

New LJ Institute of Engineering and Technology



Name : Harshal K Acharya

Roll Number(Batch) : B11_12

Department : CSE(AIML) / IT

Topic : Data Analytics and Visualization
with Tableau(Engineering+)



DATA-SOURCE LINKS

1. COVID-19 Dataset

<https://drive.google.com/drive/folders/1pPiCs-x8QuVEfNehzqDQhmL36LwICPt8>

2. Netflix Dataset & SuperStore Dataset

<https://drive.google.com/drive/folders/1hQZur3Howub0xR5KD3SDfOmdkdLjpLuH?usp=sharing>

3 Tableau Practice Datasets

<https://www.superdatascience.com/pages/tableau>



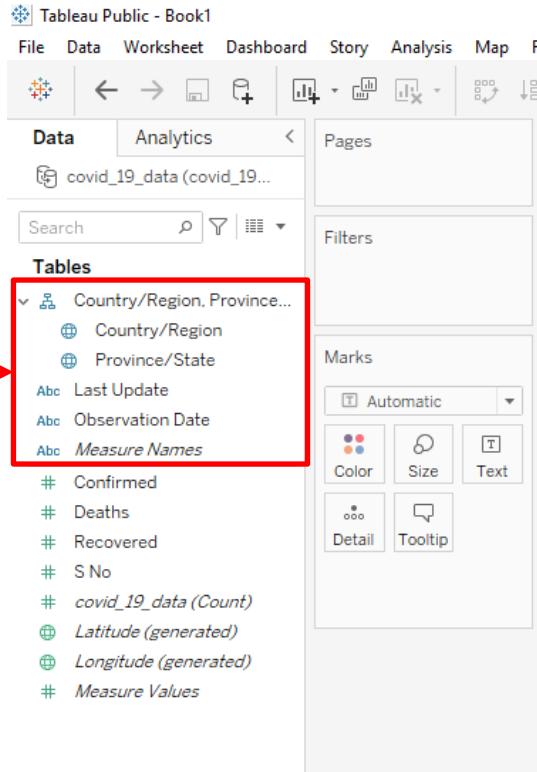
COVID-19 DATASOURCE

[Attach snapshots with tooltip for each of the following]

1. Create a dashboard with **worldwide** map, **confirmed**, **recovered** and **death** analysis.
2. Create a dashboard with **nationwide** map, **confirmed**, **recovered** and **death** analysis for a specific country.
3. Apply “Hover” action filter on a selected country to create interactive dashboard.
4. Apply “Select” action highlight on a selected state to create interactive dashboard.
5. Change the **granularity** level to **years** in both worldwide and nationwide dashboards.

COVID-19 DATASOURCE

Dimensions

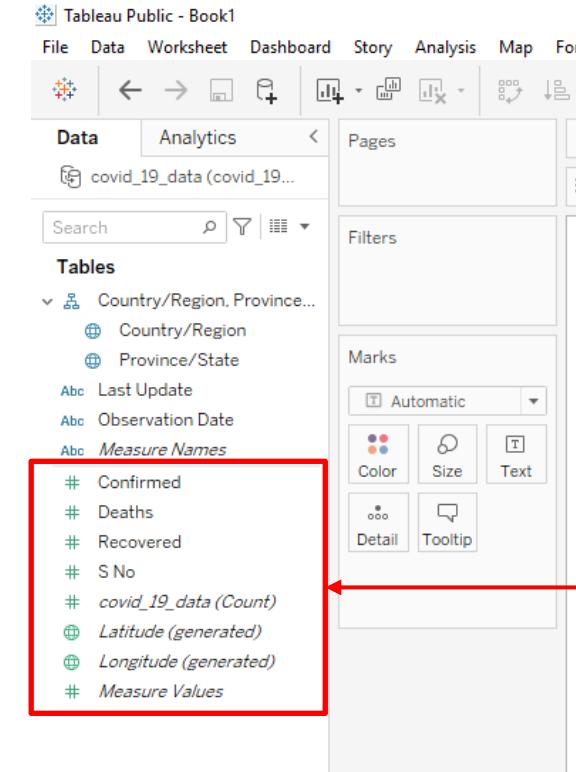


The screenshot shows the Tableau Public interface with the 'Data' tab selected. In the 'Tables' section, a red box highlights the 'Country/Region, Province...' node, which contains the following dimensions:

- Country/Region
- Province/State
- Last Update
- Observation Date
- Measure Names

Below these, under the '#' symbol, are the measures: Confirmed, Deaths, Recovered, S No, covid_19_data (Count), Latitude (generated), Longitude (generated), and Measure Values.

Measures

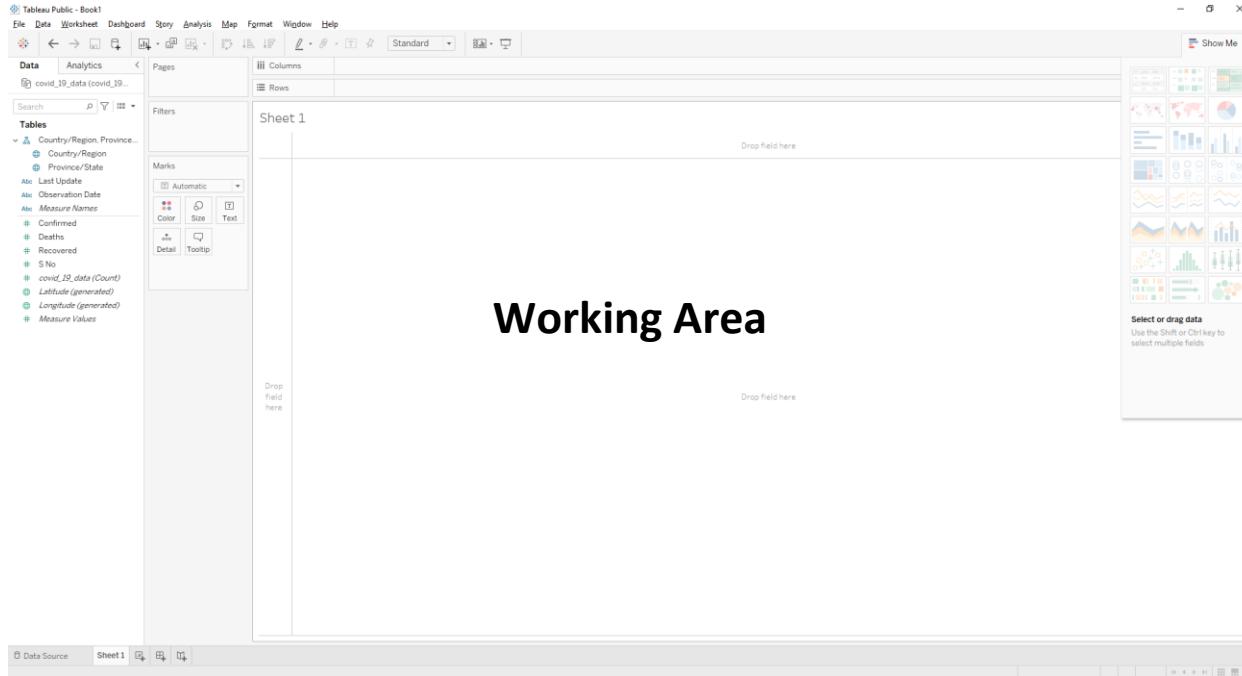


The screenshot shows the Tableau Public interface with the 'Data' tab selected. In the 'Tables' section, a red box highlights the 'Country/Region, Province...' node, which contains the following dimensions:

- Country/Region
- Province/State
- Last Update
- Observation Date
- Measure Names

Below these, under the '#' symbol, are the measures: Confirmed, Deaths, Recovered, S No, covid_19_data (Count), Latitude (generated), Longitude (generated), and Measure Values.

COVID-19 DATASOURCE

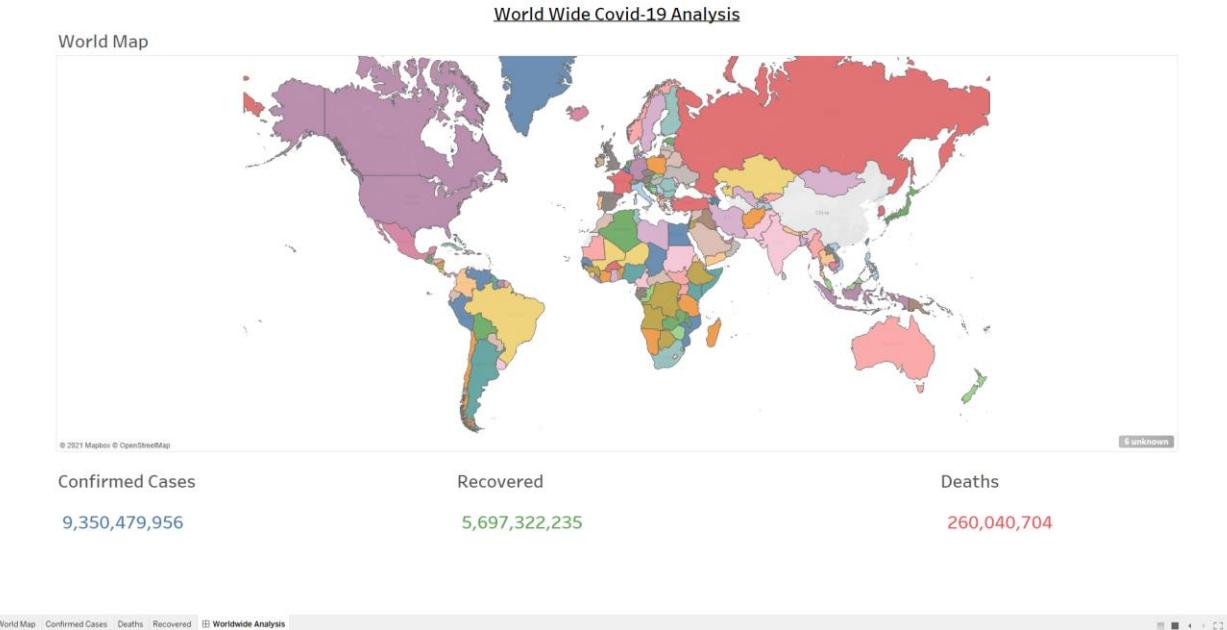


The screenshot shows a Tableau Public workspace titled "COVID-19 DATASOURCE". The interface includes a top navigation bar with options like File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Window, and Help. On the left, a sidebar displays the "covid_19_data(covid_19..." data source with various fields listed under "Tables". The main workspace, titled "Sheet 1", features three large, empty rectangular areas labeled "Drop field here" for dragging data fields from the sidebar. To the right of these areas is a "Show Me" panel containing a grid of small preview images for different chart types, with a note at the bottom: "Select or drag data Use the Shift or Ctrl key to select multiple fields".

Working Area

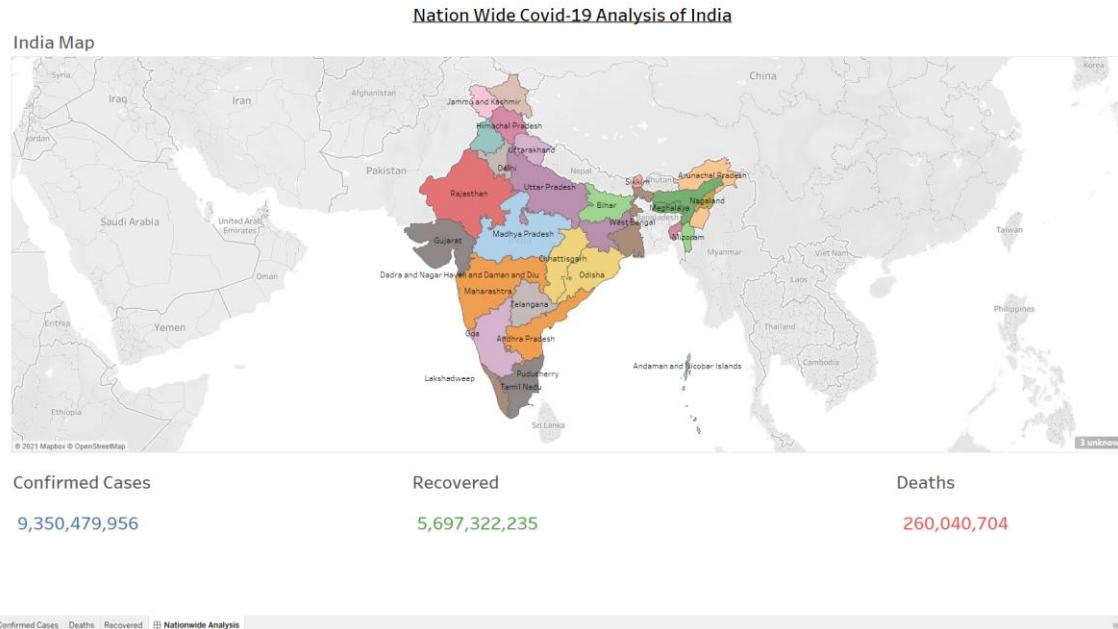
COVID-19 DATASOURCE

1. Create a dashboard with **worldwide map**, **confirmed**, **recovered** and **death** analysis.



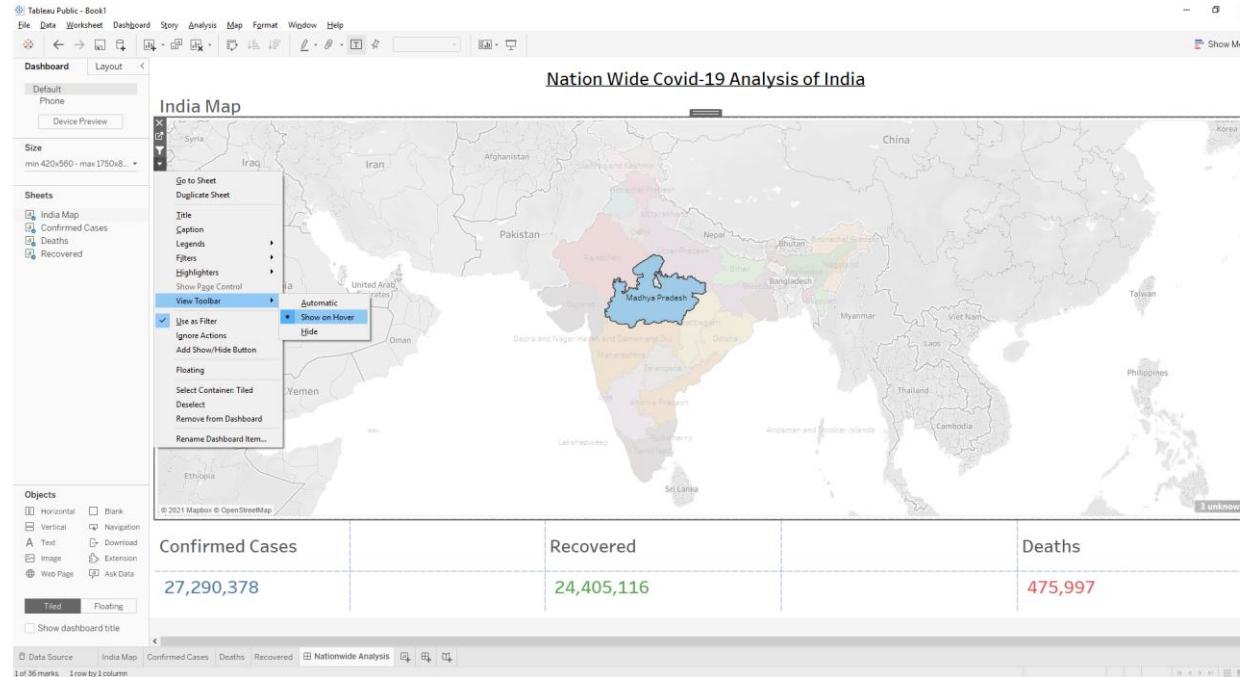
COVID-19 DATASOURCE

2. Create a dashboard with **nationwide map, confirmed, recovered and death** analysis for a specific country.



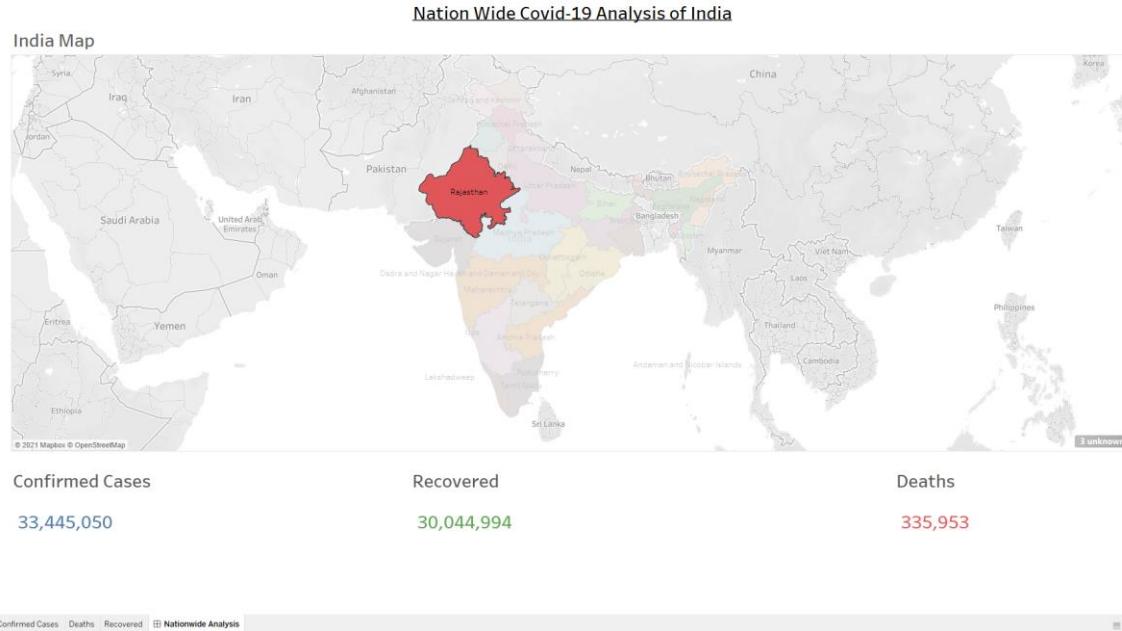
COVID-19 DATASOURCE

3. Apply “Hover” action filter on a selected country to create interactive dashboard.



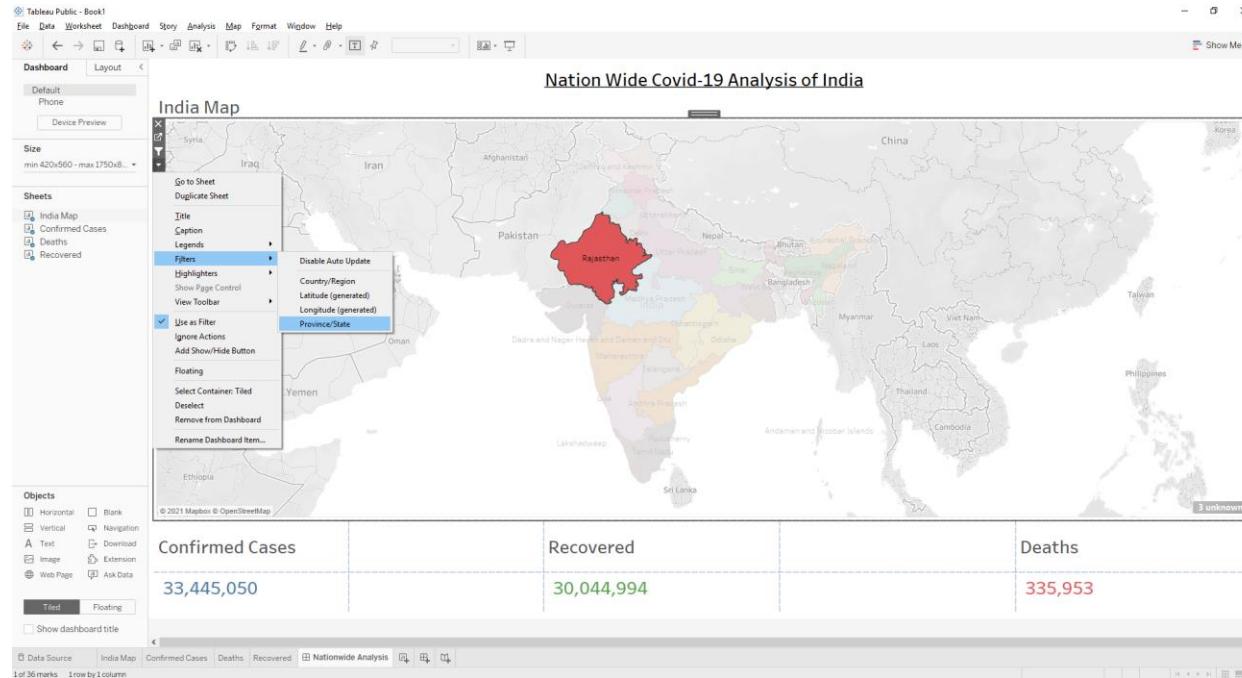
COVID-19 DATASOURCE

Effect on Dashboard:-



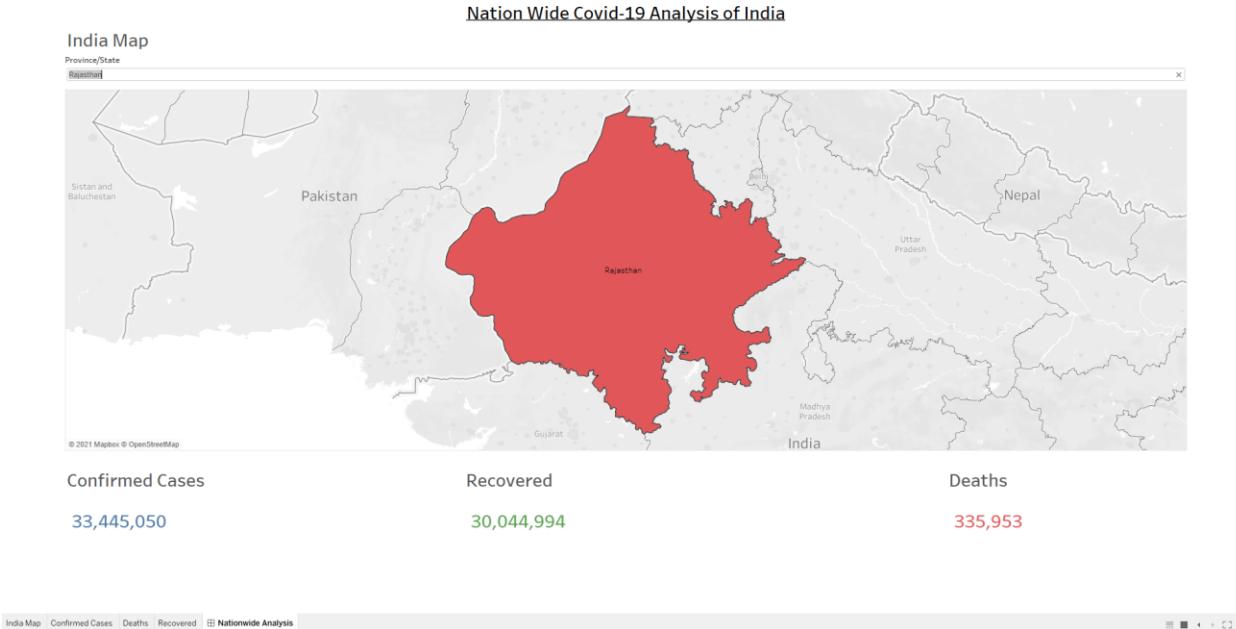
COVID-19 DATASOURCE

4. Apply “Select” action highlight on a selected state to create interactive dashboard.



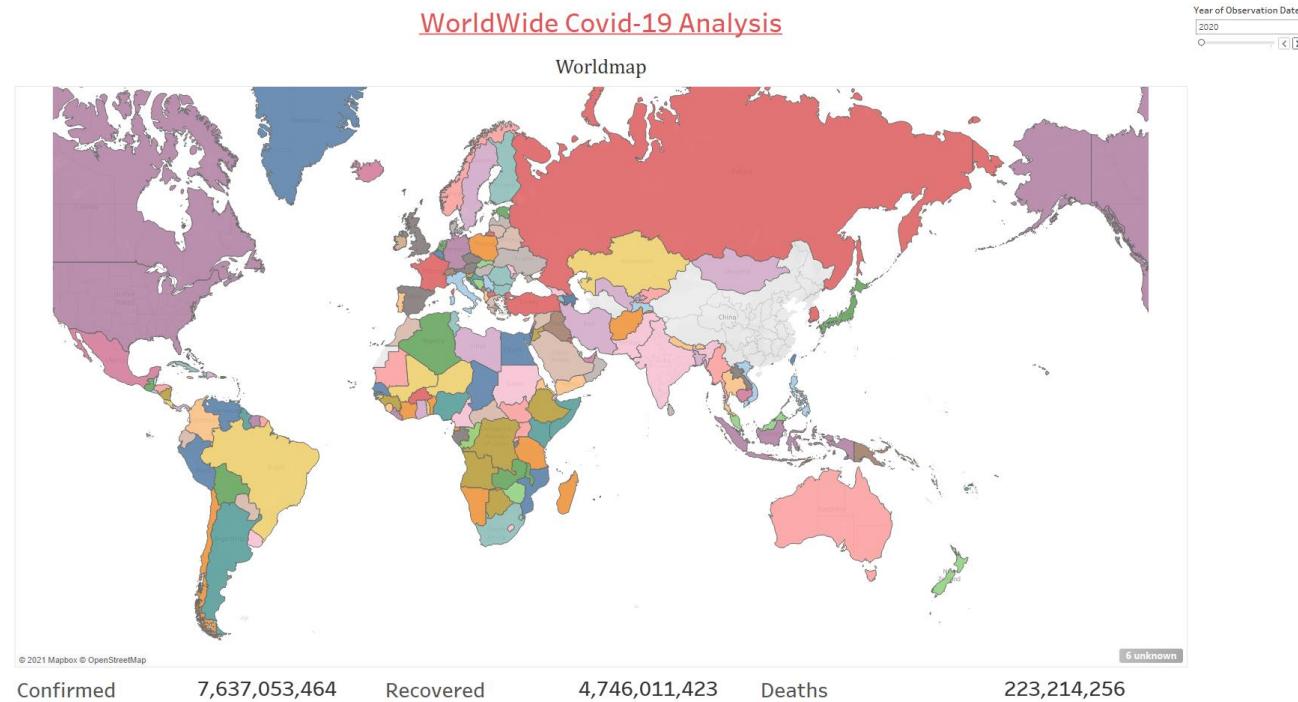
COVID-19 DATASOURCE

Effect on Dashboard:-

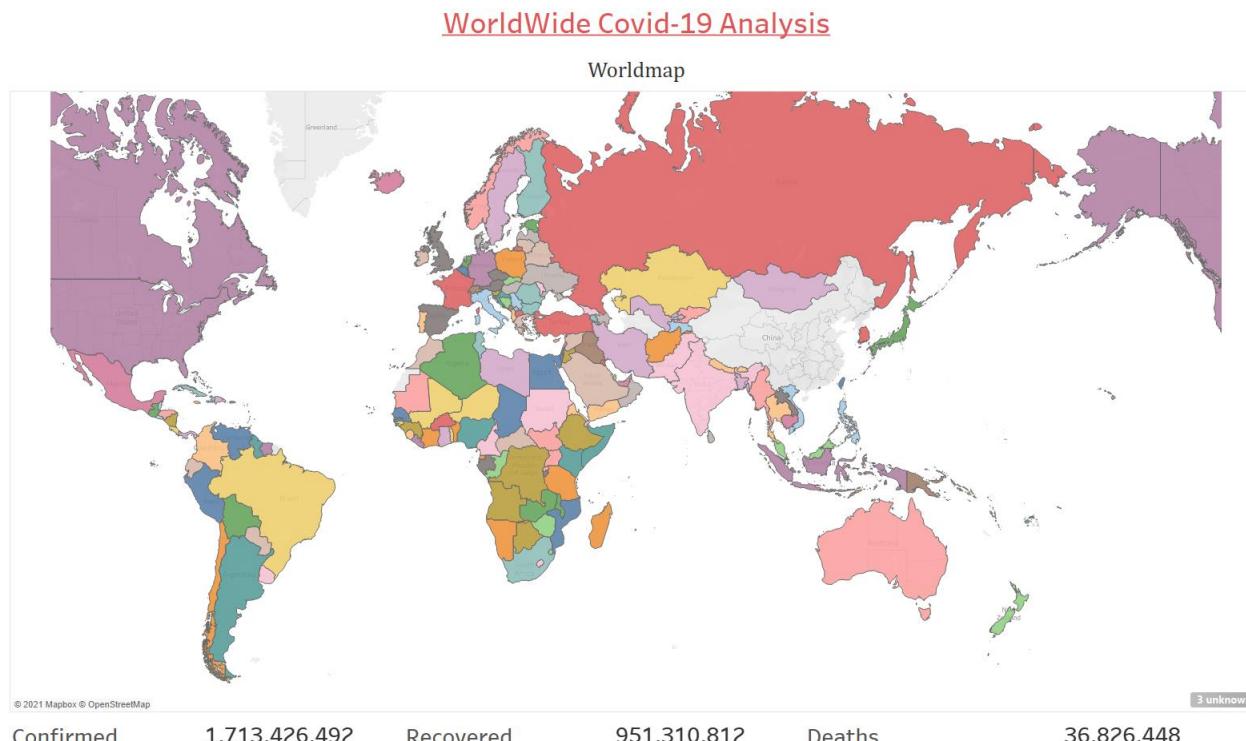


COVID-19 DATASOURCE

5. Change the **granularity** level to **years** in both worldwide and nationwide dashboards.



COVID-19 DATASOURCE



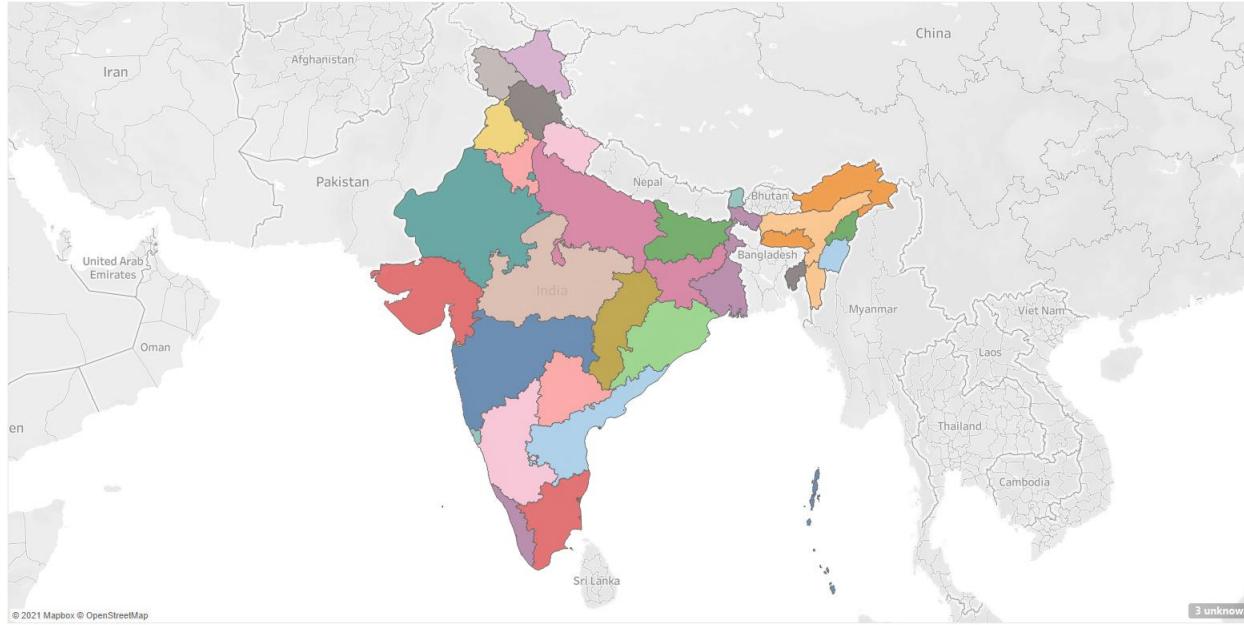


COVID-19 DATASOURCE

NationWide Covid-19 Analysis

Year of Observation Date
2020
 ⏪ ⏴ ⏵ ⏹

Indiamap



Confirmed

7,637,053,464

Recovered

4,746,011,423

Deaths

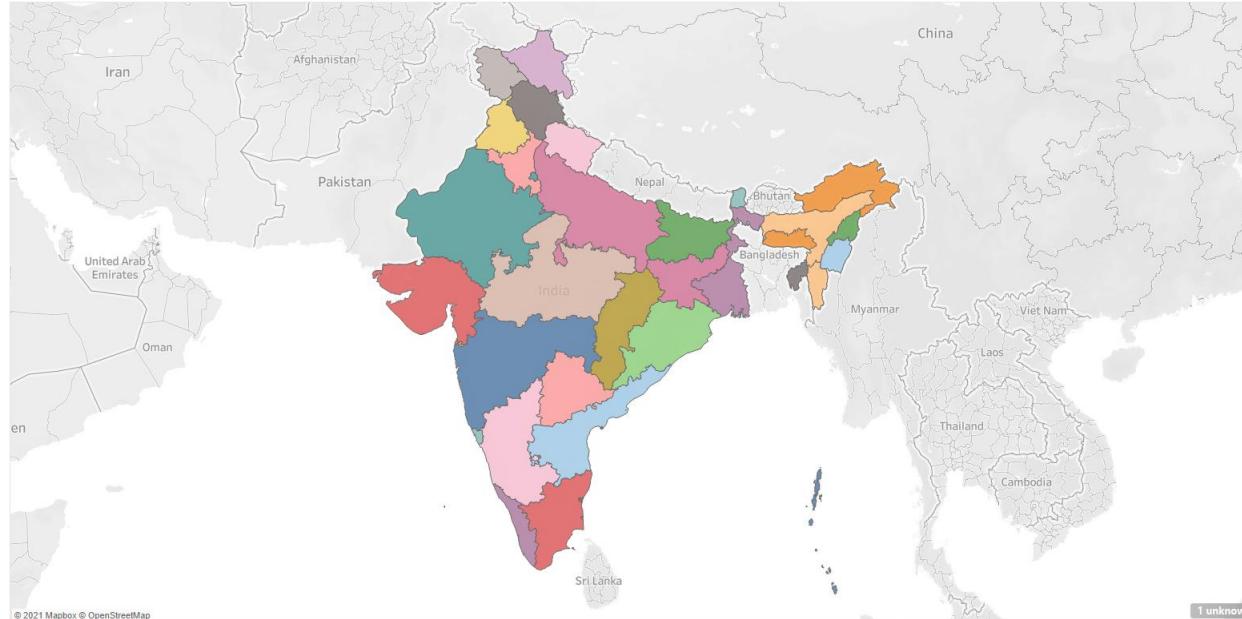
223,214,256

COVID-19 DATASOURCE

NationWide Covid-19 Analysis

Year of Observation Date
2021

Indiamap



Confirmed

1,713,426,492

Recovered

951,310,812

Deaths

36,826,448



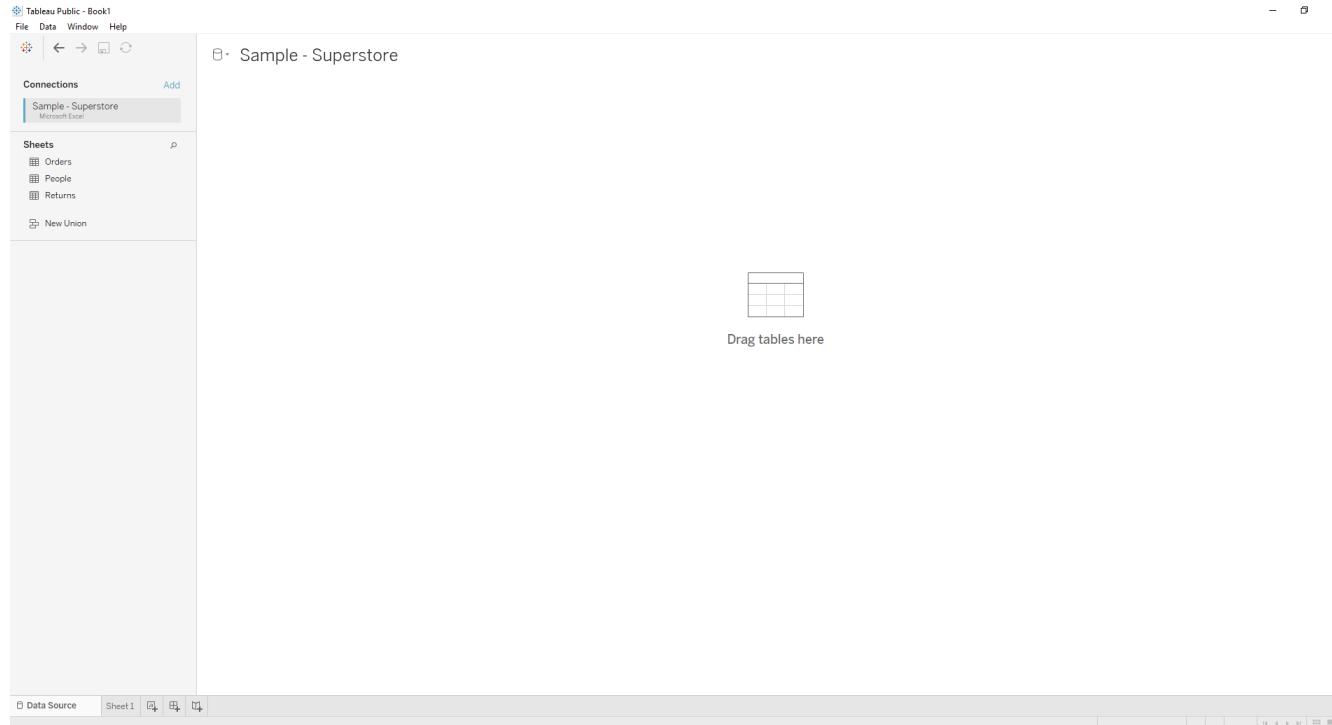
SUPERSTORE DATASOURCE

[use label formatting for sales and use color palette to distinguish years 2015-2018]

1. Find the aggregate **sales** for each month of a year using area chart
2. Find the aggregate **profit** for each quarter of a year 2015-2018 using area chart
3. Plot sales and profit for each month of a year in **furniture** category
4. Plot sales and profit for each month of a year in **office supplies** category in **central** region
5. Create interactive dashboard with appropriate graphs and charts using action filters, images and label formatting.

SUPERSTORE DATASOURCE

This dataset contains three tables Orders , People & Return as shown in above image. For any problem statement we will use one table or relation between two table respectively.



The screenshot shows the Tableau Public interface with the following details:

- Top Bar:** File, Data, Window, Help.
- Left Sidebar (Connections):** Sample - Superstore (Microsoft Excel) is selected. Other options include Add, Sheets (Orders, People, Returns), and New Union.
- Center Area:** A grid icon with the text "Drag tables here".
- Bottom Bar:** Data Source, Sheet 1, and various navigation icons.



SUPERSTORE DATASOURCE

1. Find the aggregate **sales** for each month of a year using area chart.

- For this problem statement we will use “Order” table so drag and drop that table on right side as shown below.

Tableau Public - Book1

File Data Window Help

Connections Add

Sample - Superstore Microsoft Excel

Sheets Orders People Returns

New Union

Orders (Sample - Superstore)

Orders

Need more data?
Drag tables here to relate them. [Learn more](#)

Orders 21 fields 9994 rows 100 rows

Name
Orders

Fields

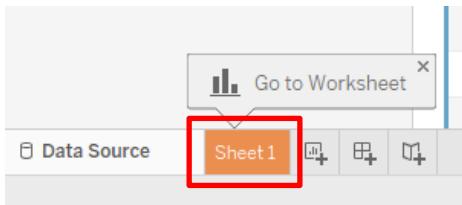
| Type | Field Name | Physical Table | Remote File... |
|-------------------|---------------|----------------|----------------|
| Row ID | Row ID | Orders | Row ID |
| Abs Order ID | Order ID | Orders | Order ID |
| Order Date | Order Date | Orders | Order Date |
| Ship Date | Ship Date | Orders | Ship Date |
| Abs Ship Mode | Ship Mode | Orders | Ship Mode |
| Abs Customer ID | Customer ID | Orders | Customer ID |
| Abs Customer Name | Customer Name | Orders | Customer Name |

Go to Worksheet

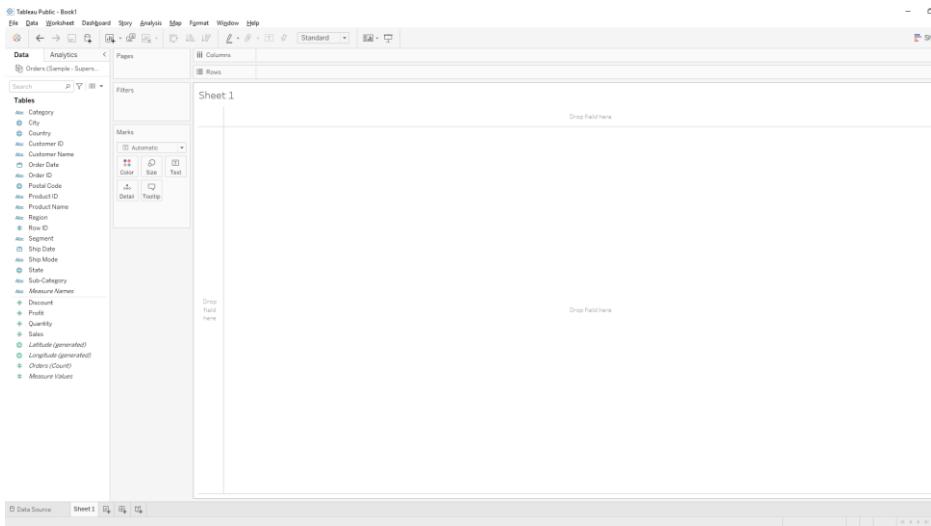
Data Source Refresh

SUPERSTORE DATASOURCE

Press “Sheet 1” tab as shown below.



After pressing it we will come to below page.



A screenshot of the Tableau interface showing the "Sheet 1" tab selected, indicated by a red box around its label. The interface includes a sidebar with tables and filters, and two large blank white areas labeled "Drop Field here". The overall background is light grey.



SUPERSTORE DATASOURCE

Dimensions

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Measures



SUPERSTORE DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Show Me

Data Analytics < Pages

Orders (Sample - Superstore)

Search

Tables

- Ale Category
- ⊕ City
- ⊕ Country
- Ale Customer ID
- Ale Customer Name
- ⊕ Order Date
- Ale Order ID
- ⊕ Postal Code
- Ale Product ID
- Ale Product Name
- Ale Region
- # Row ID
- Ale Segment
- ⊕ Ship Date
- Ale Ship Mode
- ⊕ State
- Ale Sub-Category
- Ale Measure Names
- # Discount
- # Profit
- # Quantity
- # Sales
- ⊕ Latitude (generated)
- ⊕ Longitude (generated)
- # Orders (Count)
- # Measure Values

Filters

Sheet 1

Drop field here

Marks

- Automatic
- Color
- Size
- Text
- Detail
- Tooltip

Drop field here

Drop field here

Data Source Sheet 1

Working Area

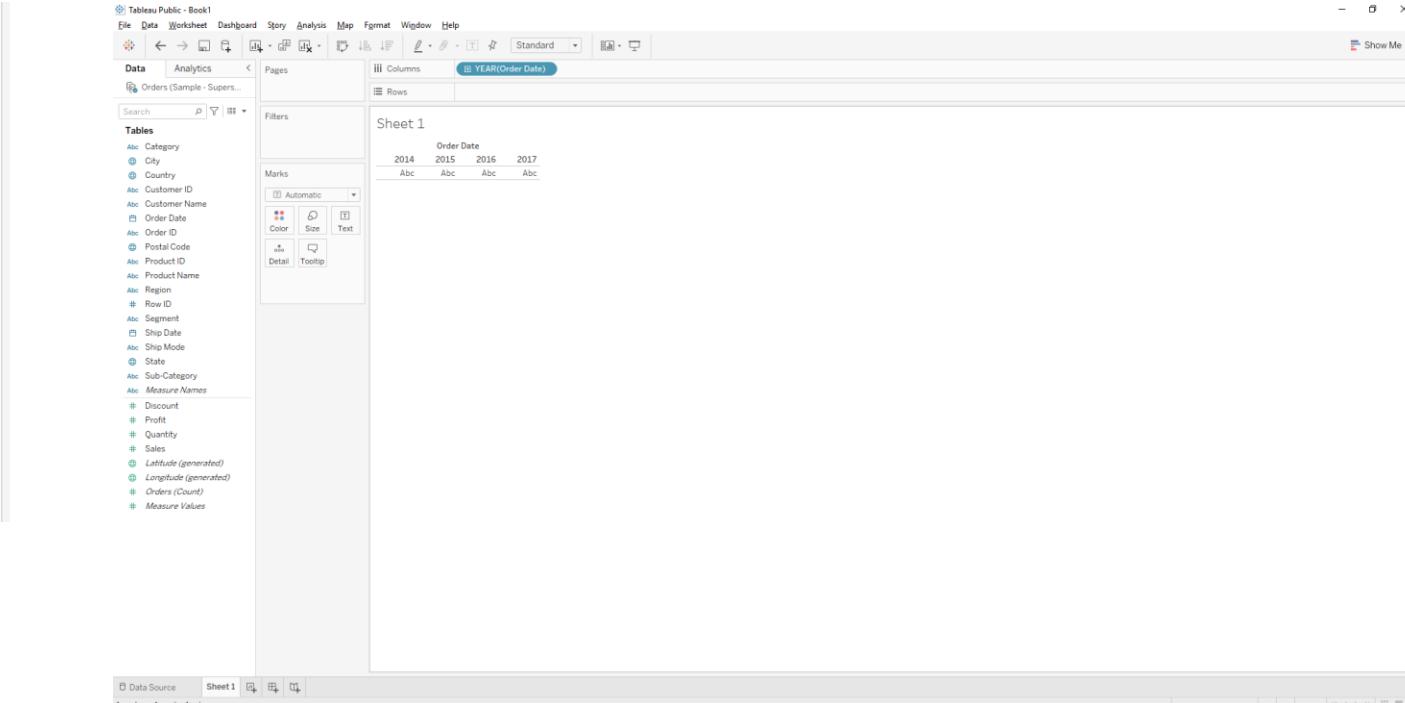
The screenshot shows the Tableau Public interface with the 'Superstore Datasource' loaded. The top navigation bar includes File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Window, and Help. Below the navigation is a toolbar with various icons. The left sidebar contains a 'Tables' section listing categories like Category, City, Country, etc., and a 'Filters' section. The main workspace is titled 'Sheet 1' and features three large, empty rectangular areas labeled 'Drop field here' for dragging data fields. The bottom navigation bar includes tabs for 'Data Source' and 'Sheet 1', along with other standard window controls.

SUPERSTORE DATASOURCE

Double click on dimension “Order Date” .Tableau will automatically create appropriate chart for us as shown below.

Tables

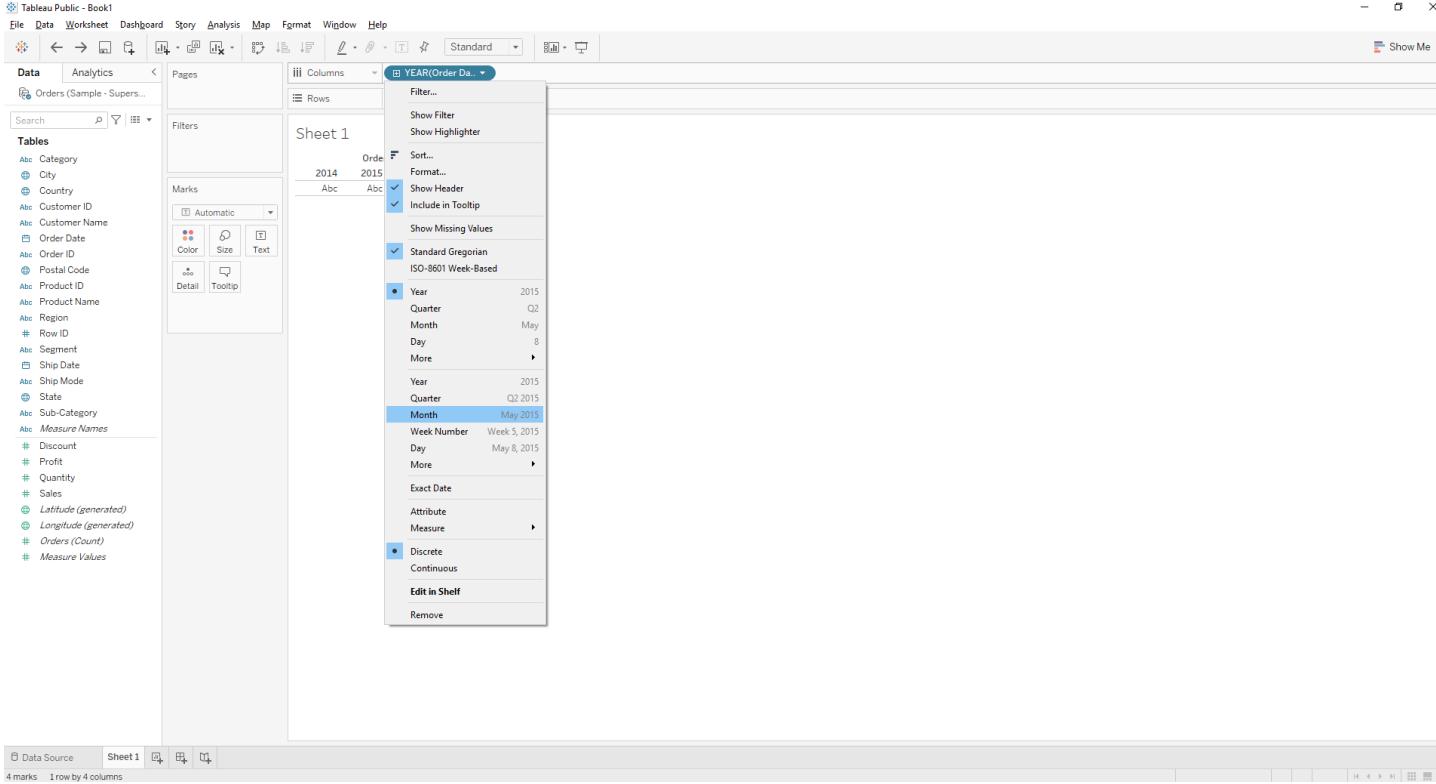
- Abc Category
- Abc City
- Abc Country
- Abc Customer ID
- Abc Customer Name
- Order Date**
- Abc Order ID
- Abc Postal Code
- Abc Product ID
- Abc Product Name
- Abc Region
- # Row ID
- Abc Segment
- Ship Date
- Abc Ship Mode
- Abc State
- Abc Sub-Category
- Abc Measure Names



The screenshot shows the Tableau Public interface with the 'Data' tab selected. In the 'Tables' section, the 'Order Date' dimension is highlighted with a red box. The 'Marks' section shows a single mark type: 'Text'. The 'Columns' shelf contains the 'YEAR(Order Date)' dimension. The 'Rows' shelf is empty. The 'Sheet 1' area is currently empty, indicating no data has been visualized yet.

SUPERSTORE DATASOURCE

Now as per problem statement we want chart for each month of year so change years to month by clicking year tab in columns as shown below.



The screenshot shows the Tableau interface with the following details:

- Top Bar:** File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Window, Help.
- Left Sidebar (Tables):** Category, City, Country, Customer ID, Customer Name, Order Date, Order ID, Postal Code, Product ID, Product Name, Region, Row ID, Segment, Ship Date, Ship Mode, State, Sub-Category, Measure Names, Discount, Profit, Quantity, Sales, Latitude (generated), Longitude (generated), Orders (Count), Measure Values.
- Middle Area:** Shows a small grid with columns labeled 2014 and 2015, and rows labeled Order ID, Order Date, and Order Number.
- Right Context Menu (opened over the 2014 column header):**
 - YEAR(Order Date)
 - Filter...
 - Show Filter
 - Show Highlighter
 - Sort...
 - Format...
 - Show Header
 - Include in Tooltip** (checkbox checked)
 - Show Missing Values
 - Standard Gregorian** (checkbox checked)
 - ISO-8601 Week-Based
 - Year** (radio button selected)
 - Quarter Q2
 - Month May
 - Day 8
 - More ▾
 - Month** (radio button selected)
 - May 2015
 - Week Number Week 3, 2015
 - Day May 8, 2015
 - More ▾
 - Exact Date
 - Attribute
 - Measure
 - Discrete** (radio button selected)
 - Continuous
 - Edit in Shelf
 - Remove
- Bottom Navigation:** Data Source, Sheet 1, etc.
- Bottom Status Bar:** 4 marks, 1 row by 4 columns, etc.



SUPERSTORE DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Orders (Sample - Superstore)

Search

Tables

- Category
- City
- Country
- Customer ID
- Customer Name
- Order Date
- Order ID
- Postal Code
- Product ID
- Product Name
- Region
- Row ID
- Segment
- Ship Date
- Ship Mode
- State
- Sub-Category
- Measure Names
- Discount
- Profit
- Quantity
- Sales
- Latitude (generated)
- Longitude (generated)
- Orders (Count)
- Measure Values

Columns MONTH(Order Date)

Rows

Sheet 1

Month of Order Date

March 2014 July 2014 November 2014 March 2015 July 2015 November 2015 March 2016 July 2016 November 2016 March 2017 July 2017 November 2017

Marks

%: Automatic

Color Size Label

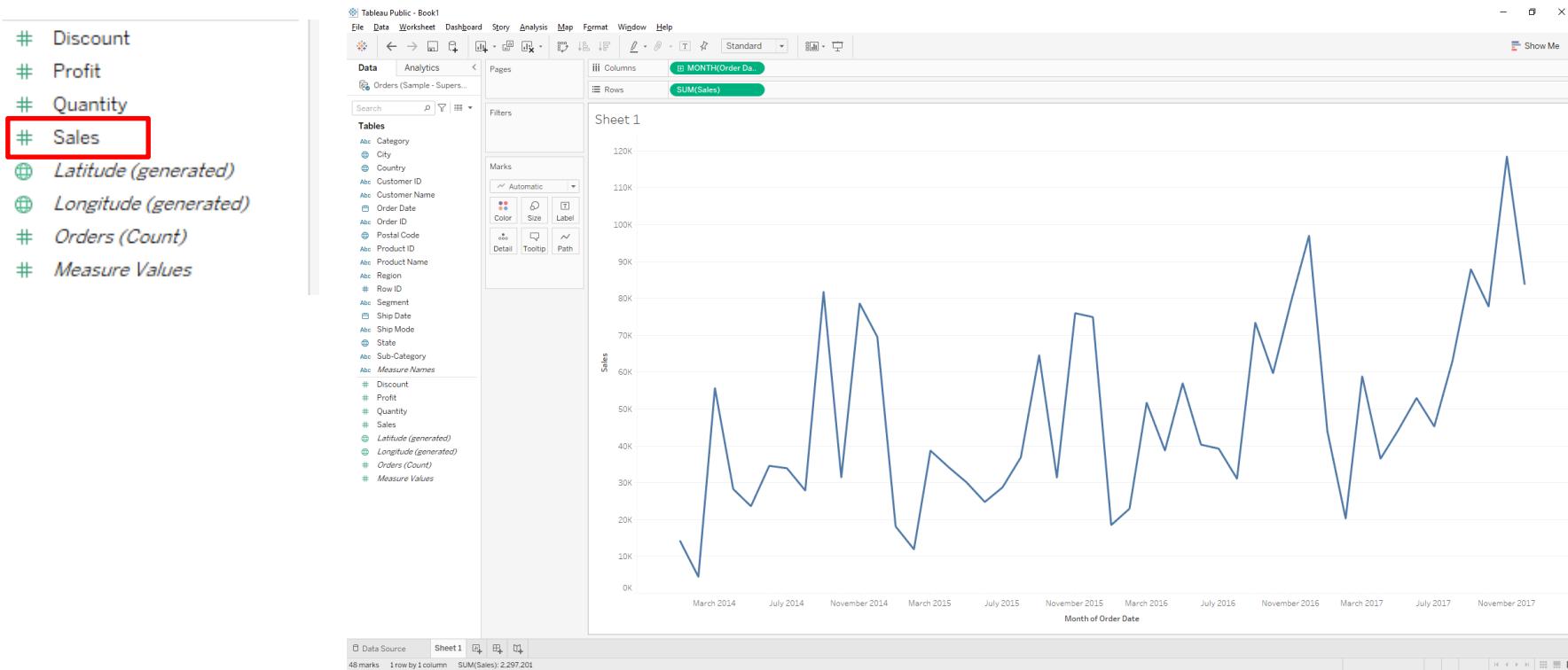
Detail Tooltip

Data Source Sheet 1

48 marks 1 row by 1 column

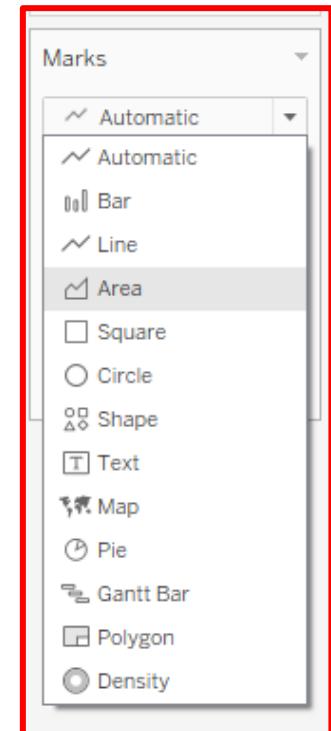
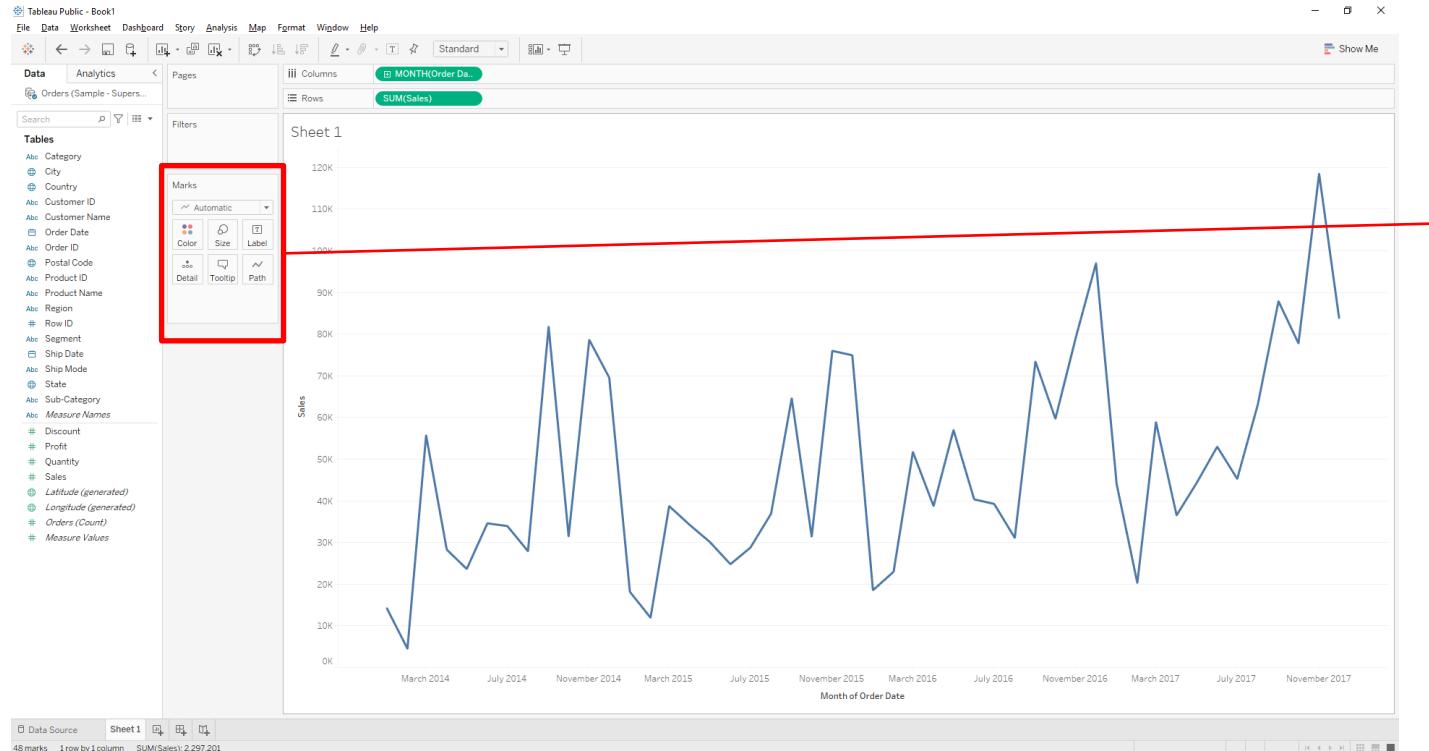
SUPERSTORE DATASOURCE

Double click on measure sales “Sales” then tableau will automatically create line chart for aggregated sales values for each month of year as shown below.



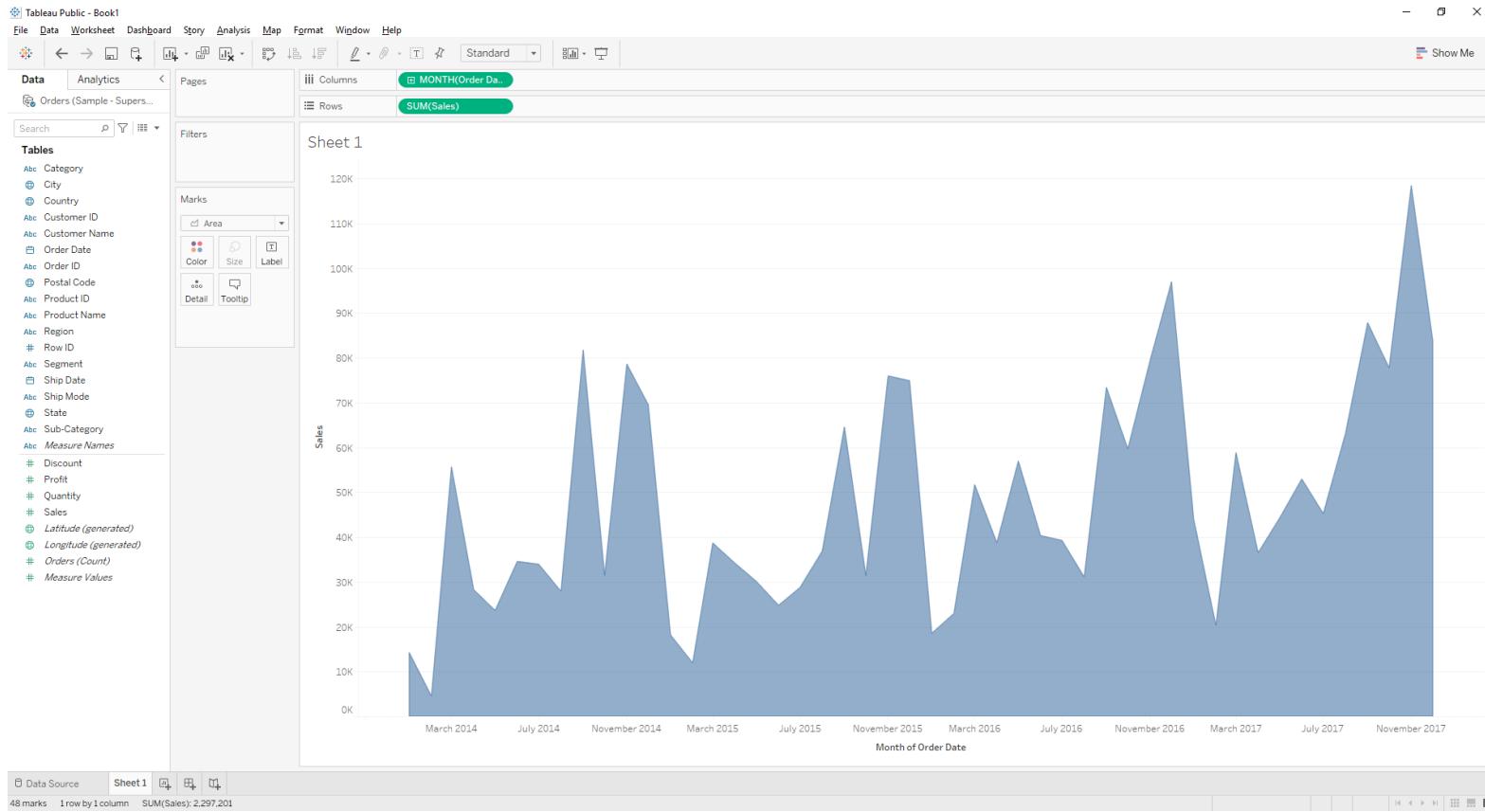
SUPERSTORE DATASOURCE

In “Marks” tab change automatic to area so tableau will create area chart for it as shown below.





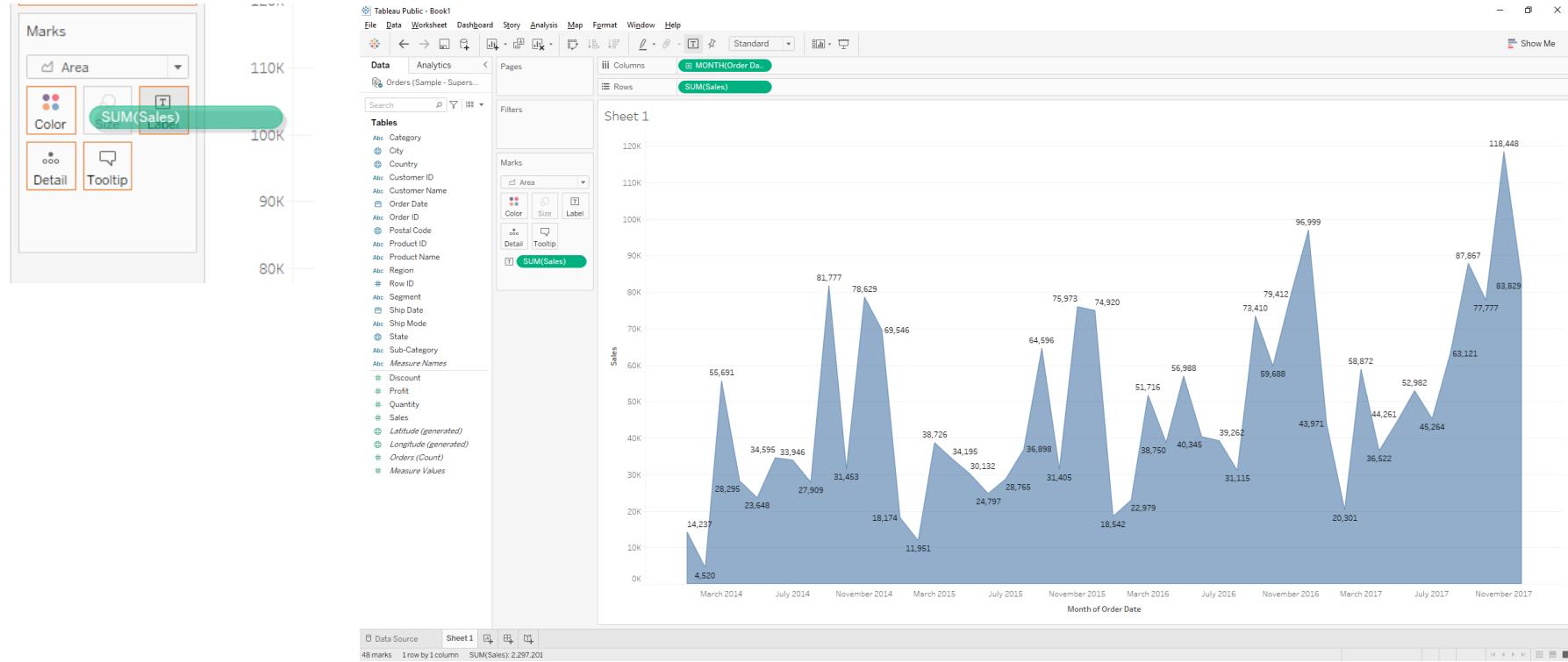
SUPERSTORE DATASOURCE





SUPERSTORE DATASOURCE

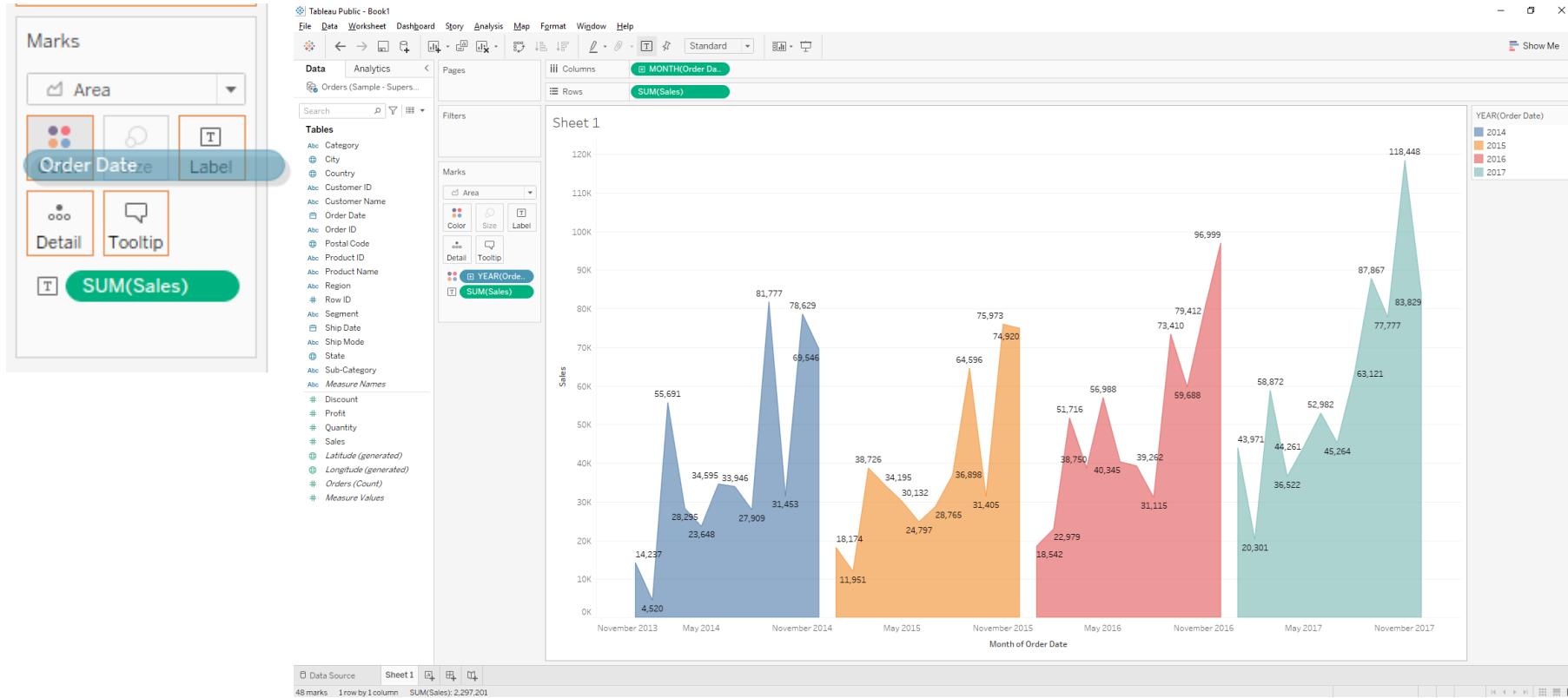
Drag & drop measure “Sales” in “Label Tab” of “Marks Tab” to get label of sales in chart as shown below.





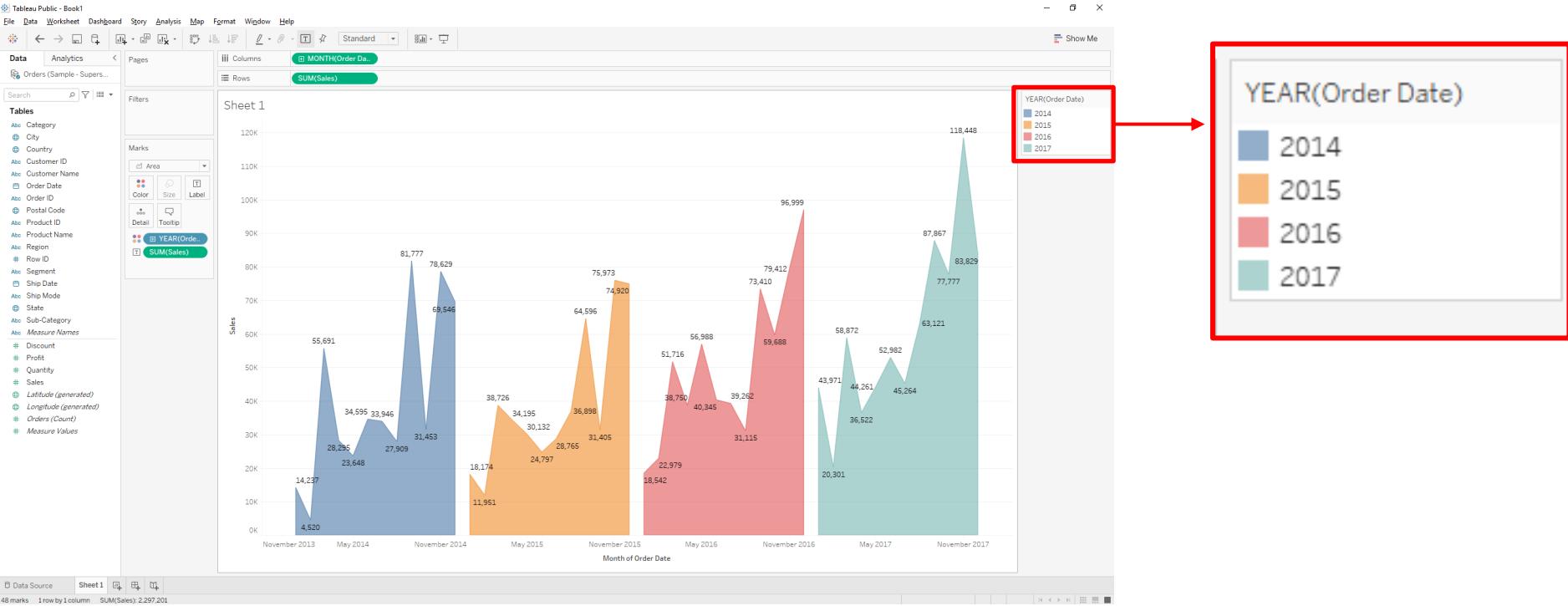
SUPERSTORE DATASOURCE

Drag & drop dimension “Order Date” in “Color Tab” of “Marks Tab” to get color in chart year wise as shown below.



SUPERSTORE DATASOURCE

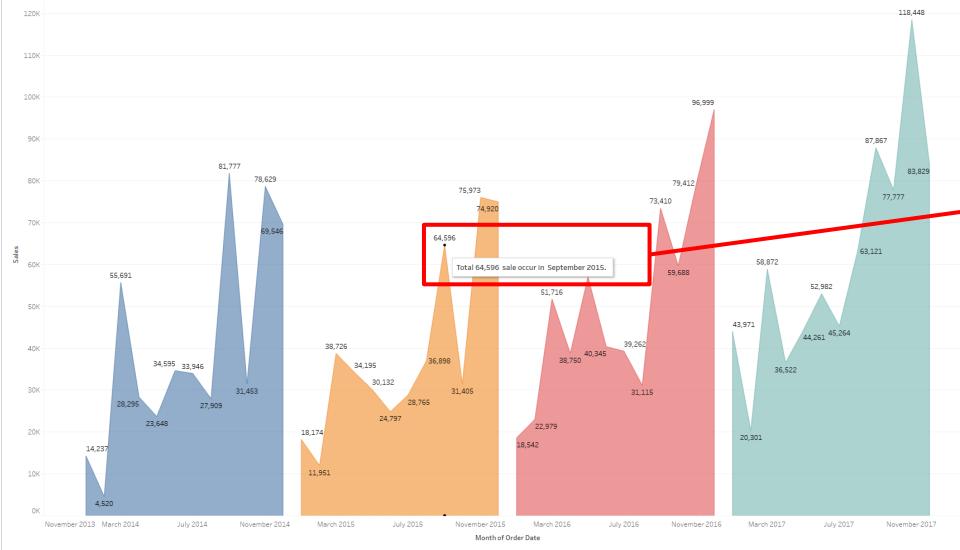
Color Indicator i.e. which color shows which year is here as shown below.



SUPERSTORE DATASOURCE

Final Output :

Sales Analysis



YEAR(Order Date)

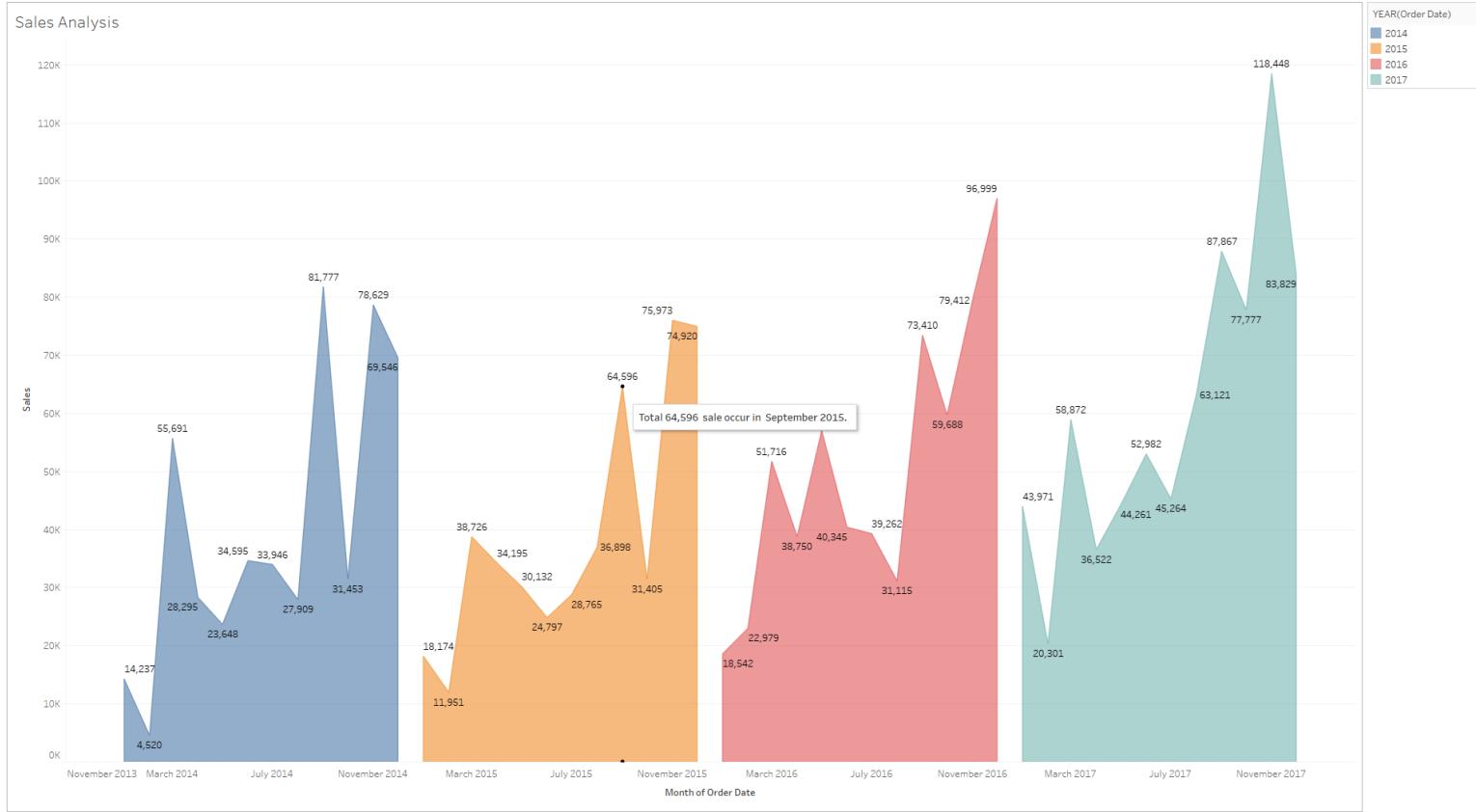
- 2014
- 2015
- 2016
- 2017

Total 64,596 sale occur in September 2015.



SUPERSTORE DATASOURCE

Final Output :





SUPERSTORE DATASOURCE

2. Find the aggregate **profit** for each quarter of a year 2015-2018 using area chart

- For this problem statement we will use “Order” table so drag and drop that table on right side as shown below.

Tableau Public - Book1

File Data Window Help

Connections Add

Sample - Superstore Microsoft Excel

Sheets

- Orders
- People
- Returns

New Union

Orders (Sample - Superstore)

Orders

Need more data?
Drag tables here to relate them. [Learn more](#)

Orders 21 fields 9994 rows 100 → rows

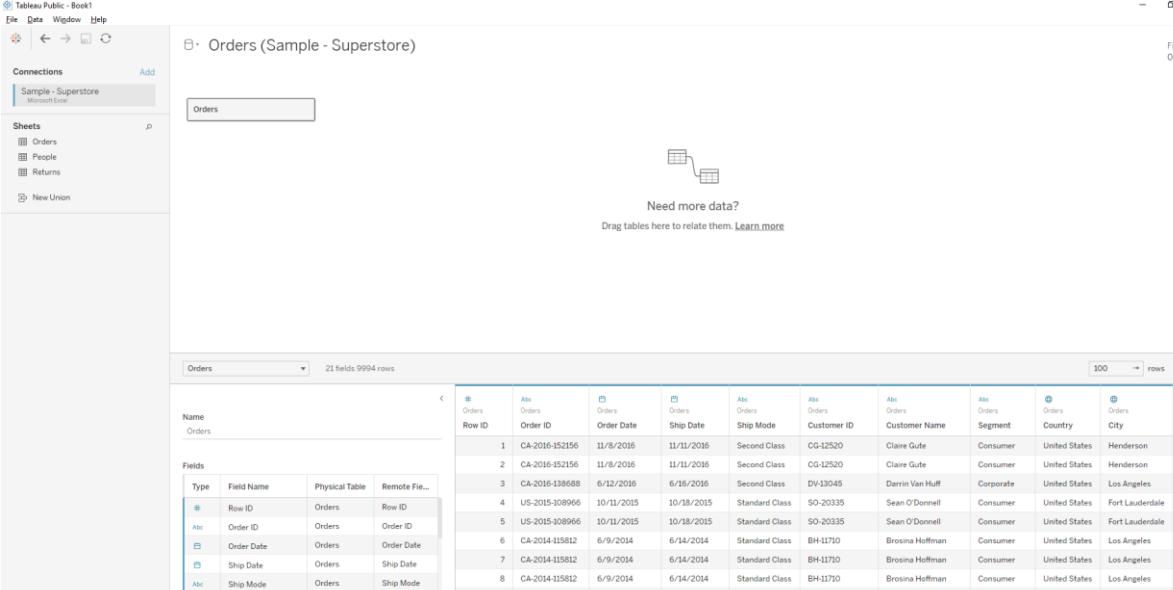
| Name | Type | Field Name | Physical Table | Remote File... |
|--------|---------------|---------------|----------------|----------------|
| Orders | Row ID | Row ID | Orders | Row ID |
| Orders | Order ID | Order ID | Orders | Order ID |
| Orders | Order Date | Order Date | Orders | Order Date |
| Orders | Ship Date | Ship Date | Orders | Ship Date |
| Orders | Ship Mode | Ship Mode | Orders | Ship Mode |
| Orders | Customer ID | Customer ID | Orders | Customer ID |
| Orders | Customer Name | Customer Name | Orders | Customer Name |

Rows 100 →

Go to Worksheet X

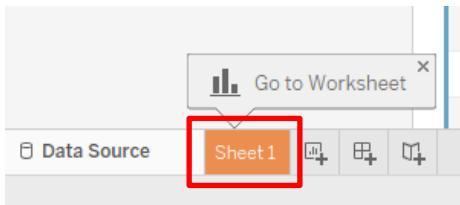
Data Source Sheet 1

Filters 0 | A

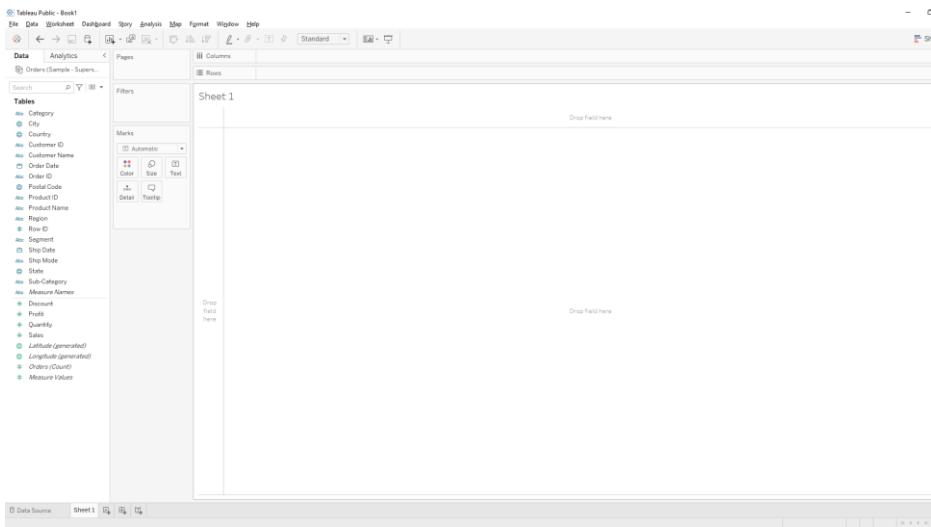


SUPERSTORE DATASOURCE

Press “Sheet 1” tab as shown below.



After pressing it we will come to below page.

A screenshot of the Tableau software interface, similar to the previous one but with the "Sheet 1" tab selected in the navigation bar at the bottom. The main workspace is now a blank canvas with two large, empty rectangular areas labeled "Drop Field here" for dragging and dropping data fields to create a visualization.



SUPERSTORE DATASOURCE

Dimensions

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Measures



SUPERSTORE DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Show Me

Data Analytics < Pages

Orders (Sample - Superstore)

Search

Tables

- Ale Category
- ⊕ City
- ⊕ Country
- Ale Customer ID
- Ale Customer Name
- ⊕ Order Date
- Ale Order ID
- ⊕ Postal Code
- Ale Product ID
- Ale Product Name
- Ale Region
- # Row ID
- Ale Segment
- ⊕ Ship Date
- Ale Ship Mode
- ⊕ State
- Ale Sub-Category
- Ale Measure Names
- # Discount
- # Profit
- # Quantity
- # Sales
- ⊕ Latitude (generated)
- ⊕ Longitude (generated)
- # Orders (Count)
- # Measure Values

Filters

Sheet 1

Drop field here

Marks

- Automatic
- Color
- Size
- Text
- Detail
- Tooltip

Drop field here

Drop field here

Data Source Sheet 1

Working Area

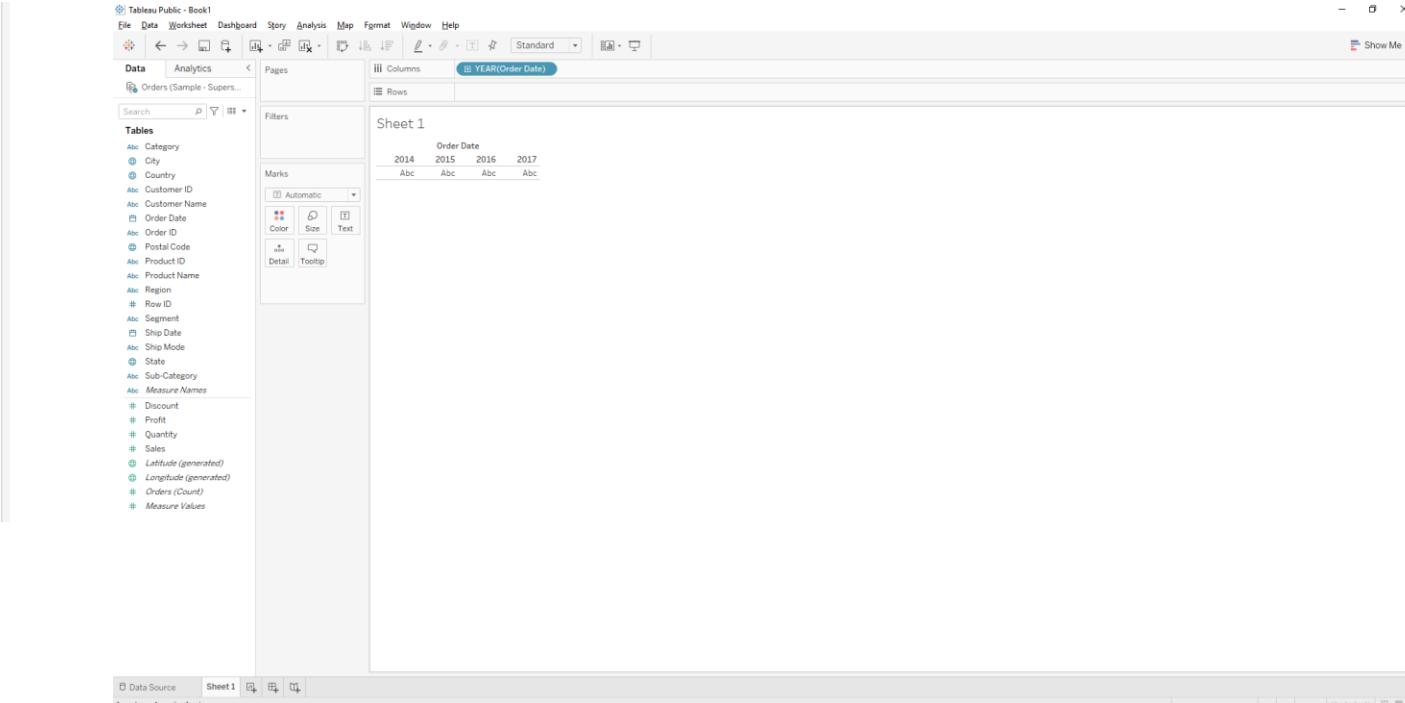
The screenshot shows the Tableau Public interface with the 'Superstore Datasource' loaded. The top navigation bar includes File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Window, and Help. Below the navigation is a toolbar with various icons. The left sidebar contains a 'Tables' section listing categories like Category, City, Country, etc., and a 'Filters' section. The main workspace is titled 'Sheet 1' and features three large, empty rectangular areas labeled 'Drop field here' for dragging data fields. The bottom of the screen shows the Tableau ribbon with tabs for Data Source and Sheet 1, along with other standard window controls.

SUPERSTORE DATASOURCE

Double click on dimension “Order Date” .Tableau will automatically create appropriate chart for us as shown below.

Tables

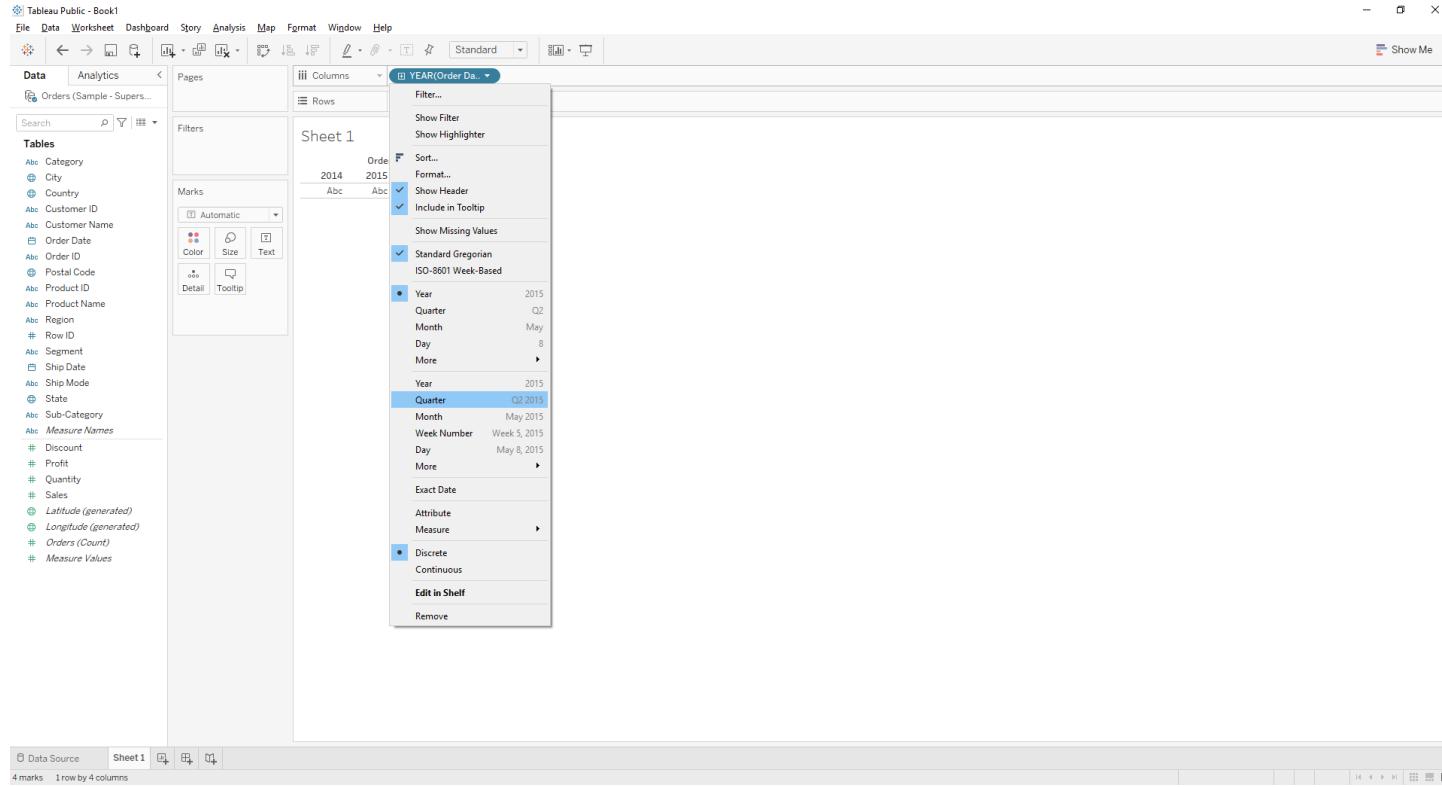
- Abc Category
- Abc City
- Abc Country
- Abc Customer ID
- Abc Customer Name
- Order Date**
- Abc Order ID
- Abc Postal Code
- Abc Product ID
- Abc Product Name
- Abc Region
- # Row ID
- Abc Segment
- Ship Date
- Abc Ship Mode
- Abc State
- Abc Sub-Category
- Abc Measure Names



The screenshot shows the Tableau Public interface with the 'Data' tab selected. In the 'Tables' section, the 'Order Date' dimension is highlighted with a red box. The 'Marks' section shows a single mark type: 'Text'. The 'Columns' shelf contains the 'YEAR(Order Date)' dimension. The 'Rows' shelf is empty. The 'Sheet 1' area is currently empty, indicating no data has been visualized yet.

SUPERSTORE DATASOURCE

Now as per problem statement we want chart for each quarter of a year so change years to quarter by clicking year tab in columns as shown below.



The screenshot shows the Tableau interface with the 'Sheet 1' tab selected. In the top navigation bar, the 'Data' tab is active. On the left, the 'Tables' shelf lists various dimensions and measures. A context menu is open over the 'Year' dimension in the 'Order Date' column of the data grid. The menu path 'Year' is highlighted. The menu options include:

- Filter...
- Show Filter
- Show Highlighter
- Sort...
- Format...
- Show Header
- Include in Tooltip
- Show Missing Values
- Standard Gregorian
- ISO-8601 Week-Based
- Year
 - 2014
 - 2015
- Quarter
 - 2014 Q1
 - 2014 Q2
 - 2014 Q3
 - 2014 Q4
 - 2015 Q1
 - 2015 Q2
 - 2015 Q3
 - 2015 Q4
- Month
 - 2014 Jan
 - 2014 Feb
 - 2014 Mar
 - 2014 Apr
 - 2014 May
 - 2014 Jun
 - 2014 Jul
 - 2014 Aug
 - 2014 Sep
 - 2014 Oct
 - 2014 Nov
 - 2014 Dec
 - 2015 Jan
 - 2015 Feb
 - 2015 Mar
 - 2015 Apr
 - 2015 May
 - 2015 Jun
 - 2015 Jul
 - 2015 Aug
 - 2015 Sep
 - 2015 Oct
 - 2015 Nov
 - 2015 Dec
- Day
 - 2014 Mon
 - 2014 Tue
 - 2014 Wed
 - 2014 Thu
 - 2014 Fri
 - 2014 Sat
 - 2014 Sun
 - 2015 Mon
 - 2015 Tue
 - 2015 Wed
 - 2015 Thu
 - 2015 Fri
 - 2015 Sat
 - 2015 Sun
- More
- Year
 - 2014
 - 2015
- Quarter
 - Q2 2015
- Month
 - May 2015
- Week Number
 - Week 5, 2015
- Day
 - May 8, 2015
- More
- Exact Date
- Attribute
- Measure
- Discrete
- Continuous
- Edit in Shelf
- Remove



SUPERSTORE DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Data Analytics < Pages Columns QUARTER(Order..)

Orders (Sample - Superstore) Rows

Search Filters

Tables

- Abc Category
- Abc City
- Abc Country
- Abc Customer ID
- Abc Customer Name
- Order Date
- Abc Order ID
- Abc Postal Code
- Abc Product ID
- Abc Product Name
- Abc Region
- # Row ID
- Abc Segment
- Ship Date
- Abc Ship Mode
- Abc State
- Abc Sub-Category
- Abc Measure Names
- # Discount
- # Profit
- # Quantity
- # Sales
- Latitude (generated)
- Longitude (generated)
- # Orders (Count)
- # Measure Values

Marks

- % Automatic
- Color
- Size
- Label
- Detail
- Tooltip

Sheet 1

2014 Q1 2014 Q2 2014 Q3 2014 Q4 2015 Q1 2015 Q2 2015 Q3 2015 Q4 2016 Q1 2016 Q2 2016 Q3 2016 Q4 2017 Q1 2017 Q2 2017 Q3 2017 Q4

Quarter of Order Date

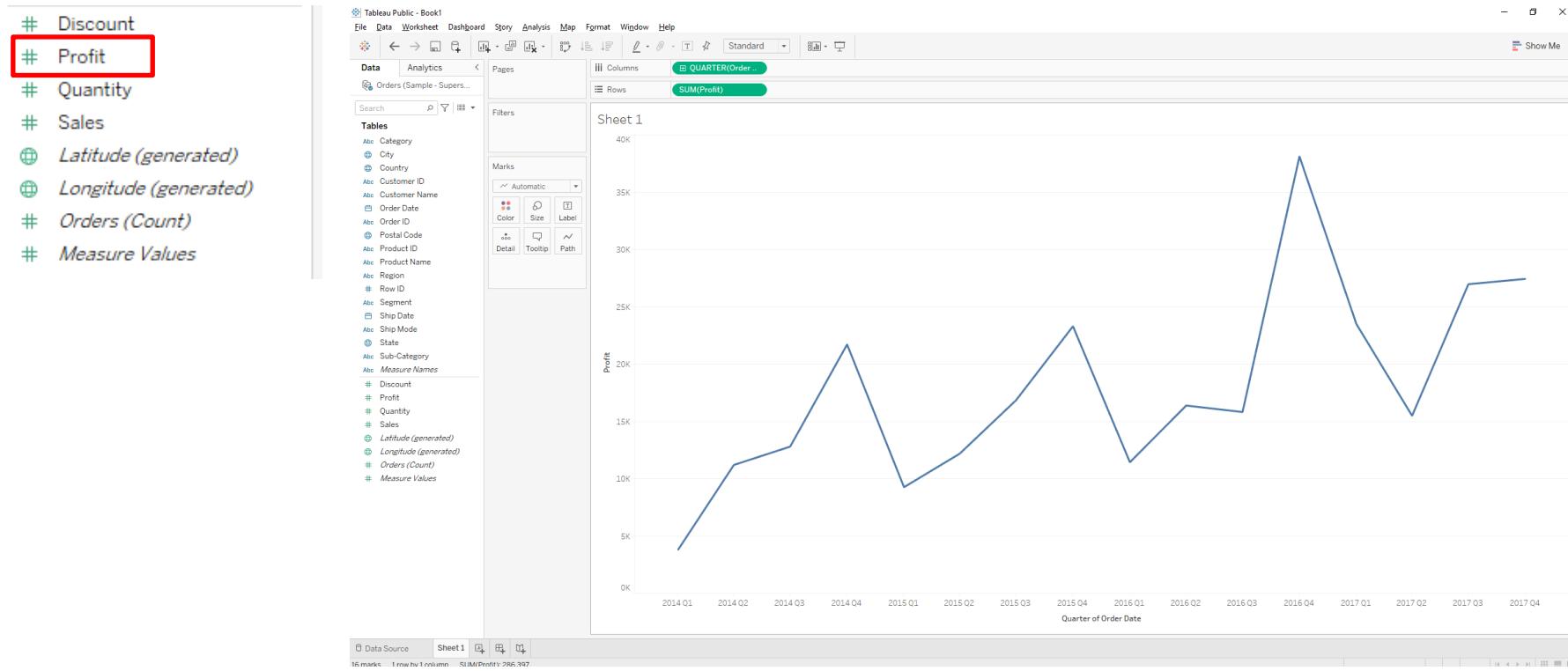
Show Me

Data Source Sheet 1

16 marks 1 row by 1 column

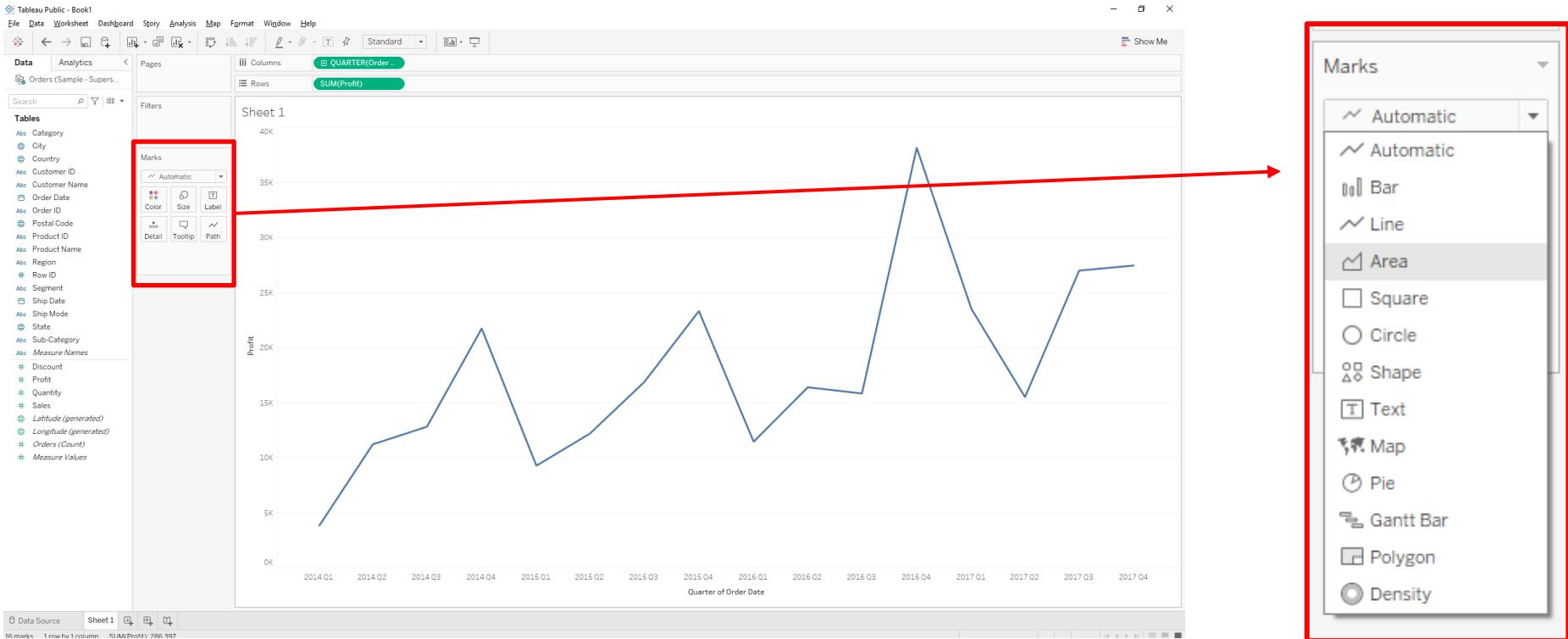
SUPERSTORE DATASOURCE

Double click on measure sales “Profit” then tableau will automatically create line chart for aggregated profit values for each quarter of year as shown below.



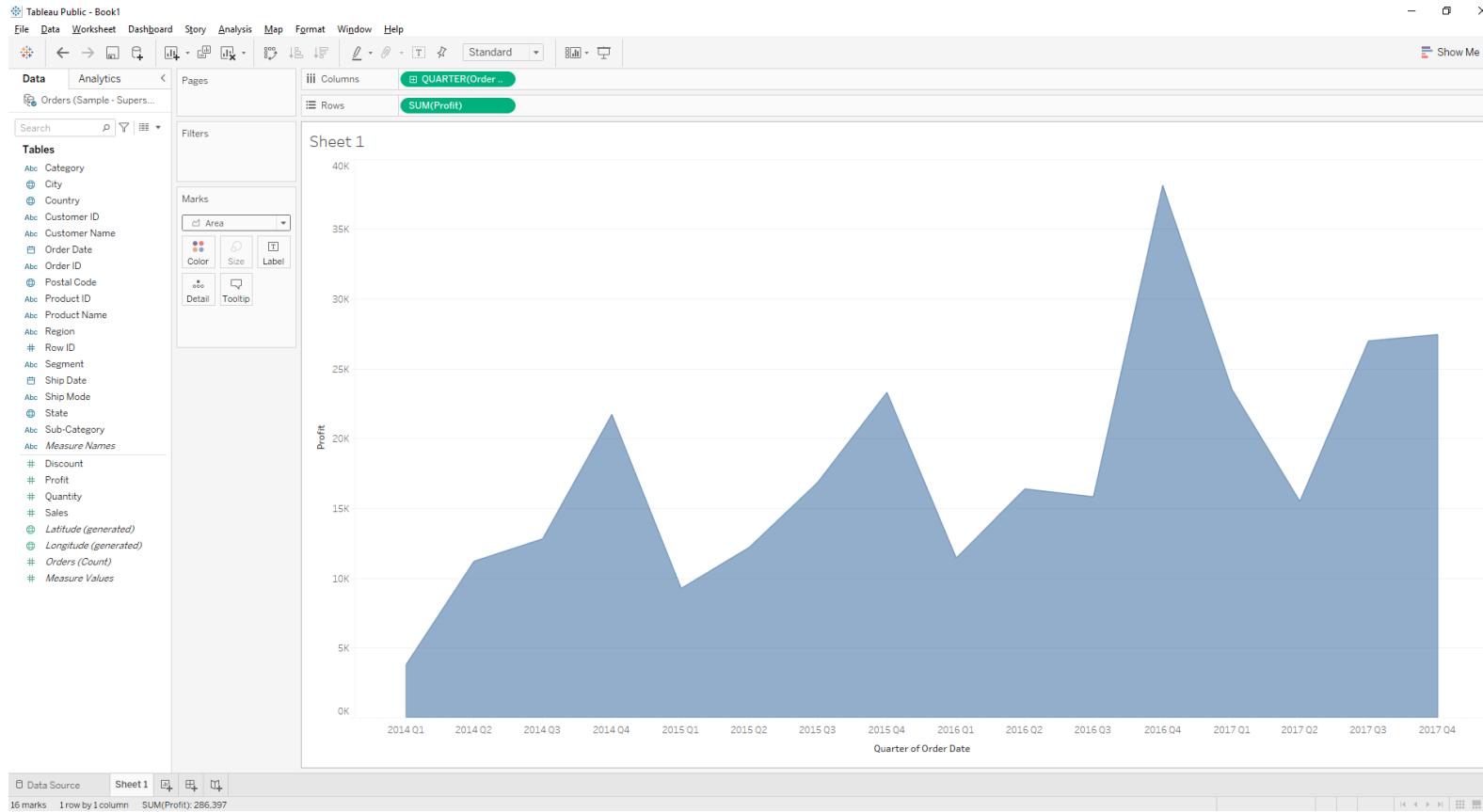
SUPERSTORE DATASOURCE

In “Marks” tab change automatic to area so tableau will create area chart for it as shown below.





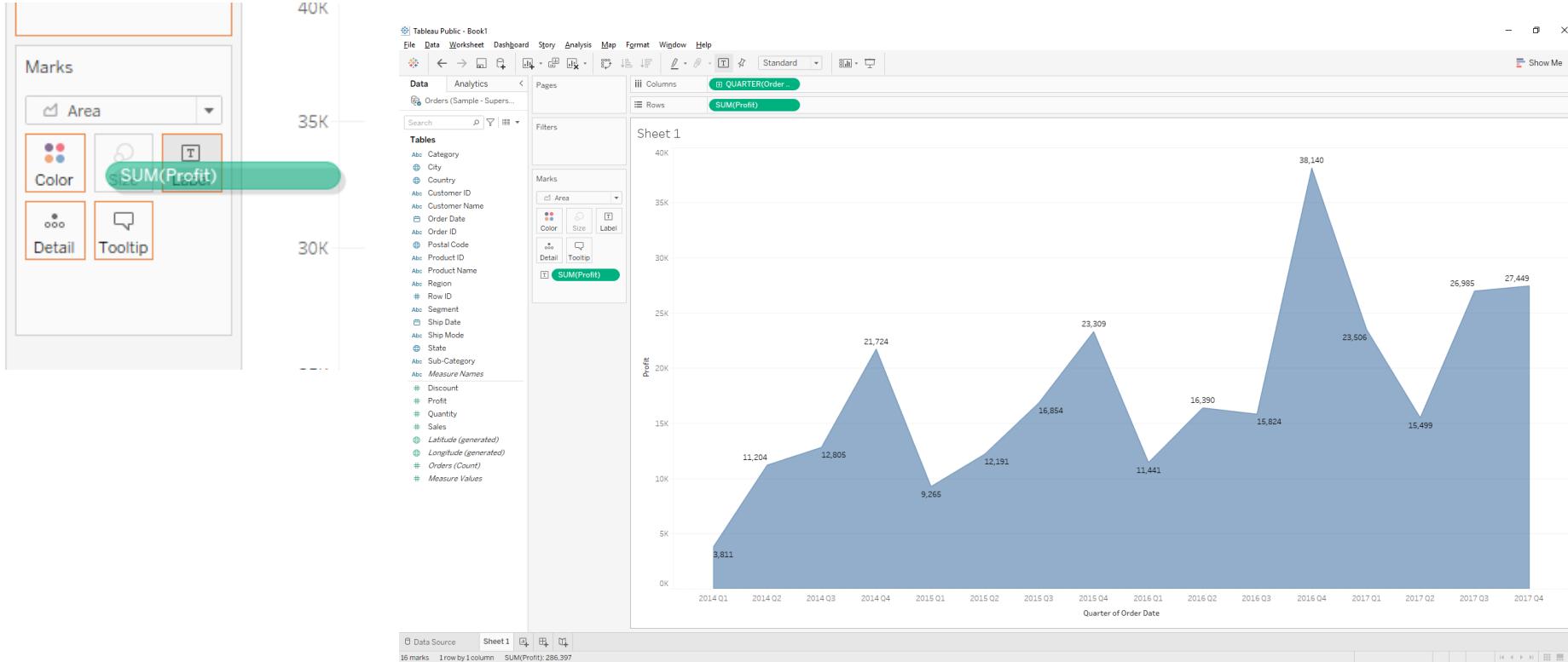
SUPERSTORE DATASOURCE





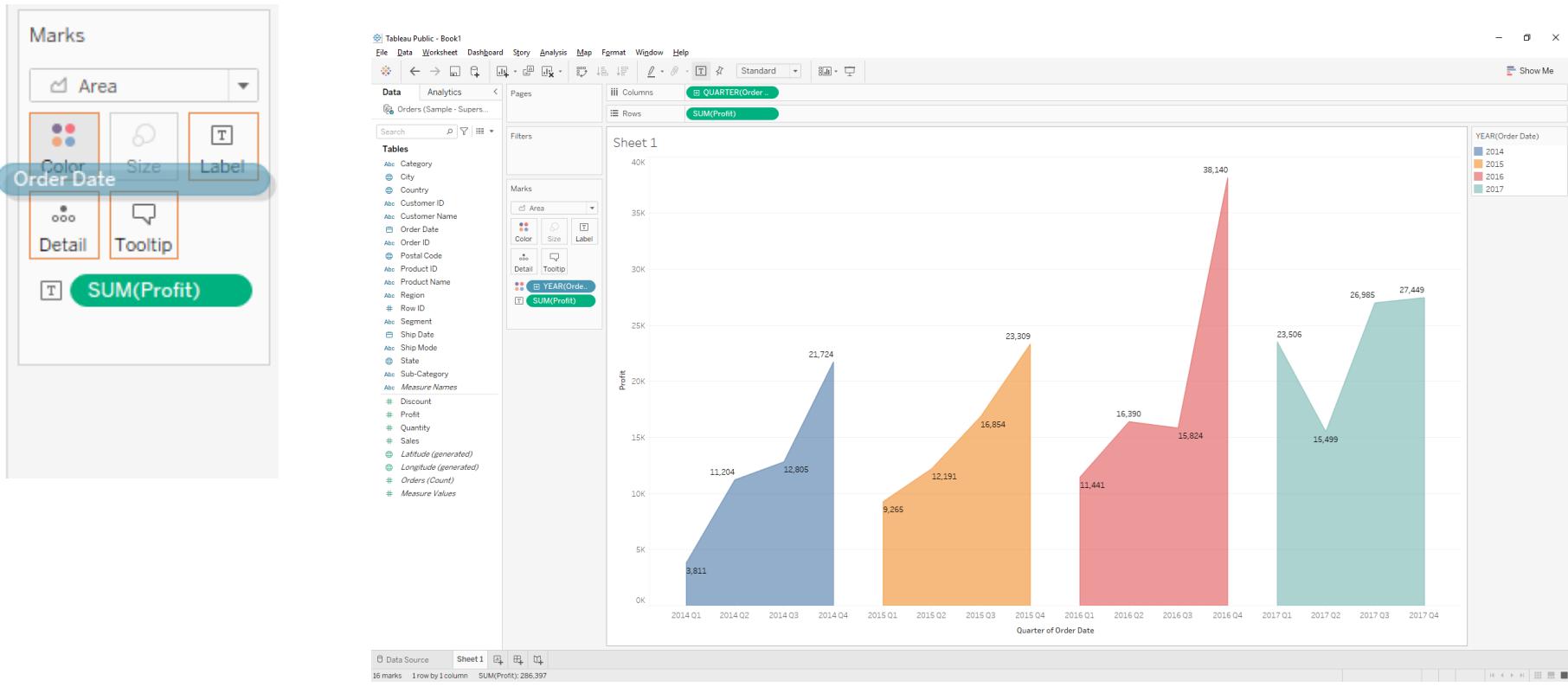
SUPERSTORE DATASOURCE

Drag & drop measure “Profit” in “Label Tab” of “Marks Tab” to get label of profit in chart as shown below.



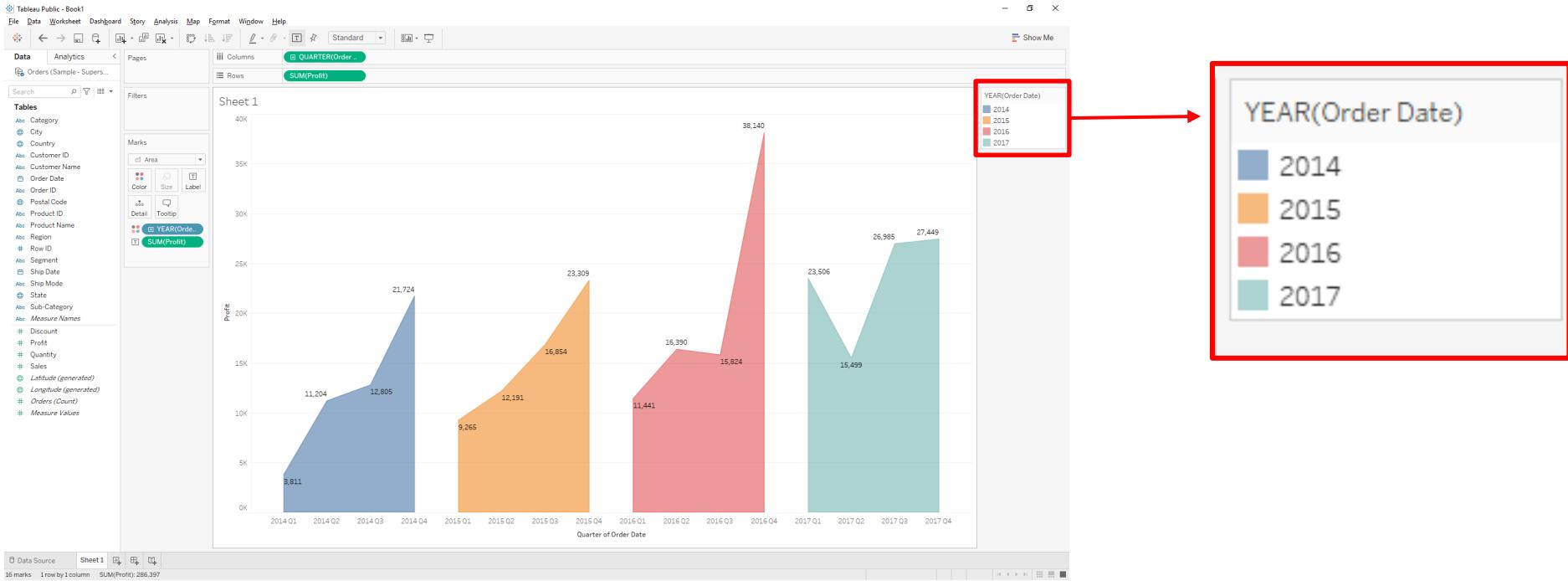
SUPERSTORE DATASOURCE

Drag & drop dimension “Order Date” in “Color Tab” of “Marks Tab” to get color in chart year wise as shown below.



SUPERSTORE DATASOURCE

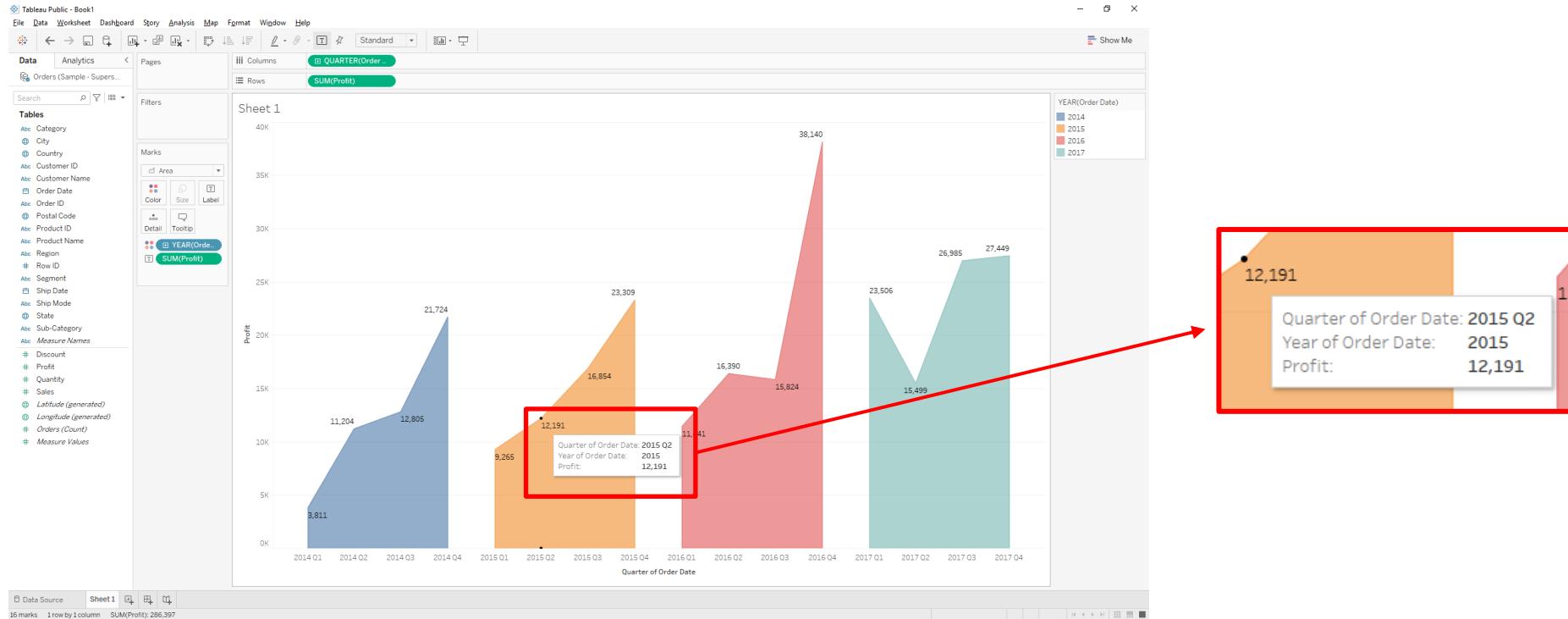
Color Indicator i.e. which color shows which year is here as shown below.





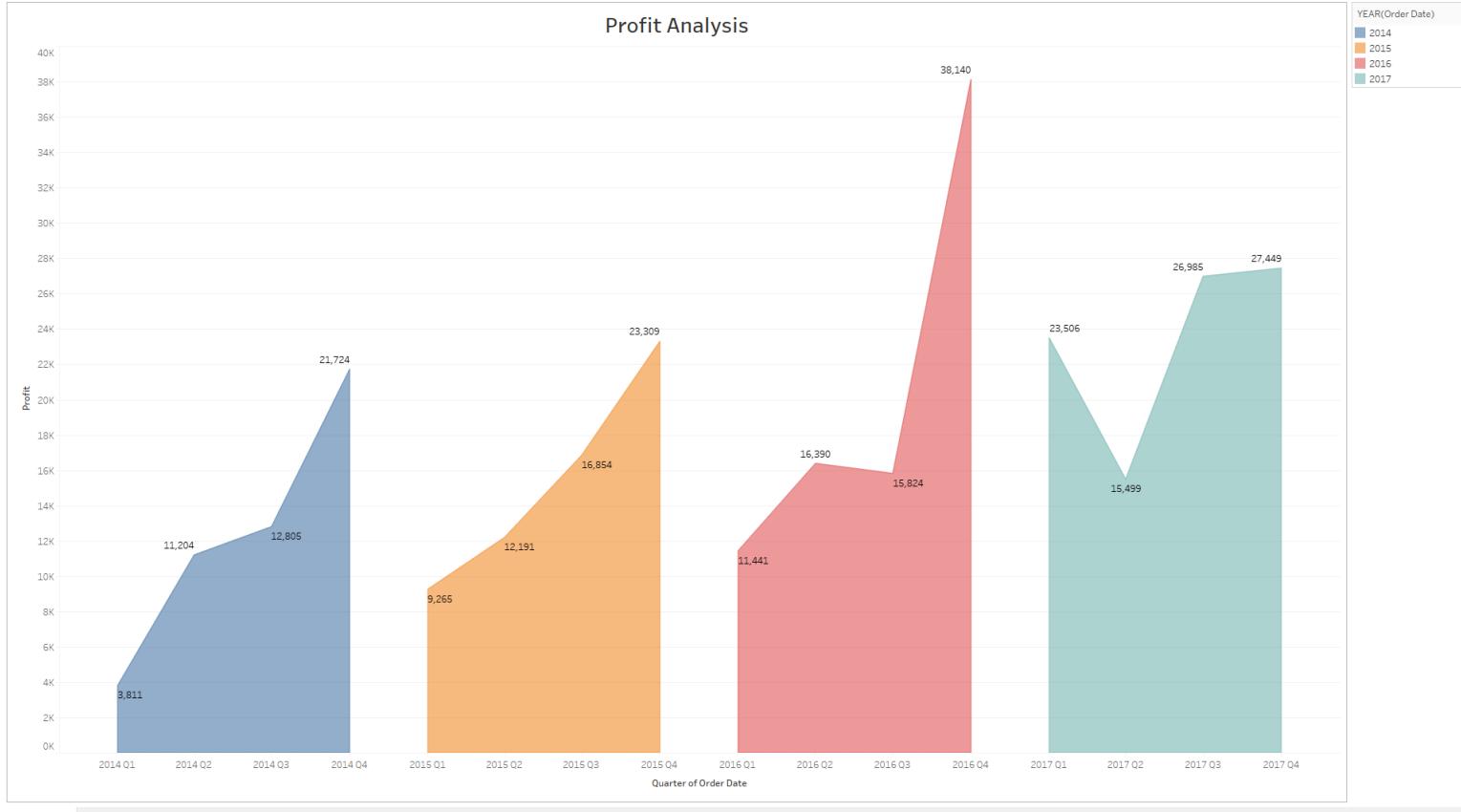
SUPERSTORE DATASOURCE

Final Output :



SUPERSTORE DATASOURCE

Final Output :



SUPERSTORE DATASOURCE

3. Plot sales and profit for each month of a year in **furniture** category

- For this problem statement we will use “Order” table so drag and drop that table on right side as shown below.

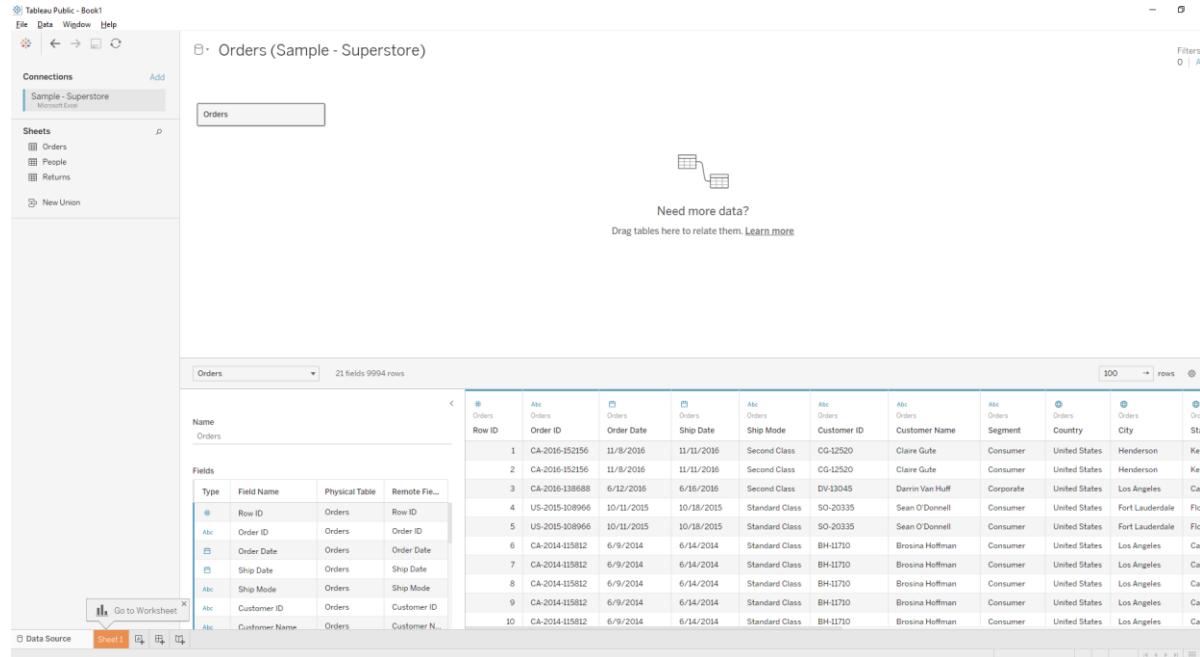


Tableau Public - Book1

File Data Window Help

Connections Add

Sample - Superstore (Recent)

Sheets Orders People Returns New Union

Orders (Sample - Superstore)

Orders

Need more data?
Drag tables here to relate them. [Learn more](#)

Orders 21 fields 9994 rows

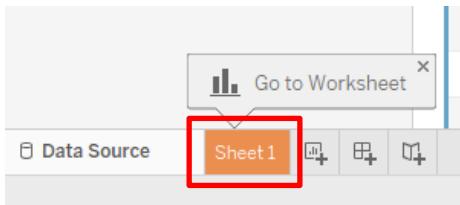
| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID | Customer Name | Segment | Country | City | State |
|--------|----------------|------------|------------|----------------|-------------|-----------------|-----------|---------------|-----------------|------------|
| 1 | CA-2016-15215 | 11/8/2016 | 11/11/2016 | Second Class | CG-12520 | Claire Gute | Consumer | United States | Henderson | Kentucky |
| 2 | CA-2016-152156 | 11/8/2016 | 11/11/2016 | Second Class | CG-12520 | Claire Gute | Consumer | United States | Henderson | Kentucky |
| 3 | CA-2016-138688 | 6/12/2016 | 6/16/2016 | Second Class | DV-13045 | Darren Van Huff | Corporate | United States | Los Angeles | California |
| 4 | US-2015-108966 | 10/11/2015 | 10/18/2015 | Standard Class | SO-20335 | Sean O'Donnell | Consumer | United States | Fort Lauderdale | Florida |
| 5 | US-2015-108966 | 10/11/2015 | 10/18/2015 | Standard Class | SO-20335 | Sean O'Donnell | Consumer | United States | Fort Lauderdale | Florida |
| 6 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosina Hoffman | Consumer | United States | Los Angeles | California |
| 7 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosina Hoffman | Consumer | United States | Los Angeles | California |
| 8 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosina Hoffman | Consumer | United States | Los Angeles | California |
| 9 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosina Hoffman | Consumer | United States | Los Angeles | California |
| 10 | CA-2014-115812 | 6/9/2014 | 6/14/2014 | Standard Class | BH-11710 | Brosina Hoffman | Consumer | United States | Los Angeles | California |

Go to Worksheet

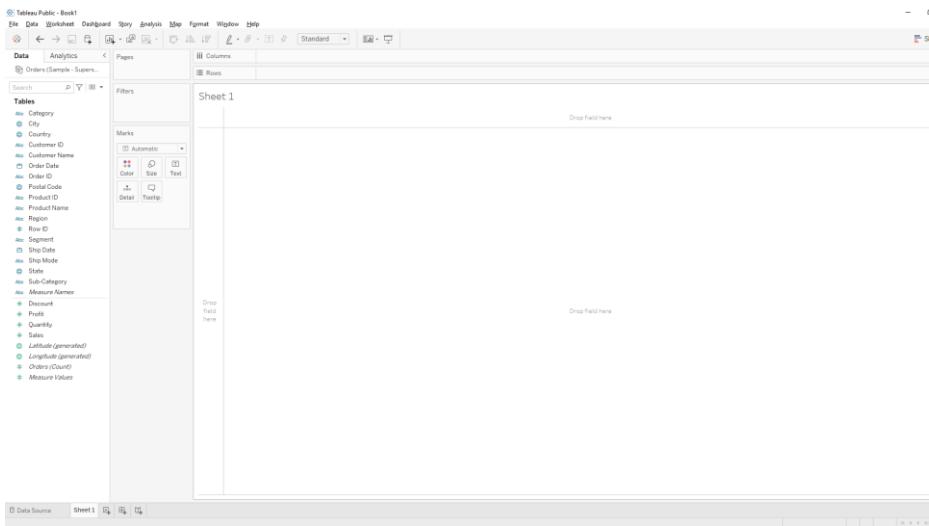
Data Source Sheet 1

SUPERSTORE DATASOURCE

Press “Sheet 1” tab as shown below.



After pressing it we will come to below page.



A screenshot of the Tableau interface showing the "Sheet 1" tab selected, indicated by a red box around its label. The interface includes a sidebar with tables and filters, and two large blank white areas labeled "Drop Field here".



SUPERSTORE DATASOURCE

Dimensions

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Tables

Abc Category
@ City
@ Country
Abc Customer ID
Abc Customer Name
@ Order Date
Abc Order ID
@ Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
@ Ship Date
Abc Ship Mode
@ State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
@ Latitude (generated)
@ Longitude (generated)
Orders (Count)
Measure Values

Measures



SUPERSTORE DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Show Me

Tables

- Als: Category
- ⊕ City
- ⊕ Country
- Als: Customer ID
- Als: Customer Name
- ⊕ Order Date
- Als: Order ID
- ⊕ Postal Code
- Als: Product ID
- Als: Product Name
- Als: Region
- # Row ID
- Als: Segment
- ⊕ Ship Date
- Als: Ship Mode
- ⊕ State
- Als: Sub-Category
- Als: Measure Names
- # Discount
- # Profit
- # Quantity
- # Sales
- ⊕ Latitude (generated)
- ⊕ Longitude (generated)
- # Orders (Count)
- # Measure Values

Filters

Sheet 1

Drop field here

Marks

- Automatic
- Color
- Size
- Text
- Detail
- Tooltip

Drop field here

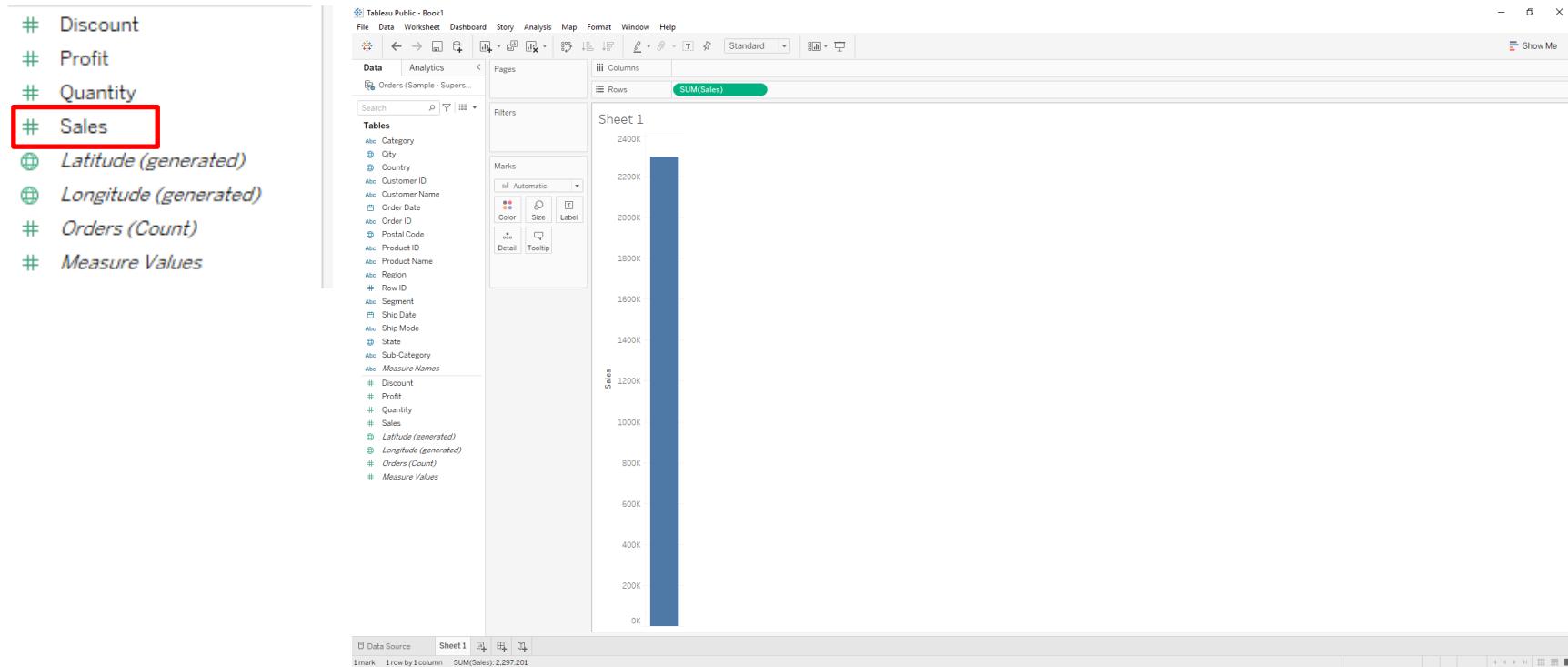
Drop field here

Data Source Sheet 1

Working Area

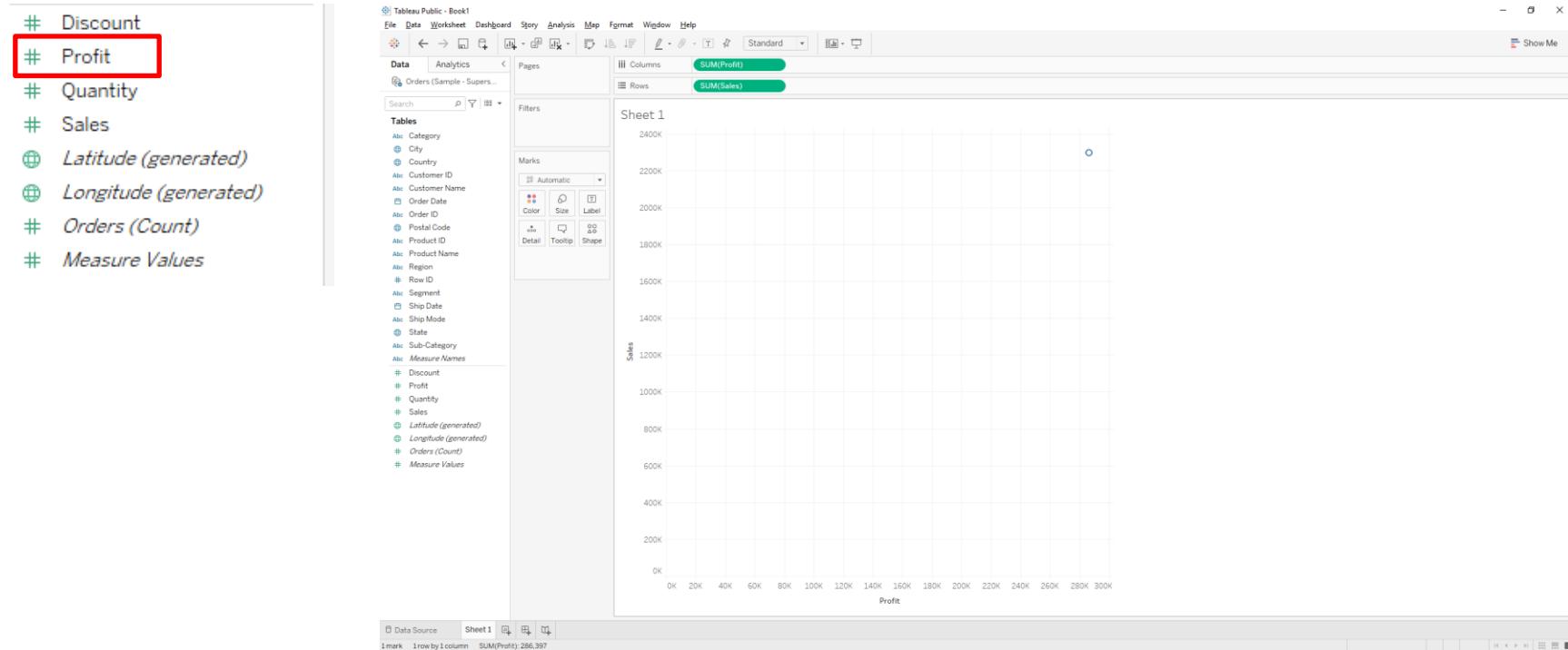
SUPERSTORE DATASOURCE

Double click on measure “Sales” .Tableau will automatically create appropriate chart for us as shown below.



SUPERSTORE DATASOURCE

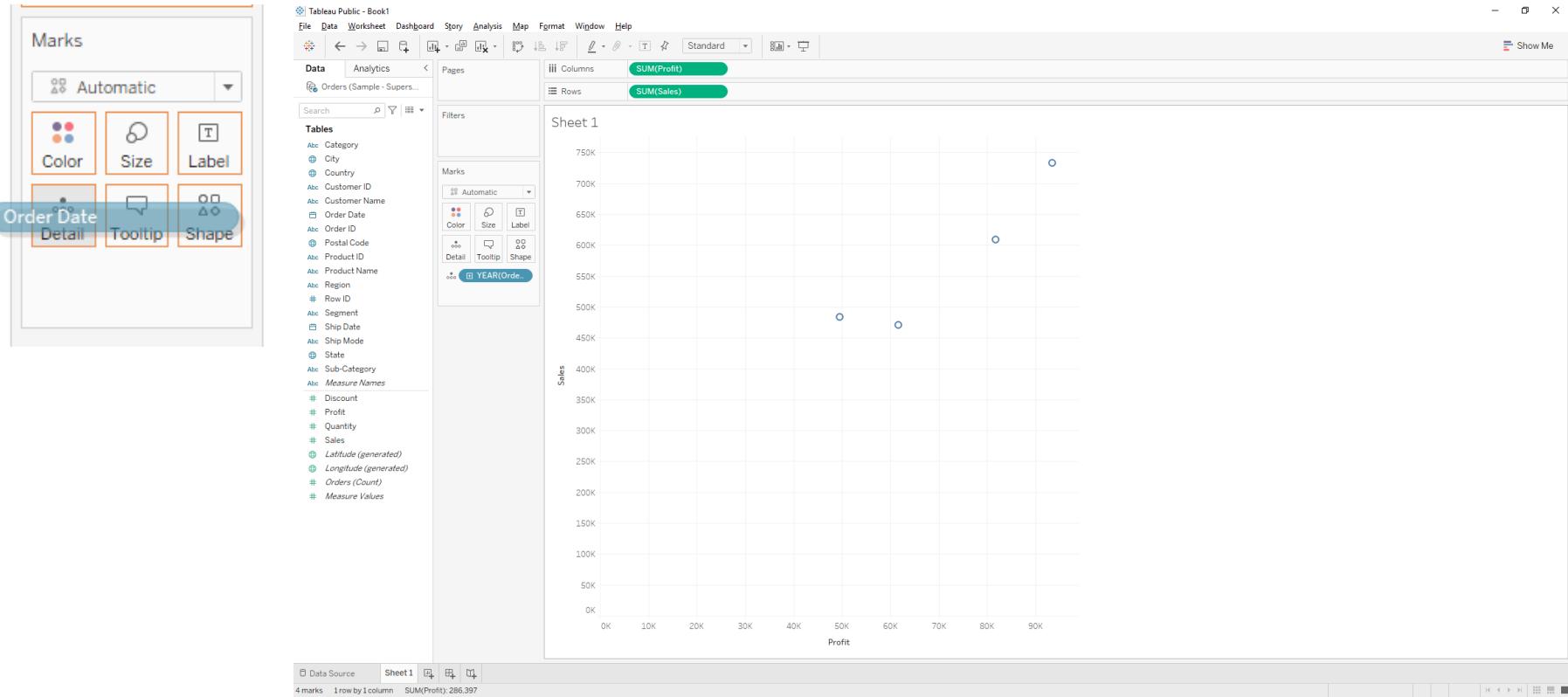
Now double click on measure “Profit” .Tableau will automatically create appropriate chart for us as shown below.





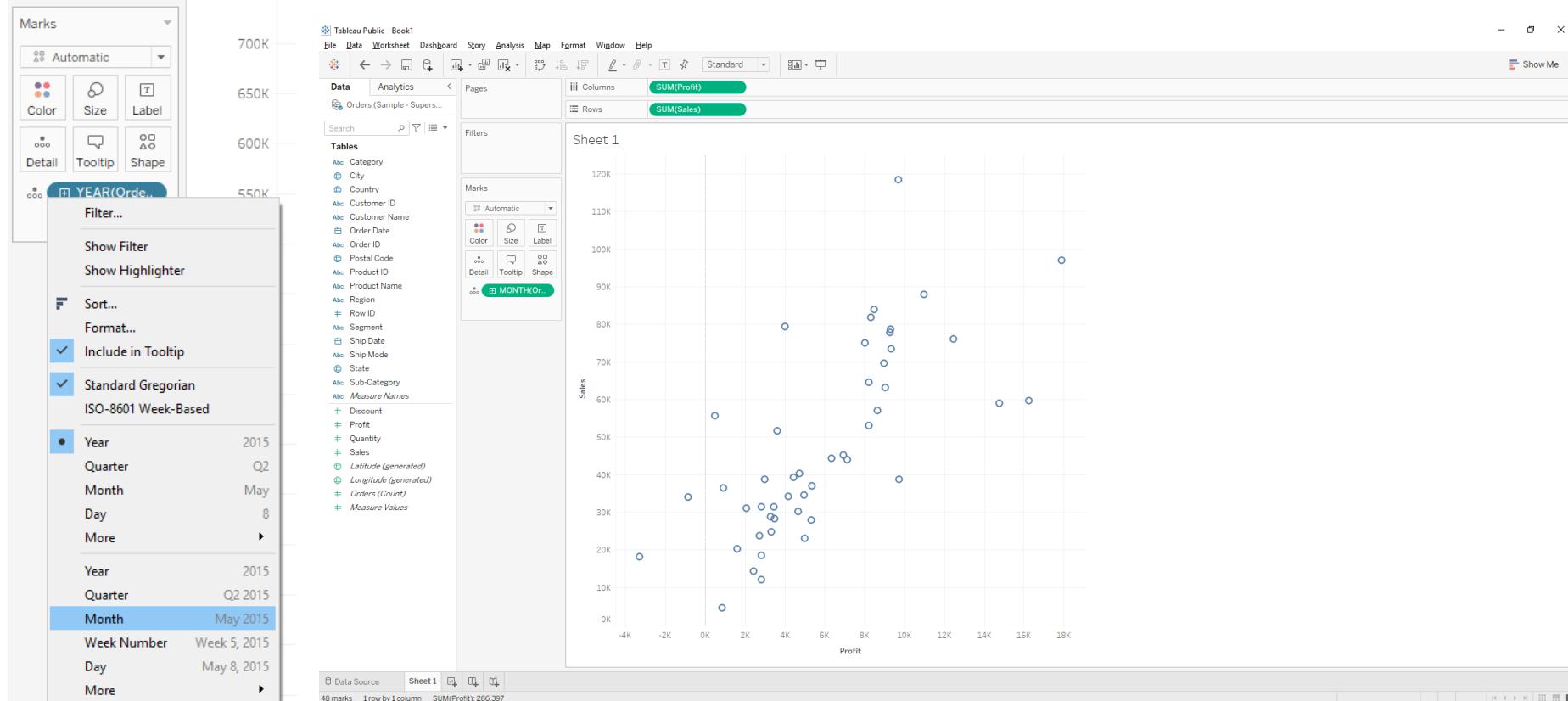
SUPERSTORE DATASOURCE

Now this graph is of aggregated values so drag & drop “Order Date” in “Detail Tab ” of “Marks Tab”.



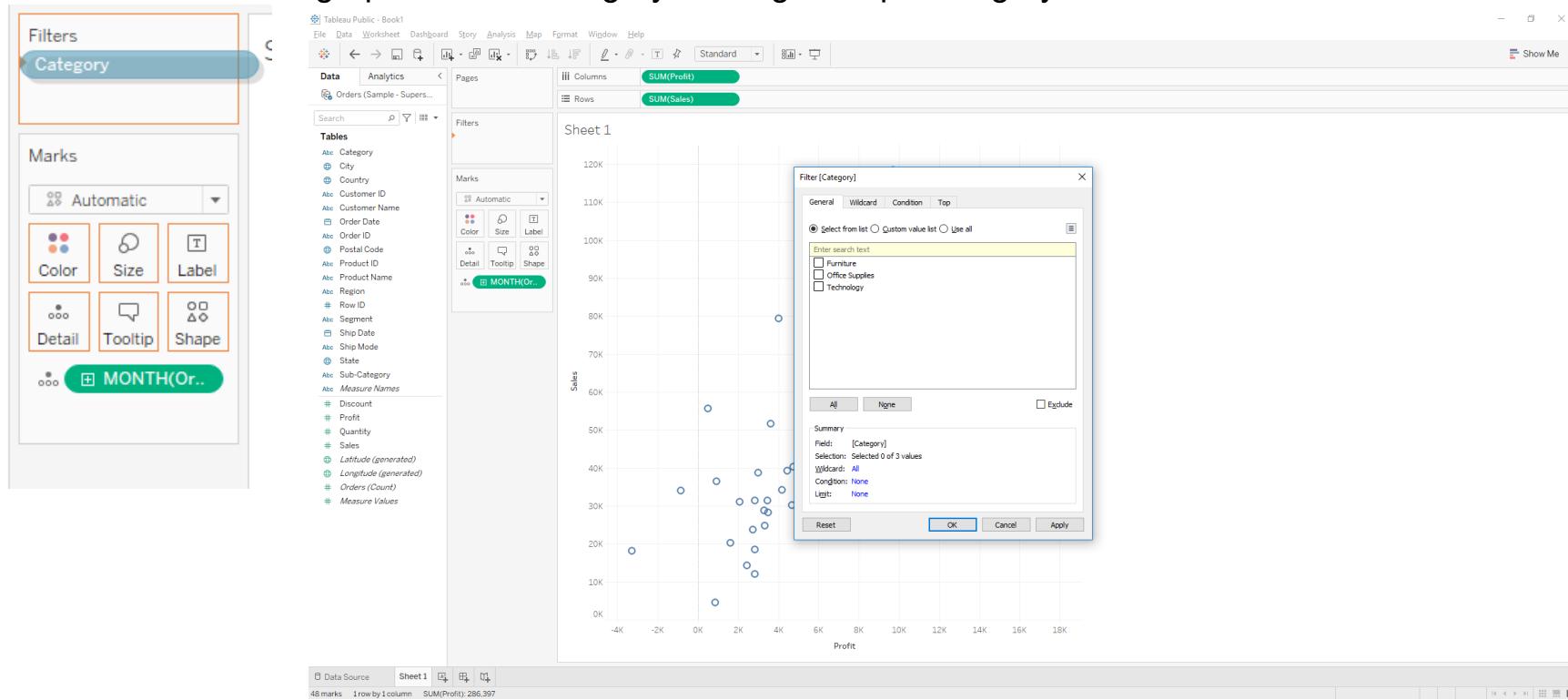
SUPERSTORE DATASOURCE

Now this graph is year wise so change granularity to month wise as shown above.



SUPERSTORE DATASOURCE

Now this graph is for all category so drag & drop “Category” in “Filter Tab” to filter it.





SUPERSTORE DATASOURCE

Tick on 'Furniture' in popup and press OK to filter graph by category as shown below.

Filter [Category]

General Wildcard Condition Top

Select from list Custom value list Use all

Enter search text

Furniture Office Supplies Technology

All None Exclude

Summary

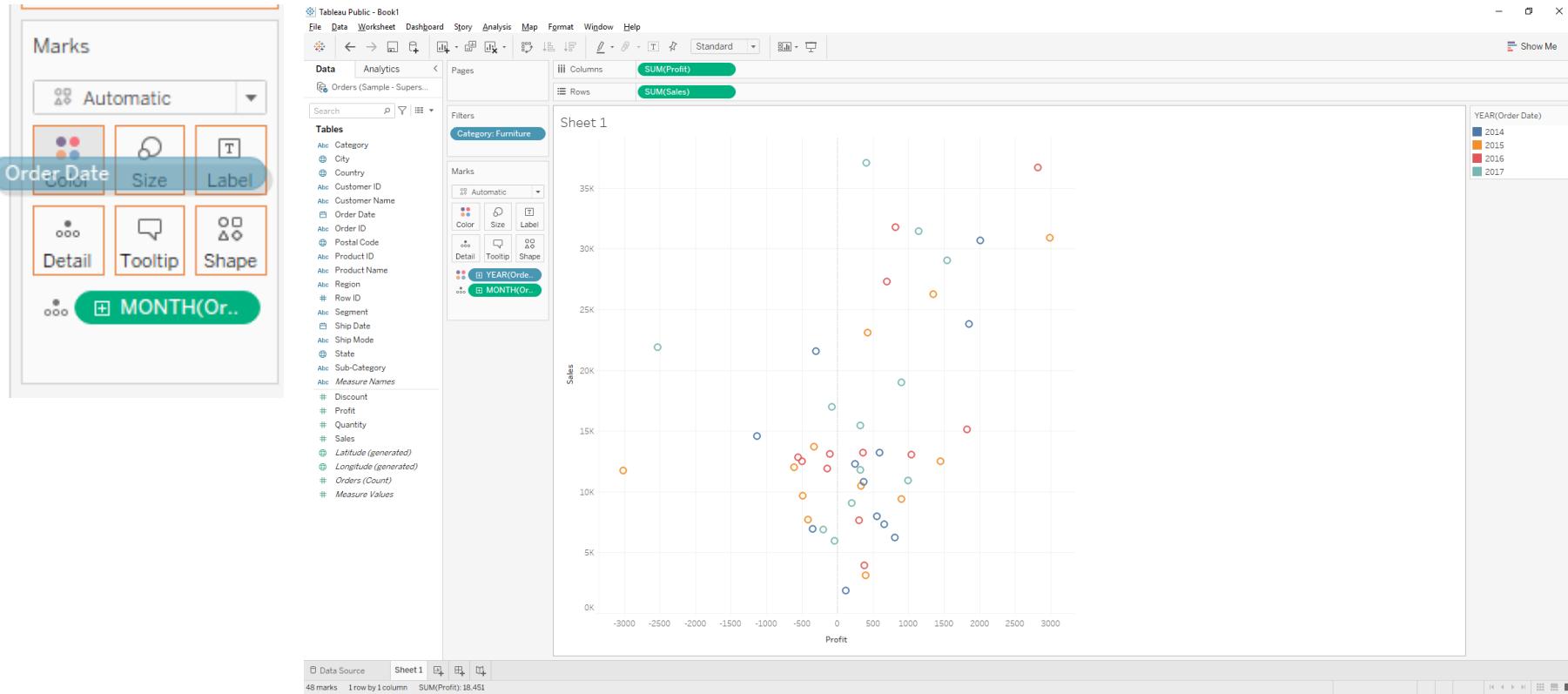
Field: [Category]
Selection: Selected 1 of 3 values
Wildcard: All
Condition: None
Limit: None

Reset



SUPERSTORE DATASOURCE

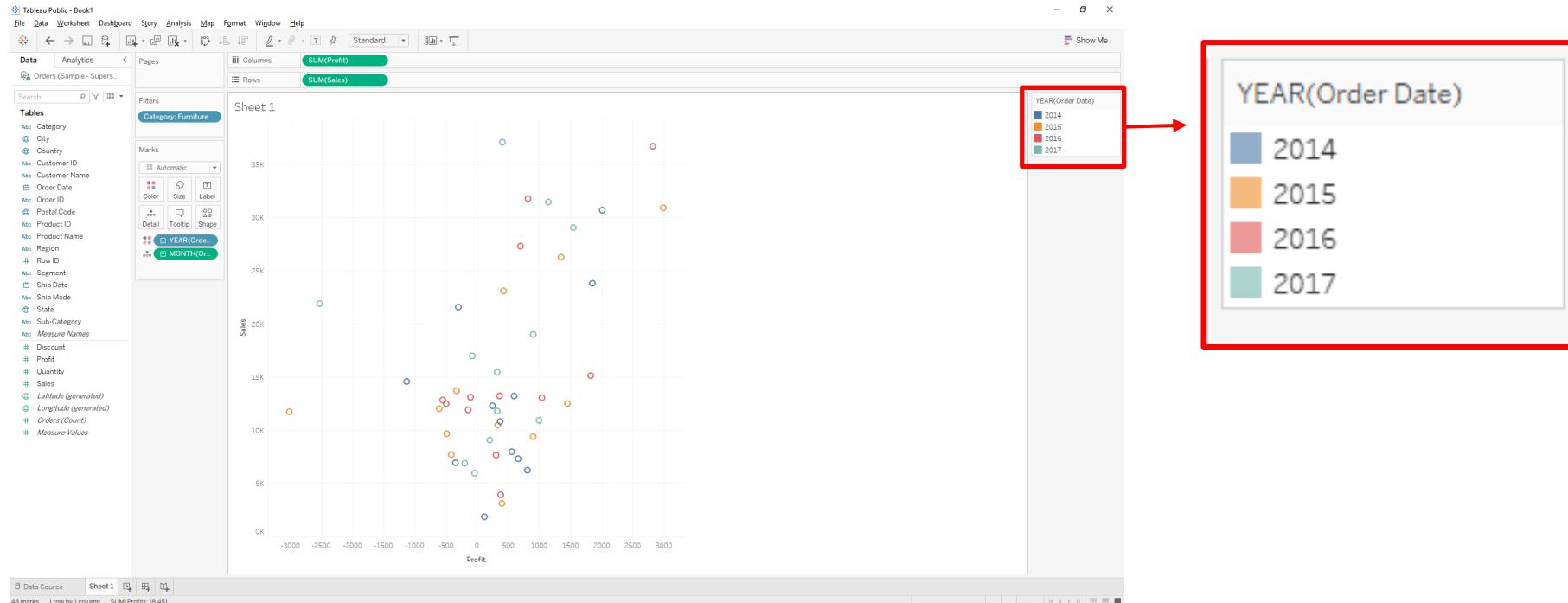
Now drag & drop “Order Date” in “Color Tab ” of “Marks Tab” to get color in chart year wise as shown below.





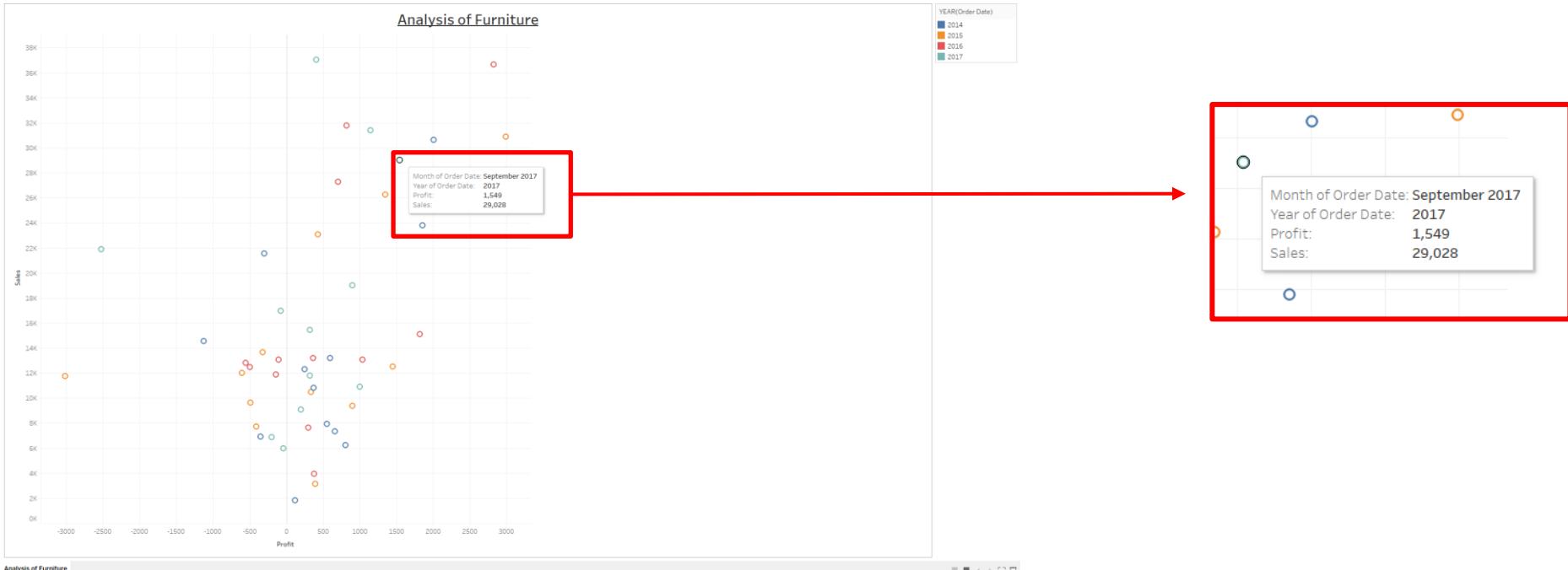
SUPERSTORE DATASOURCE

Color Indicator i.e. which color shows which year is here as shown below.



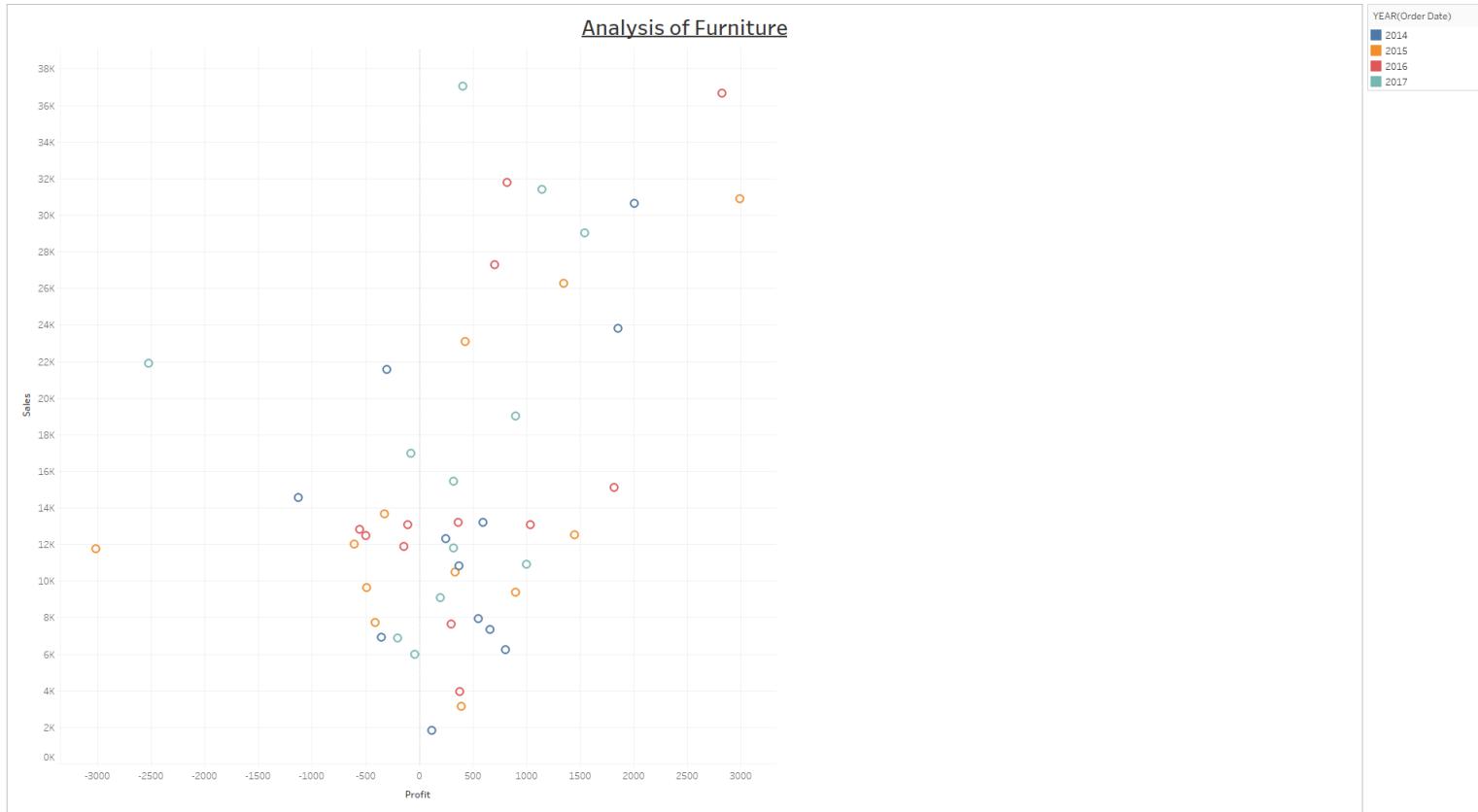
SUPERSTORE DATASOURCE

Final Output :



SUPERSTORE DATASOURCE

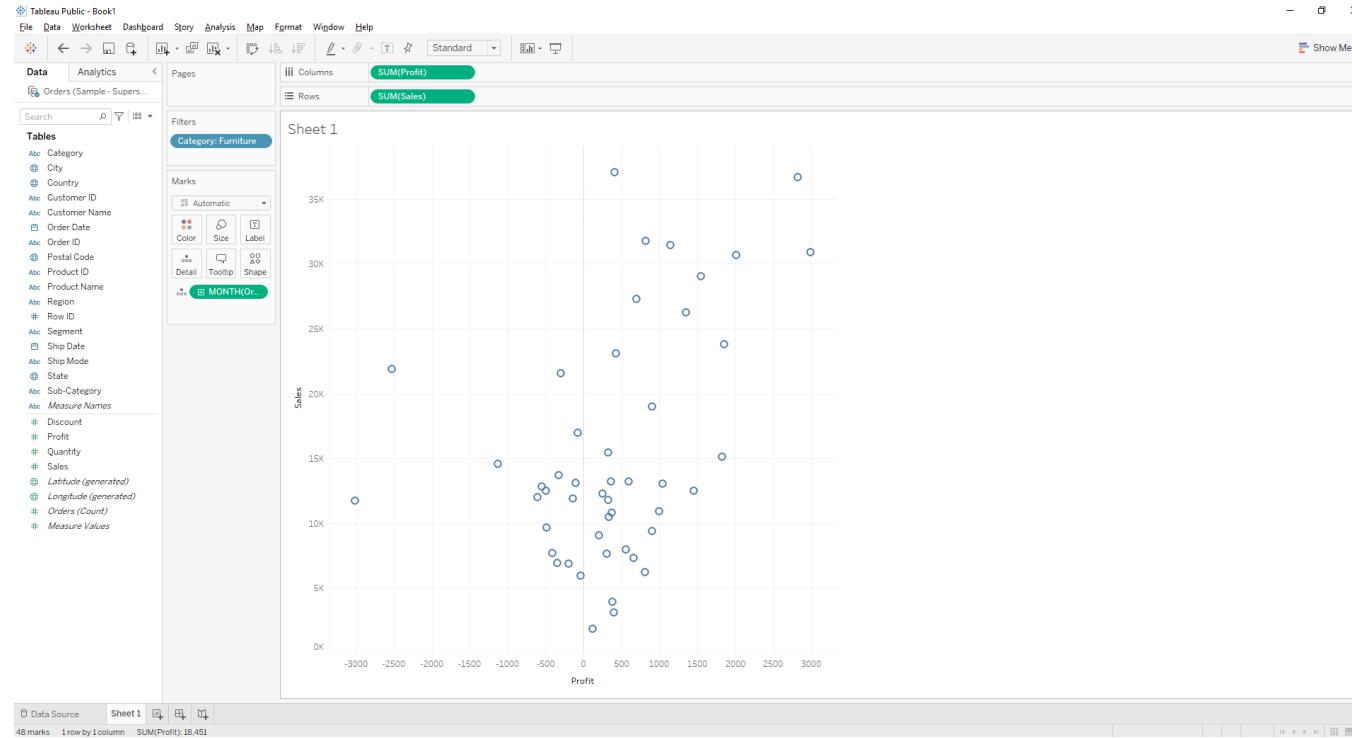
Final Output :



SUPERSTORE DATASOURCE

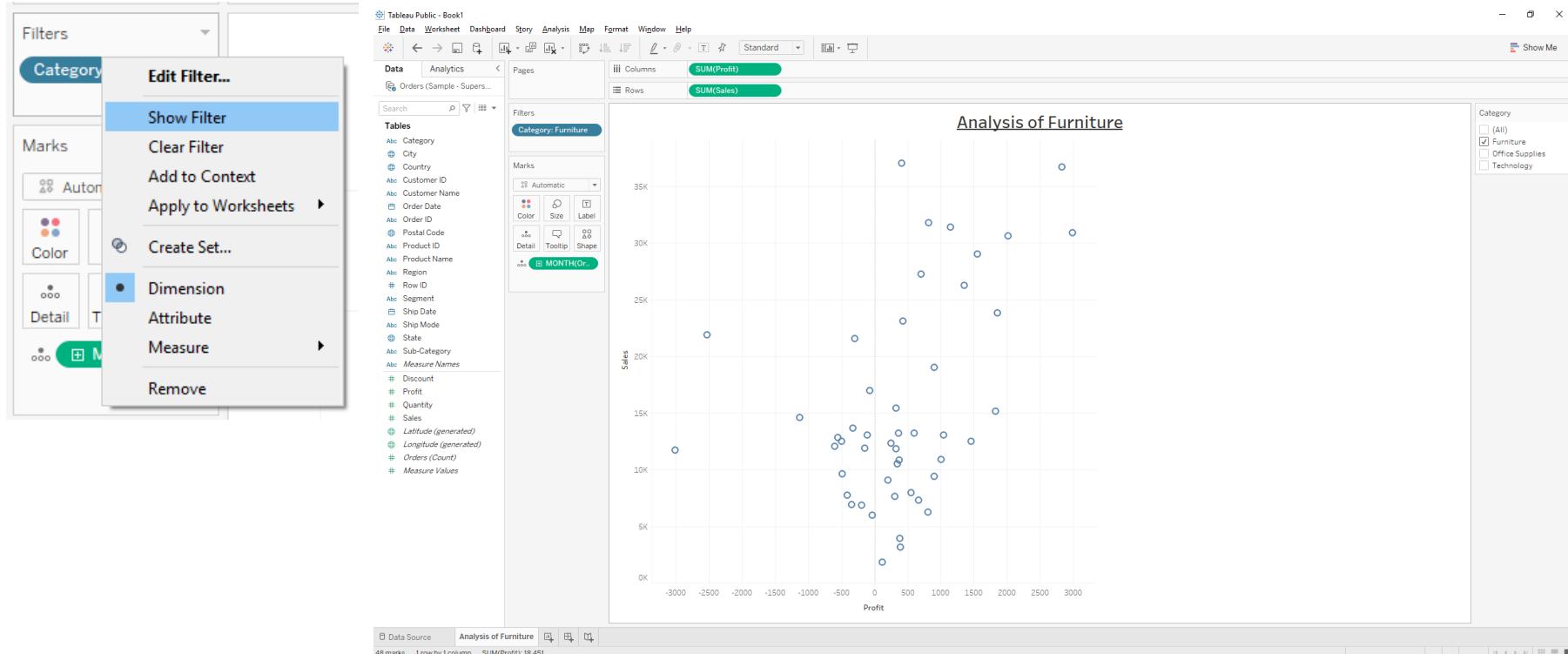
4. Plot sales and profit for each month of a year in **office supplies** category in **central** region

- For this problem follow same steps as in Problem-02 upto chart as shown below.



SUPERSTORE DATASOURCE

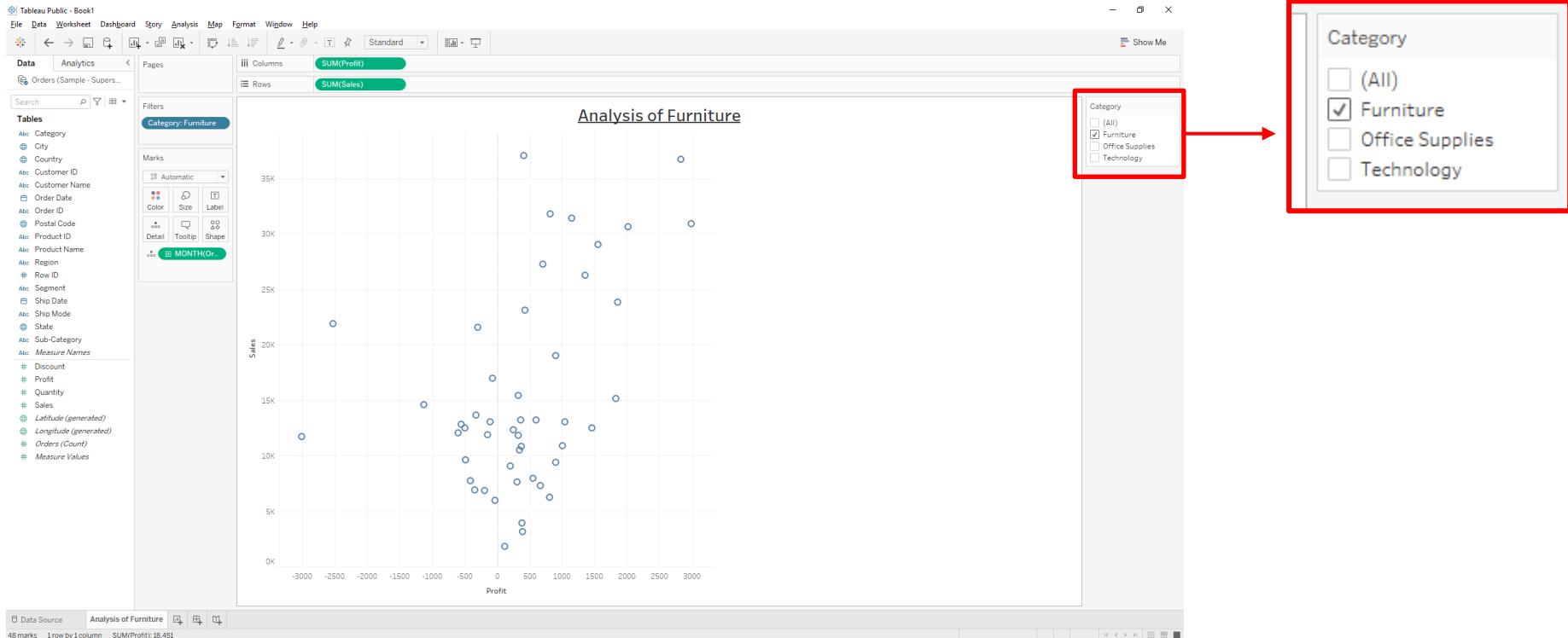
Now left click on category in “Filter Tab” and press “Show filter”.





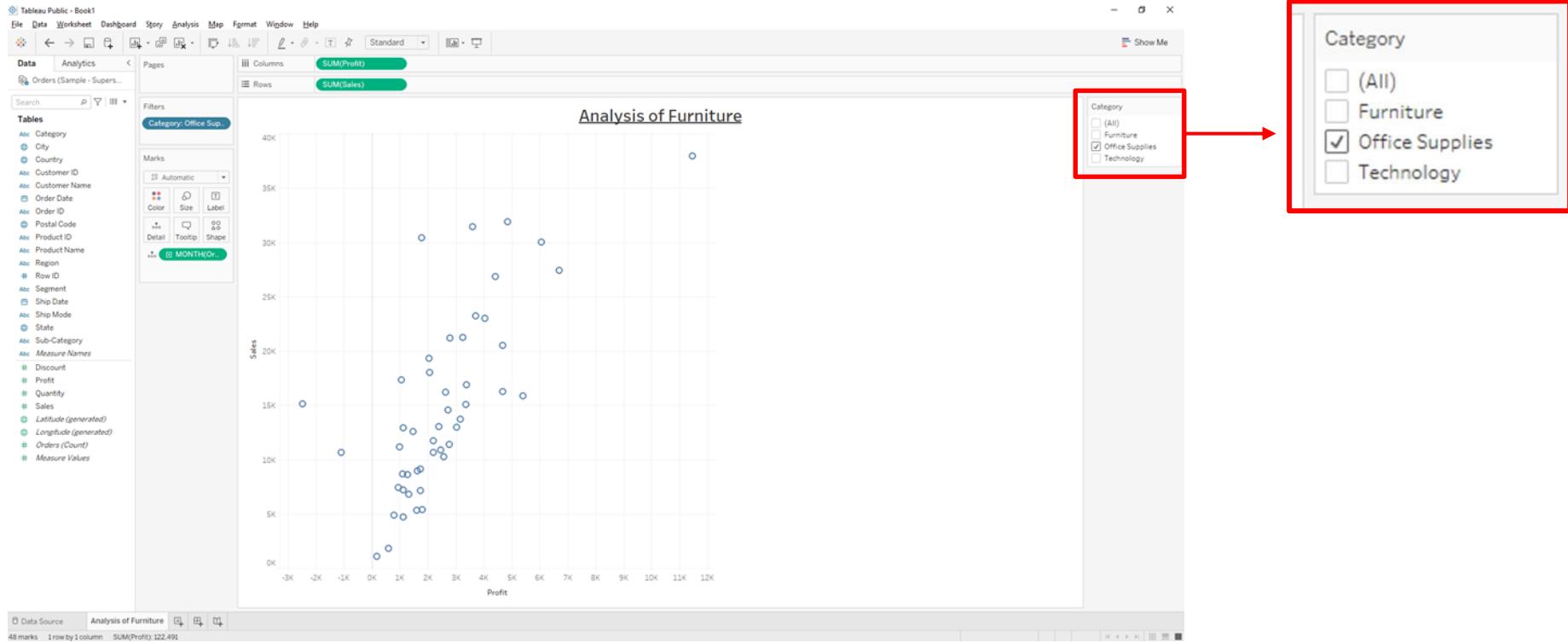
SUPERSTORE DATASOURCE

Now “Category tab” will be added into screen.



SUPERSTORE DATASOURCE

Tick on “Office Supplies” in “Category Tab” in order to get graph of that particular category as shown below.



SUPERSTORE DATASOURCE

Now drag & drop “Region” in “Filter Tab” to filter it region wise.

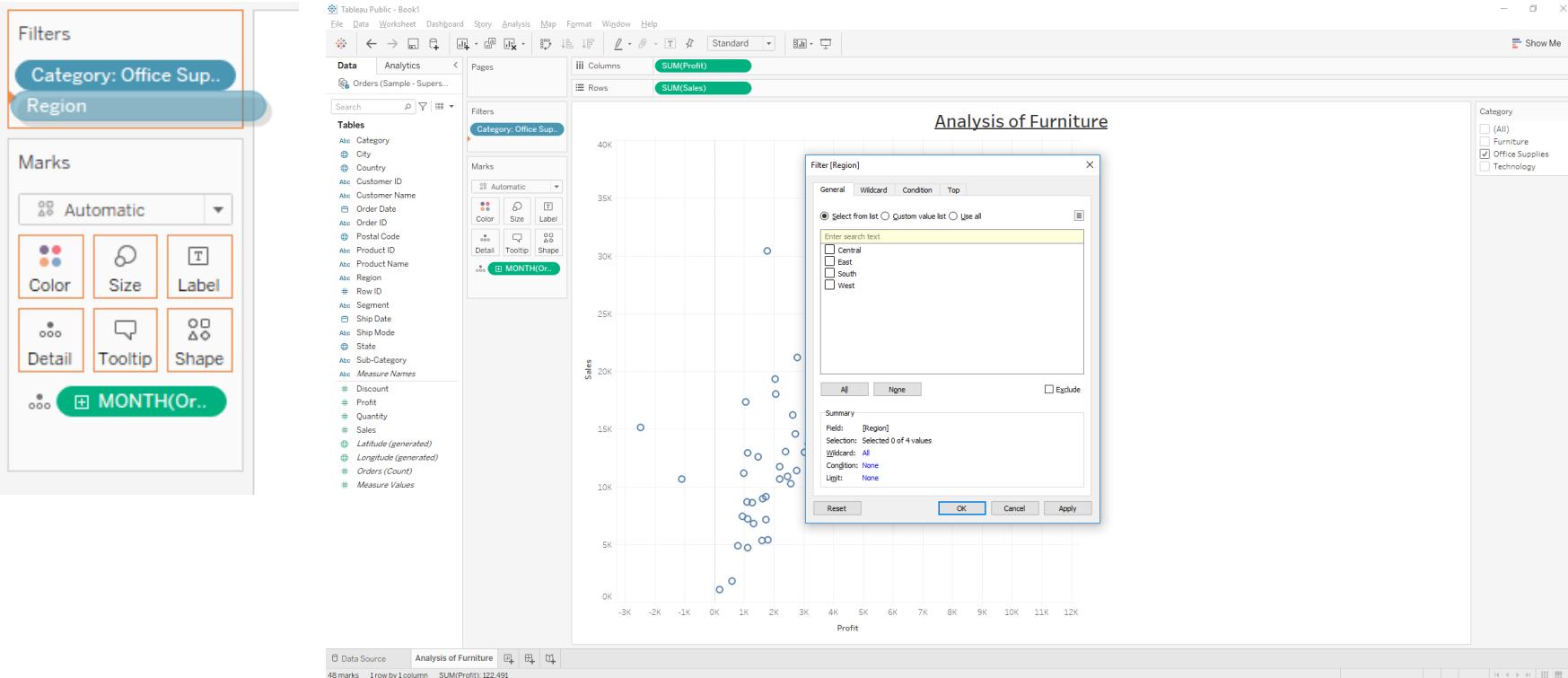


Tableau Public - Book1

Analysis of Furniture

Filter (Region)

- Select from list Custom value list Use all
- Enter search text:

 - Central
 - East
 - South
 - West

Marks

- Automatic
- Color
- Size
- Label
- Detail
- Tooltip
- Shape

Category: Office Sup..

Region

Tables

- Acc Category
- Acc City
- Acc Country
- Acc Customer ID
- Acc Customer Name
- Acc Order Date
- Acc Order ID
- Acc Postal Code
- Acc Product ID
- Acc Product Name
- Acc Region
- Acc Row ID
- Acc Segment
- Acc Ship Date
- Acc Ship Mode
- Acc State
- Acc Sub-Category
- Acc Measure Names
- # Discount
- # Profit
- # Quantity
- # Sales
- # Latitude (generated)
- # Longitude (generated)
- # Orders (Count)
- # Measure Values

Marks

Automatic

Color

Size

Label

Detail

Tooltip

Shape

MONTH(Or..

Data Source Analysis of Furniture **48 marks** 1 row by 1 column **SUM(Profit): 122,491**

SUPERSTORE DATASOURCE

Tick on 'Central' in popup and press OK to filter graph by region as shown below.

Filter [Region]

Select from list Custom value list Use all

Enter search text

- Central
- East
- South
- West

Exclude

Summary

Field: [Region]
 Selection: Selected 1 of 4 values
 Wildcard: All
 Condition: None
 Limit: None

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Data Analytics

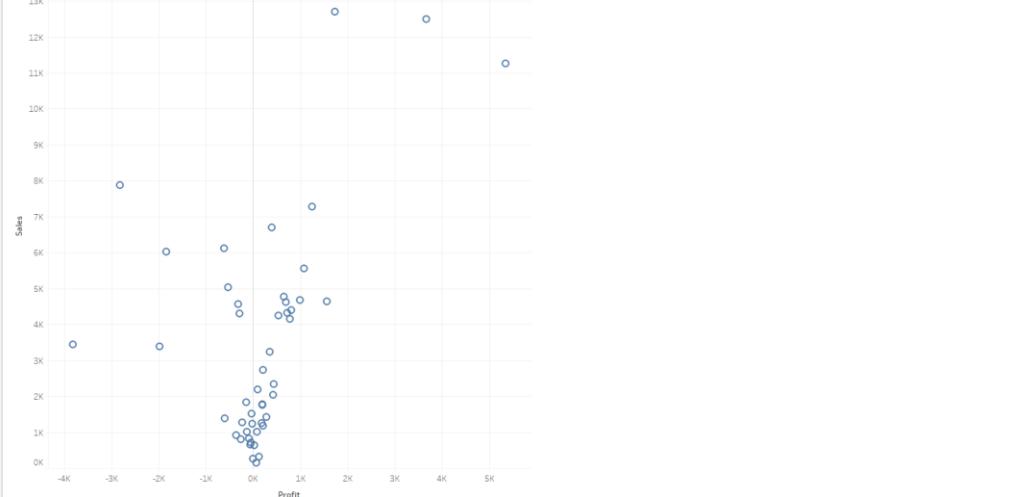
Orders (Sample - Superstore)

Columns: SUM(Profit)
Rows: SUM(Sales)

Filters: Category: Office Supplies, Region: Central

Marks: Automatic, Color, Size, Label, Detail, Tooltip, Shape, MONTH(OrderDate)

Sheet 1

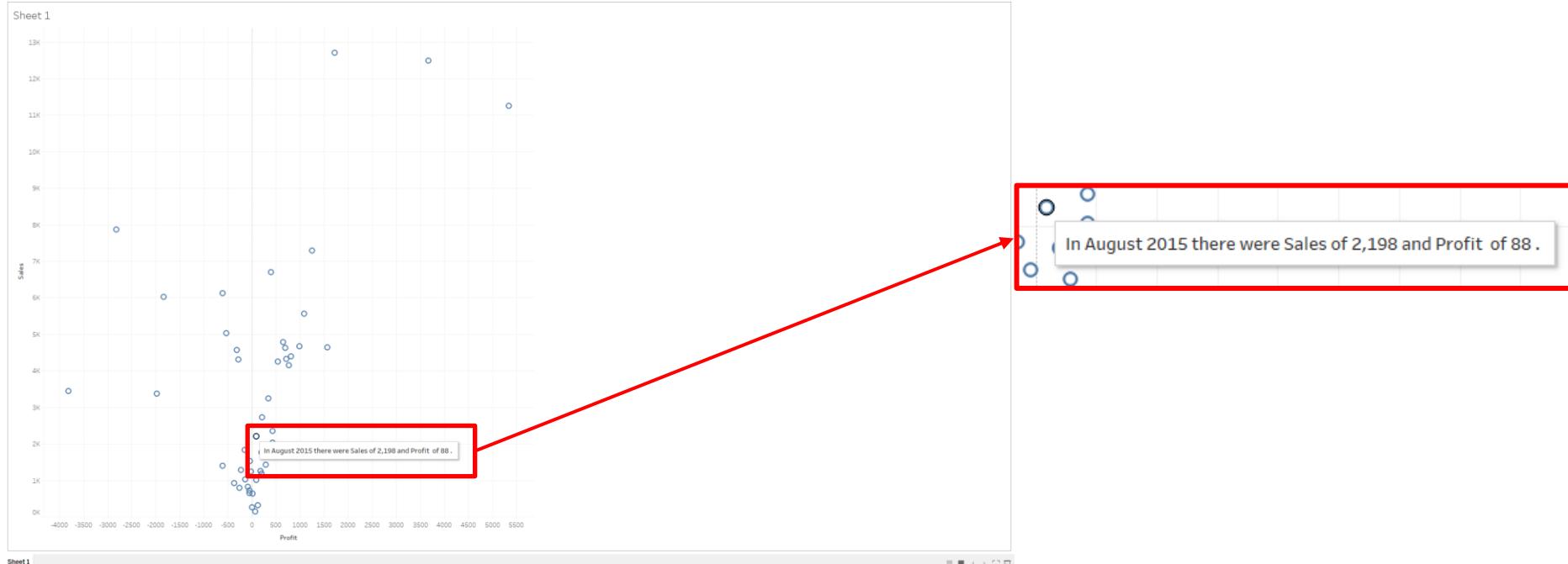


Data Source: Sheet 1

48 marks 1 row by 1 column SUM(Profit): 8,880

SUPERSTORE DATASOURCE

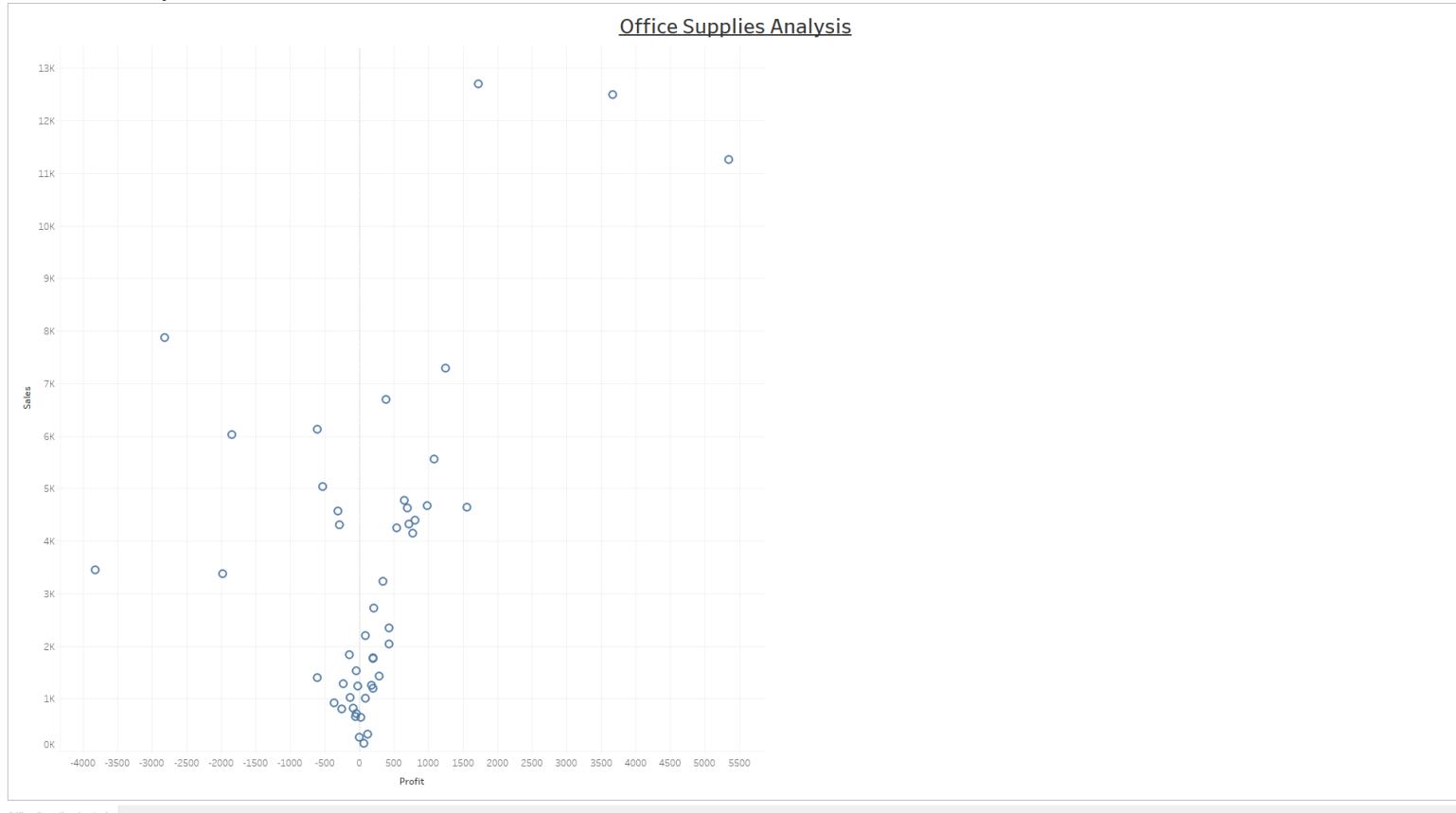
Final Output :





SUPERSTORE DATASOURCE

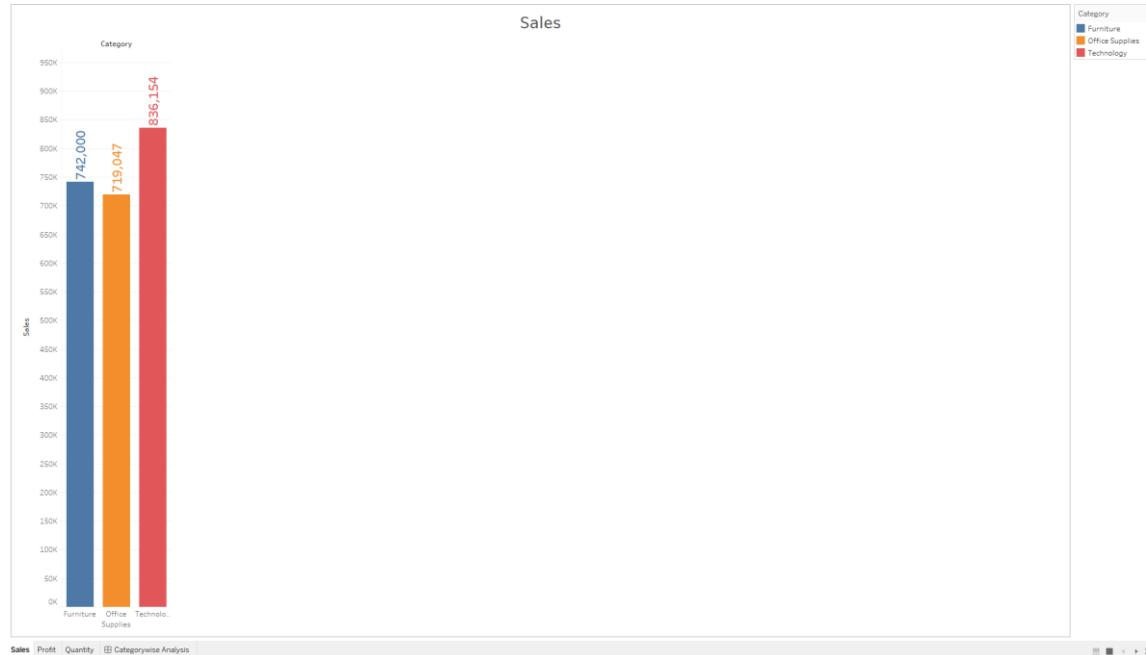
Final Output :



SUPERSTORE DATASOURCE

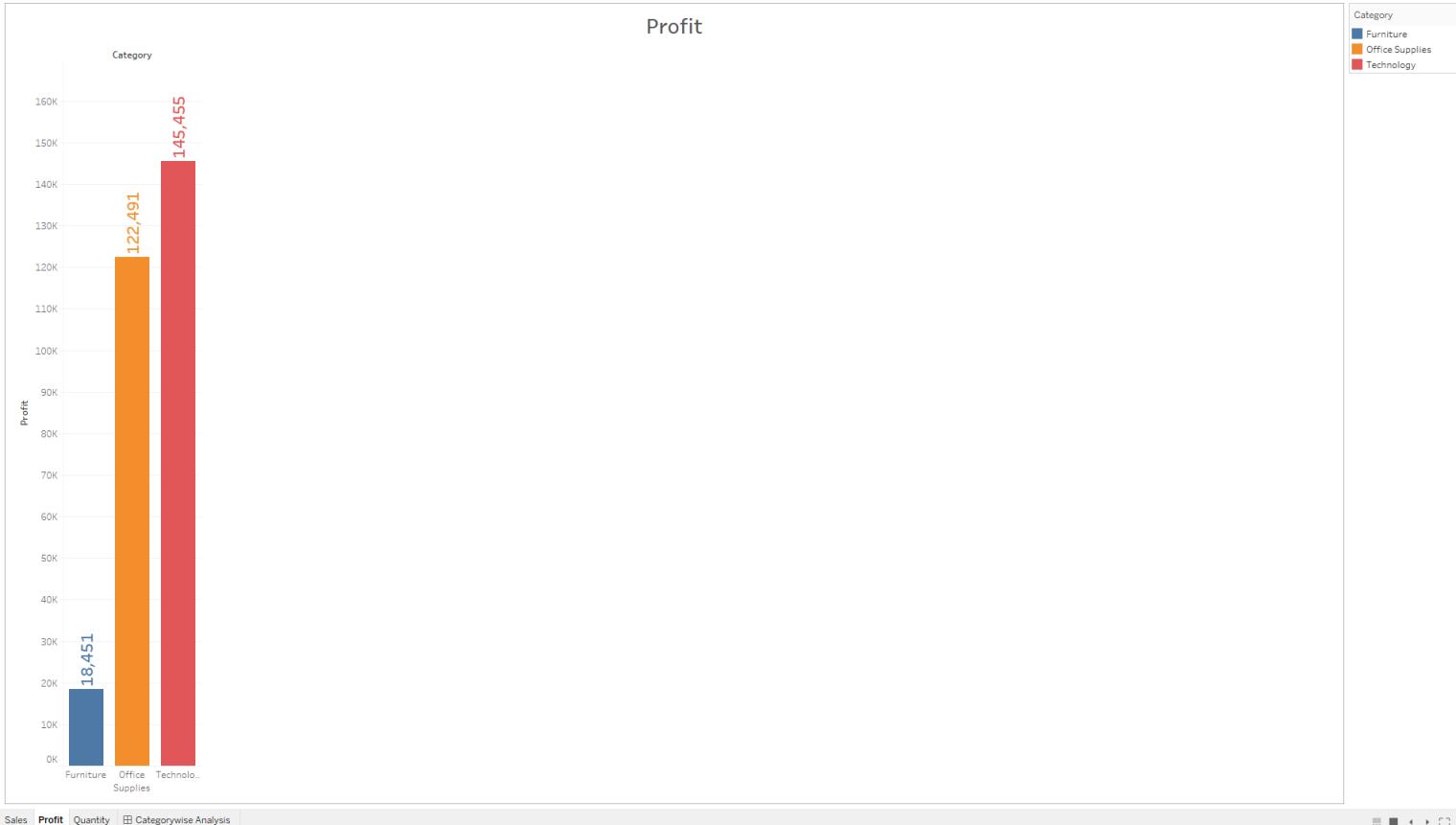
5. Create interactive dashboard with appropriate graphs and charts using action filters, images and label formatting.
- For this problem make appropriate sheets and combine it to form a dashboard.

Sheet-1



SUPERSTORE DATASOURCE

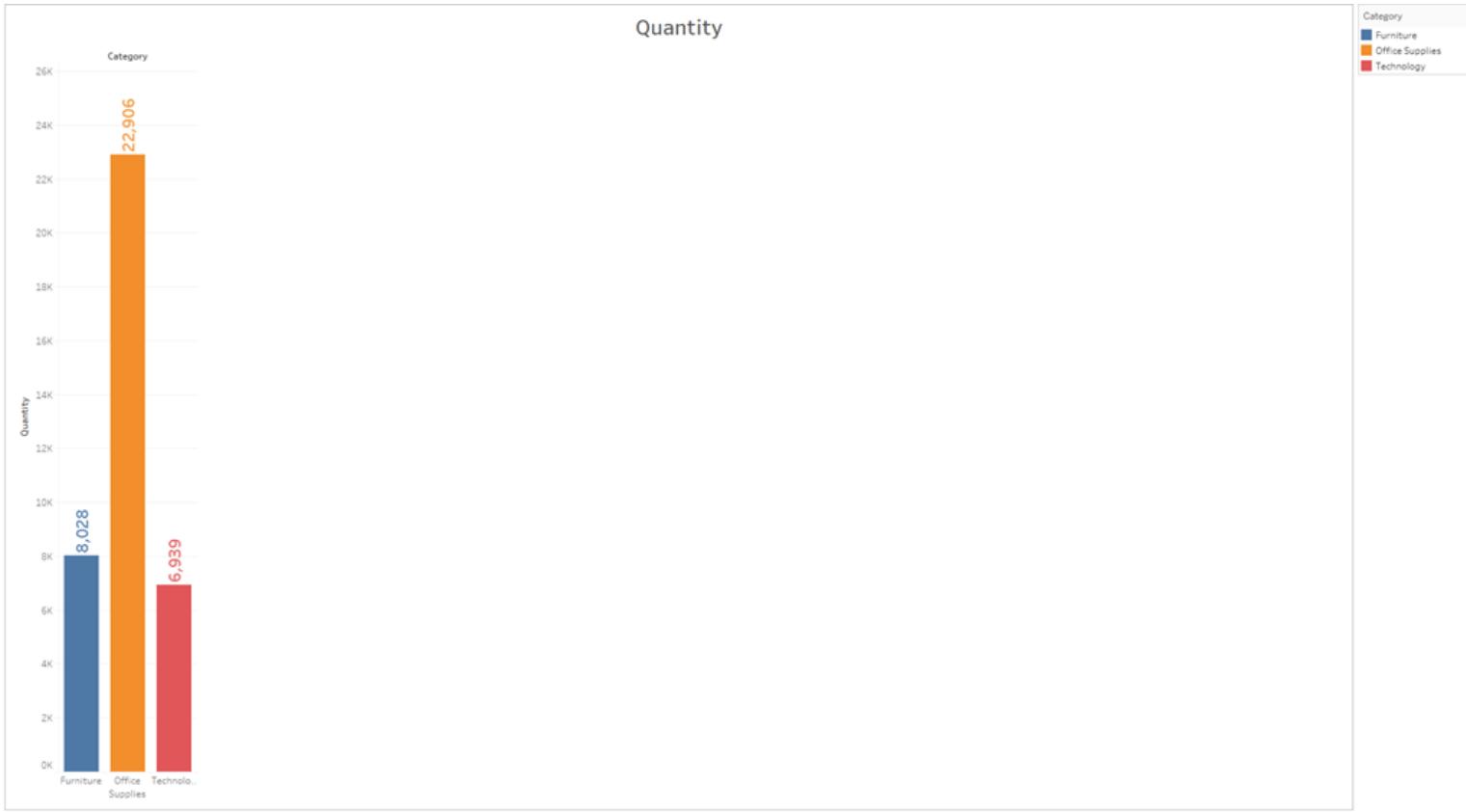
Sheet-2



SUPERSTORE DATASOURCE

Sheet-3

Quantity



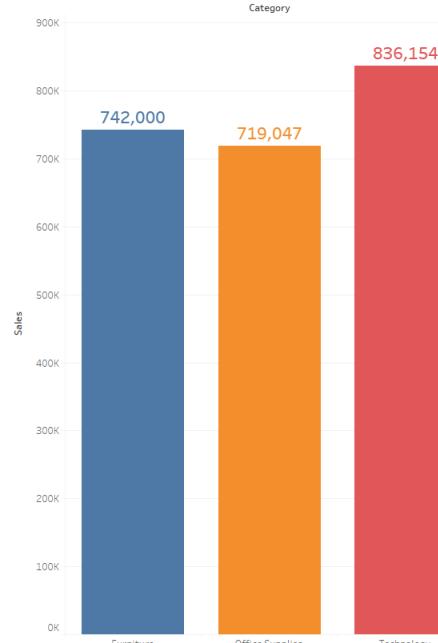


SUPERSTORE DATASOURCE

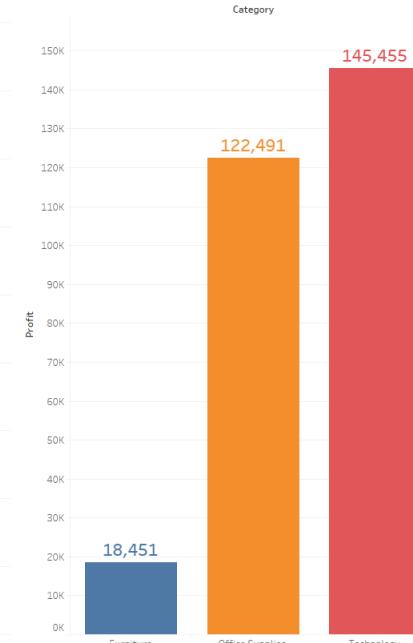
Dashboard-1

CATEGORYWISE ANALYSIS

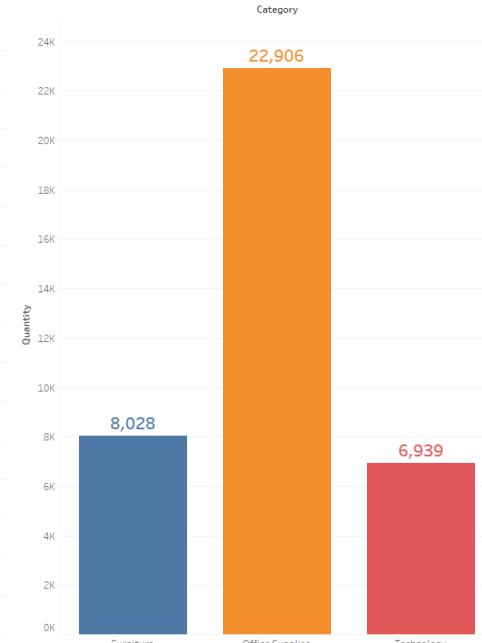
Sales



Profit

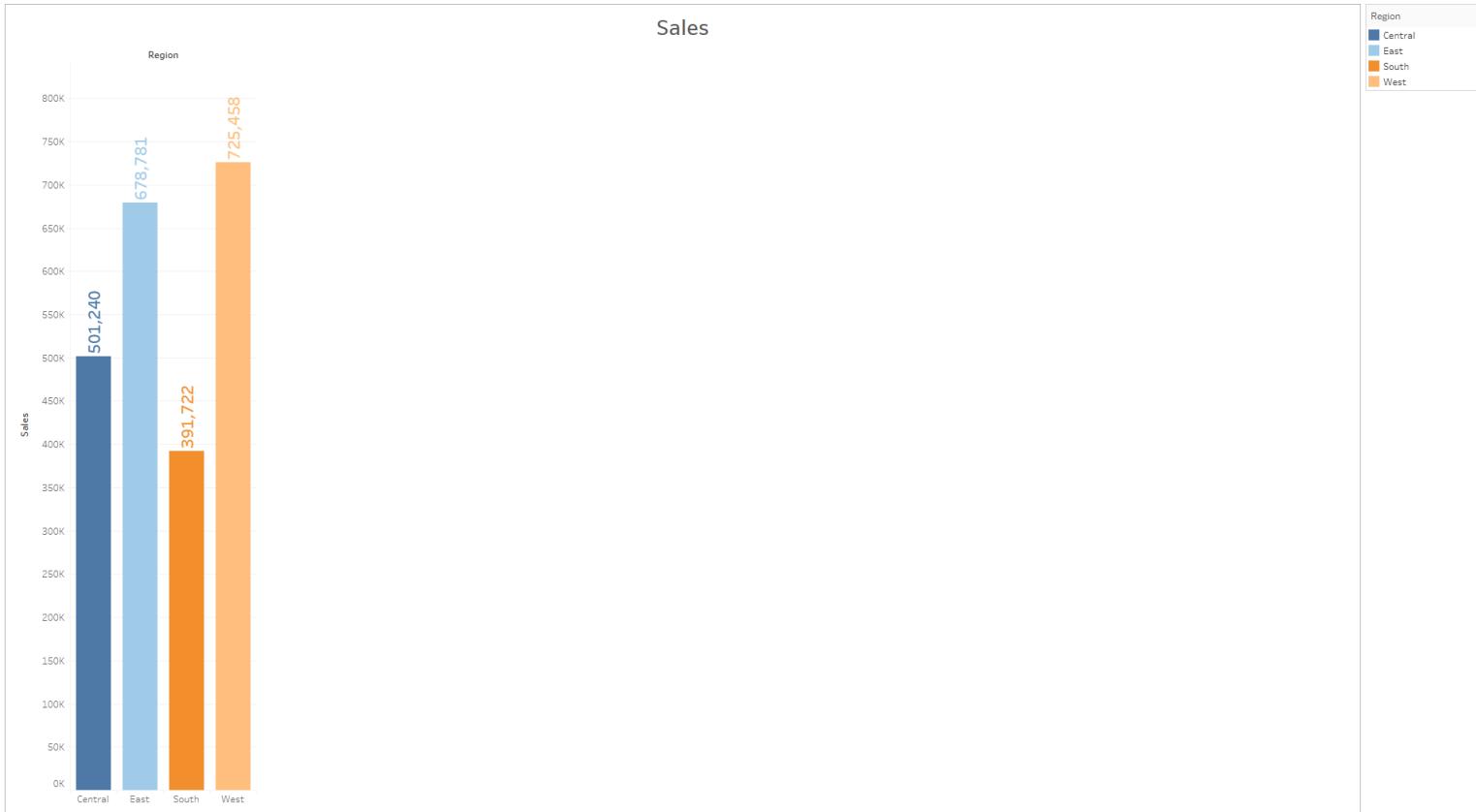


Quantity



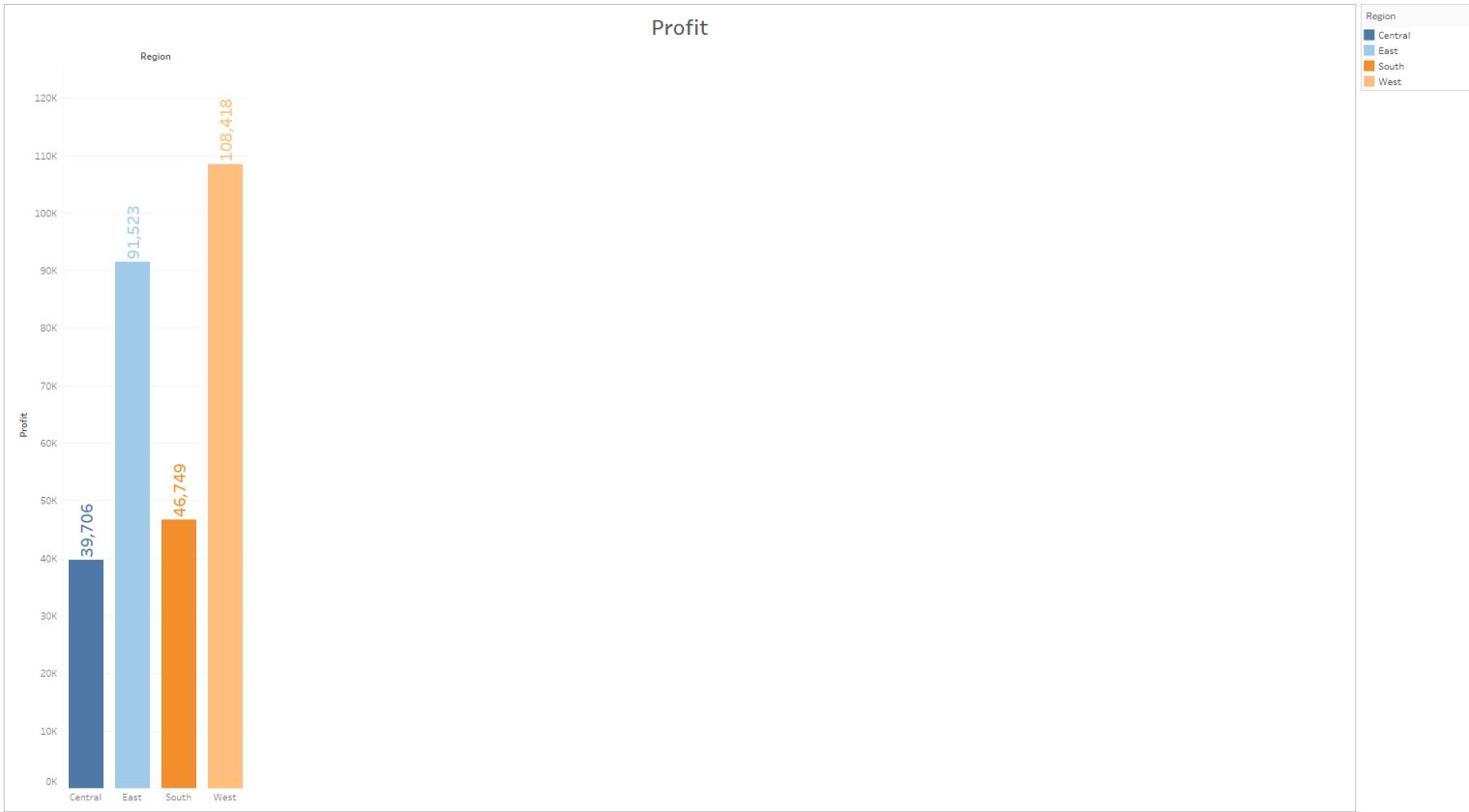
SUPERSTORE DATASOURCE

Sheet-1



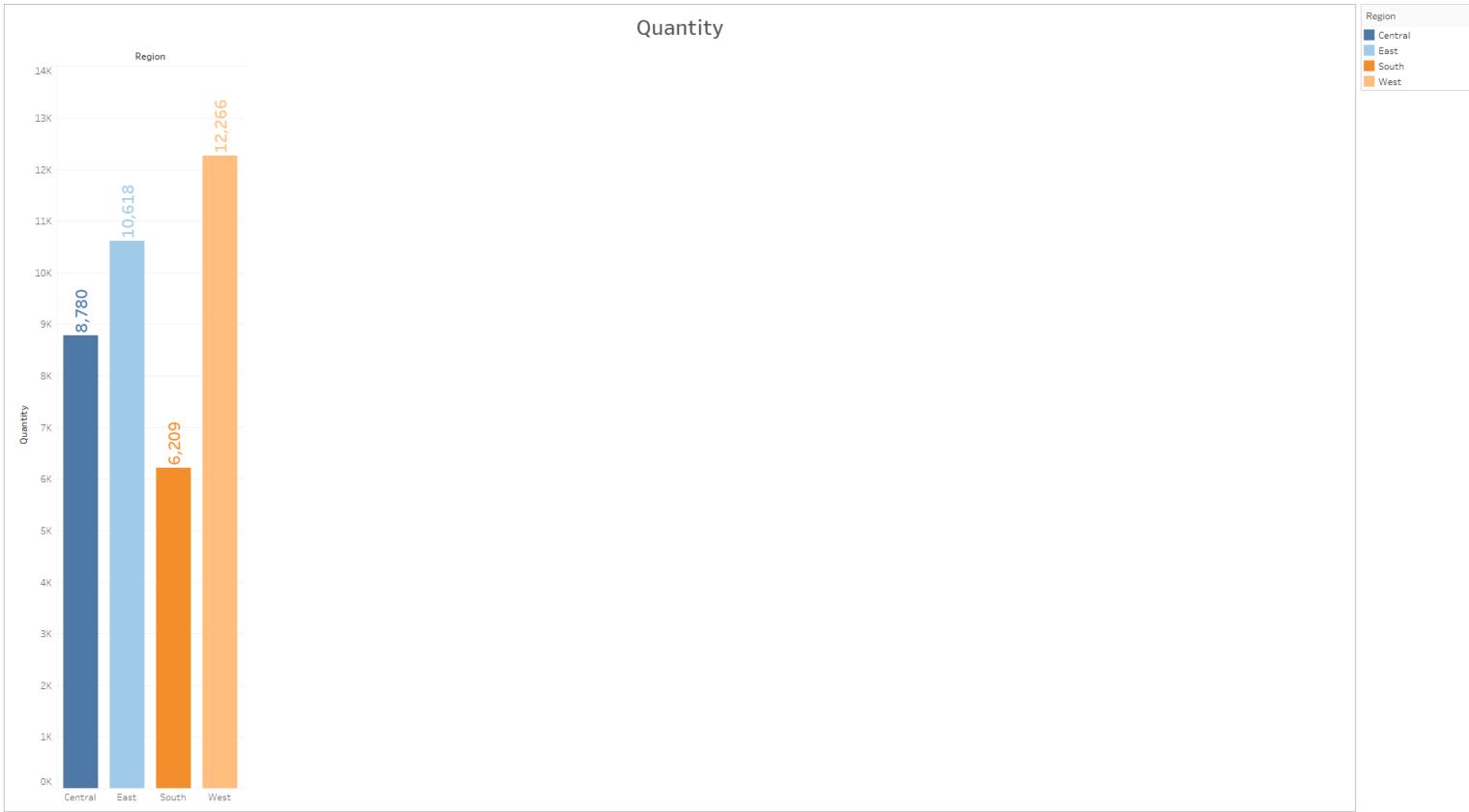
SUPERSTORE DATASOURCE

Sheet-2



SUPERSTORE DATASOURCE

Sheet-3

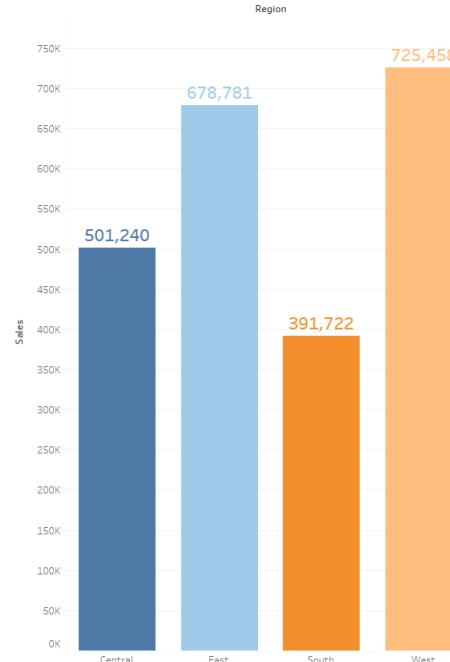


SUPERSTORE DATASOURCE

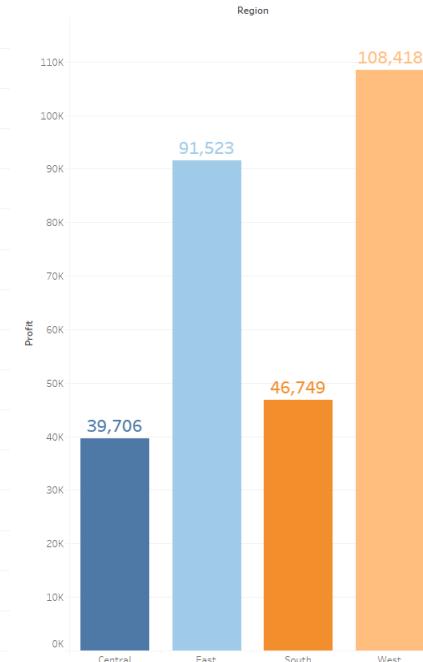
Dashboard-2

CATEGORYWISE ANALYSIS

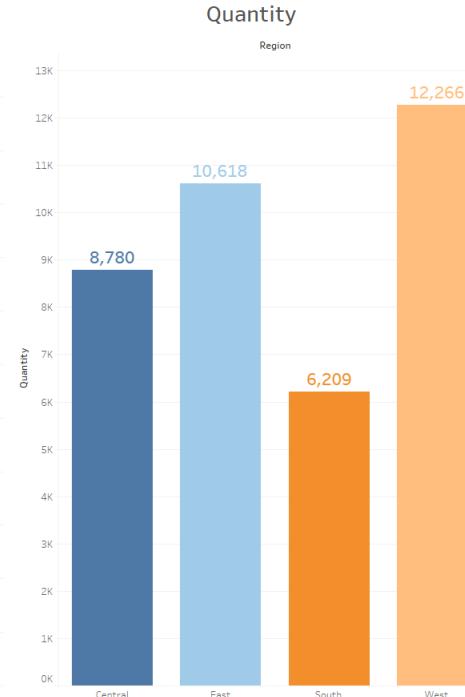
Sales



Profit



Quantity





NETFLIX DATASOURCE

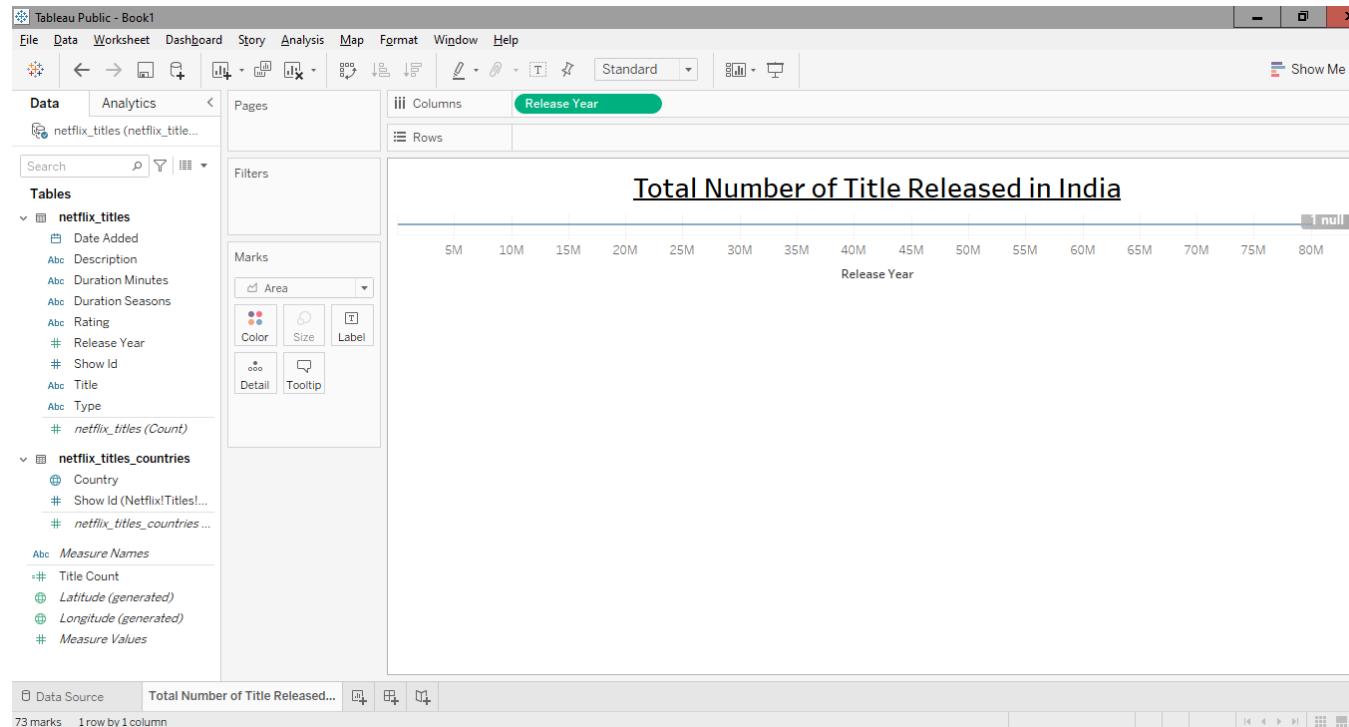
[Use appropriate data joining and blending]

1. Plot synchronized dual axis chart (line and area) for count of **netflix titles** of **India** for release year **2000-2020**.
2. Plot **Bubble chart** of netflix titles for each year by using single value slider filter for both **movie** and **TV show**.
3. Plot the **tree map** graph to find count of netflix titles for “**Action and Adventure**” category for united states.
4. Plot **movie count** of specific **country** as per different **ratings**.
5. Plot **count of TV shows** for different **categories** using **side-by-side bars**.
6. Create dual axis area charts for **Movies** and **TV shows** for years **2014-2020**.
7. Create a dashboard with the most useful insights

NETFLIX DATASOURCE

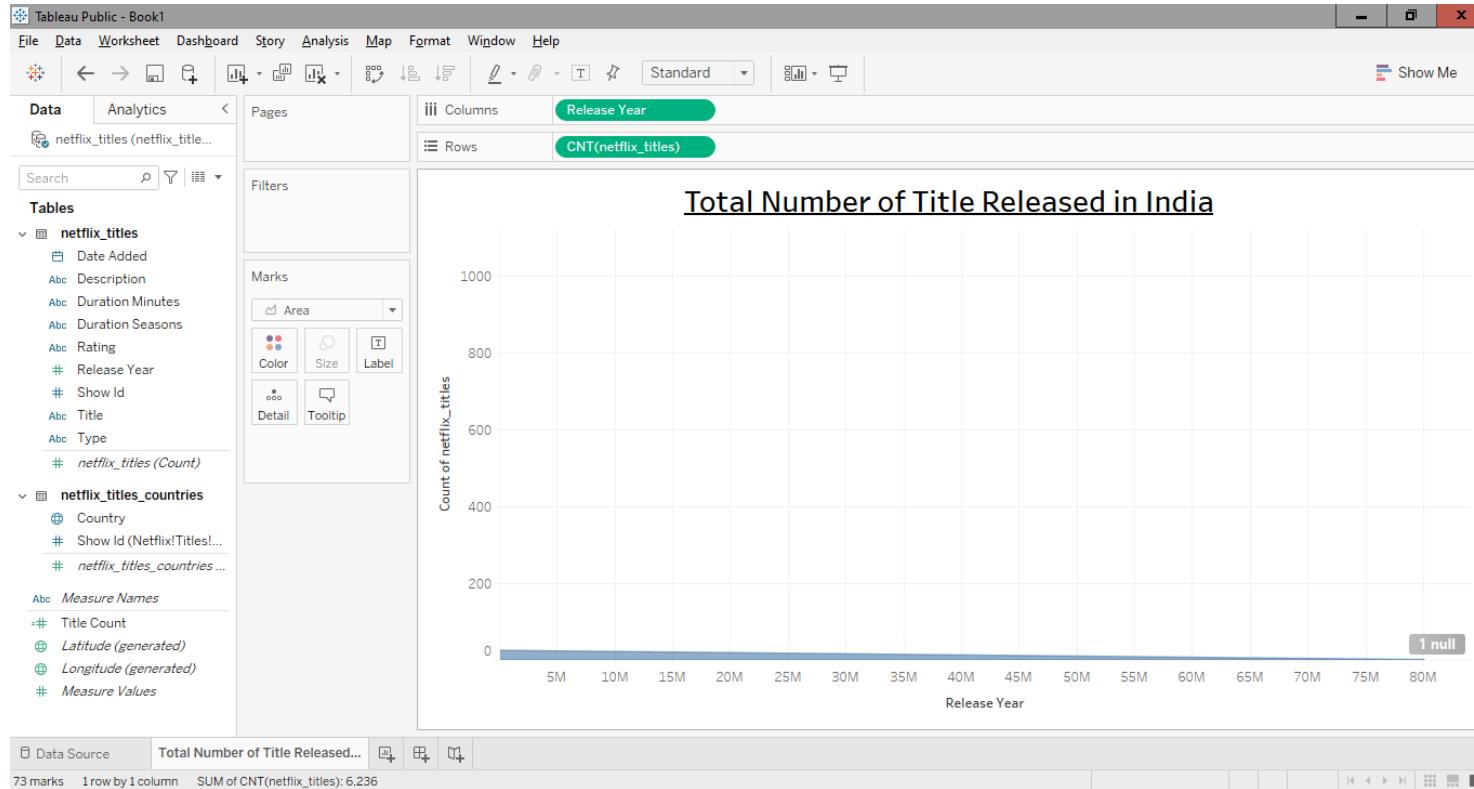
1. Plot synchronized dual axis chart (line and area) for count of **netflix titles** of India for release year **2000-2020**.

Double click on “Release Year” so it will automatically create a graph as shown below.



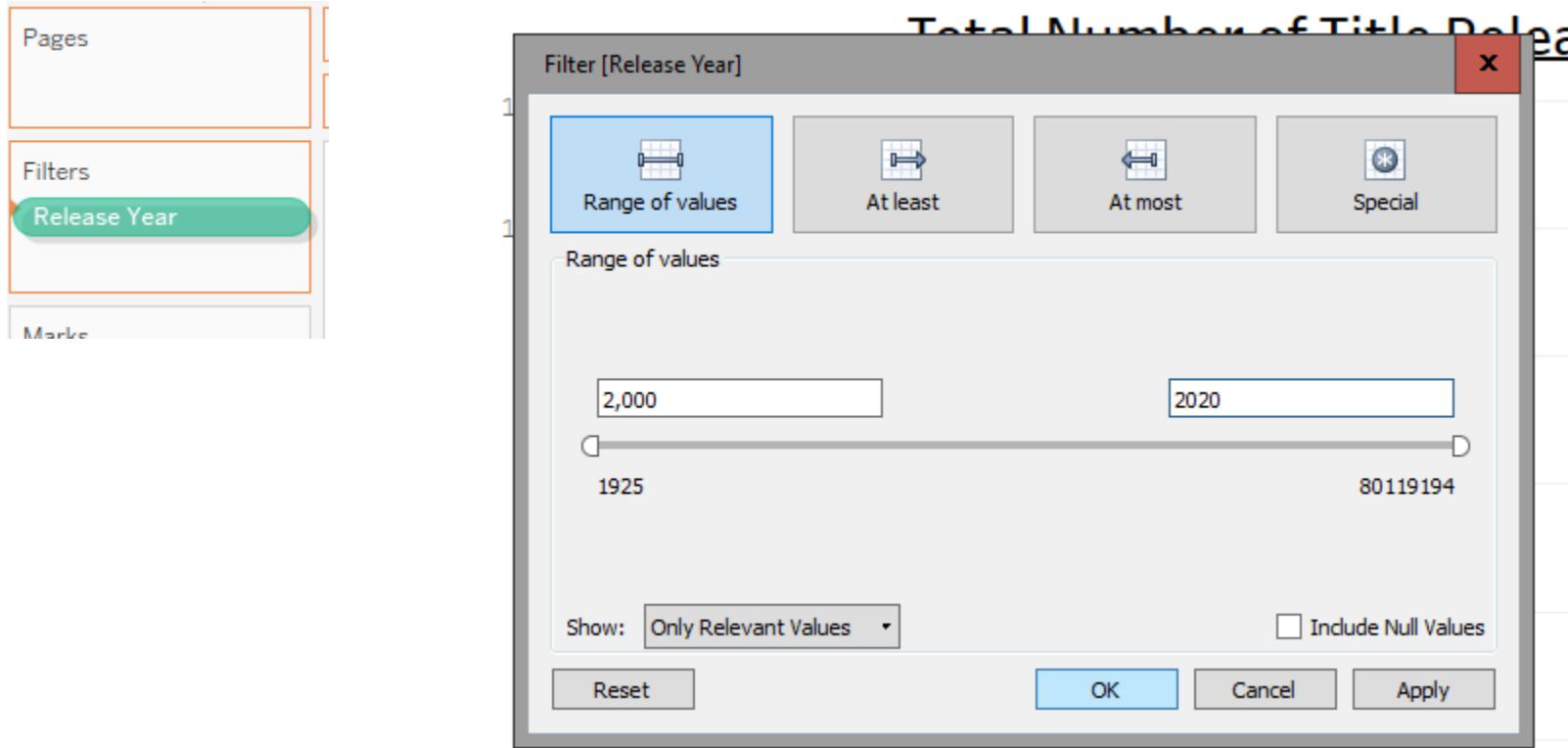
NETFLIX DATASOURCE

Now Double click on “Netflix titles count” so it will automatically create a graph as shown below.



NETFLIX DATASOURCE

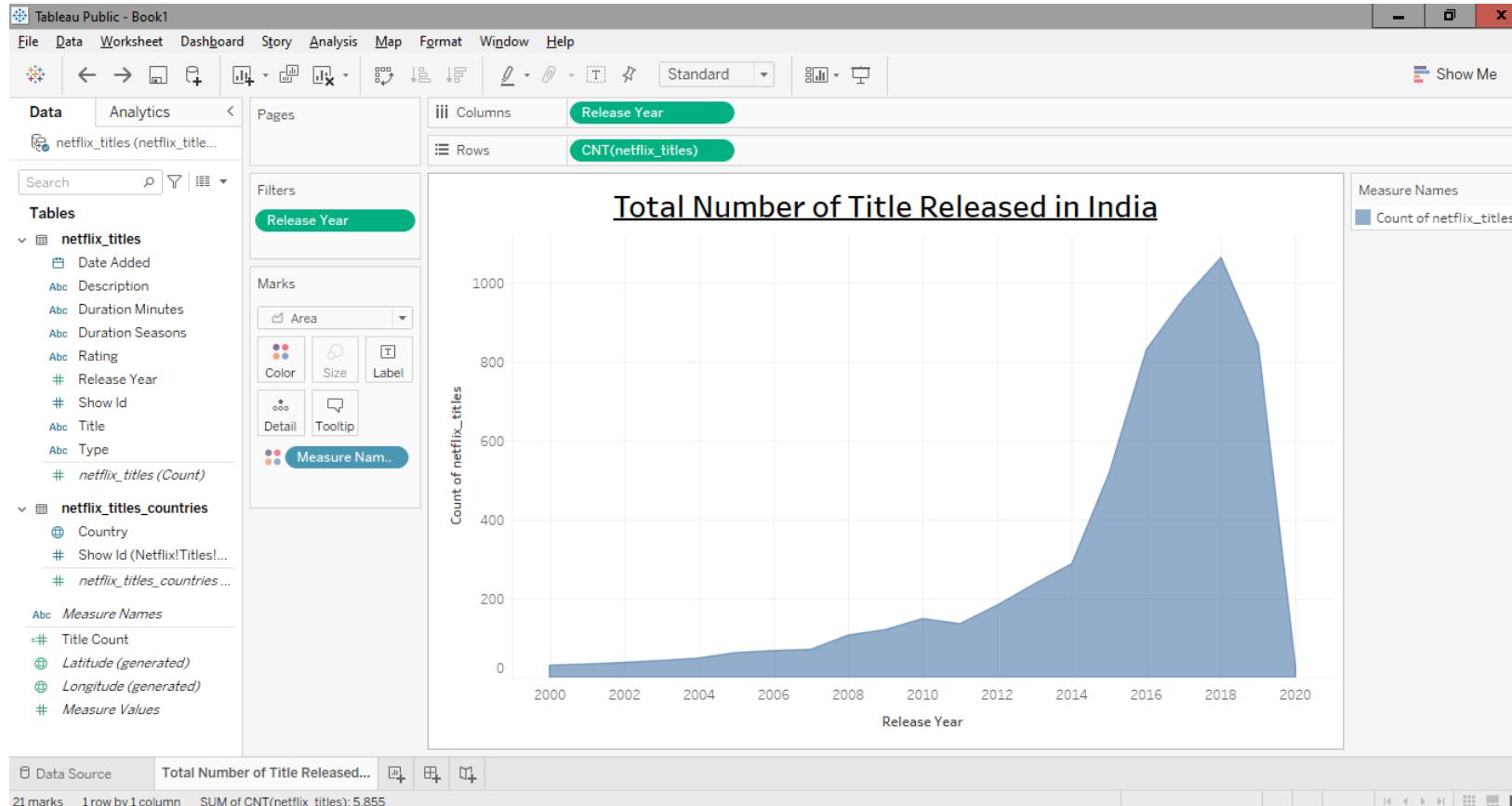
Now filter graph with “Release Year” as shown below.



The screenshot shows a data visualization interface with a sidebar on the left and a main content area. The sidebar contains three sections: 'Pages' (orange border), 'Filters' (orange border), and 'Marks'. In the 'Filters' section, 'Release Year' is highlighted with a green background. The main content area displays a 'Filter [Release Year]' dialog. The dialog has a title bar with an 'x' button. Below the title bar are four filter options: 'Range of values' (selected), 'At least', 'At most', and 'Special'. The 'Range of values' section contains two input fields: '2,000' and '2020', separated by a slider. The slider's scale shows '1925' at the bottom and '80119194' at the top. At the bottom of the dialog are buttons for 'Reset', 'OK', 'Cancel', and 'Apply'. A dropdown menu 'Show:' is set to 'Only Relevant Values'. There is also a checked checkbox 'Include Null Values'.

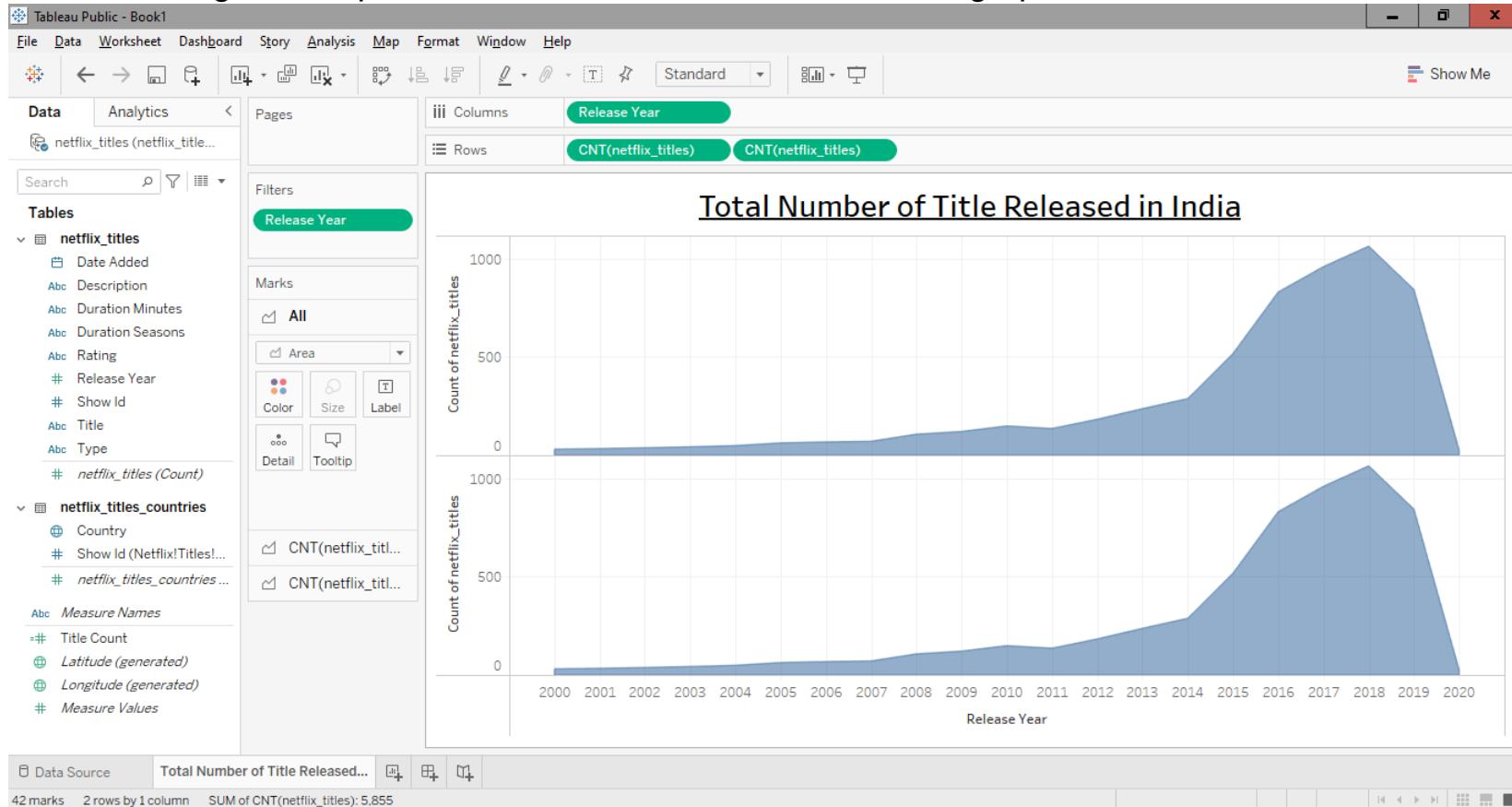
NETFLIX DATASOURCE

Now graph from year 2000 to 2020 is filtered as shown below.



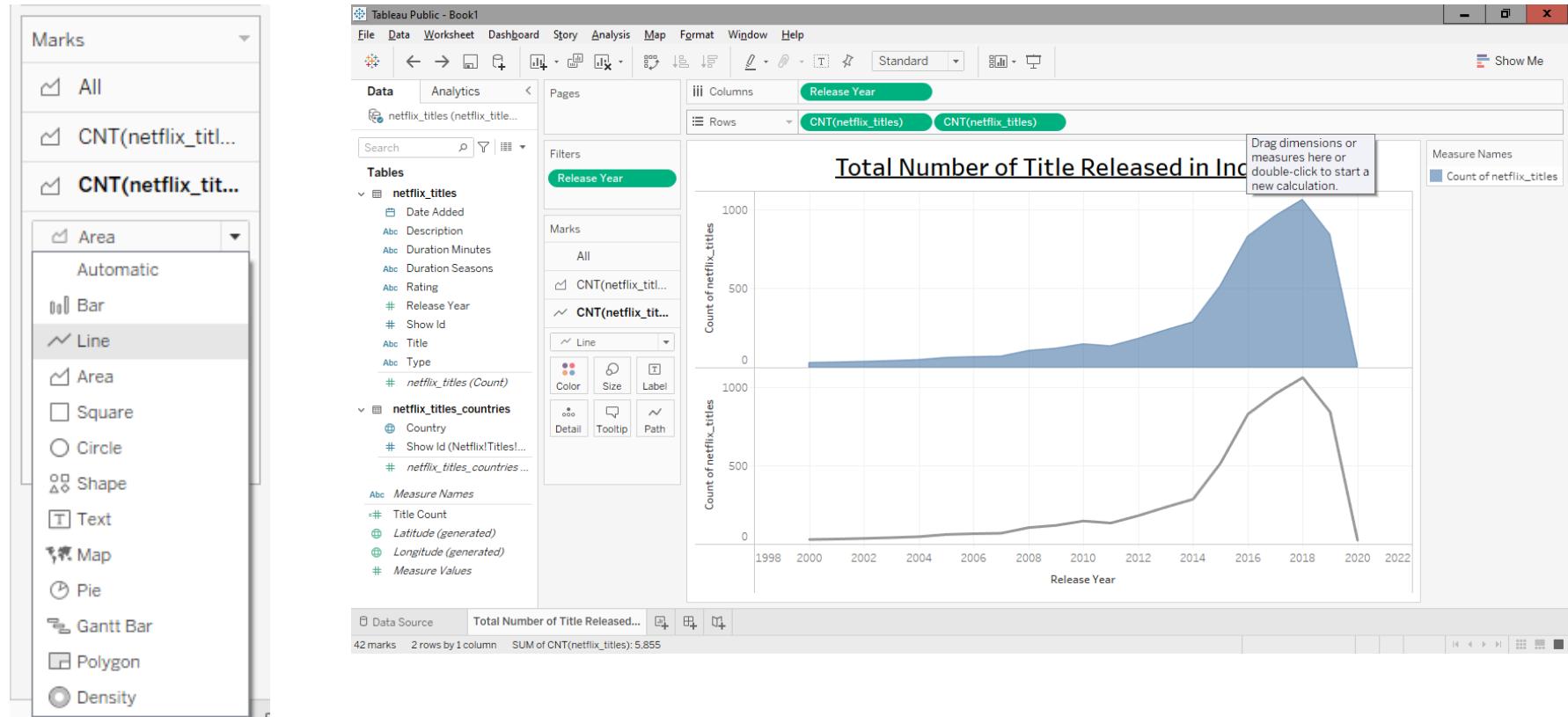
NETFLIX DATASOURCE

Now drag and drop “Netflix title count” to rows to form two graphs as shown below.



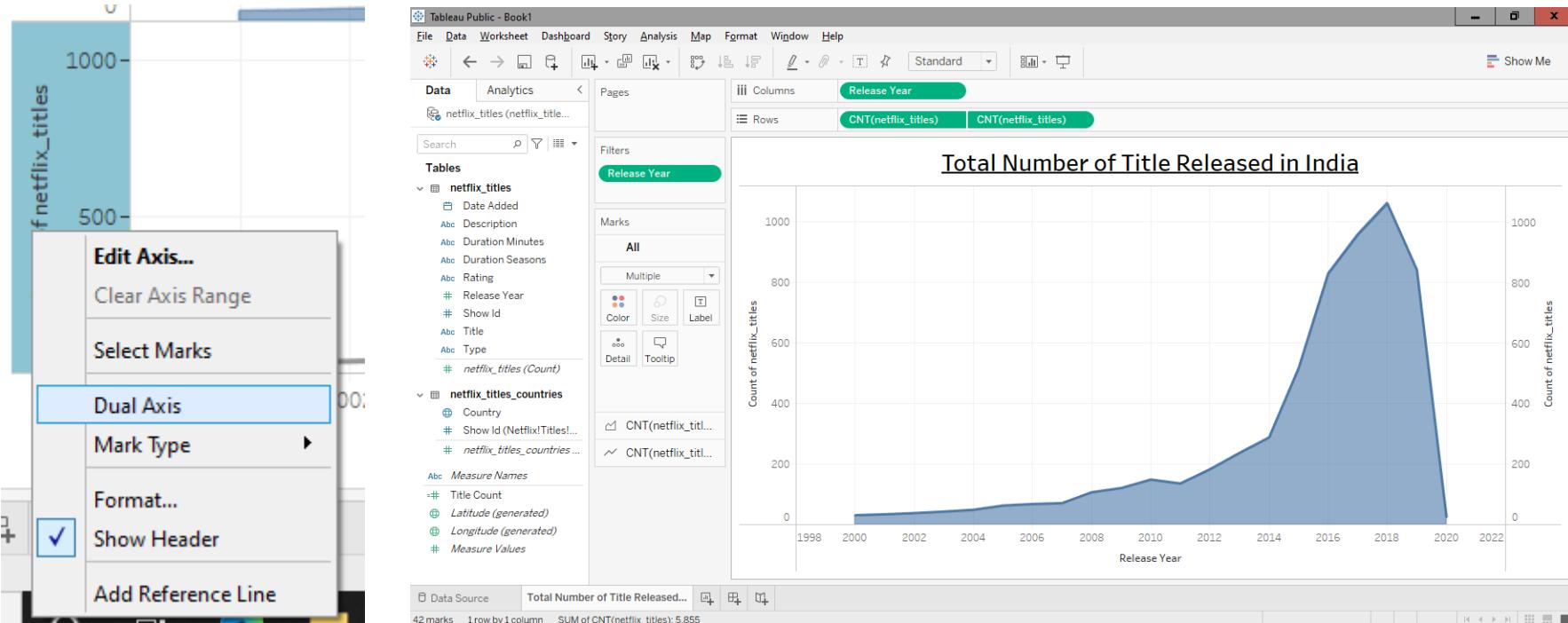
NETFLIX DATASOURCE

Convert one graph to line chart as shown below.



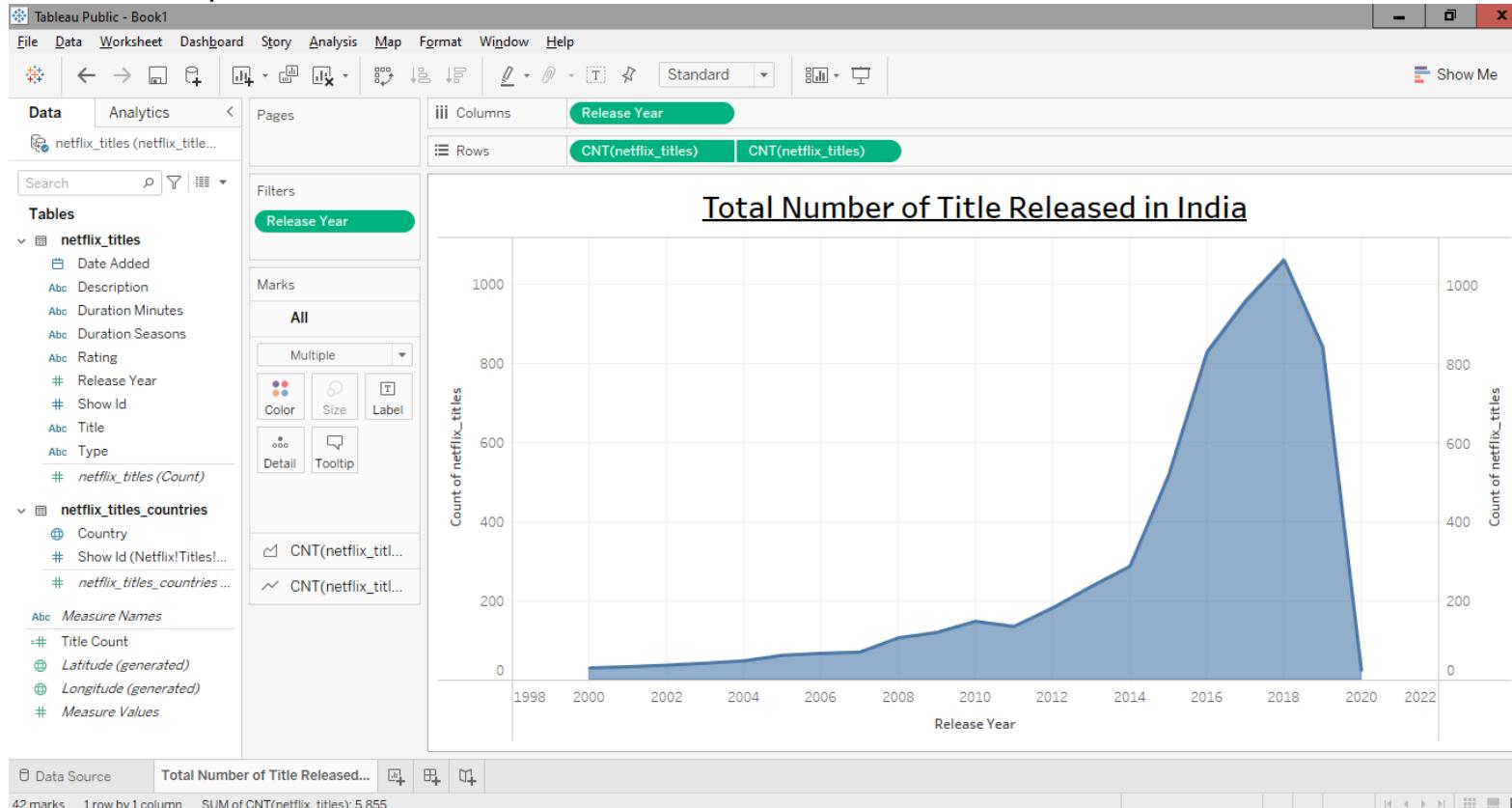
NETFLIX DATASOURCE

Now double click on one graph's axis and click Dual Axis to merge both graphs as shown below.



NETFLIX DATASOURCE

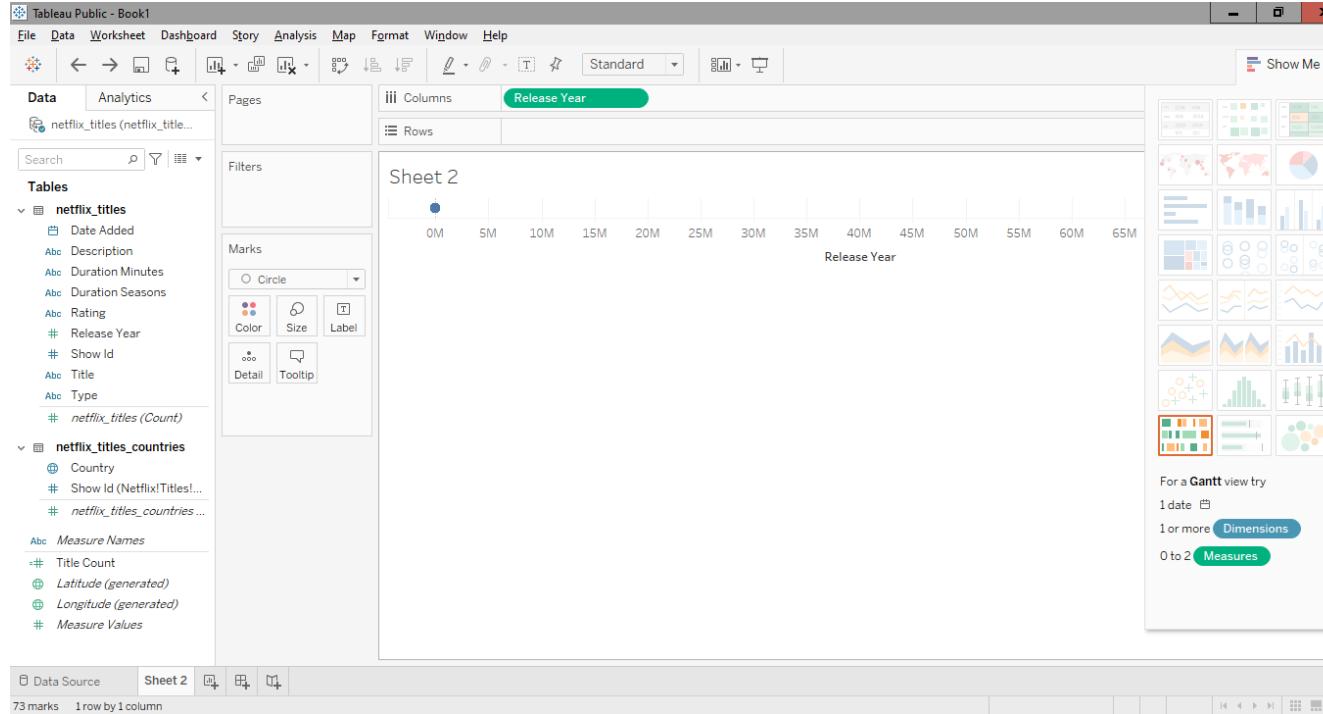
Final Output :



NETFLIX DATASOURCE

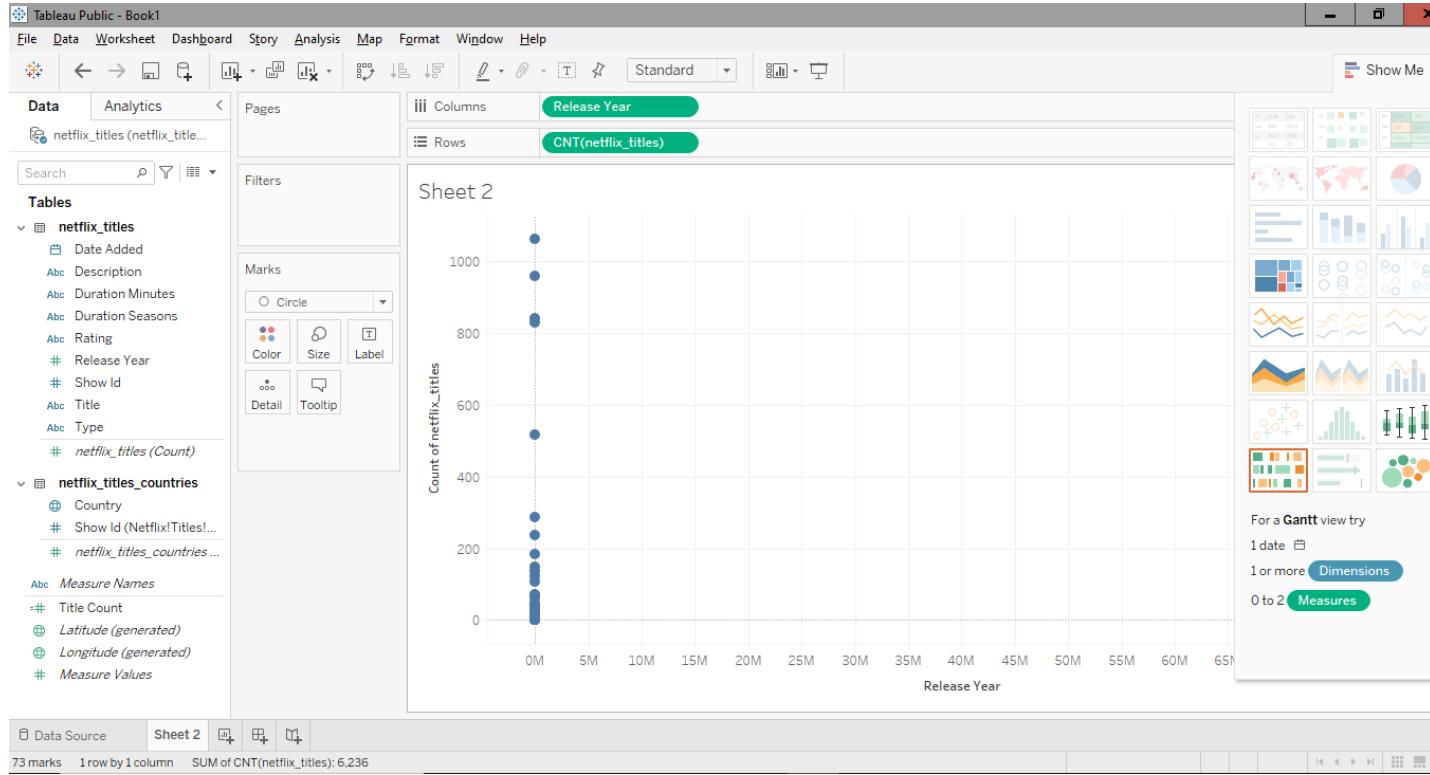
2. Plot **Bubble chart** of netflix titles for each year by using single value slider filter for both movie and TV show.

Double click on “Release Year” so it will automatically create a graph as shown below.



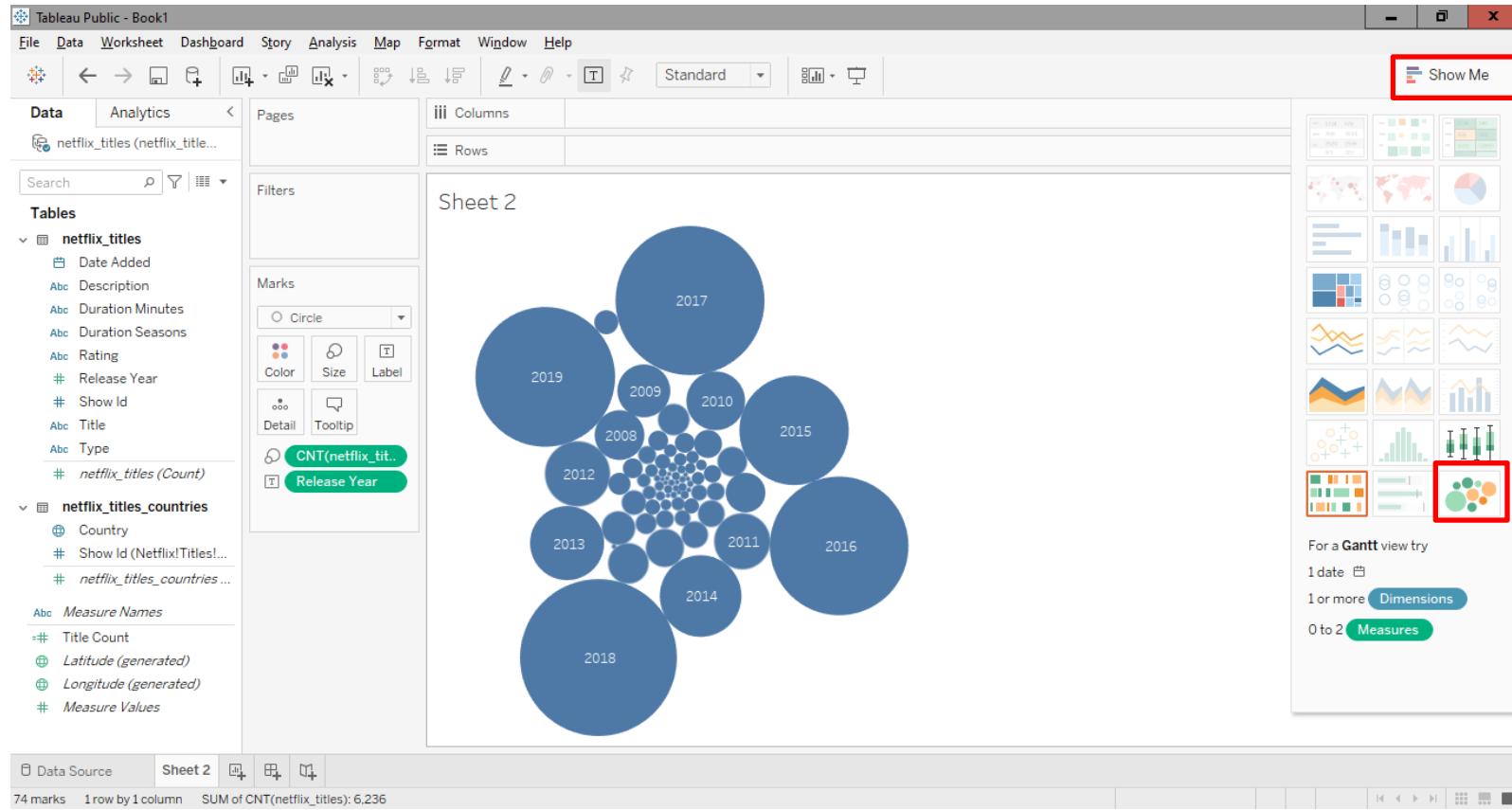
NETFLIX DATASOURCE

Now Double click on “Netflix titles count” so it will automatically create a graph as shown below.



NETFLIX DATASOURCE

Now convert chart to “Bubble Chart” by clicking “Show Me” tab.



The screenshot shows a Tableau dashboard titled "Tableau Public - Book1". The main view, "Sheet 2", displays a bubble chart where the size of each blue circle represents the count of Netflix titles released in a given year. The years are labeled directly on the bubbles: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, and 2018. The chart is centered around 2010-2015.

The left sidebar lists the data sources:

- Tables**
 - netflix_titles**
 - Date Added
 - Description
 - Duration Minutes
 - Duration Seasons
 - Rating
 - Release Year
 - Show Id
 - Title
 - Type
 - netflix_titles (Count)**
 - netflix_titles_countries**
 - Country
 - Show Id (NetflixTitles!...)
 - netflix_titles_countries ...**
- Measure Names
 - Title Count
 - Latitude (generated)
 - Longitude (generated)
 - Measure Values

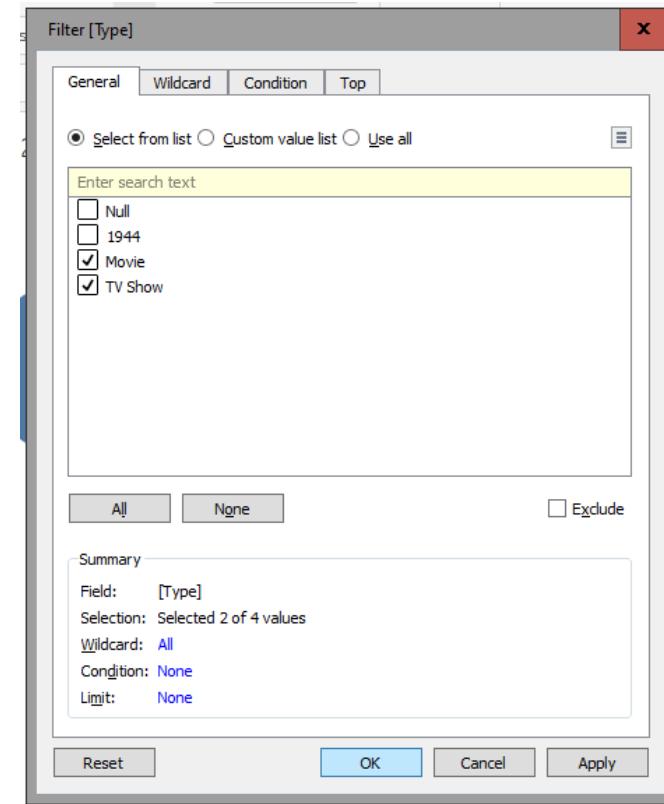
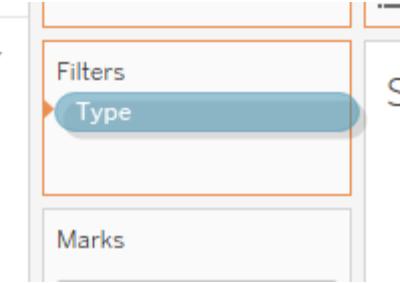
Show Me



For a Gantt view try
1 date
1 or more Dimensions
0 to 2 Measures

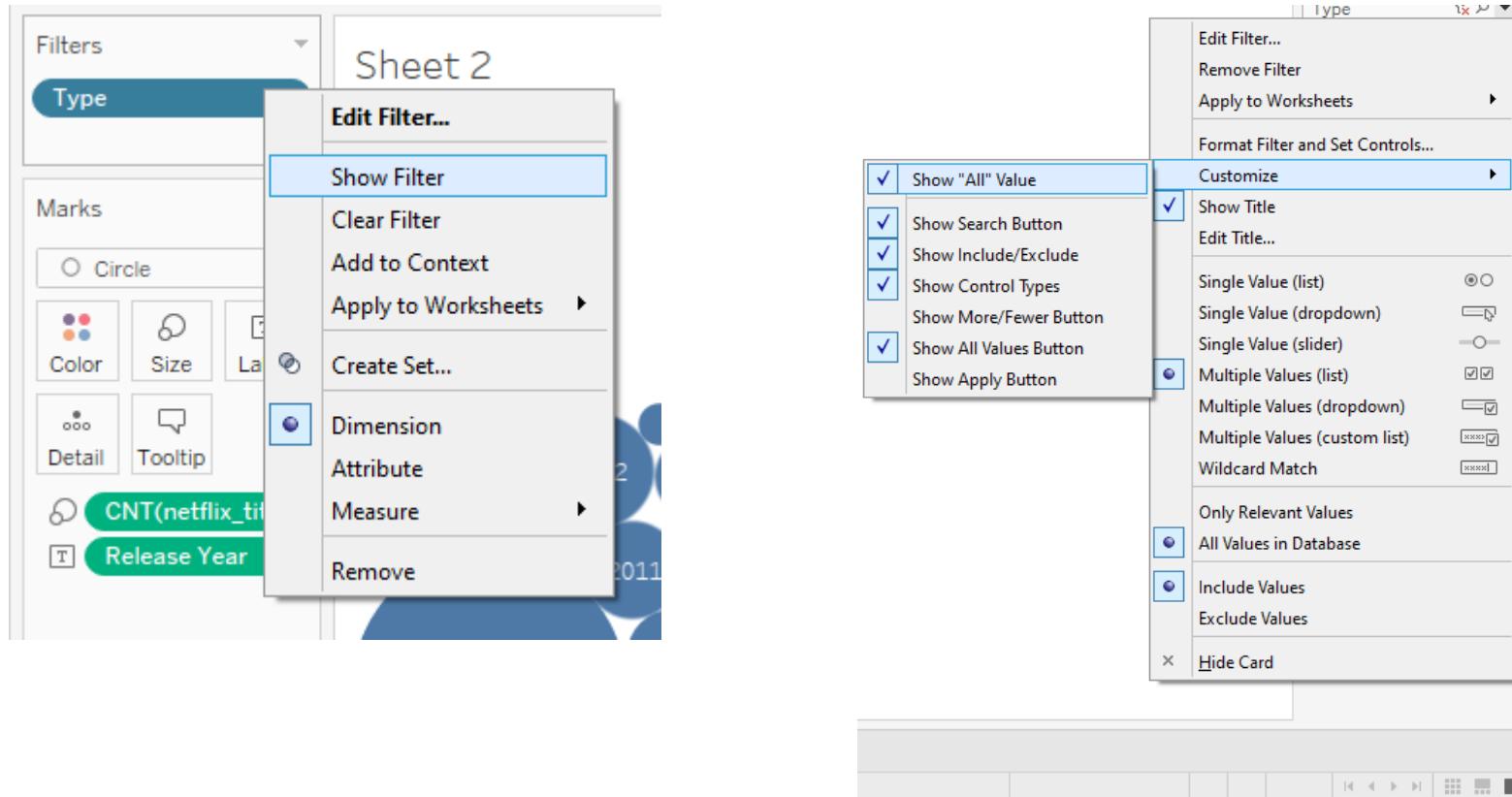
NETFLIX DATASOURCE

Now filter the graph by both “Type” i.e. Movie & TV Shows by ticking it and then hit ok button as shown below.



NETFLIX DATASOURCE

Apply “Show Filter” & remove “Show All Value” option as shown below in filter tab.



The screenshot shows the Tableau interface with the following details:

- Left Panel (Marks Shelf):** Shows 'Type' selected under 'Type'. Other options include Circle, Color, Size, Label, Detail, Tooltip, CNT(netflix_titles), and Release Year.
- Middle Panel (Edit Filter... Dialog):** The 'Show Filter' option is highlighted.
- Right Panel (Filter Context Menu):** The 'Edit Filter...' option is selected. A sub-menu is open with the following settings:
 - Show "All" Value:** Checked
 - Show Search Button:** Checked
 - Show Include/Exclude:** Checked
 - Show Control Types:** Checked
 - Show More/Fewer Button:** Checked
 - Show All Values Button:** Checked
 - Show Apply Button:** Checked
- Bottom Panel (Tableau Footer):** Includes navigation icons for back, forward, search, and other functions.



NETFLIX DATASOURCE

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Show Me

Data Analytics < Pages Columns Rows

Filters Type

Tables

- netflix_titles
 - Date Added
 - Description
 - Duration Minutes
 - Duration Seasons
 - Rating
 - Release Year
 - Show Id
 - Title
 - Type
 - netflix_titles (Count)
- netflix_titles_countries
 - Country
 - Show Id (NetflixTitles!...)
 - netflix_titles_countries ...
- Measure Names
 - Title Count
 - Latitude (generated)
 - Longitude (generated)
 - Measure Values

Marks Circle

Color Size Label

Detail Tooltip

CNT(netflix_titles)

Release Year

Sheet 2

Type

Movie
TV Show

2016

2012

2008

2013

2011

2009

2010

2014

2017

2018

2015

2019

Data Source Sheet 2

73 marks 1 row by 1 column SUM of CNT(netflix_titles): 6,234



Exploring Emerging Technologies

NETFLIX DATASOURCE

Apply “Slider” option as shown below in filter tab.

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Data Analytics < Pages

iii Columns
Rows

Search

Tables

Filters

Type: Movie

Marks

Circle

Color Size Label

Detail Tooltip

CNT(netflix_titles)

Release Year

Sheet 2

2019

2017

2016

2015

2014

2013

2012

2011

2010

2009

2008

2007

2006

2018

Type

Movie

Slider

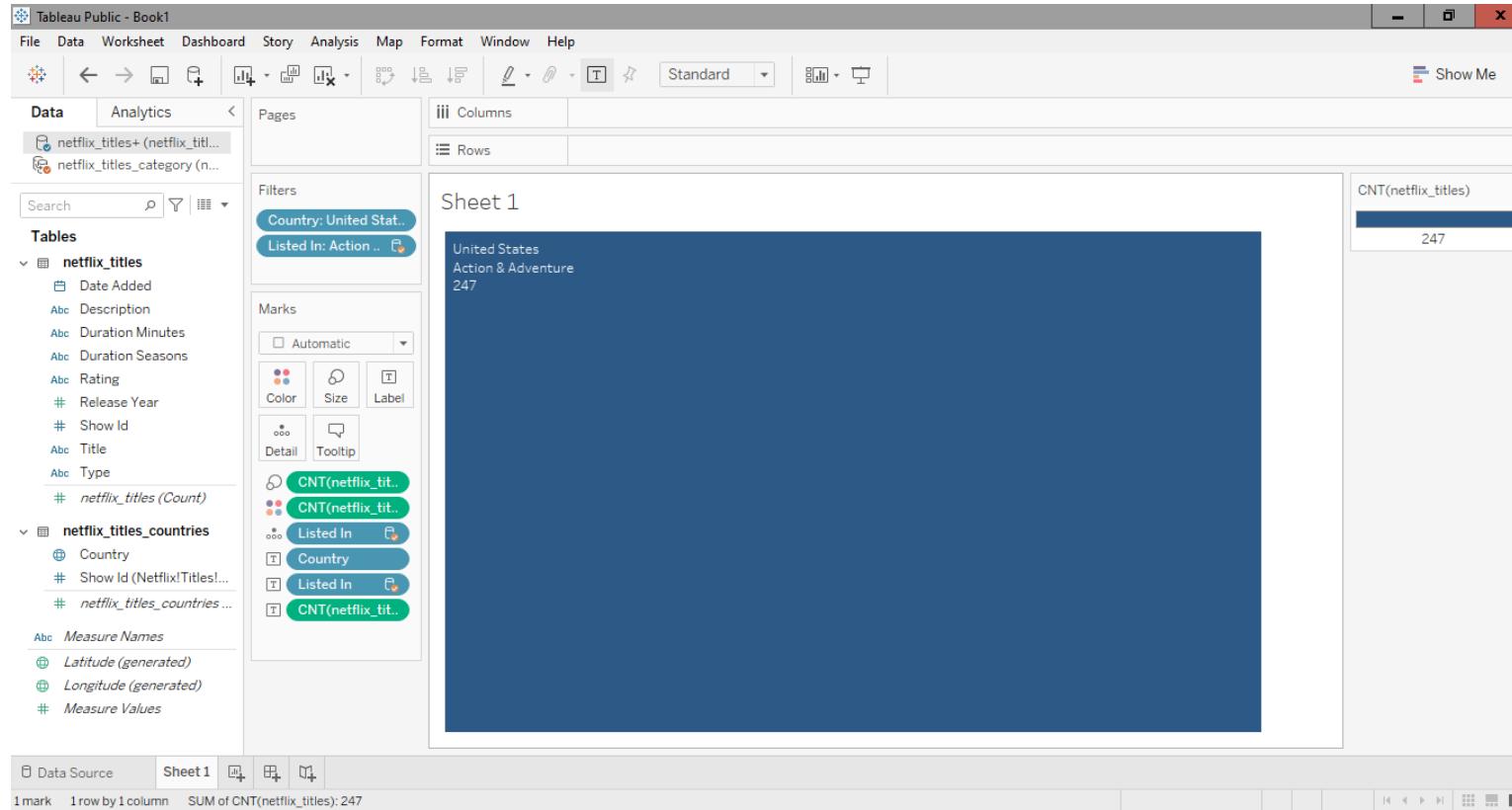
Edit Filter... Remove Filter Apply to Worksheets Format Filter and Set Controls... Customize Show Title Edit Title... Single Value (list) Single Value (dropdown) Single Value (slider) Multiple Values (list) Multiple Values (dropdown) Multiple Values (custom list) Wildcard Match Only Relevant Values All Values in Database Include Values Exclude Values Hide Card

71marks 1 row by 1 column SUM of CNT(netflix_titles): 4,265

The screenshot displays a Tableau dashboard titled "NETFLIX DATASOURCE". On the left, a filter card is open, showing various filtering options. The "Single Value (slider)" option is selected and highlighted with a blue border. In the center, a bubble chart titled "Sheet 2" visualizes the count of Netflix titles by release year. The bubbles are sized according to the count, with larger bubbles representing years like 2017 and 2019, and smaller ones for earlier years. A secondary filter card on the right also shows "Type: Movie" selected. The bottom of the interface shows standard Tableau navigation and status information.

NETFLIX DATASOURCE

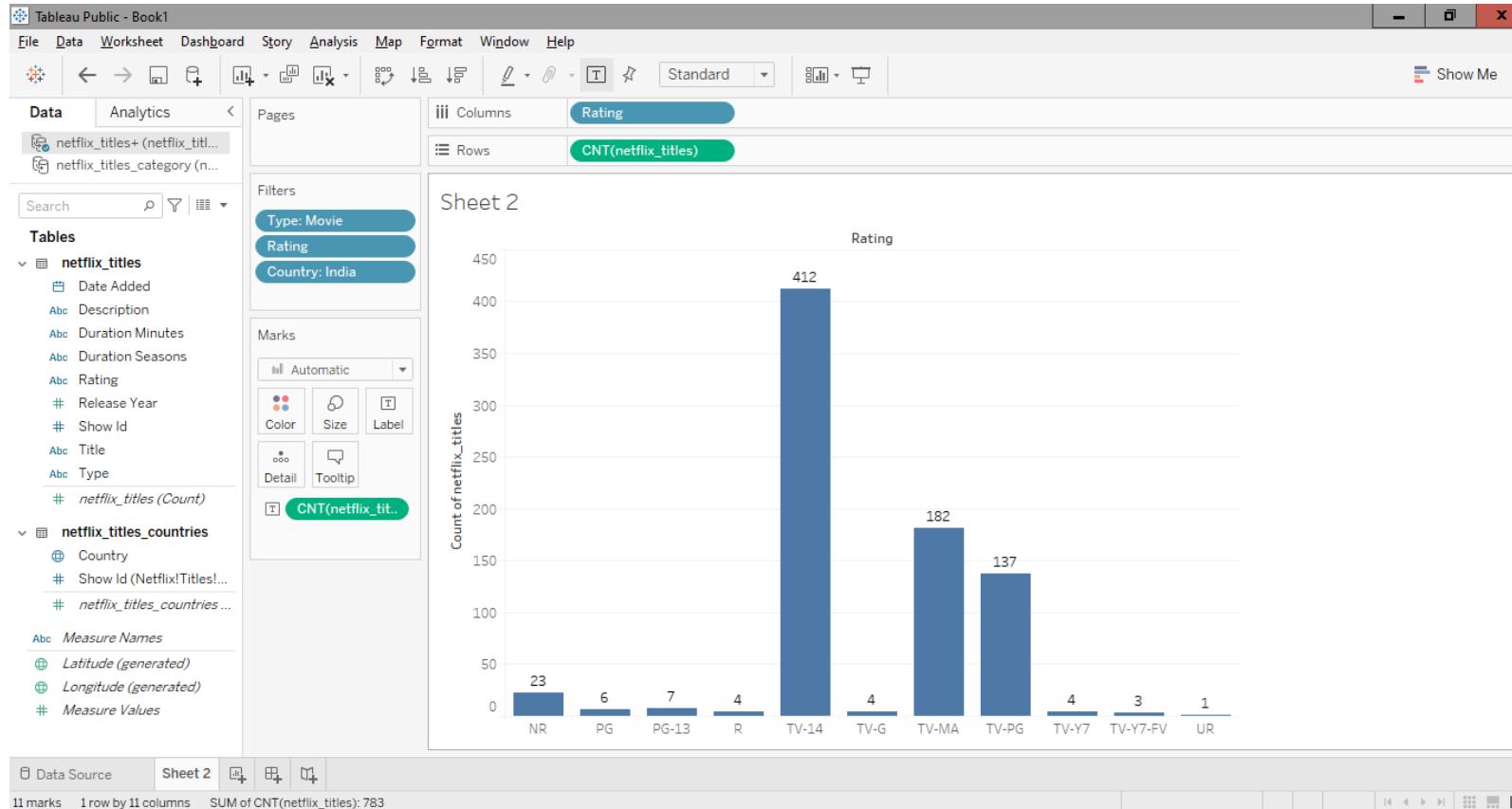
3. Plot the **tree map** graph to find count of netflix titles for “**Action and Adventure**” category for united states.





NETFLIX DATASOURCE

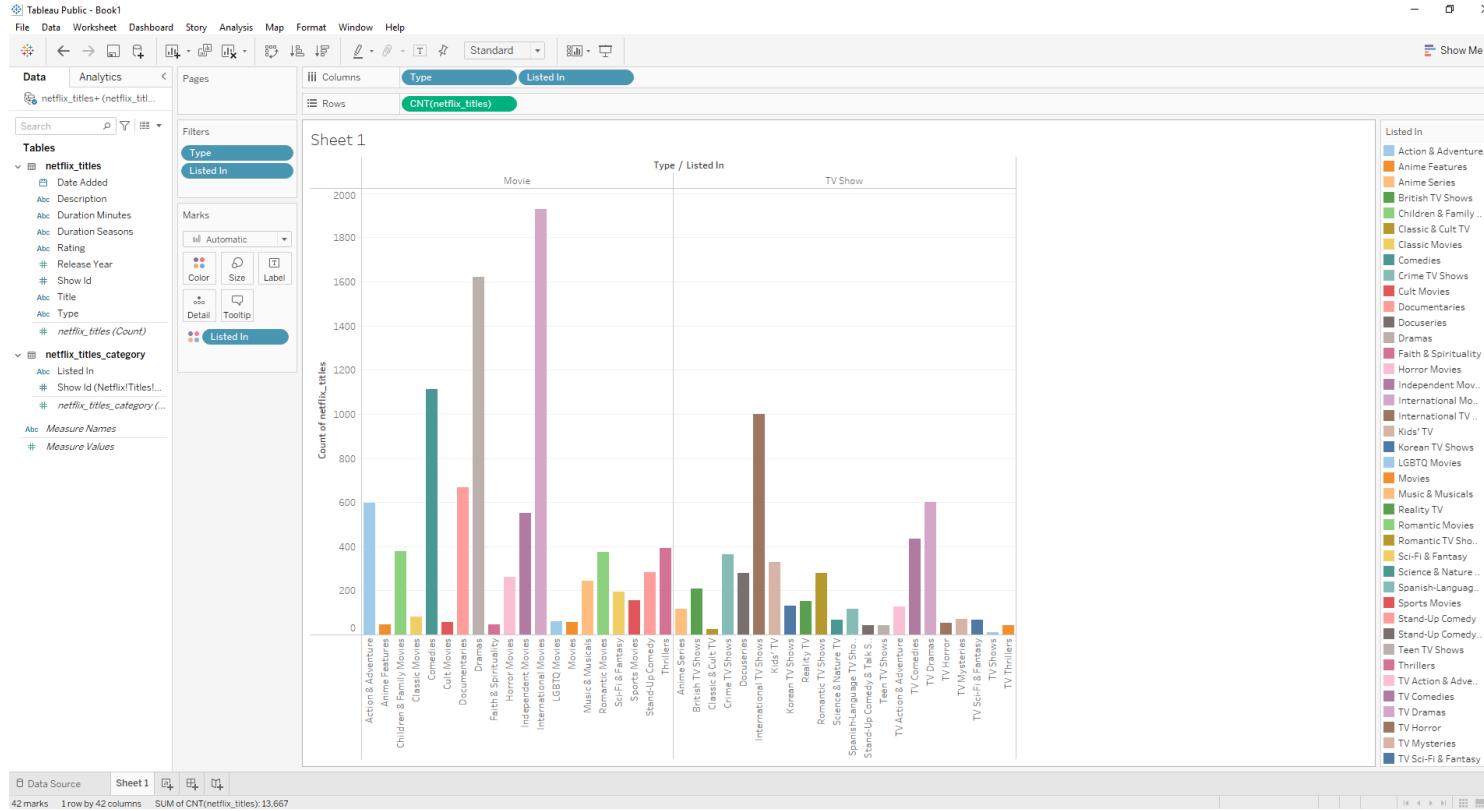
4. Plot movie count of specific country(India) as per different ratings.





NETFLIX DATASOURCE

5. Plot count of TV shows for different categories using side-by-side bars.

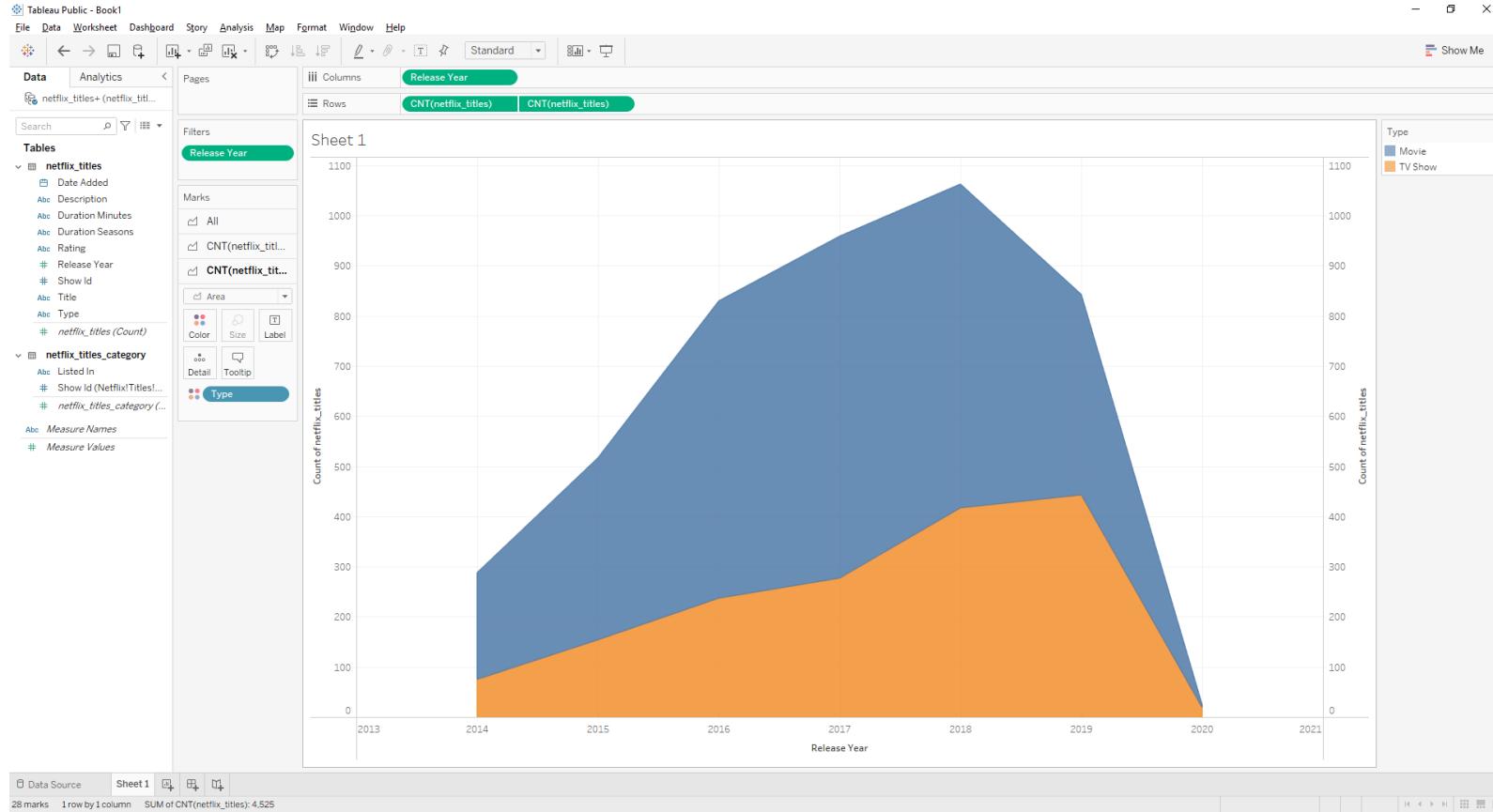




Exploring Emerging Technologies

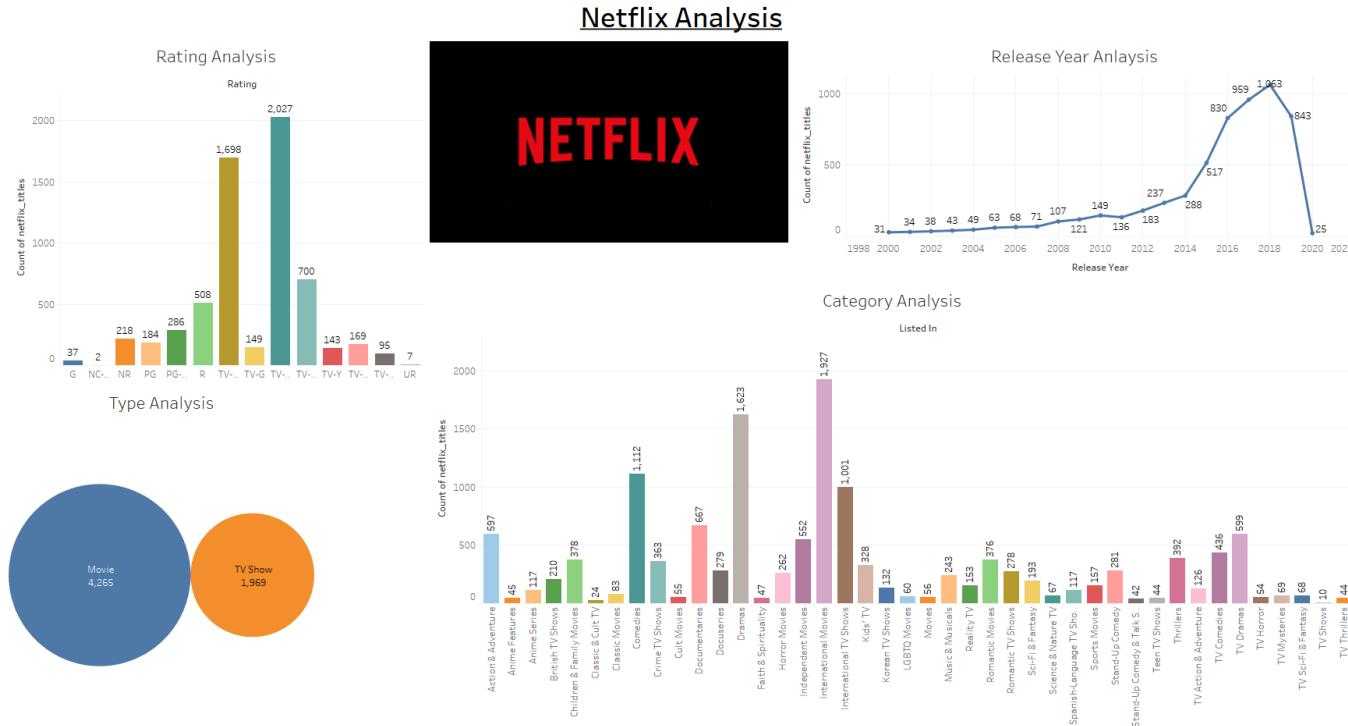
NETFLIX DATASOURCE

6. Create dual axis area charts for **Movies** and **TV shows** for years 2014-2020



NETFLIX DATASOURCE

7. Create a dashboard with the most useful insights



CREATING DASHBOARDS & STORIES

Follow the instructions given in next slides to create dashboards and stories for the data sources given below

- EdX_2013 Academic Year Courses
- IPL_dataset.csv
- Summer_Olympic_medallists_1896-2008
- Pokemon

LINK:

<https://drive.google.com/drive/folders/1hQZur3Howub0xR5KD3SDfOmdkdLjpLuH?usp=sharing>

CREATE DASHBOARDS FOR THE DATA SOURCES

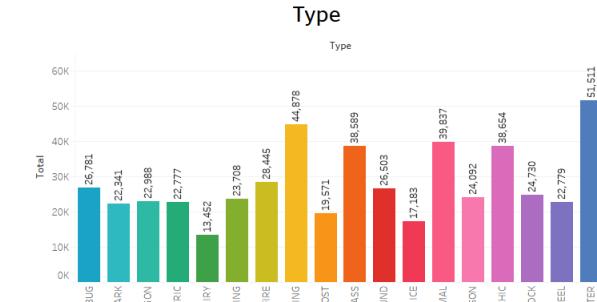
1. Gather and prepare the data using appropriate joining and blending of tables
2. Determine the objective or message for data visualization
3. Use advanced visualization and data manipulation (calculated fields, action filters, dual axis etc) covered in the course
4. Use multiple sheets (above 3) in your dashboard
5. Build an interactive data visualization dashboard

CREATE DASHBOARDS FOR THE DATA SOURCES - POKEMON

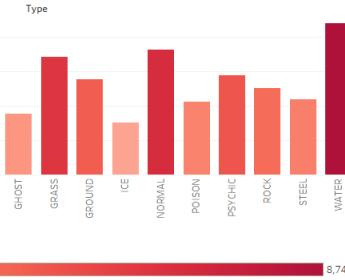
Typewise Analysis

Type

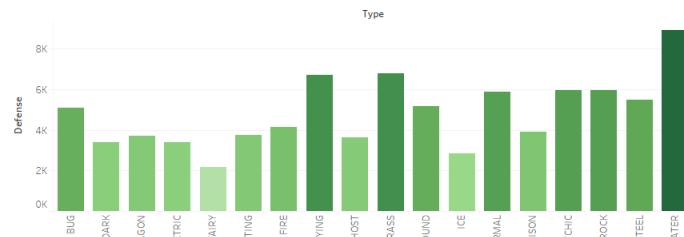
- BUG
- DARK
- DRAGON
- ELECTRIC
- FAIRY
- FIGHTING
- FIRE
- FLYING
- GROUND
- ICE
- NORMAL
- Poison
- PSYCHIC
- ROCK
- STEEL
- WATER



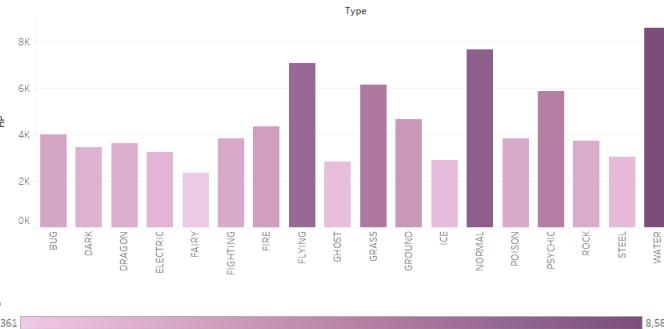
Attack



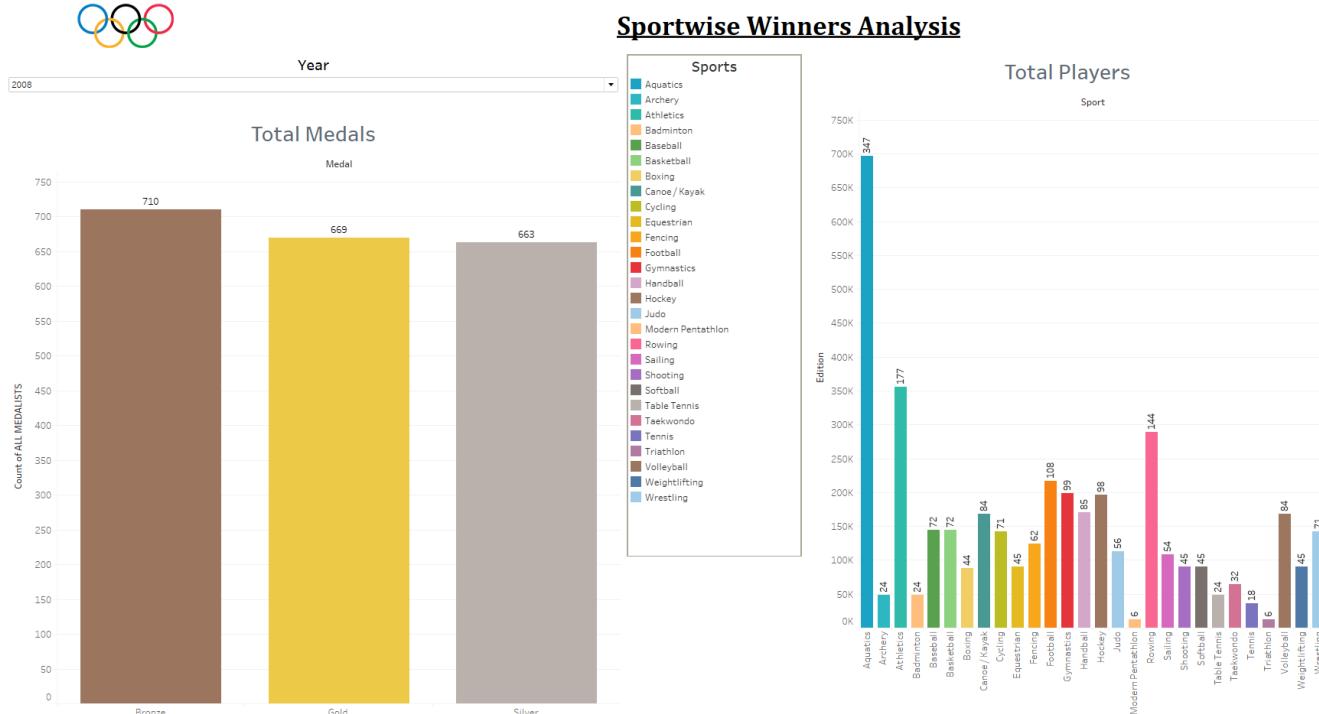
Defense



HP

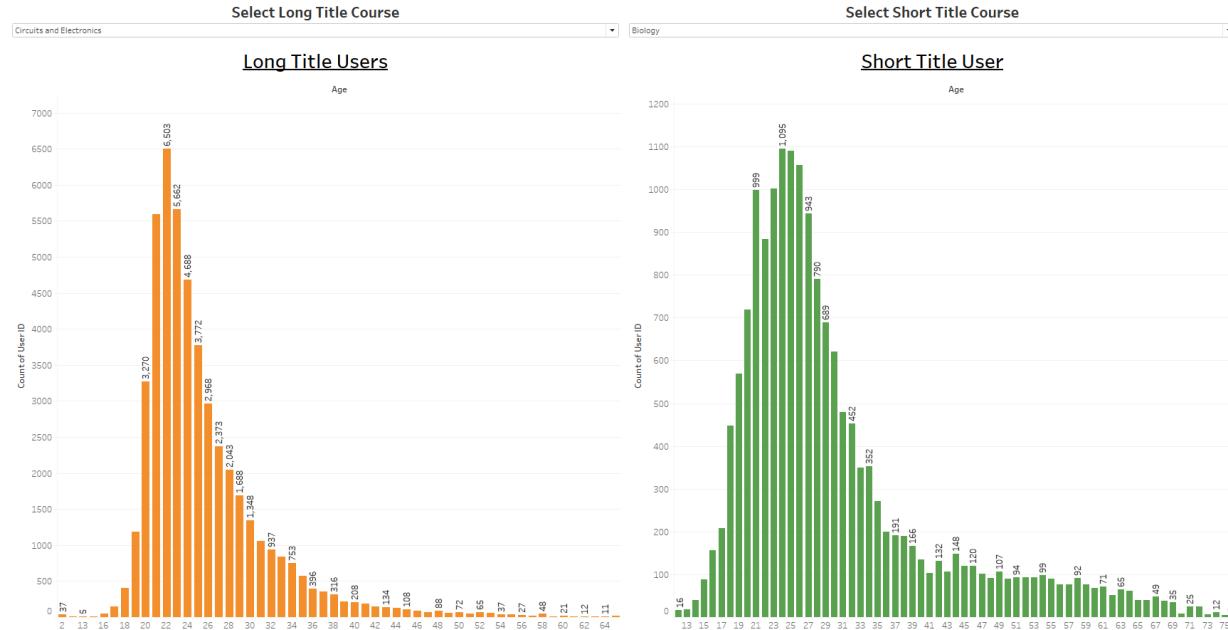


CREATE DASHBOARDS FOR THE DATA SOURCES - Summer Olympics Medalist



CREATE DASHBOARDS FOR THE DATA SOURCES - Academic Year Courses

User Analysis

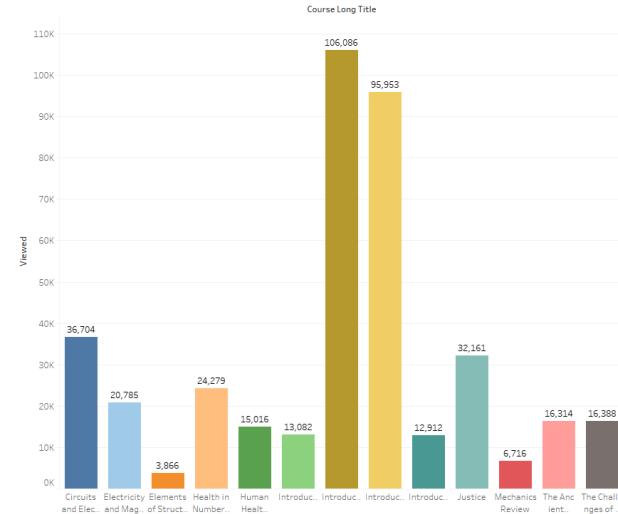


CREATE DASHBOARDS FOR THE DATA SOURCES - Academic Year Courses

Course Long Title

- Circuits and Elec... ■ Human Health ■ Introduction to... ■ The Challenges...
- Electricity and... ■ Introduction to... ■ Justice
- Elements of Str... ■ Introduction to... ■ Mechanics Rev...
- Health in Numb... ■ Introduction to... ■ The Ancient Gr...

Long Title Viewers

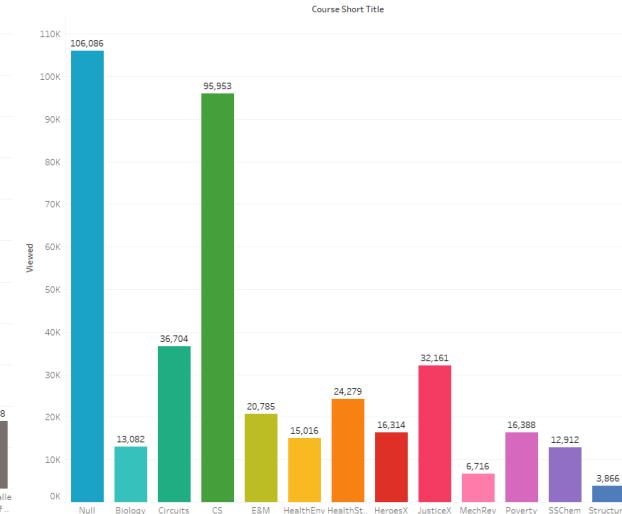


Viewers Analysis

Course Short Title

- Null ■ E&M ■ JusticeX
- Biology ■ HealthEnv ■ MechRev
- Circuits ■ HealthStat ■ Poverty
- CS ■ HeroesX ■ SSChem

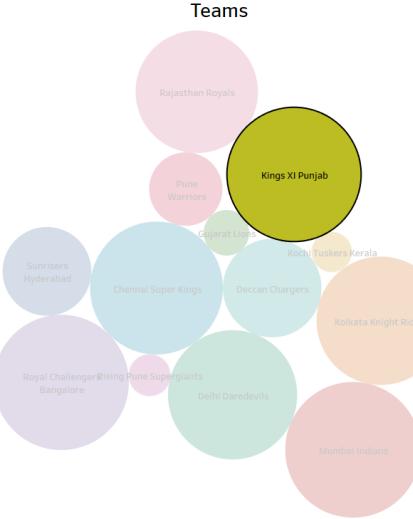
Short Title Viewers



CREATE DASHBOARDS FOR THE DATA SOURCES - IPL



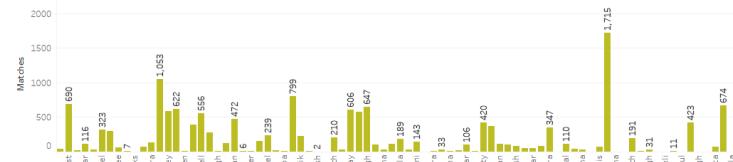
Total Matches: 15,991



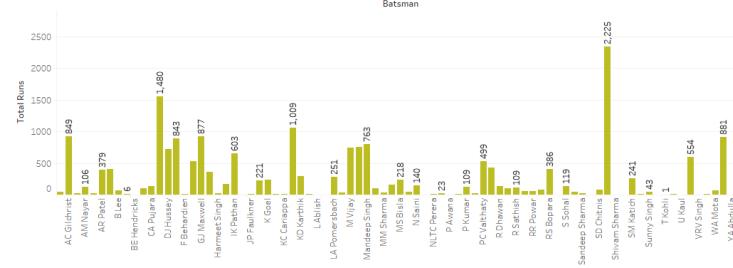
IPL Analysis



Baller Overs



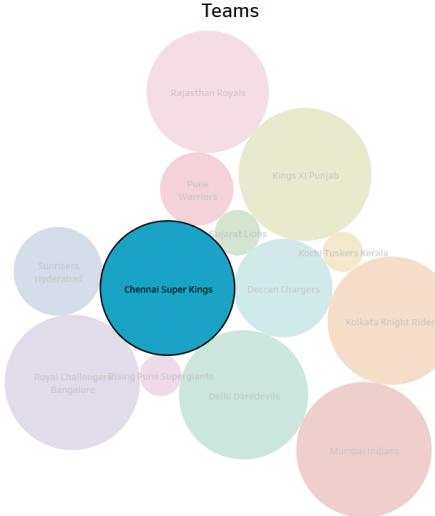
Batsman Runs



CREATE DASHBOARDS FOR THE DATA SOURCES - IPL



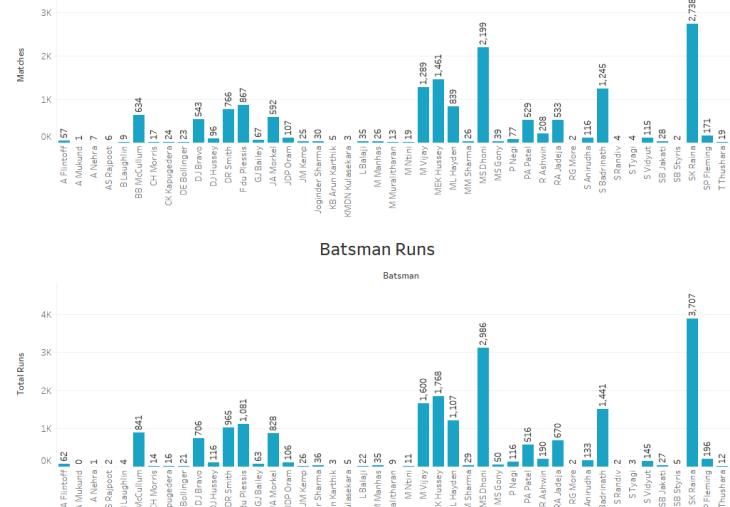
Total Matches: 15,754



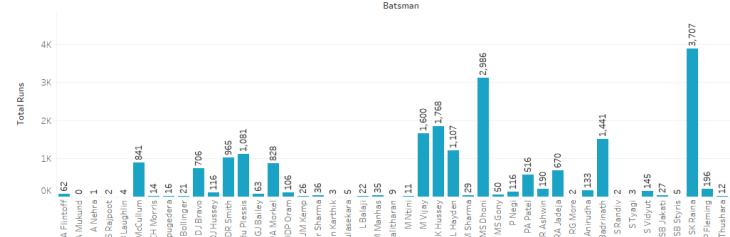
IPL Analysis



Baller Overs



Batsman Runs



CREATE STORIES USING THE DASHBOARDS AND WORKSHEETS

1. Prepare individual worksheets to create a dashboard
2. Determine the dashboard (objective) or message for data visualization
3. Create interactive dashboard (use action filters, parameters, bins and grouping concepts)
4. Generate different insights from the dashboard by applying filters and grouping parameters
5. Use different insights from the dashboard and use different worksheets to generate a story