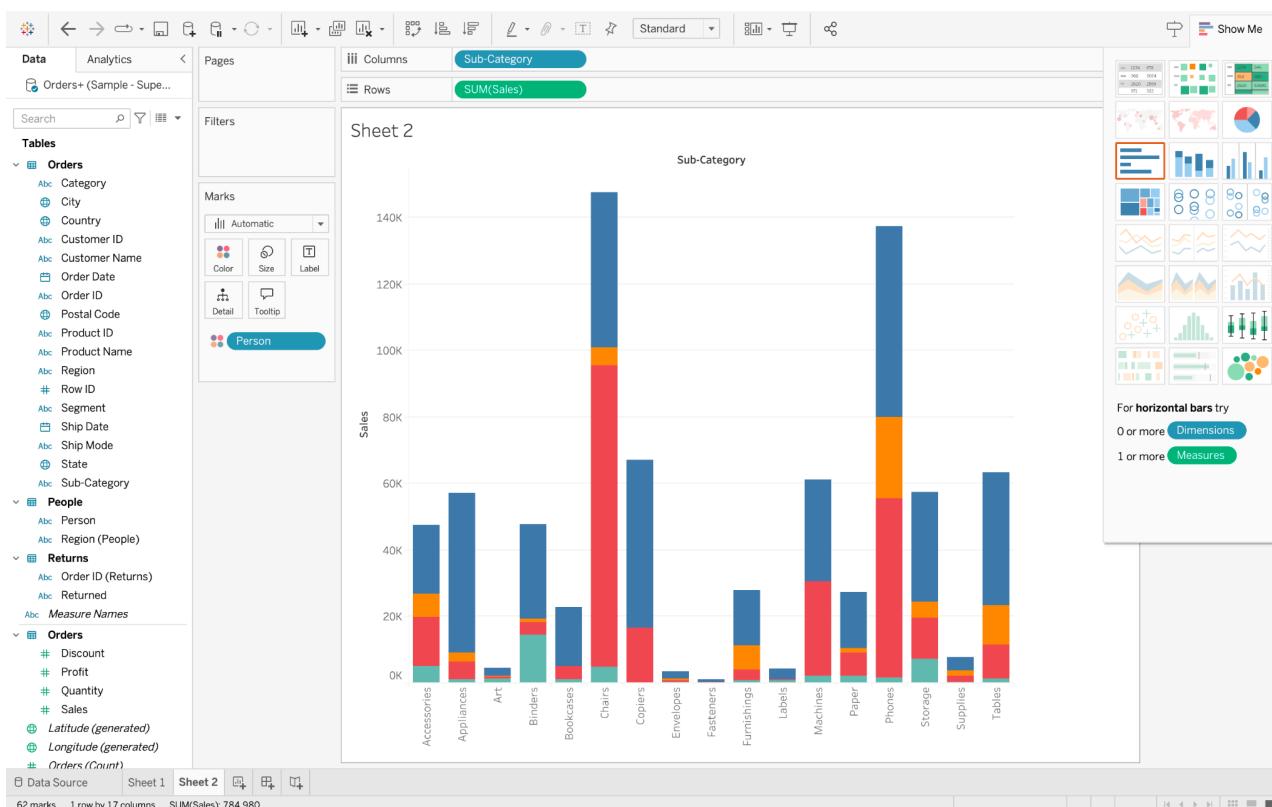
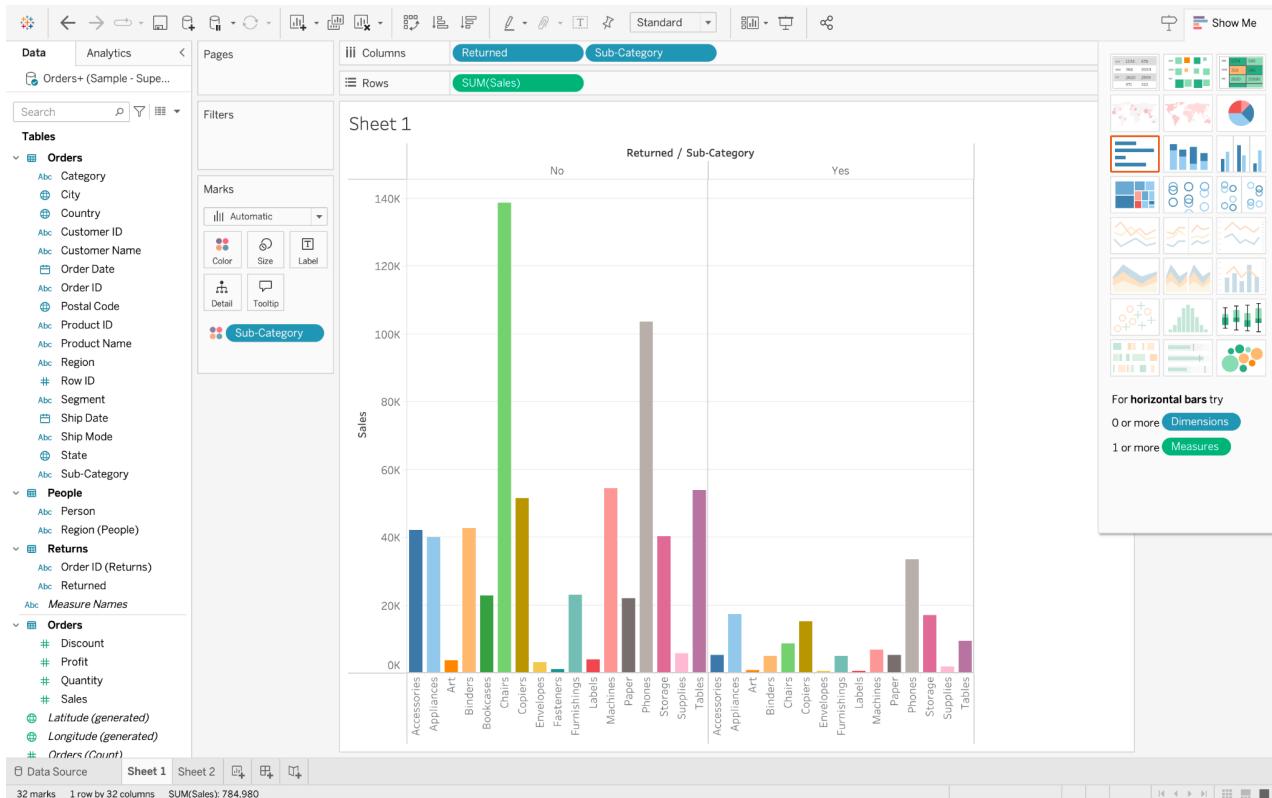
Sheet 1

49 marks 1 row by 49 columns SUM(Sales): 2,901,677



=> Right Join





=>Full Outer Join

Orders+ (Sample - Superstore)

Connection Live Extract

Filters 0 | Add

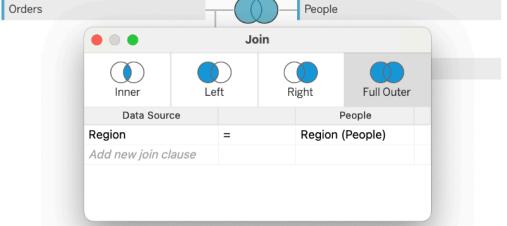
Connections Add

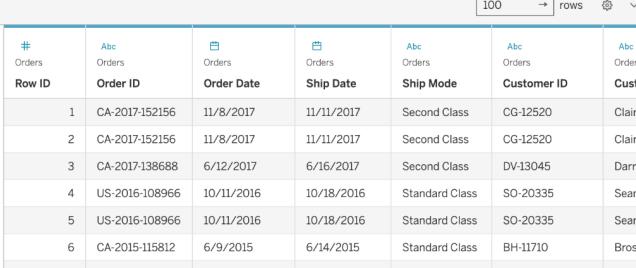
Sample - Superstore Microsoft Excel

Sheets 

Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.

Orders People Returns Orders People Returns New Union New Table Extension

Orders is made of 3 tables. 

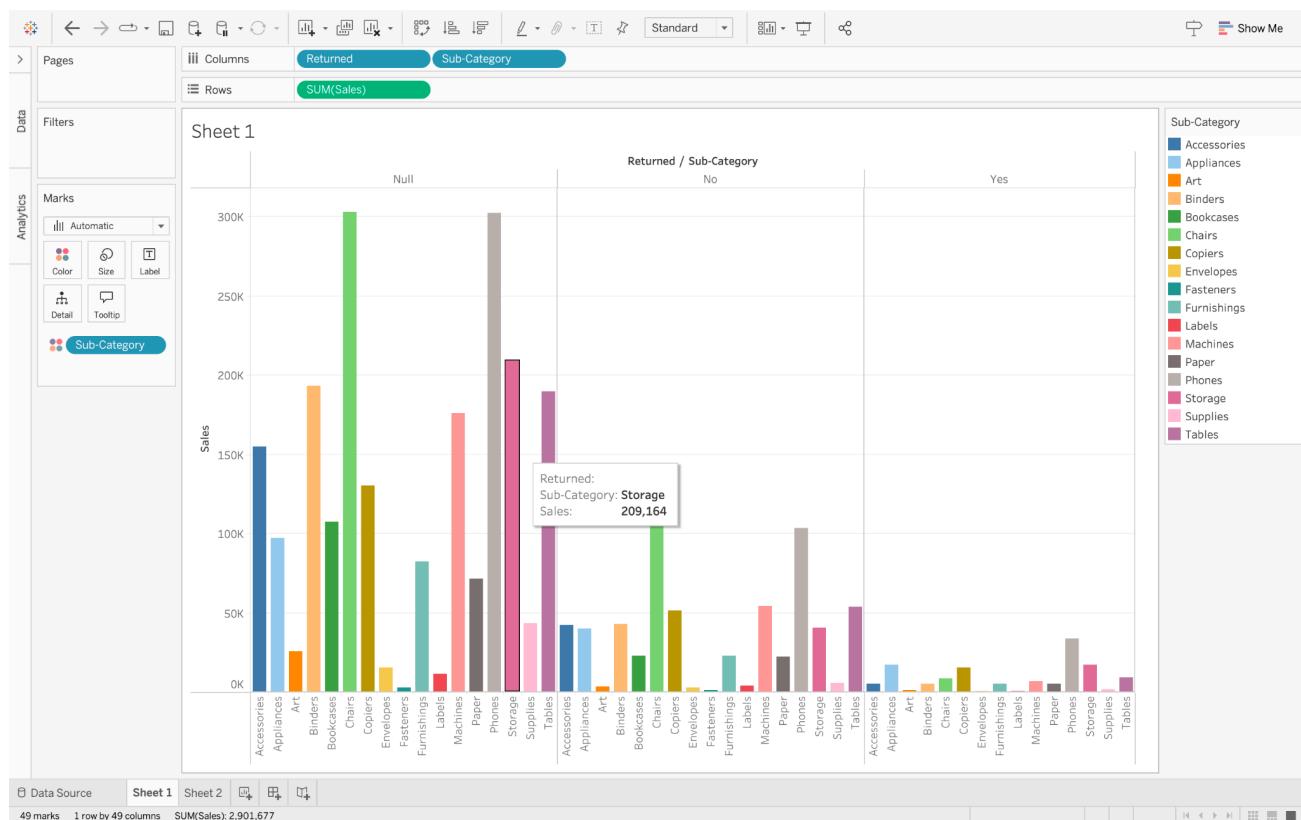
Orders 25 fields 12420 rows 

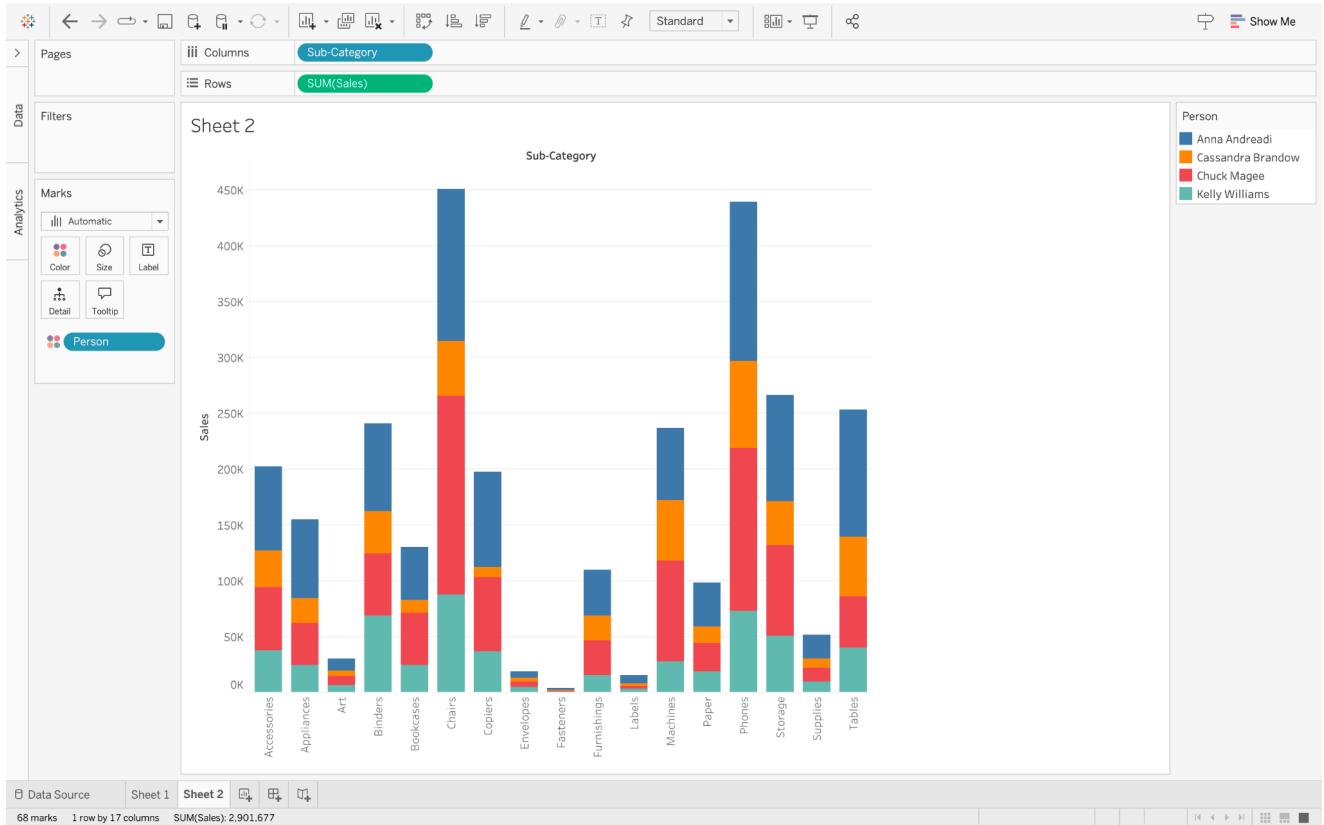
Name Orders

Fields

| Type | Field Name | Physical Table | Remote Field |
|------|------------|----------------|--------------|
| # | Row ID | Orders | Row ID |
| Abc | Order ID | Orders | Order ID |
| Abc | Order Date | Orders | Order Date |
| Abc | Ship Date | Orders | Ship Date |
| Abc | Ship Mode | Orders | Ship Mode |

Data Source Sheet 1 Sheet 2 





TASK - 2

Step 1:
Connecting the Superstore excel file to the data source.

| # | Orders | Abc Orders | Orders | Abc Orders | Abc Orders | Abc Orders |
|--------|----------------|---------------|------------|----------------|---------------|---------------|
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Custom |
| 1 | CA-2016-152156 | 11/8/2016 | 11/11/2016 | Second Class | CG-12520 | Claire C. |
| 2 | CA-2016-152156 | 11/8/2016 | 11/11/2016 | Second Class | CG-12520 | Claire C. |
| 3 | CA-2016-138688 | 6/12/2016 | 6/16/2016 | Second Class | DV-13045 | Darrin |
| 4 | US-2015-108966 | 10/11/2015 | 10/18/2015 | Standard Class | SO-20335 | Sean C. |
| 5 | US-2015-108966 | 10/11/2015 | 10/18/2015 | Standard Class | SO-20335 | Sean C. |
| 6 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosin. |
| 7 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosin. |
| 8 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosin. |

Step 2:

Creating the by selecting the New parameter to open the parameter creation dialog box

The screenshot shows the Tableau Data Source view. On the left, there's a sidebar with various options like 'Create Calculated Field...', 'Create Parameter...', 'Group by Folder', and a list of fields from the 'Orders' data source. A context menu is open over the 'Create Parameter...' option. The main workspace is labeled 'Sheet 3' and contains a 'Marks' shelf with 'Automatic' selected and icons for Color, Size, and Text. There are also 'Detail' and 'Tooltip' buttons. The bottom navigation bar shows tabs for 'Sheet 1', 'Sheet 2', and 'Sheet 3'.

Step 3:

Giving the inputs as Parameter name is Data Level Selector, Data Type as String, and selecting the allowable values as List. Then we give the specific values you want to include in the parameter and click ok.

The screenshot shows the Tableau interface with the 'Create Parameter' dialog box open. The dialog has several sections: 'Name' (containing 'Parameter1'), 'Properties' (with 'Data type' set to 'Float' and 'Display format' set to '1'), 'Current value' (set to '1'), 'Value when workbook opens' (set to 'Current value'), and 'Allowable values' (with 'All' selected). At the bottom are 'Cancel' and 'OK' buttons. The background workspace is labeled 'Sheet 3'.

The screenshot shows the Tableau Data Source interface. On the left, the 'Tables' pane lists various dimensions and measures. A 'Parameters' section at the bottom contains one item: 'abc Data Level Selector'. A context menu is open over this parameter, with 'Show Parameter' selected. A modal window titled 'Create Parameter' is displayed, prompting for a name ('Data Level Selector'), data type ('String'), display format ('Year'), current value ('Year'), and allowable values ('All' or 'List'). The 'List' option is selected, showing a table with 'Value' and 'Display As' columns for Year, Quarter, Month, Week, and Day. Buttons for 'Cancel' and 'OK' are at the bottom right.

Step 4: Now the newly created parameter is created, right click on that and click on Show parameter.

The screenshot shows the Tableau Data Source interface. The 'Parameters' section now includes the newly created parameter 'abc Data Level Selector'. A context menu is open over this parameter, with 'Show Parameter' selected. The menu also includes options like Cut, Copy, Edit..., Duplicate, Rename, Hide, Delete, Create, Default Properties, Image Role, Folders, Replace References..., and Describe... The 'Show Parameter' option is highlighted with a blue background.

Step 5:

Creating the new calculated field named Date Selector and we will be entering the function and click on OK.

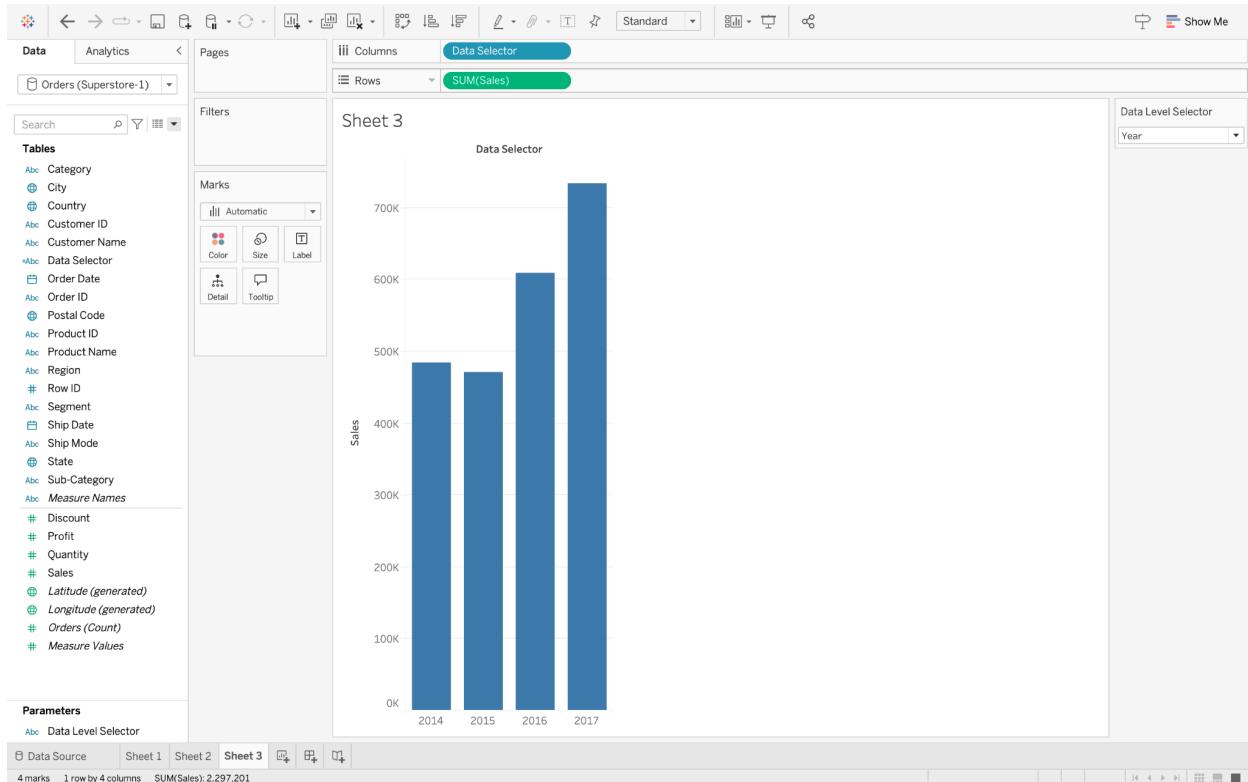
The screenshot shows the Tableau Data Selector dialog box. The code entered is:

```
CASE [Data Level Selector]
WHEN 'Year' THEN STR(YEAR([Order Date]))
WHEN 'Quarter' THEN STR(YEAR([Order Date])) + " Q" + D
WHEN 'Month' THEN STR(YEAR([Order Date])) + '/' + STF
END
```

The message at the bottom says "The calculation is valid." with "OK" and "Apply" buttons.

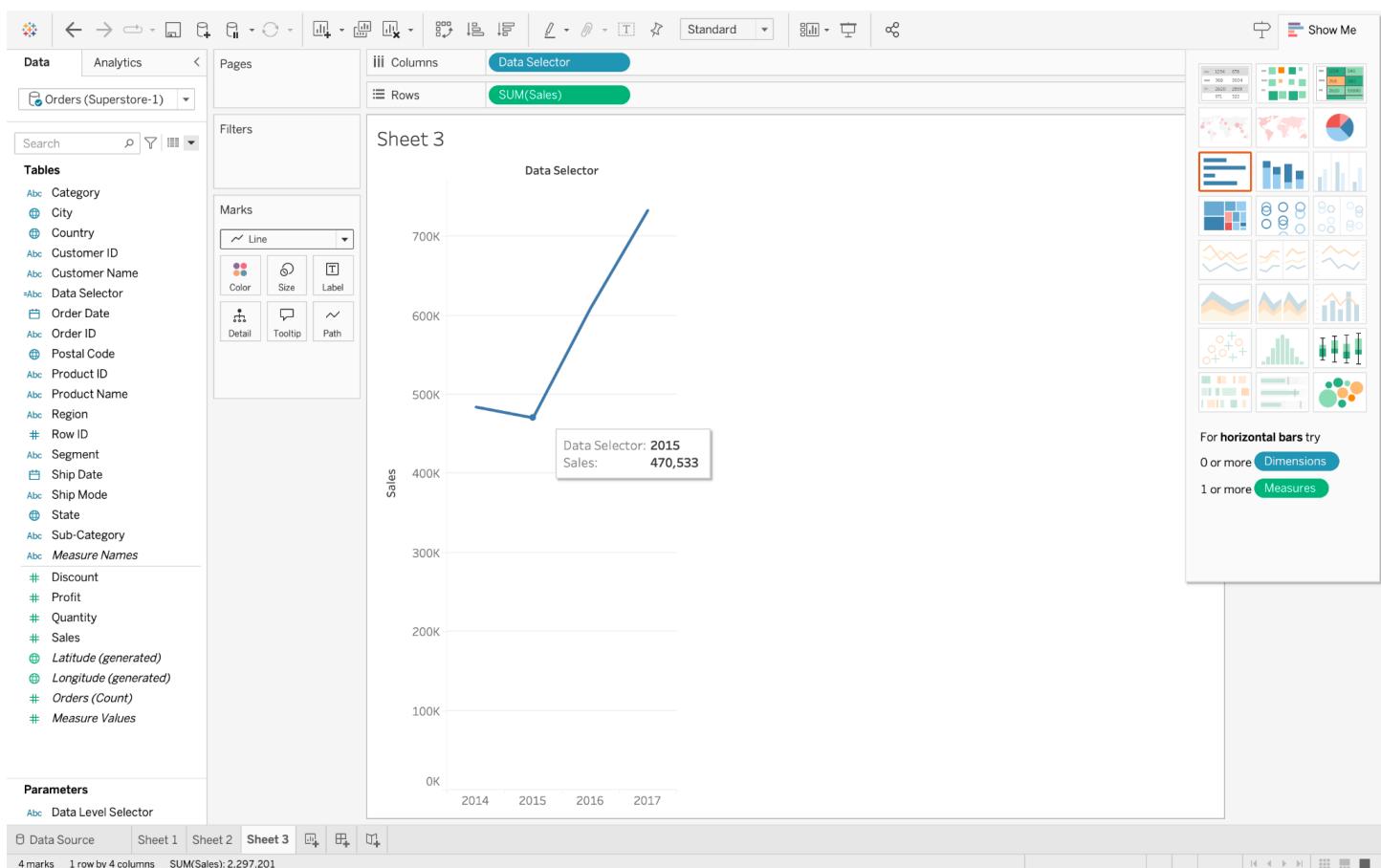
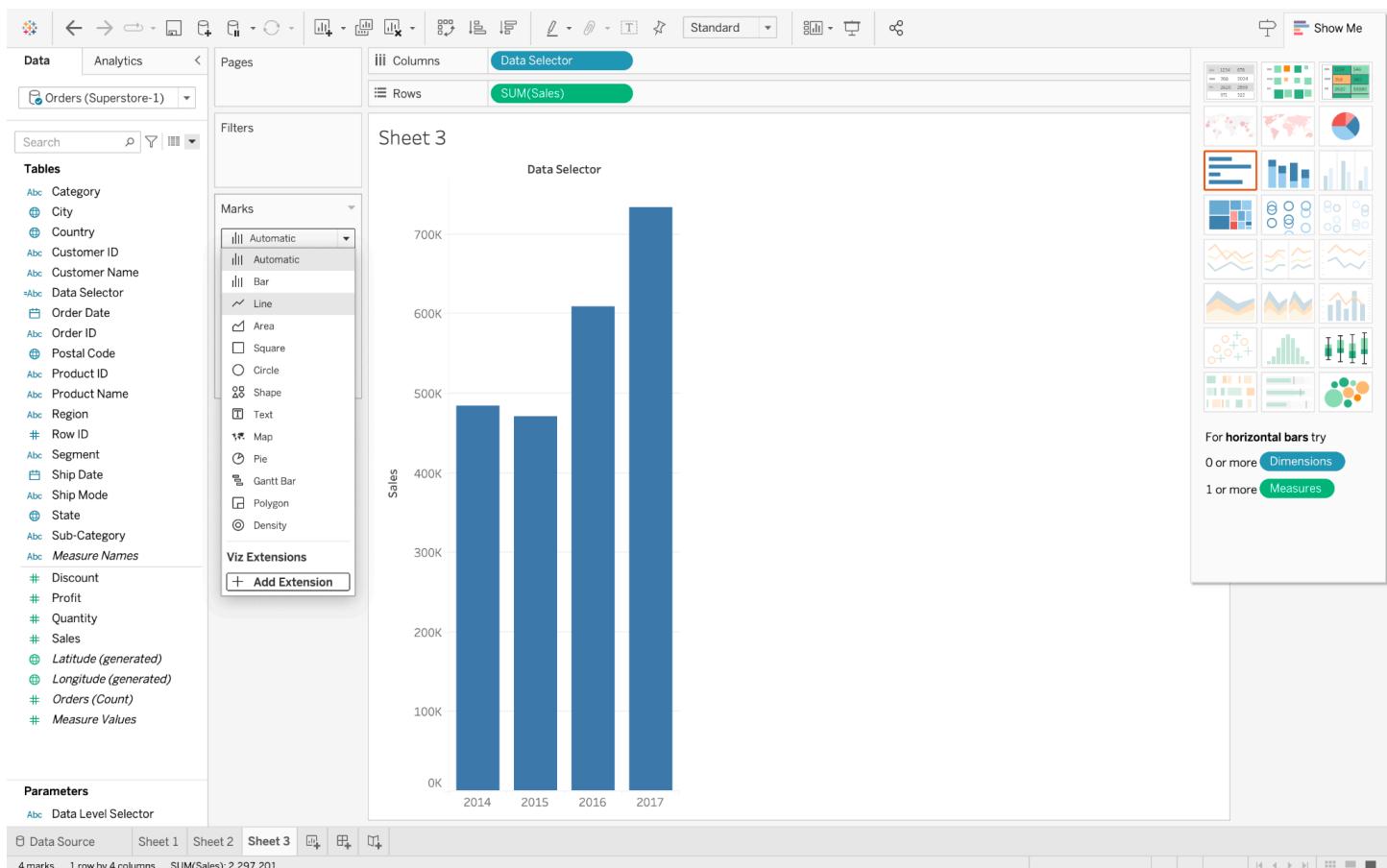
Step 6:

Creating the visualization to display the sales data by keeping the Data Selector on the columns and sales on the rows.



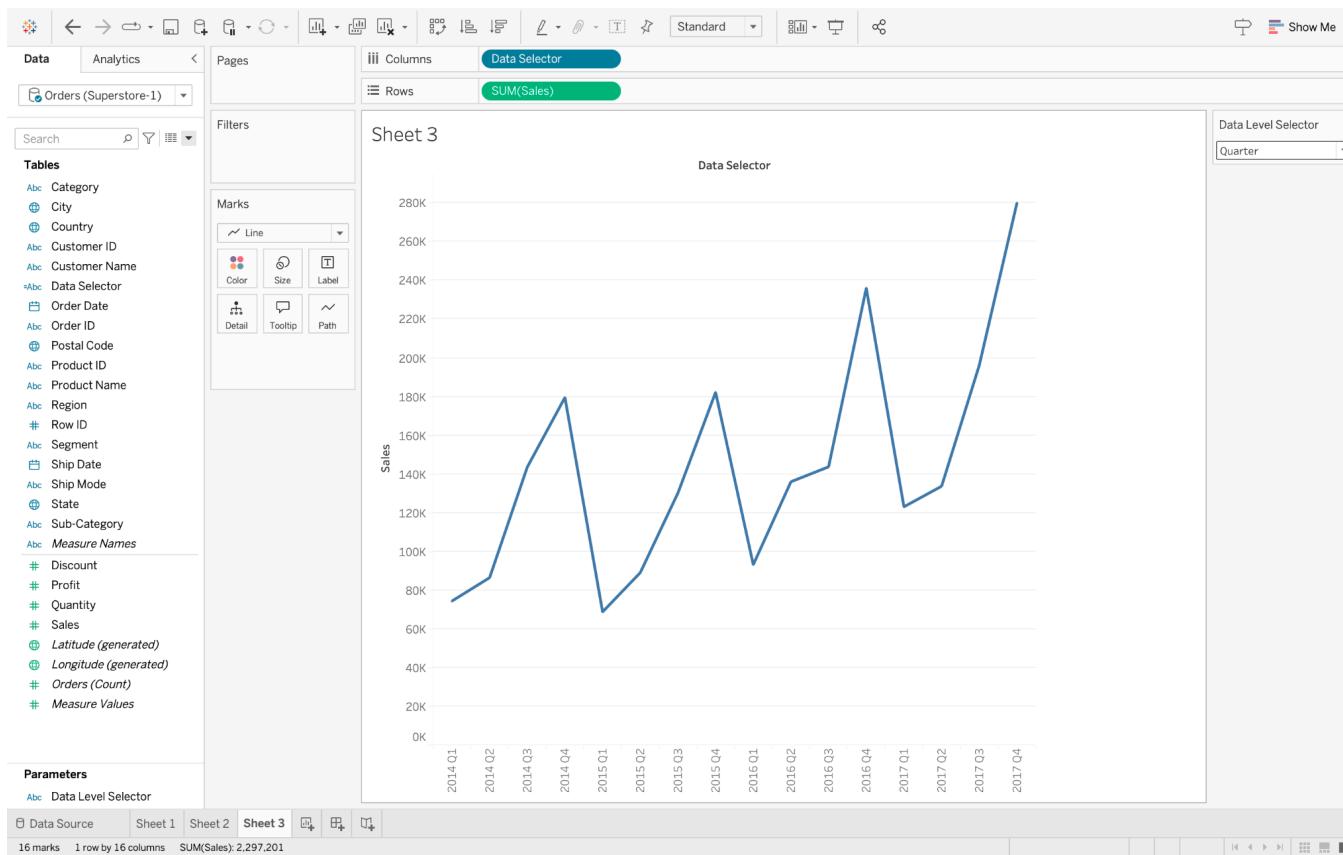
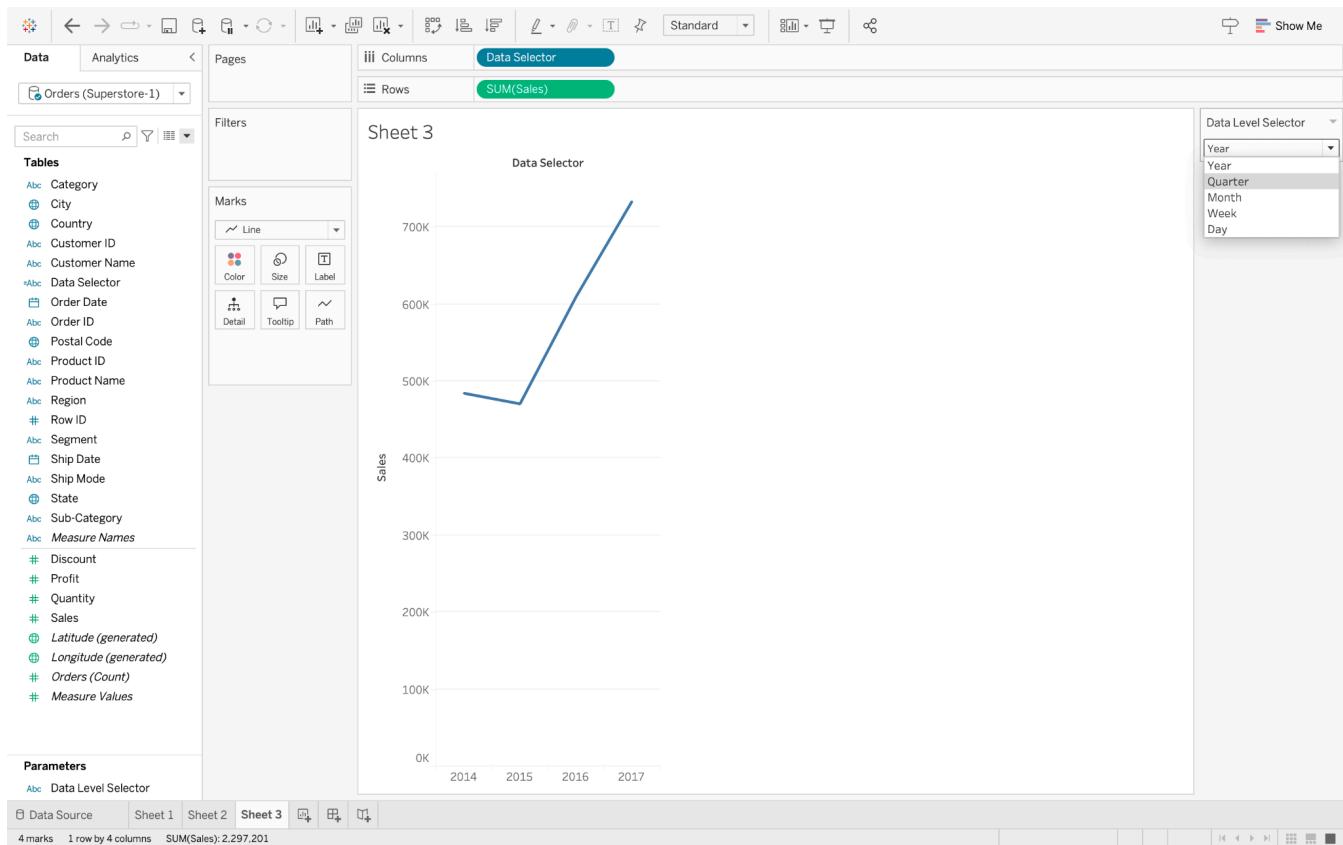
Step 7:

Changing the mark type to “LINE”. The visualization will be transformed to a line chart and then we can visualize the sales over the selected date intervals.



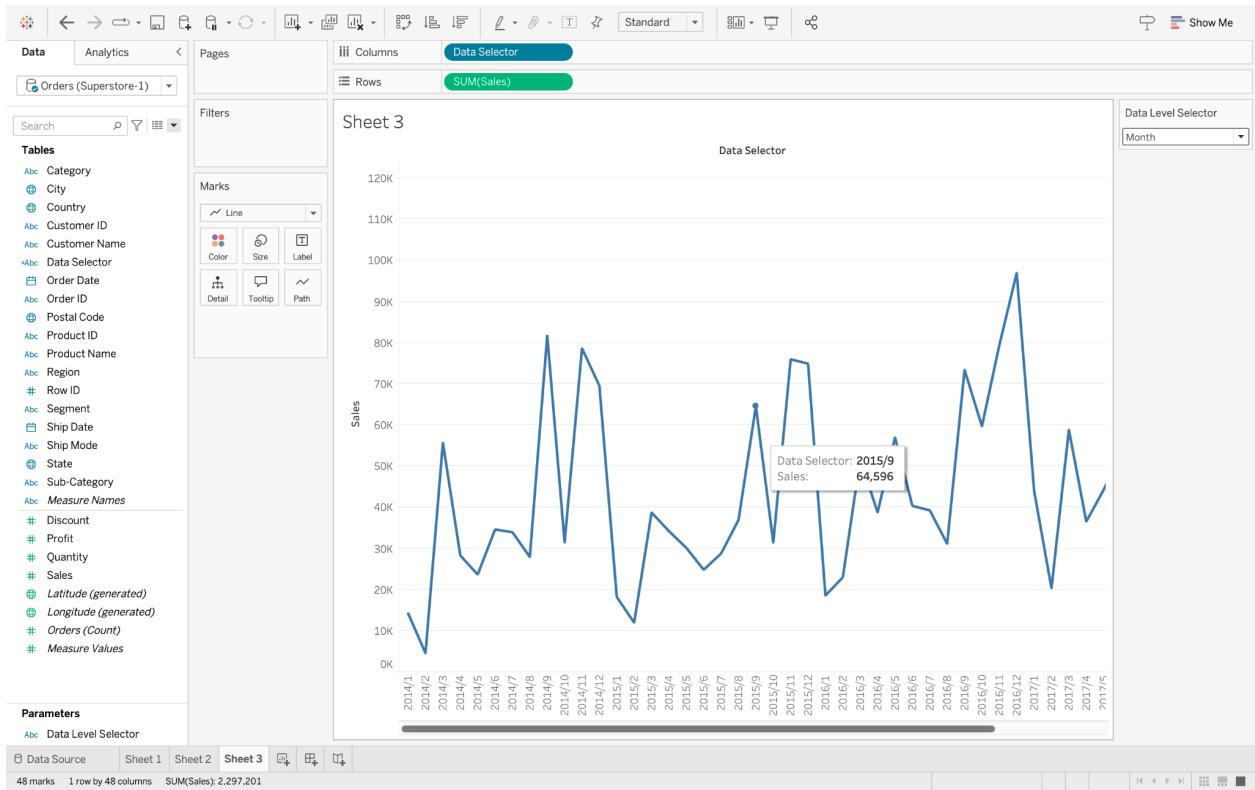
Step 8:

Changing the Date Level Selector parameter to Quarter. This will display the sales figures within the selected quarters in the line chart.



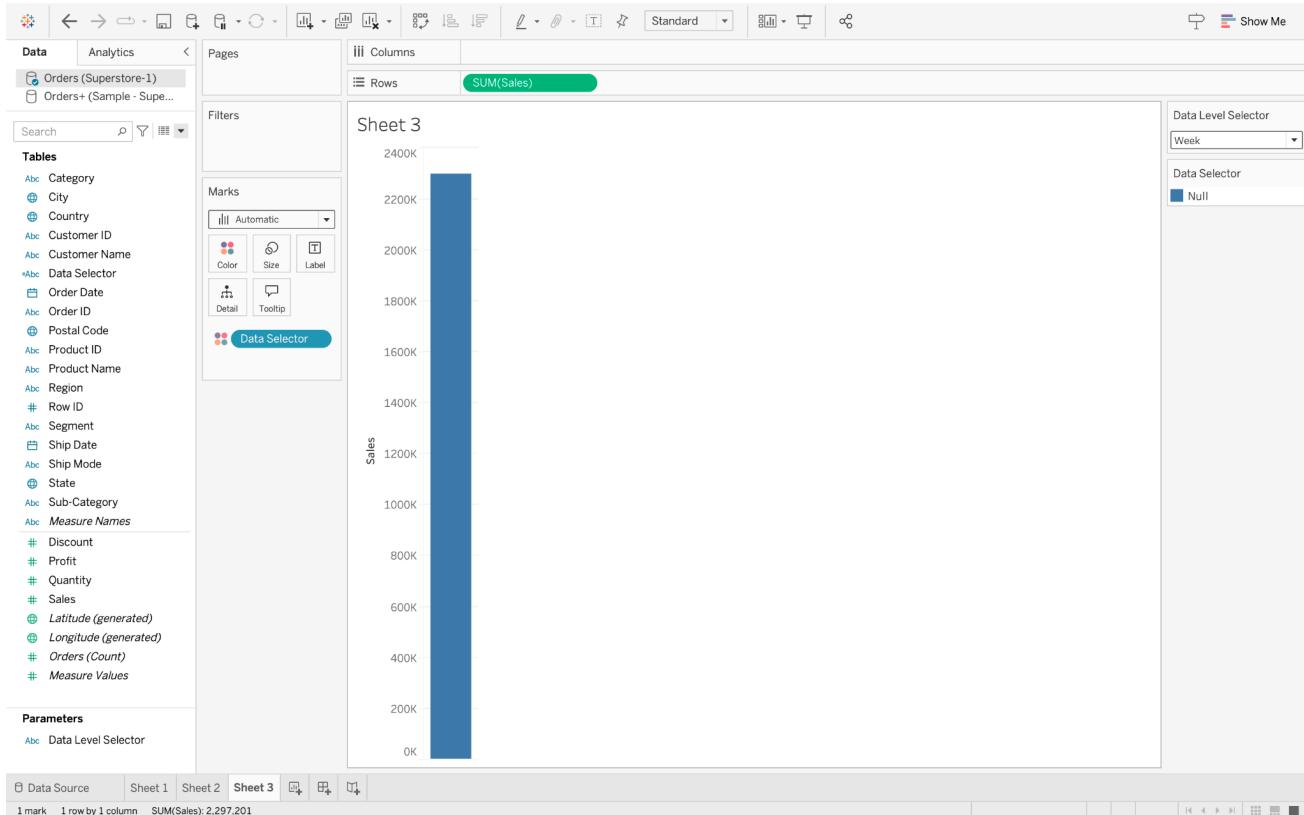
Step 9:

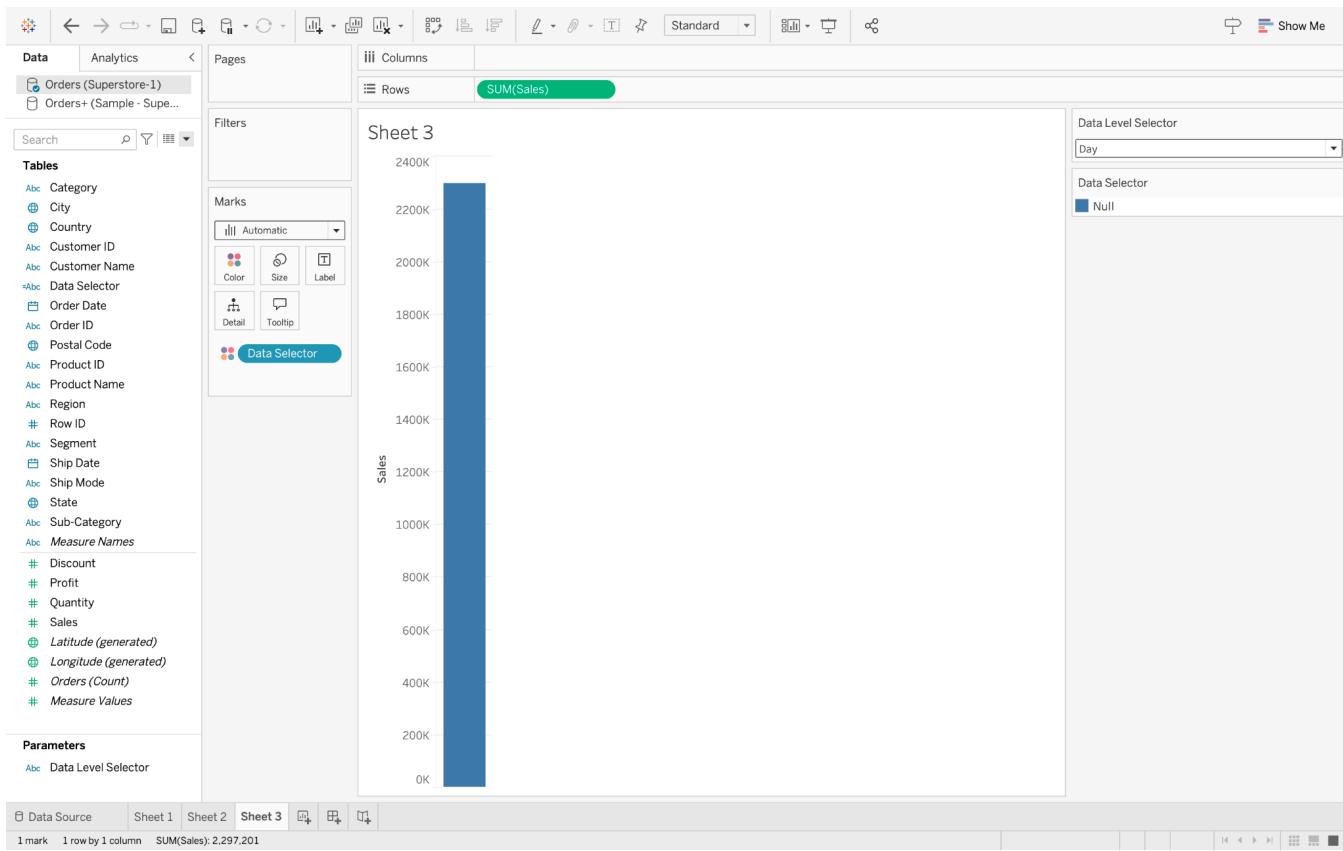
Changing the Date Level Selector parameter to Month.This will display the sales figures within the selected Month and it gives a more detailed analysis in the line chart.



Step 10:

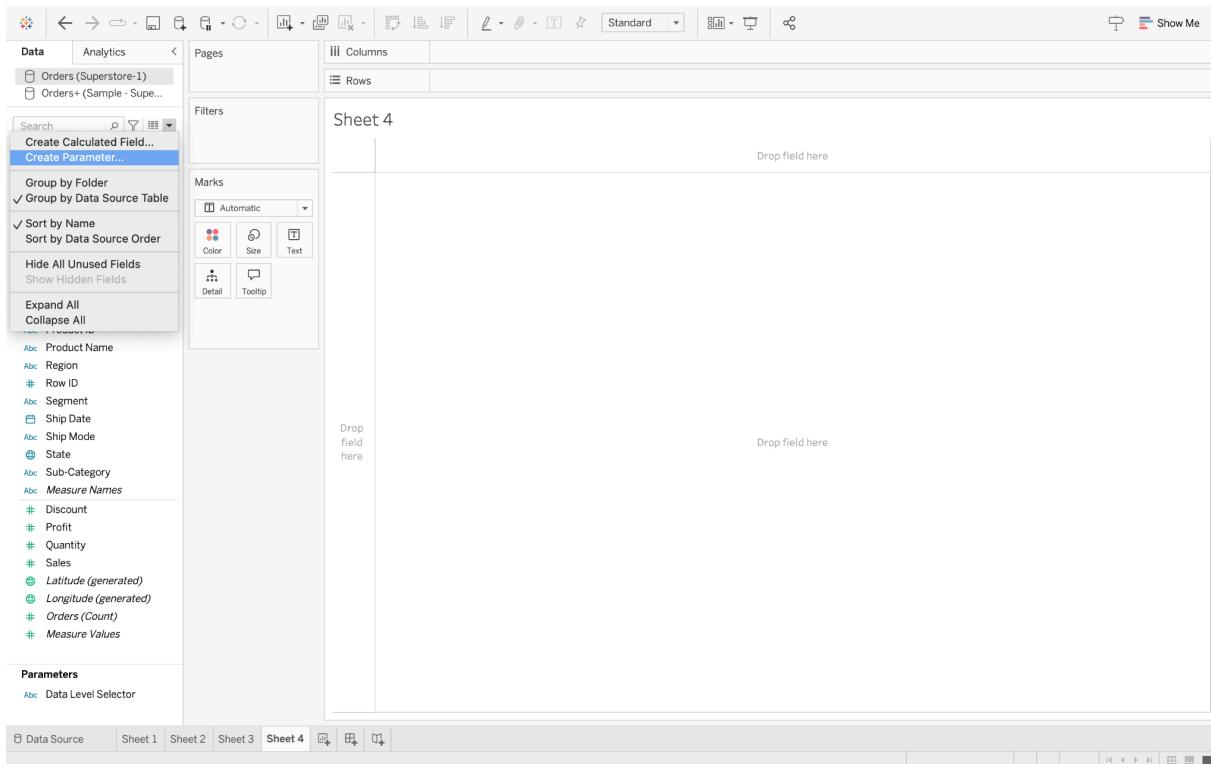
Changing the Date Level Selector parameter to week and Day.This will display the sales figures within the selected week and Day in the line chart.





Question 2

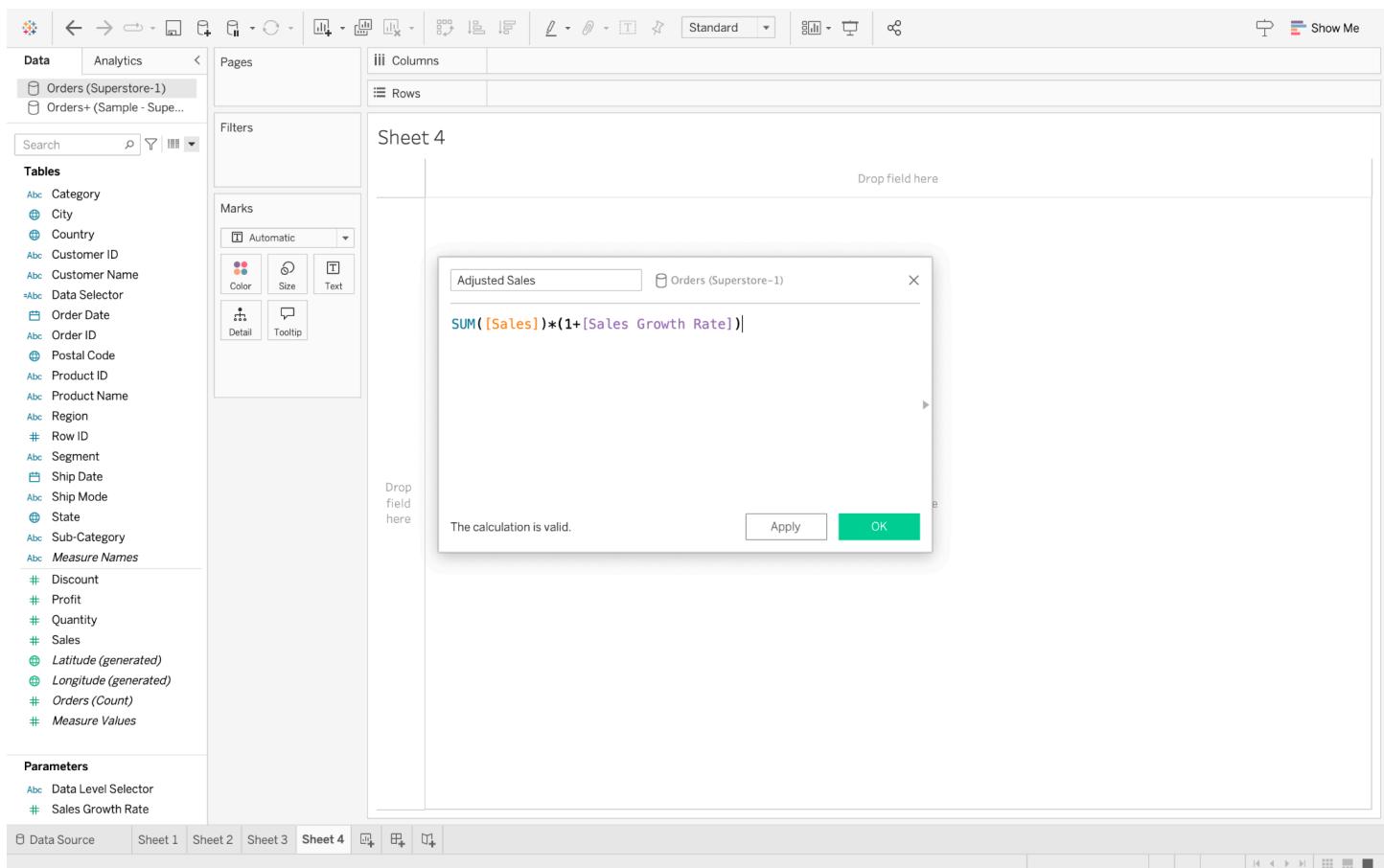
- 1) Create a parameter named Sales Growth Rate, set the Data Type to Float, and set the range from 0 to 1 with a step size of 0.05



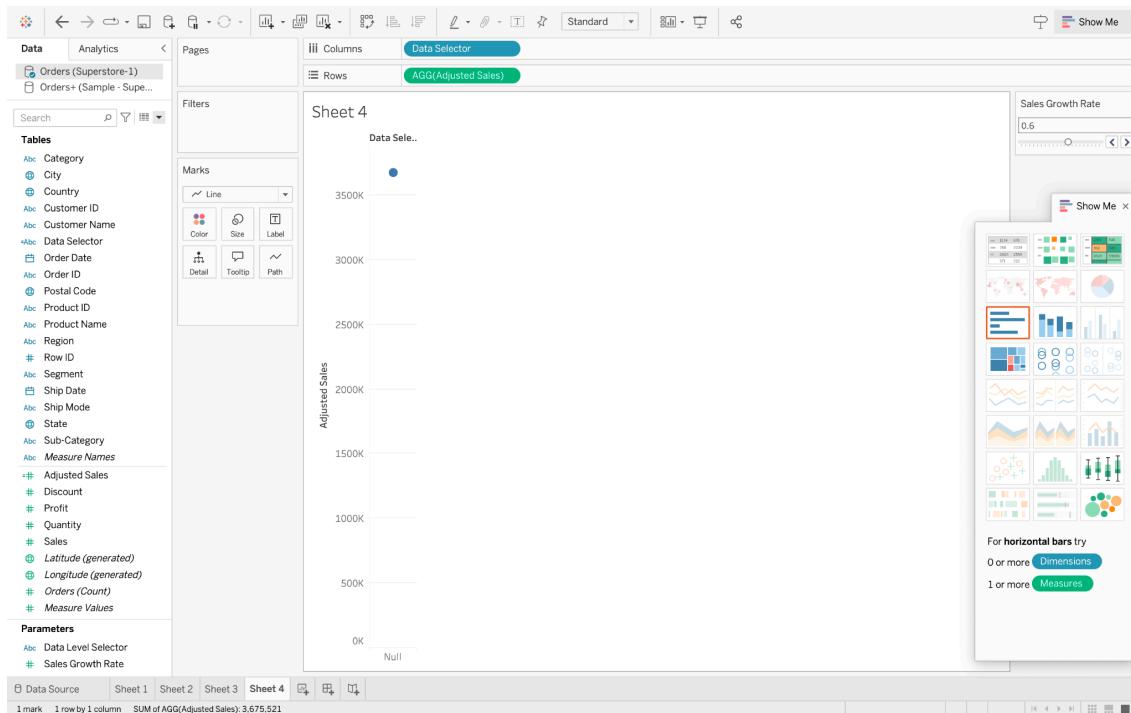
The screenshot shows the Tableau Data Editor interface. A 'Create Parameter' dialog box is open in the center. The 'Name' field is set to 'Sales Growth Rate'. The 'Data type' is 'Float' and the 'Display format' is '1'. The 'Current value' is '1' and the 'Value when workbook opens' is 'Current value'. Under 'Allowable values', 'Range' is selected. In the 'Range of values' section, 'Minimum' is checked with a value of '0', 'Maximum' is checked with a value of '1', and 'Step size' is checked with a value of '0.05'. At the bottom right of the dialog box is the 'OK' button.

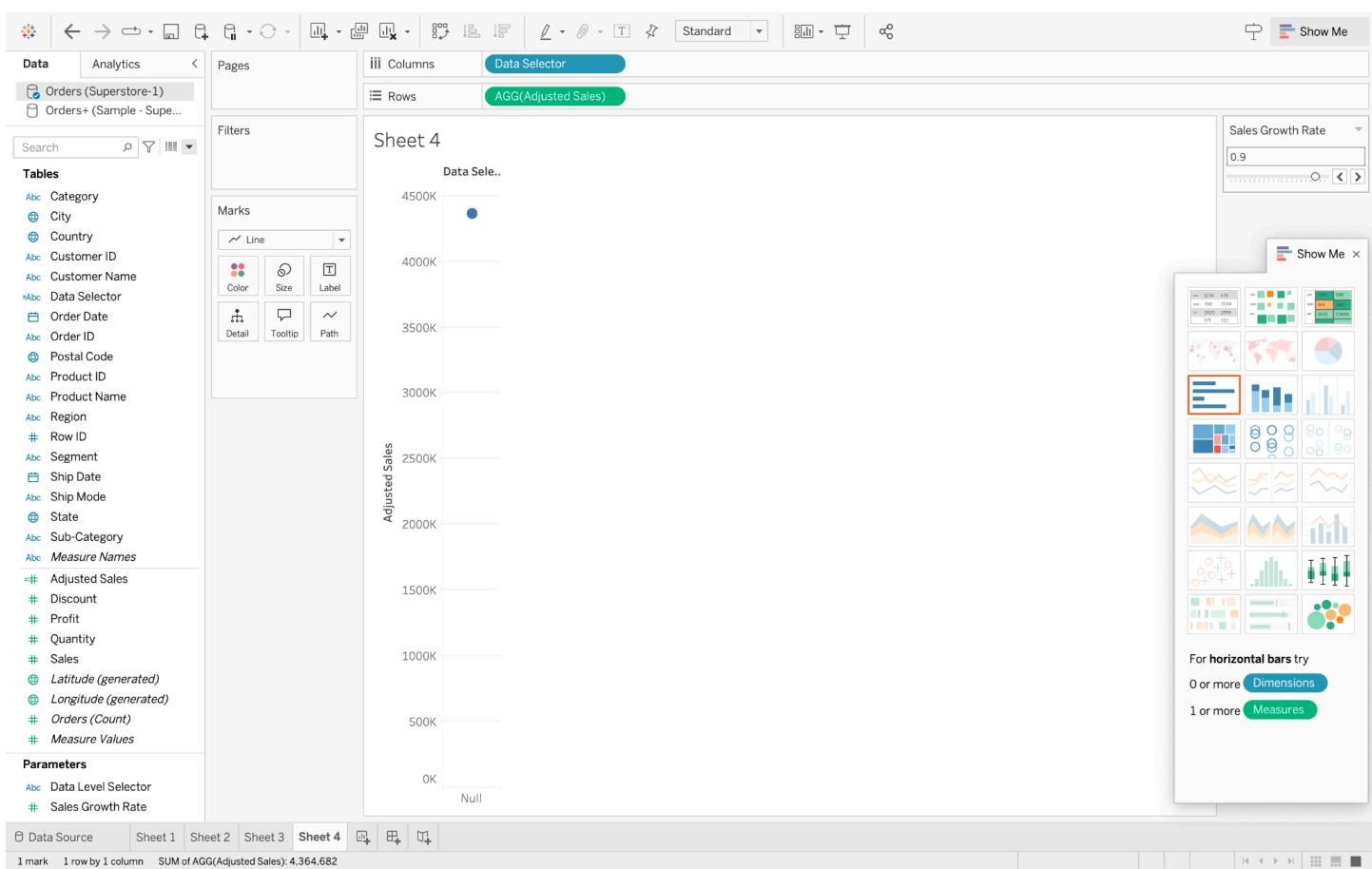
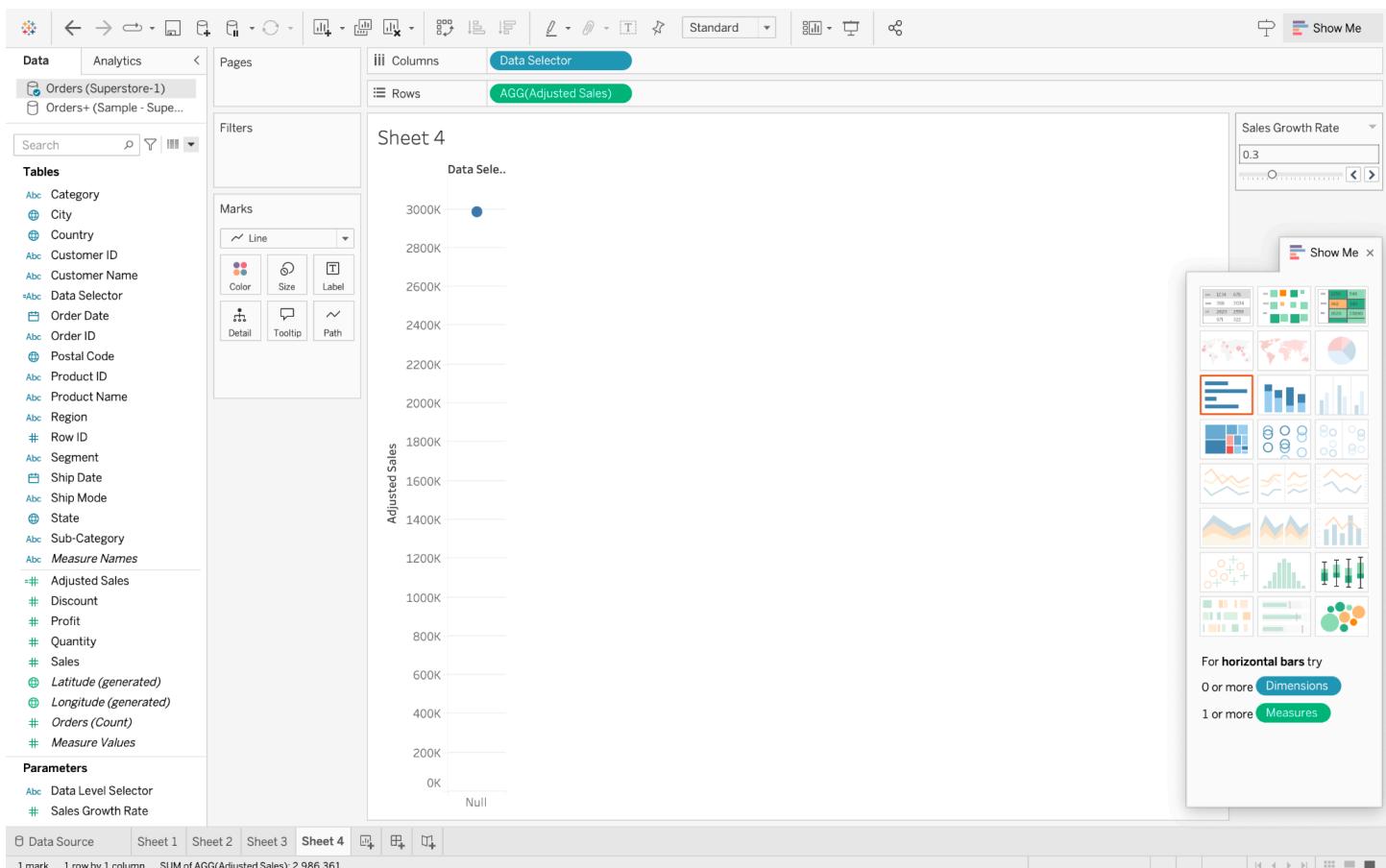
2) Create a new calculated field named Adjusted Sales using the formula:
 $\text{SUM}([\text{Sales}]) * (1 + [\text{Sales Growth Rate}])$

The screenshot shows the Tableau Data Editor interface with a context menu open. The 'Create Calculated Field...' option is highlighted. Other options in the menu include 'Create Parameter...', 'Group by Folder', 'Group by Data Source Table', 'Sort by Name', 'Sort by Data Source Order', 'Hide All Unused Fields', 'Show Hidden Fields', 'Expand All', 'Collapse All', and 'Tables'.

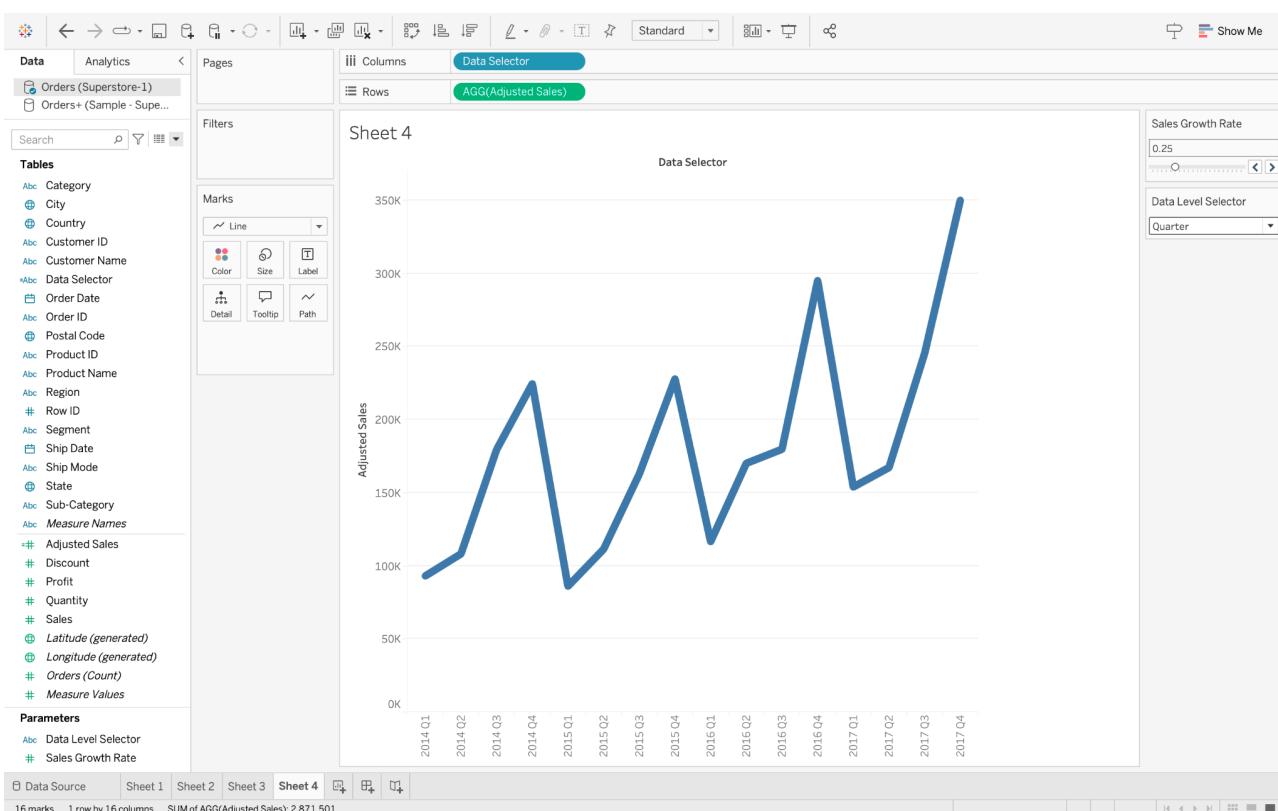
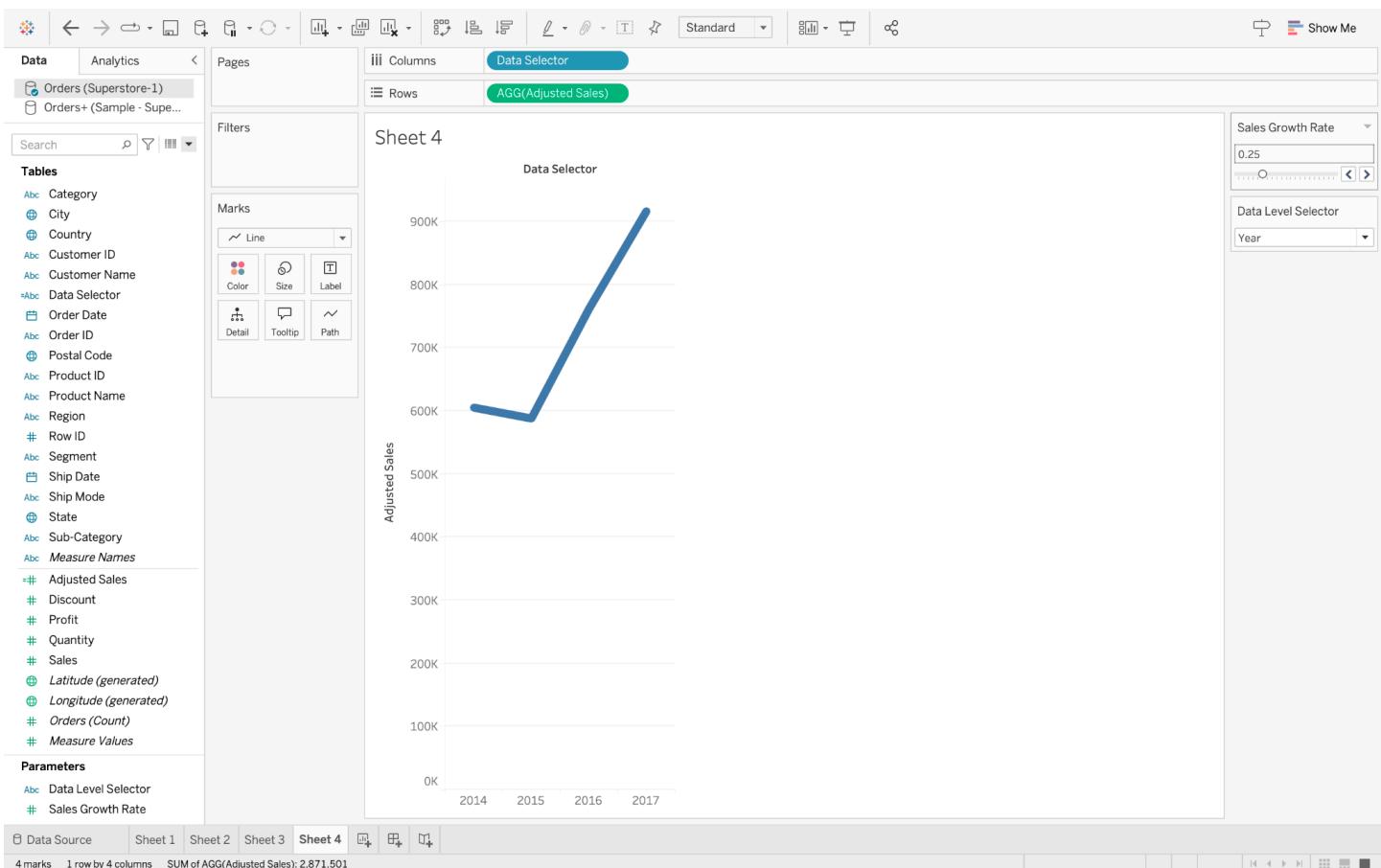


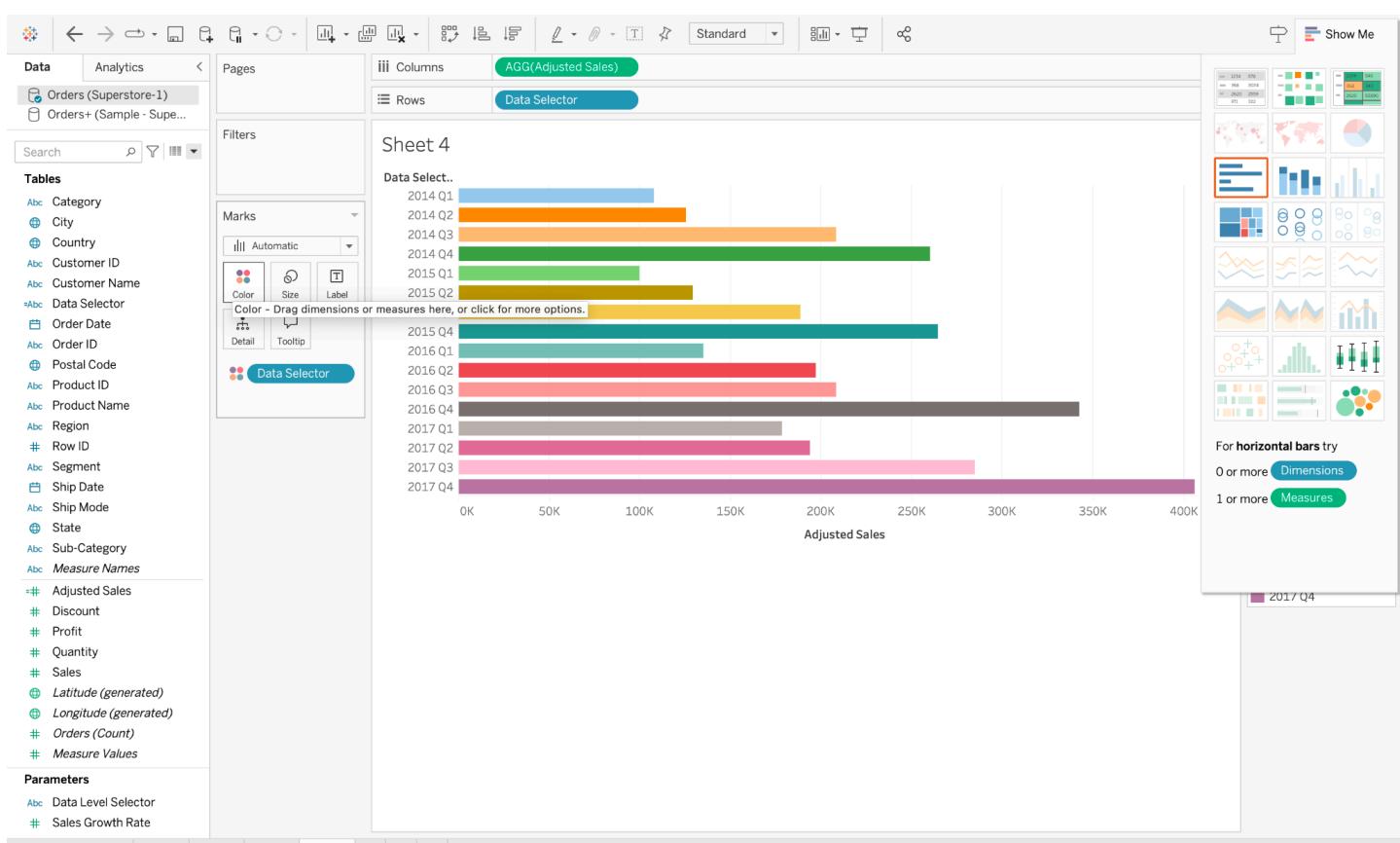
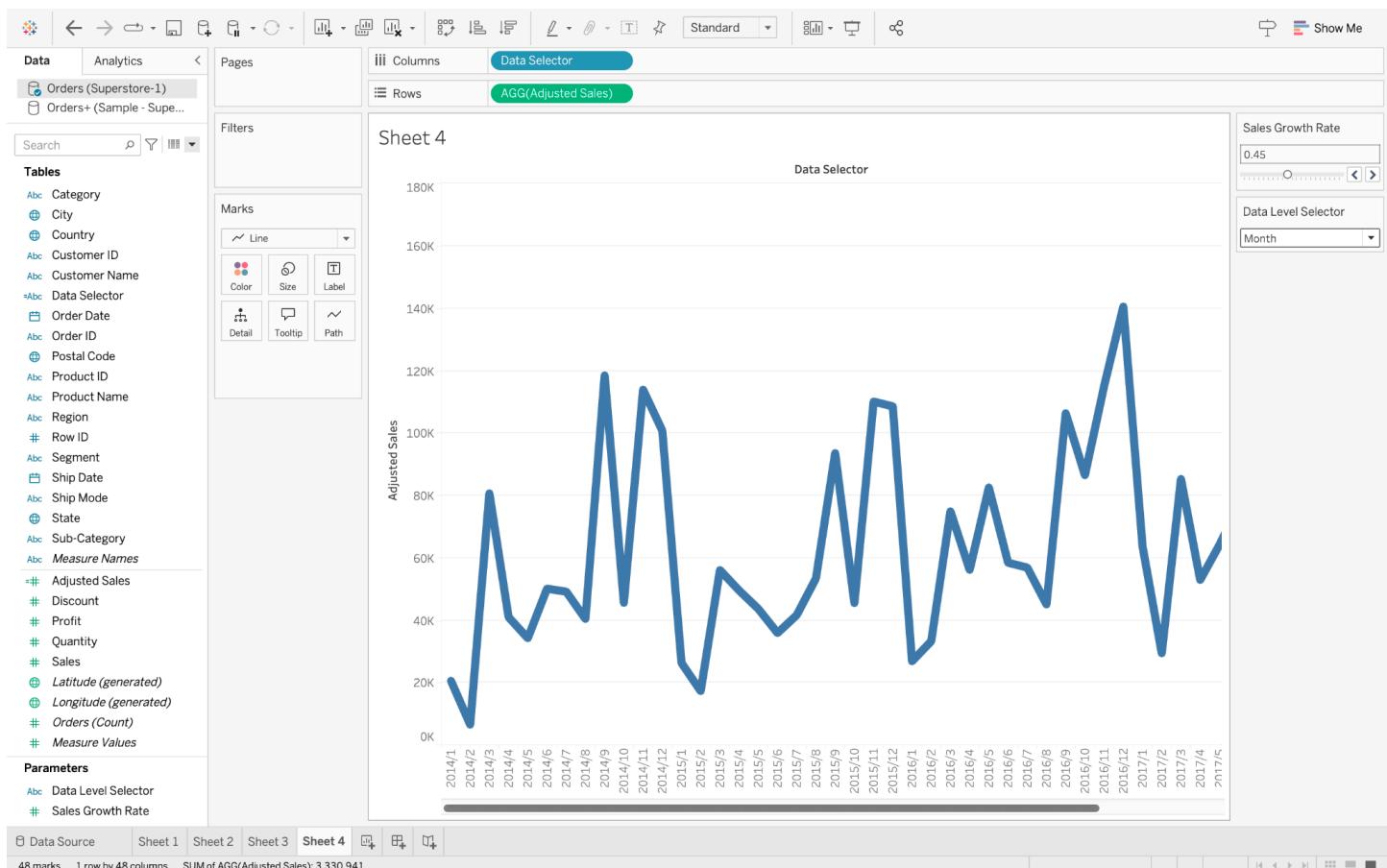
3) Using the Adjusted Sales in the line chart to compare sales with different growth rates by modifying the Sales Growth Rate parameter.

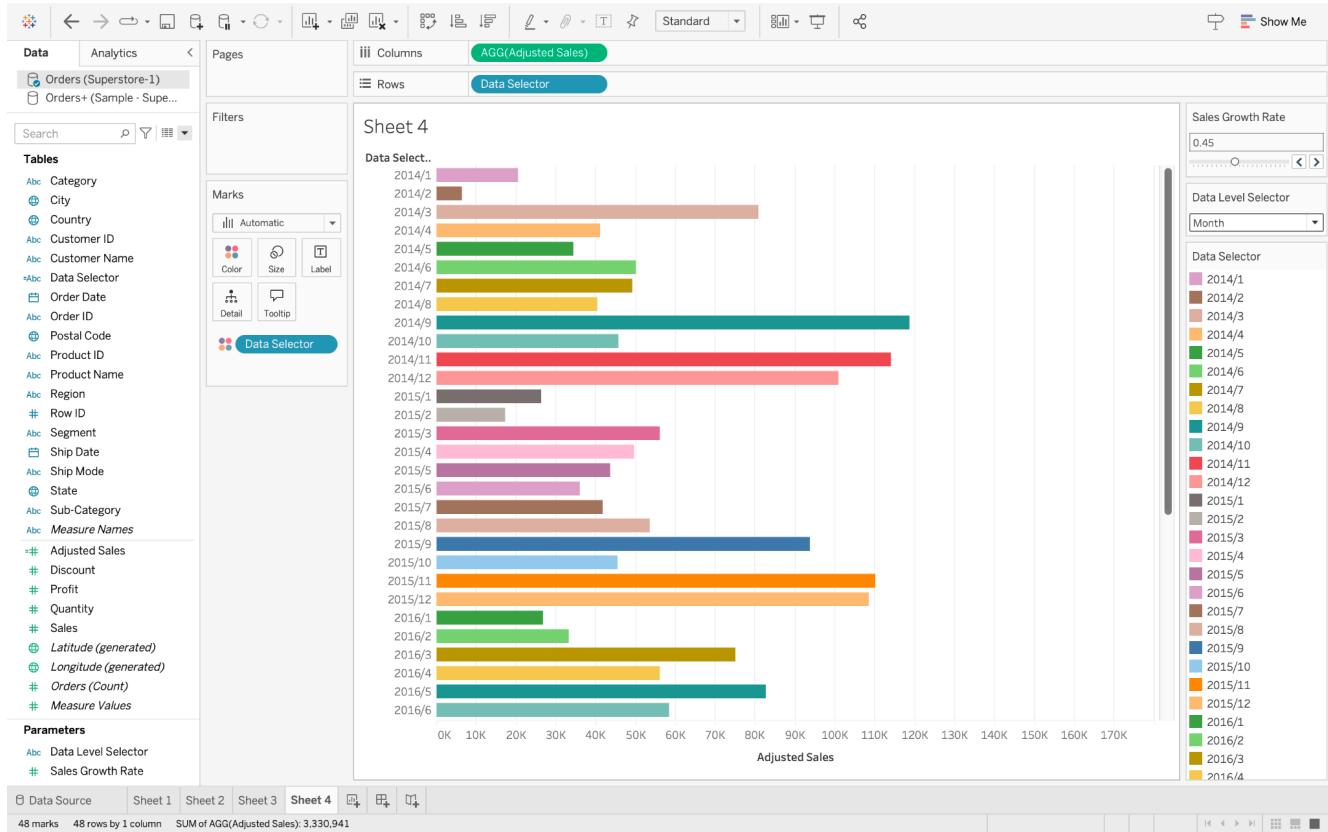




4) Switching between the Year, Quarter, Month using the Data Level Selector parameter.





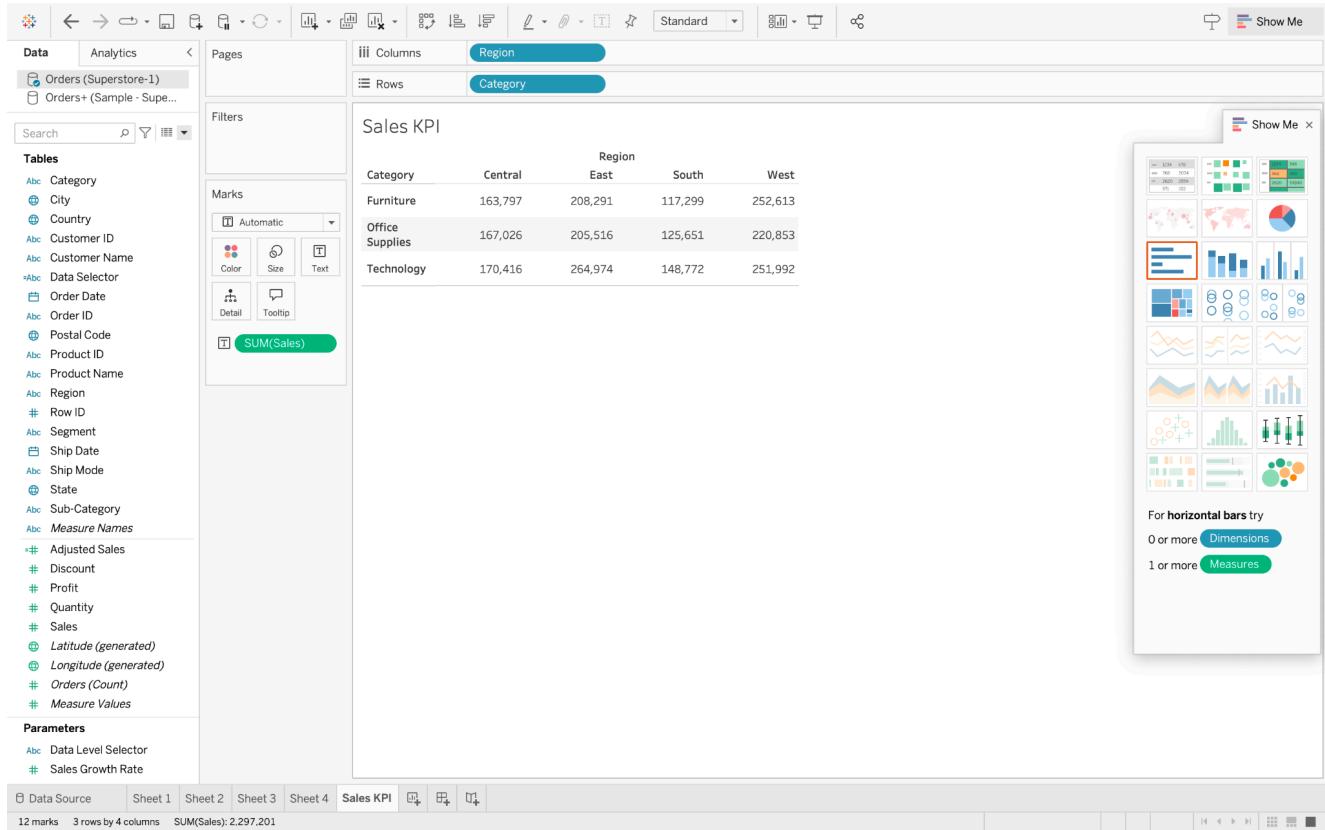


5) When designs are implemented, according to the defined jurisdiction, it will create free space in respect to the different datatypes in the databases used- the most pertinent ones and leave others remaining as is although appending them is not mandatory. Let us consider some of the popular applications of Joins.

- Inner Join: Uses each feature from two tables (like for example Orders and Products, Tables are referring to tables) and merges them based on their intersection/ two common columns, these are by pillars and rows. They merge all the records from both tables but only based on what both tables contain. Consider there to be a big 100 records file and two columns. Cat and Dog columns, The Dog column represents things that are outside both sides of the occupies of the Dog as represented by the 100th row and the diagram below (15, 10).
- Left Join: In this type of join, every record from the left is picked, and all the corresponding records are also joined to it from the table on the right.
- Right Join: In this kind of join, it is very easy to get every record from the plane as well as the health most appropriate record to the requested one.
- Full Outer Join: When we sum up all the records from the two tables together, we include all of them, irrespective of whether there is a match or not a match. All the elements are not corner valid, meaning that join can work even if individual attribute variables of tables have missing values.

TASK - 3

Step 1: Using the Superstore dataset and creating a new worksheet named Sales KPI and placing the categories in rows shelf and region in column and sales in text shelf.



Step 2: Creating the calculated field and named as BenchMark KPI and giving the below function and clicking ok.

IF SUM([Sales]) > 50000 THEN

"Above Benchmark"

ELSE

"Below Benchmark"

END

Sales KPI

| Category | Region | | | |
|-----------------|---------|---------|---------|---------|
| | Central | East | South | West |
| Furniture | 163,797 | 208,291 | 117,299 | 252,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 220,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

For horizontal bars try
0 or more Dimensions
1 or more Measures

Sales KPI

| Category | Region | | | |
|-----------------|---------|---------|---------|---------|
| | Central | East | South | West |
| Furniture | 163,797 | 208,291 | 117,299 | 252,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 220,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

BenchMark KPI

```

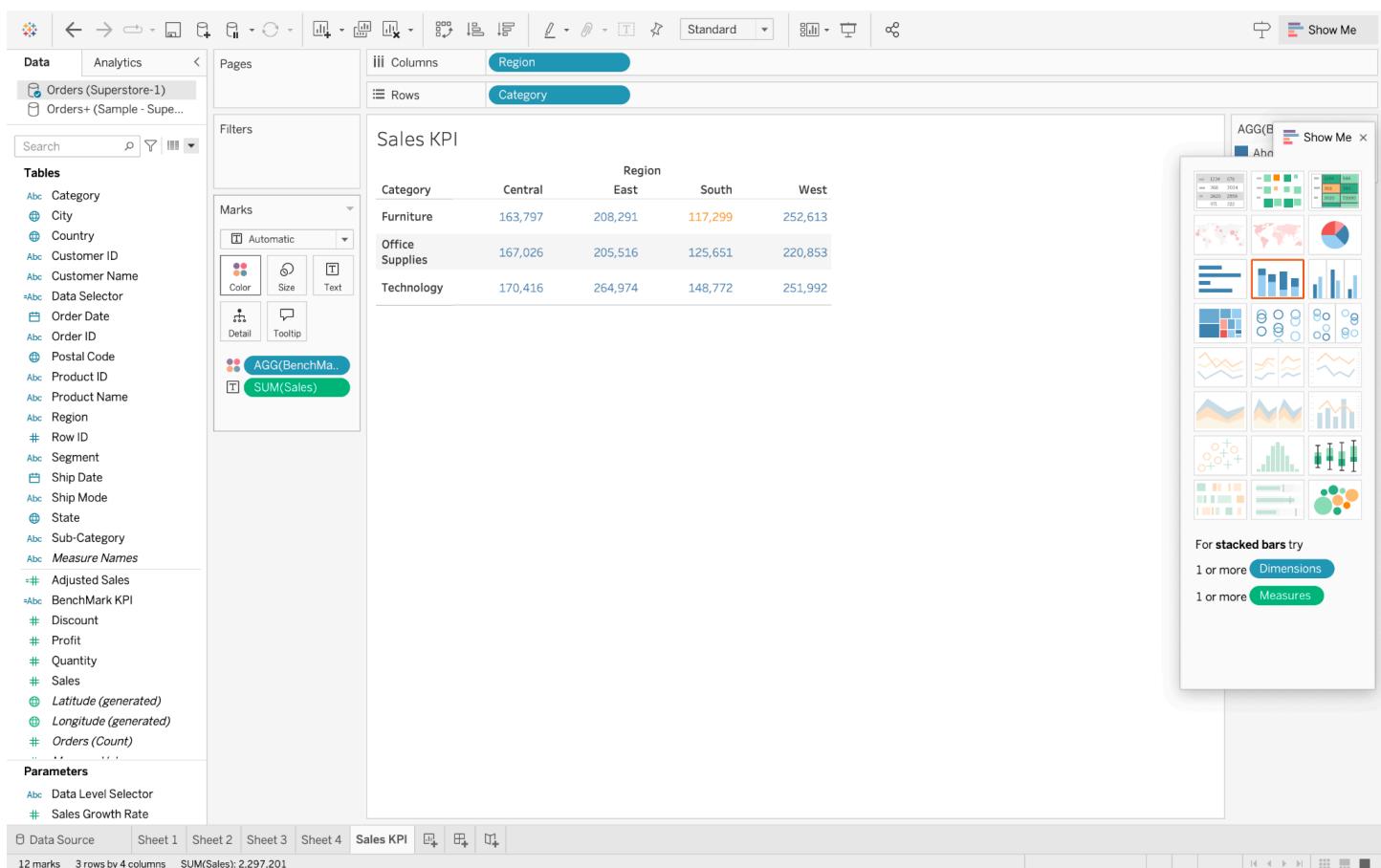
IF SUM([Sales]) > 125000 THEN
    "Above Bench Mark"
ELSE
    "Below Bench Mark"
END

```

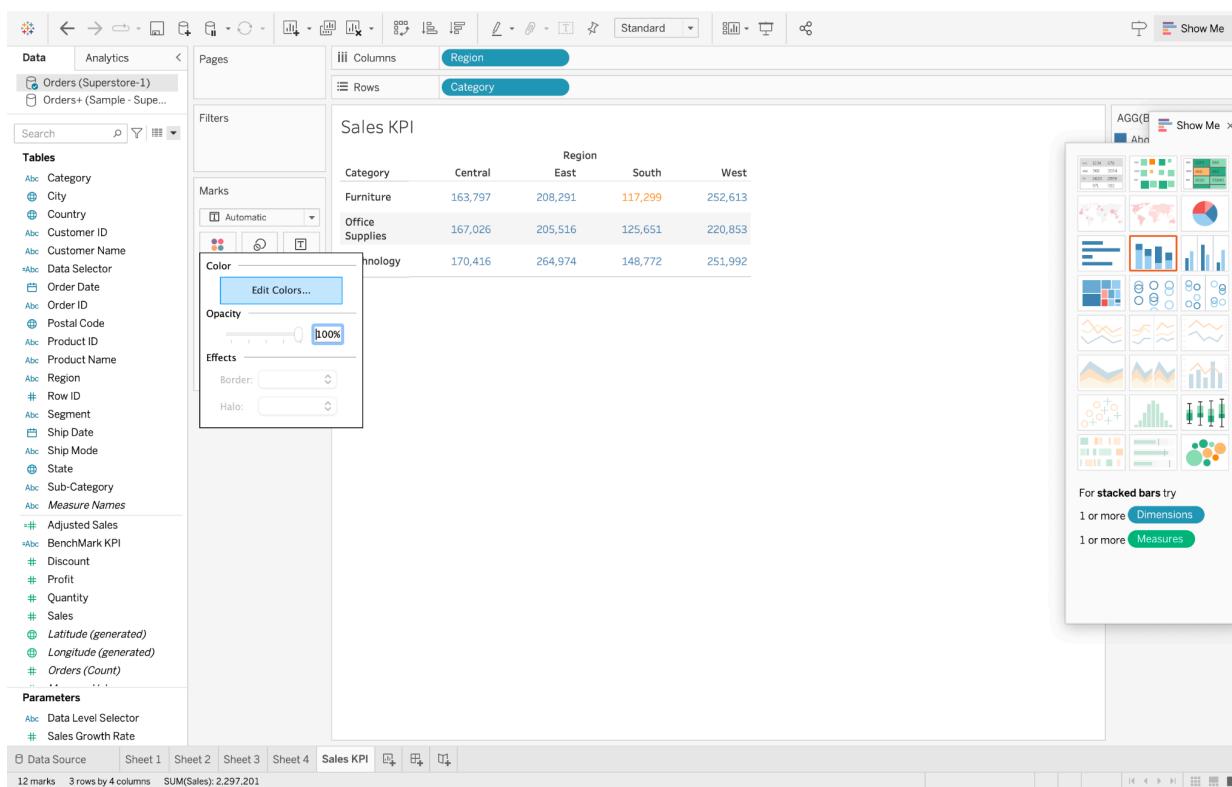
The calculation is valid.

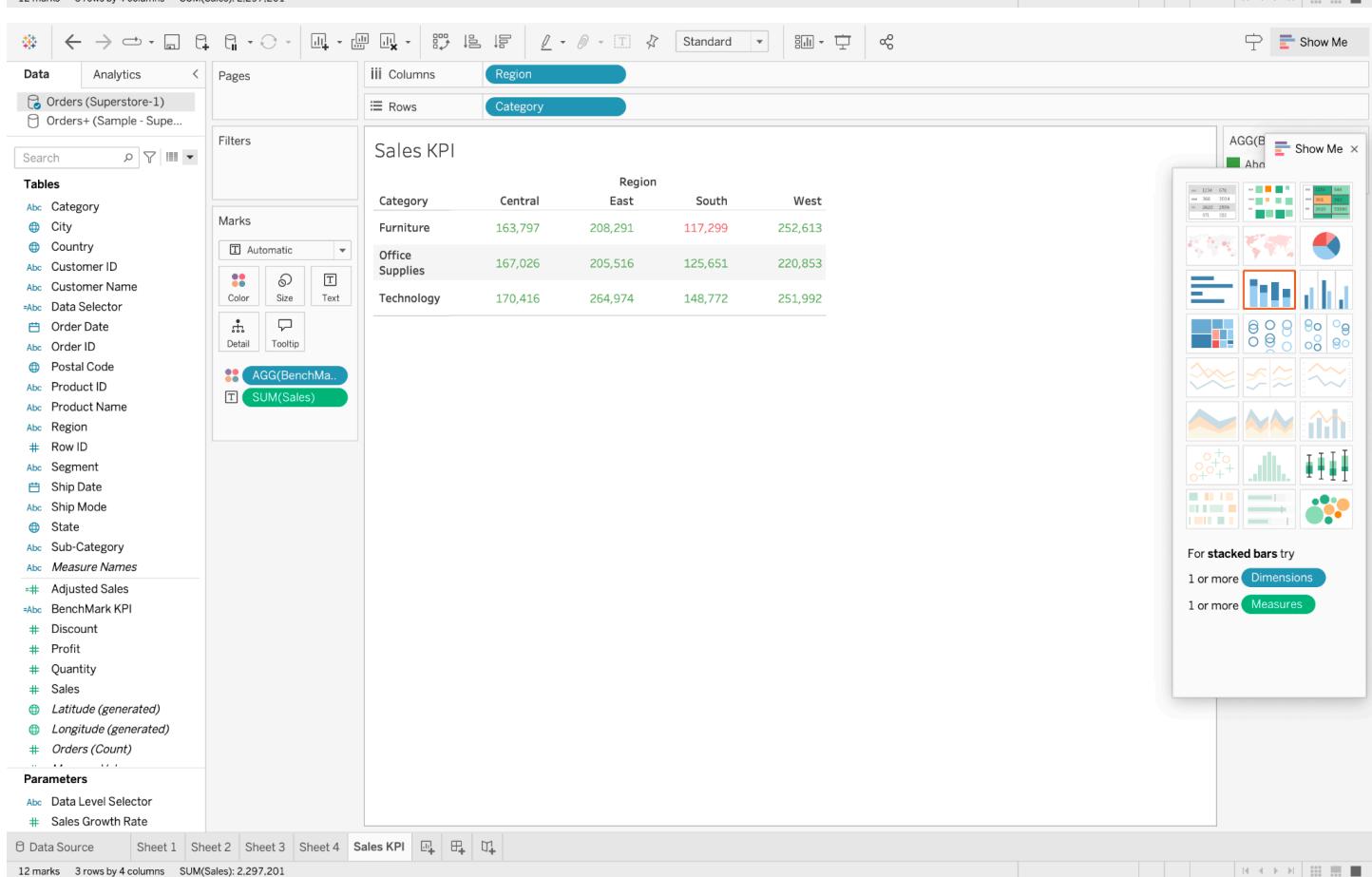
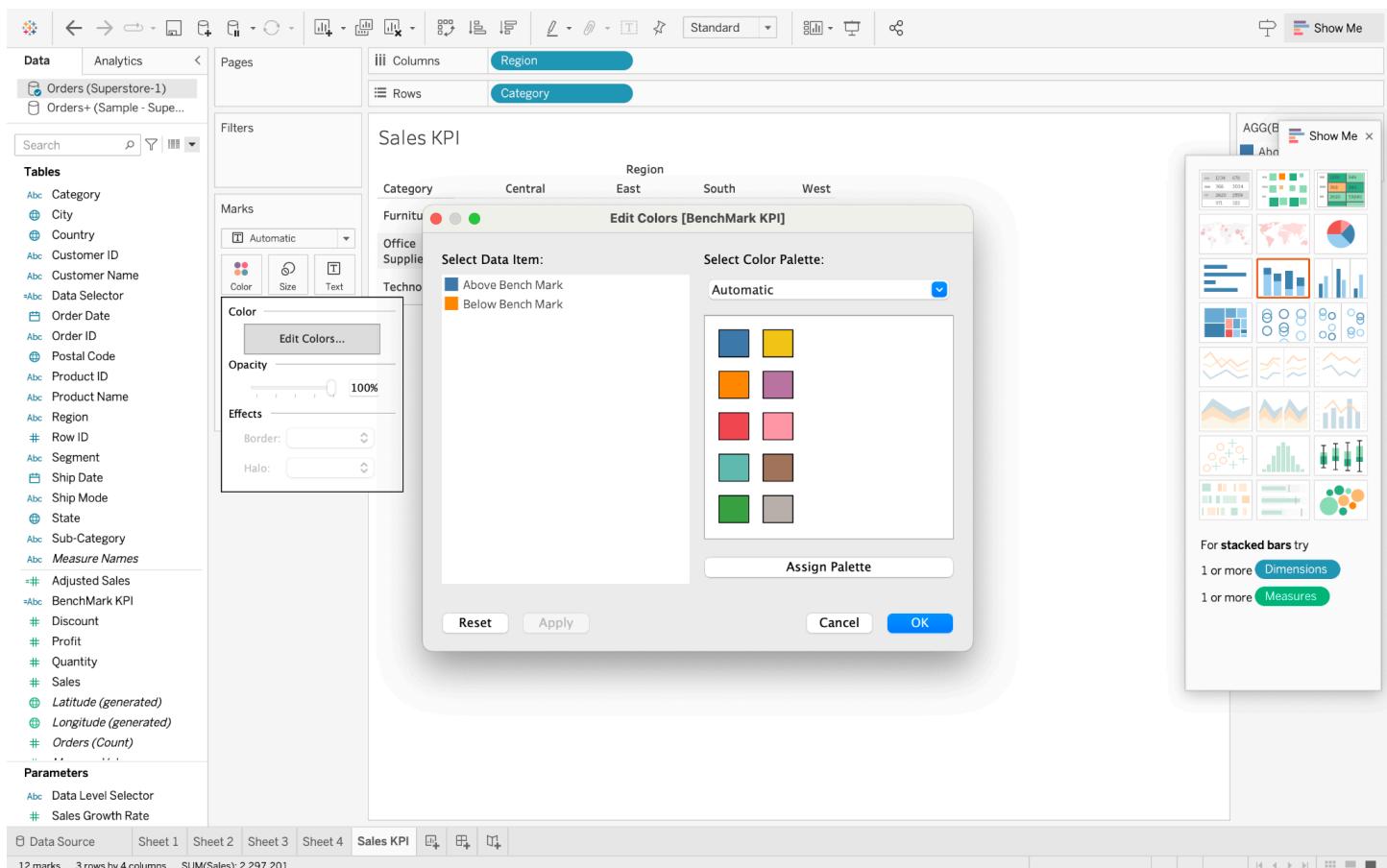
For horizontal bars try
0 or more Dimensions
1 or more Measures

Step 3: Dragging the BenckMark KPI into Color shelf.



Step 4: Customizing the colors by editing them and assigning the green for values above them and red for values below them.





Step 5: changing the shape in Mark Type

Sales KPI

| Category | Region | | | |
|-----------------|---------|---------|---------|---------|
| | Central | East | South | West |
| Furniture | 163,797 | 208,291 | 117,299 | 252,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 220,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

The screenshot shows the Tableau interface with the 'Sales KPI' sheet selected. The data is presented in a simple grid format. The 'Marks' shelf on the left has 'Shape' selected. A large callout box on the right provides a visual guide for different mark types, with 'Bar' highlighted.

Sales KPI

| Category | Region | | | |
|-----------------|---------|---------|---------|---------|
| | Central | East | South | West |
| Furniture | 163,797 | 208,291 | 117,299 | 252,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 220,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

The screenshot shows the same Tableau interface after changing the mark type to 'Bar'. The values in the grid now appear as small blue bars. The 'Marks' shelf on the left still has 'Shape' selected, but the preview in the callout box now shows various bar chart options.

Step 6: The Tableau uses the hollow circle shape. We are moving the sales information to the detail shelf and we are not displaying the sales values.

This screenshot shows a Tableau dashboard titled "Sales KPI". The dashboard has three columns: "Region" (Column), "Category" (Row), and Sales values (Data). The Sales values are displayed in green hollow circles with black outlines. A tooltip is visible, showing the sales value for Furniture in the Central region as 153,797. The dashboard includes a legend for "AGG(B)" and "Show Me" and a "Ahn" icon. The bottom right corner features a "For stacked bars try" section with tips for dimensions and measures.

| | Central | East | South | West |
|-----------------|---------|---------|---------|---------|
| Furniture | 153,797 | 208,291 | 117,299 | 222,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 20,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

This screenshot shows the same "Sales KPI" dashboard as the previous one, but the hollow circles have been replaced with solid green circles. The tooltip for Furniture in the Central region now shows the sales value as 153,797. The dashboard's layout and components remain the same, including the legend and the "For stacked bars try" section.

| | Central | East | South | West |
|-----------------|---------|---------|---------|---------|
| Furniture | 153,797 | 208,291 | 117,299 | 222,613 |
| Office Supplies | 167,026 | 205,516 | 125,651 | 20,853 |
| Technology | 170,416 | 264,974 | 148,772 | 251,992 |

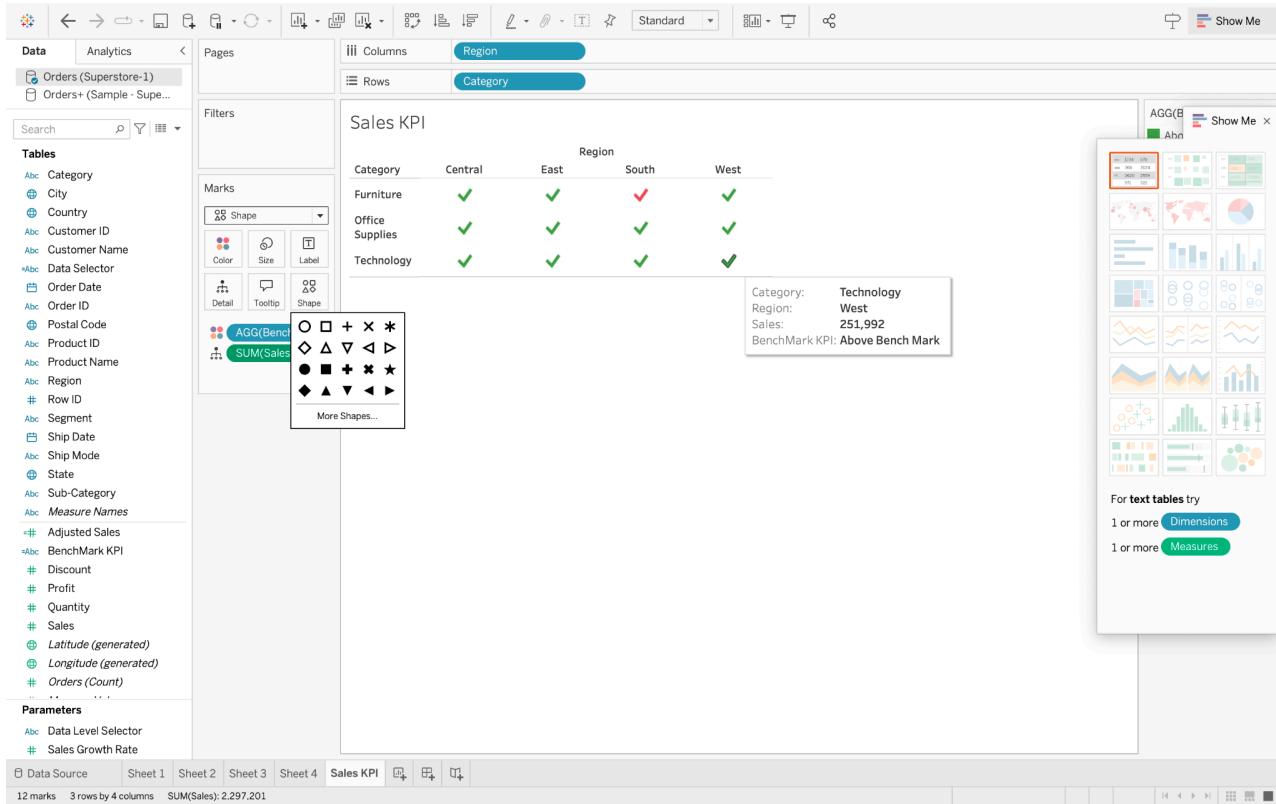
Step 7: We are changing the shape by clicking on the shape shelf >> More shapes>> KPI in shape palette >> selecting the desired shape >> click on done >> click ok and apply changes.

The screenshot shows a Tableau interface with the following details:

- Data Source:** Orders (Superstore-1)
- Sheet:** Sales KPI
- Columns:** Region (Central, East, South, West)
- Rows:** Category (Furniture, Office Supplies, Technology)
- Marks Shelf:** Shape (selected), Color, Size, Label, Detail, Tooltip.
- Shape Selection:** A green circle is selected from the "More Shapes..." menu.
- Shape Palette:** The "KPI" palette is visible on the right, showing various shapes including checkmarks, exclamation marks, and other symbols.

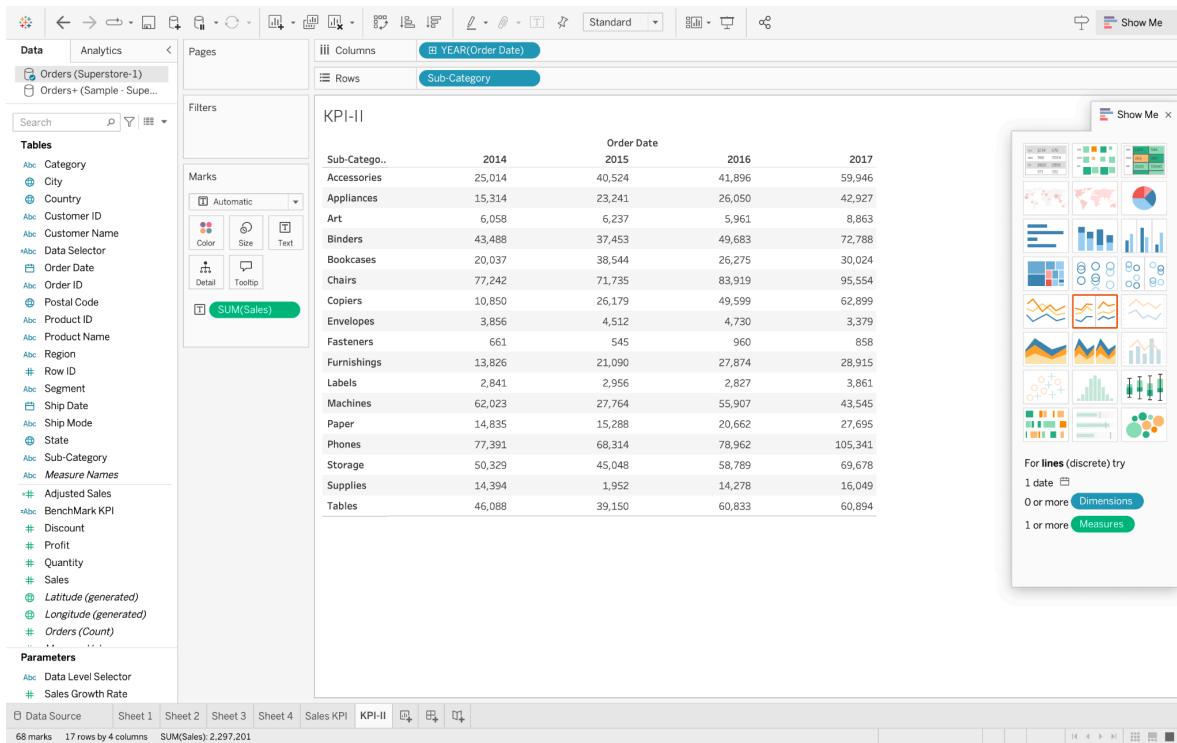
The screenshot shows the "Edit Shape" dialog box open over the Tableau interface. The dialog contains the following elements:

- Select Data Item:** A dropdown menu set to "KPI".
- Select Shape Palette:** A dropdown menu also set to "KPI", showing a grid of shapes including a green checkmark, an exclamation mark, a black circle, a black triangle, a red X, a green circle, a yellow triangle, and a red diamond.
- Buttons:** Assign Palette, Reload Shapes, Reset, Apply, Cancel, OK.



Question - 3

- 1) Create a new worksheet named Sales KPI-II. And Setting up the visualization: Drag Sub-category to the Rows shelf. Drag Order Date to the Columns shelf. Drag Sales to the Text shelf.



2) Creating a new calculated field named Target_KPI using the formula:

IF SUM([Sales]) > 25000 THEN

"Above Target"

ELSE

"Below Target"

END

The screenshot shows the Tableau Data Source view. On the left, the 'Data' pane lists various dimensions and measures, including 'Sub-Category' and 'YEAR(Order Date)'. In the center, a table titled 'KPI-II' displays sales data by year for different product categories. On the right, a sidebar shows a list of checked filters for 'YEAR(Order Date)' and 'Sub-Category'. At the bottom, the status bar indicates '68 marks 17 rows by 4 columns SUM(Sales): 2.297.201'.

The screenshot shows the Tableau Analytics view. It has a similar layout to the Data Source view, with the 'Data' pane on the left, a central table 'KPI-II' showing sales data, and a sidebar on the right for filters and sub-categories. A modal window titled 'Target KPI' is open in the center, containing the following calculated field definition:

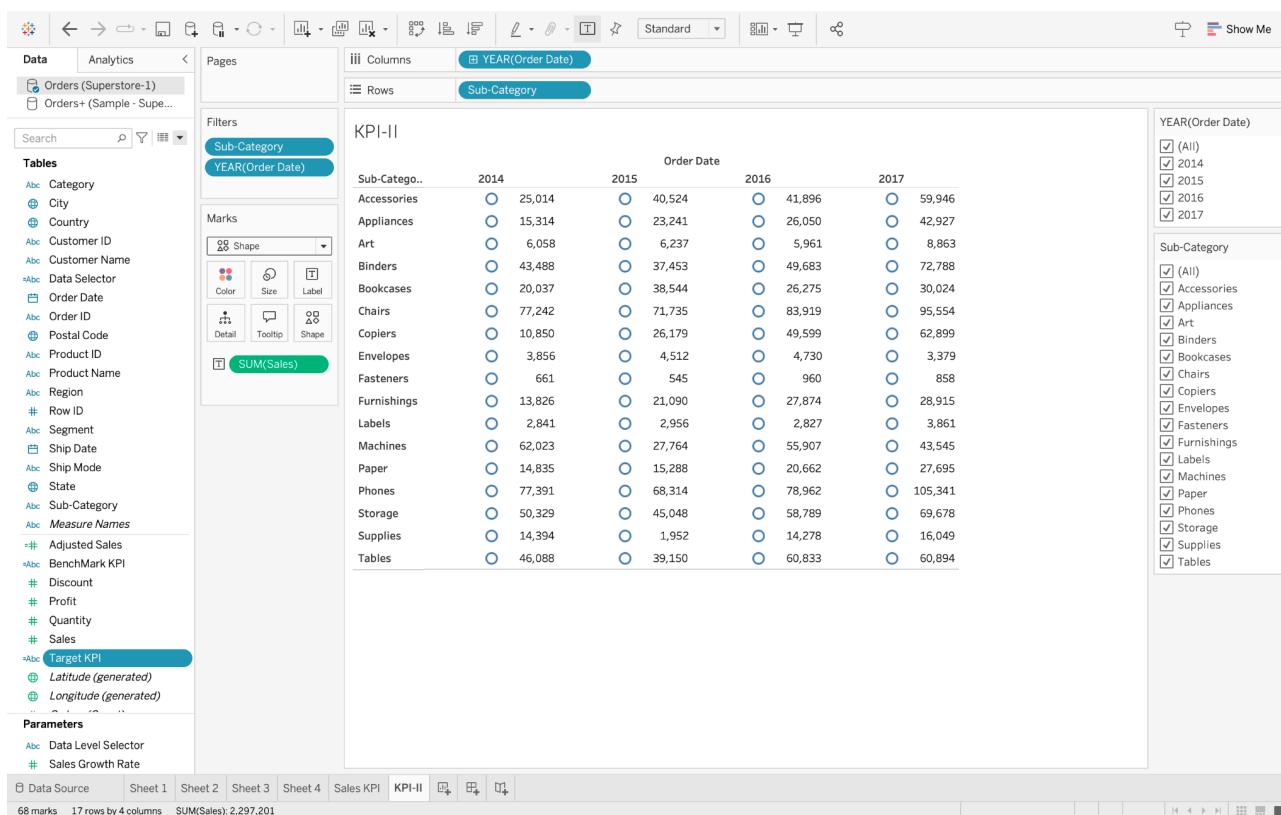
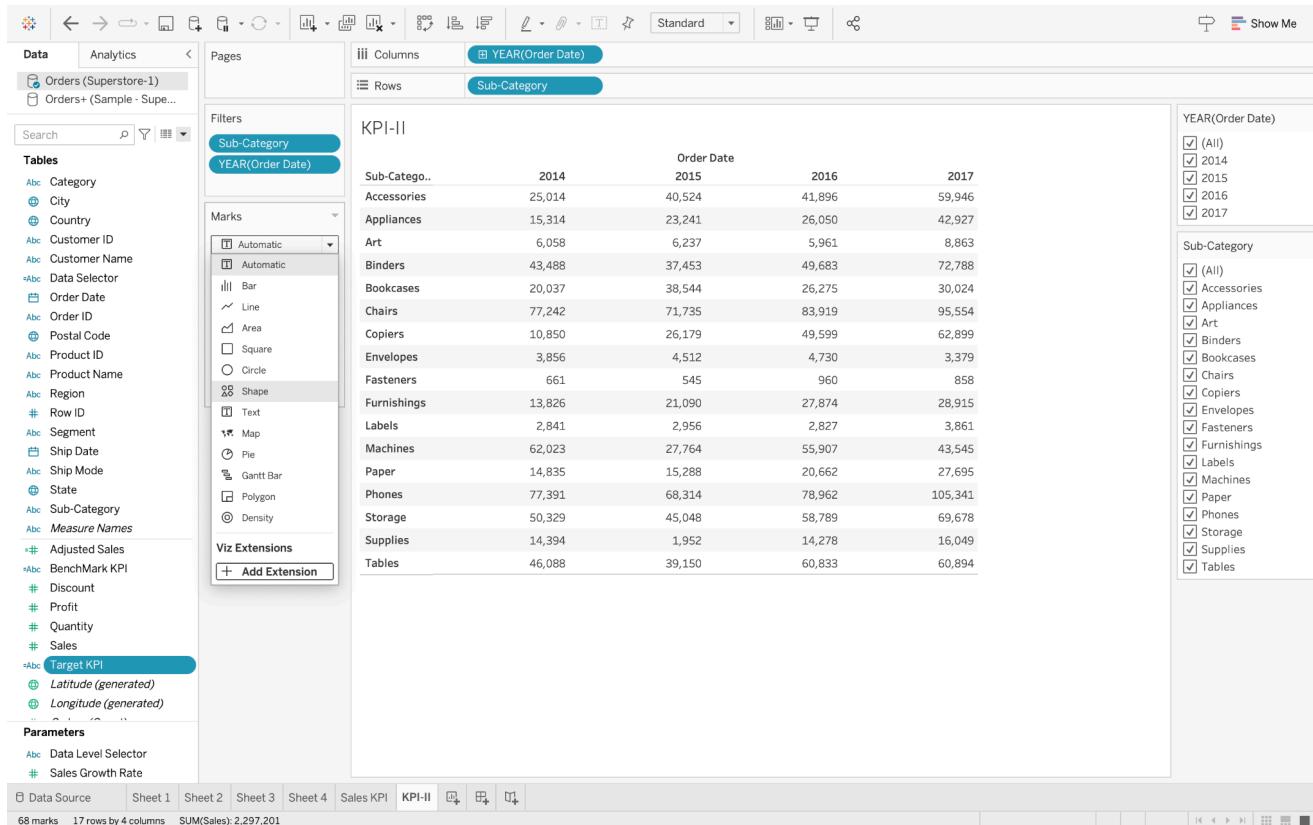
```

IF SUM([Sales]) > 25000 THEN
    "Above Target"
ELSE
    "Below Target"
END

```

The modal also displays a message 'The calculation is valid.' with 'Apply' and 'OK' buttons. The status bar at the bottom shows '68 marks 17 rows by 4 columns SUM(Sales): 2.297.201'.

3) Changing the default shapes to tick marks and assign colors accordingly. Analyze the results to identify which subcategories are performing above or below target levels.



Analytics < Pages > Columns > Rows > Standard > Sub-Category > YEAR(Order Date) > Sub-Category

KPI-II

| Sub-Catego.. | 2014 | 2015 | Order Date | 2016 | 2017 |
|--------------|--------|--------|------------|---------|------|
| Accessories | 25,014 | 40,524 | 41,896 | 59,946 | |
| Appliances | 15,314 | 23,241 | 26,050 | 42,927 | |
| Art | 6,058 | 6,237 | 5,961 | 8,863 | |
| Binders | 43,488 | 37,453 | 49,683 | 72,788 | |
| Bookcases | 20,037 | 38,544 | 26,275 | 30,024 | |
| Chairs | 77,242 | 71,735 | 83,919 | 95,554 | |
| Copiers | 10,850 | 26,179 | 49,599 | 62,899 | |
| Envelopes | 3,856 | 4,512 | 4,730 | 3,379 | |
| Fasteners | 661 | 545 | 960 | 858 | |
| Furnishings | 13,826 | 21,090 | 27,874 | 28,915 | |
| Labels | 2,841 | 2,956 | 2,827 | 3,861 | |
| Machines | 62,023 | 27,764 | 55,907 | 43,545 | |
| Paper | 14,835 | 15,288 | 20,662 | 27,695 | |
| Phones | 77,391 | 68,314 | 78,962 | 105,341 | |
| Storage | 50,329 | 45,048 | 58,789 | 69,678 | |
| Supplies | 14,394 | 1,952 | 14,278 | 16,049 | |
| Tables | 46,088 | 39,150 | 60,833 | 60,894 | |

YEAR(Order Date)

- (All)
- 2014
- 2015
- 2016
- 2017

Sub-Category

- (All)
- Accessories
- Appliances
- Art
- Binders
- Bookcases
- Chairs
- Copiers
- Envelopes
- Fasteners
- Furnishings
- Labels
- Machines
- Paper
- Phones
- Storage
- Supplies
- Tables

Tables

Sub-Category

- (All)
- Accessories
- Appliances
- Art
- Binders
- Bookcases
- Chairs
- Copiers
- Envelopes
- Fasteners
- Furnishings
- Labels
- Machines
- Paper
- Phones
- Storage
- Supplies
- Tables

Target KPI

Latitude (generated)
Longitude (generated)

Parameters

Data Level Selector
Sales Growth Rate

Data Source Sheet 1 Sheet 2 Sheet 3 Sheet 4 Sales KPI KPI-II

68 marks 17 rows by 4 columns SUM(Sales): 2,297,201

The screenshot shows the Tableau Data Prep interface with a dashboard titled "KPI-II".

Dashboard Structure:

- Pages:** The main page is "KPI-II". Other pages include "Data Source", "Sheet 1", "Sheet 2", "Sheet 3", "Sheet 4", "Sales KPI", and "KPI-II".
- Columns:** Set to "YEAR(Order Date)".
- Rows:** Set to "Sub-Category".

Filters:

- Sub-Category:** Set to "YEAR(Order Date)".
- Marks:** Set to "Shape".
- Color:** Available options are Color, Size, Label.
- Detail:** Available options are Detail, Tooltip, Shape.

Data View:

| Sub-Catego.. | 2014 | 2015 | Order Date | 2016 | 2017 |
|--------------|------|------|------------|------|------|
| Accessories | ○ | ○ | | ○ | ○ |
| Appliances | ○ | ○ | | ○ | ○ |
| Art | ○ | ○ | | ○ | ○ |
| Binders | ○ | ○ | | ○ | ○ |
| Bookcases | ○ | ○ | | ○ | ○ |
| Chairs | ○ | ○ | | ○ | ○ |
| Copiers | ○ | ○ | | ○ | ○ |
| Envelopes | ○ | ○ | | ○ | ○ |
| Fasteners | ○ | ○ | | ○ | ○ |
| Furnishings | ○ | ○ | | ○ | ○ |
| Labels | ○ | ○ | | ○ | ○ |
| Machines | ○ | ○ | | ○ | ○ |
| Paper | ○ | ○ | | ○ | ○ |
| Phones | ○ | ○ | | ○ | ○ |
| Storage | ○ | ○ | | ○ | ○ |
| Supplies | ○ | ○ | | ○ | ○ |
| Tables | ○ | ○ | | ○ | ○ |

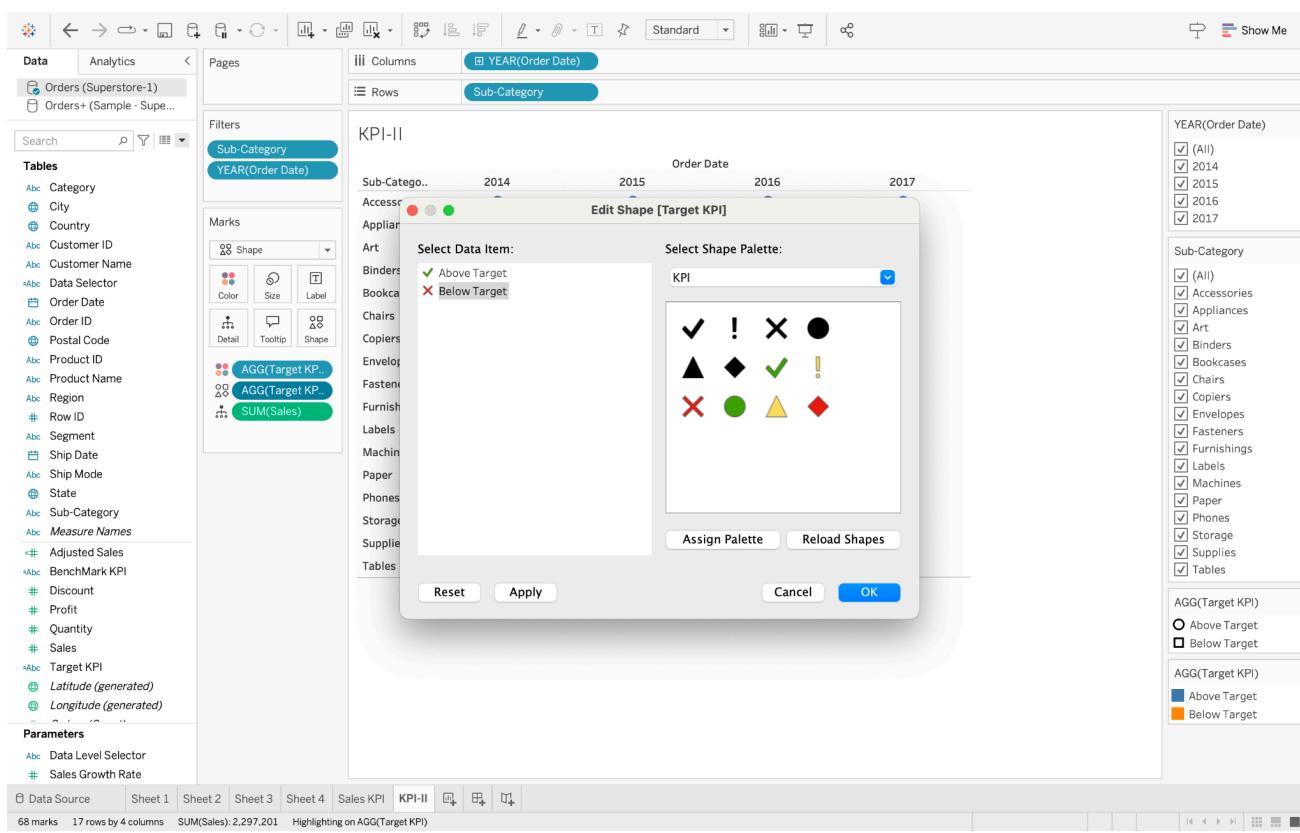
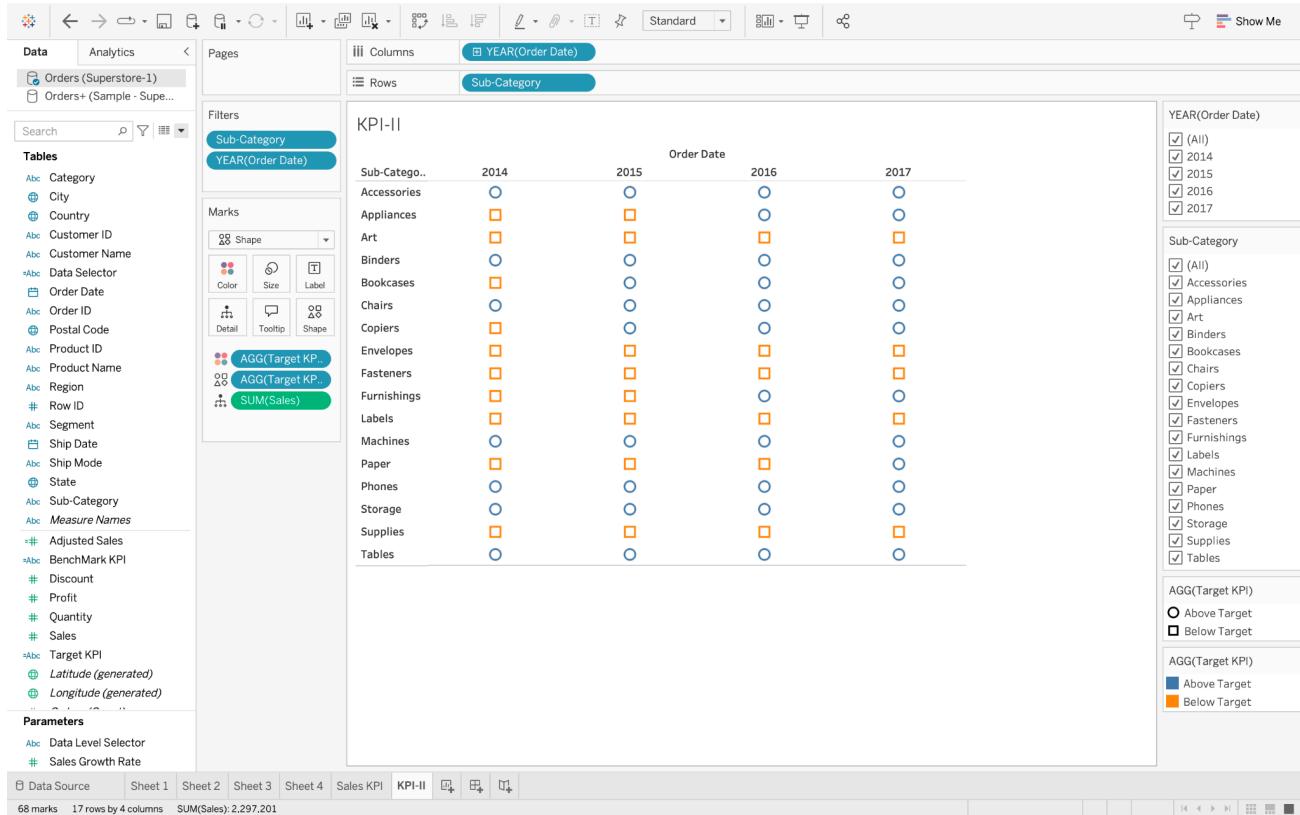
Right Panel:

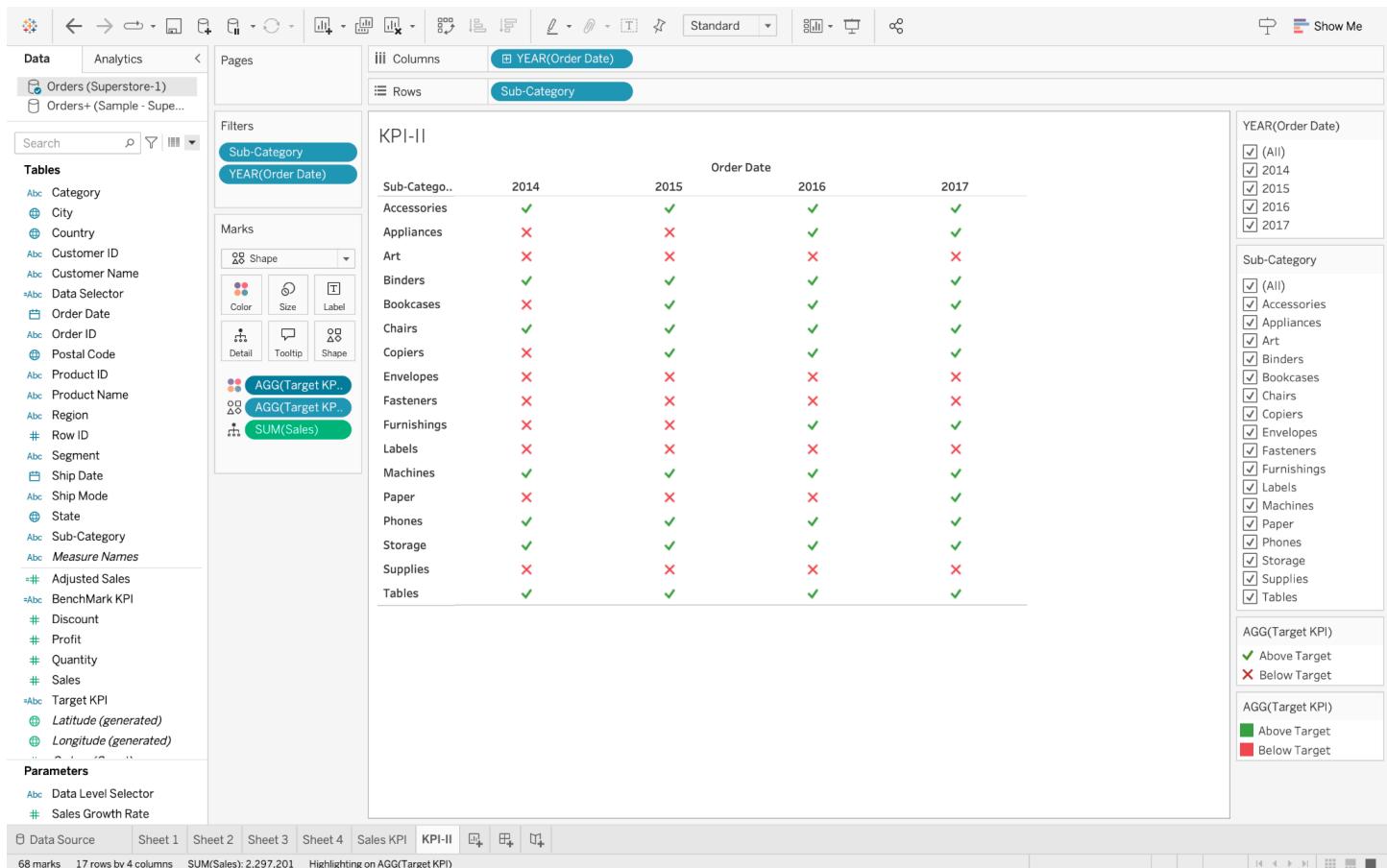
- YEAR(Order Date):** Filtered to 2014, 2015, 2016, 2017, 2018.
- Sub-Category:** Filtered to Accessories, Appliances, Art, Binders, Bookcases, Chairs, Copiers, Envelopes, Fasteners, Furnishings, Labels, Machines, Paper, Phones, Storage, Supplies, Tables.

Bottom Status Bar:

68 marks 17 rows by 4 columns SUM(Sales): 2,297.201

4) Change the mark type to Shape, move Sales from the Text shelf to the Detail shelf, and drag Target KPI to the Color shelf.





5) Developing Key Performance Indicators and conducting Sales Analysis in comparison with previous periods or competitors allows to trace the progress trends and make vital choices. For instance, performance metrics may advise rethinking and repurposing resources or revising marketing strategies.