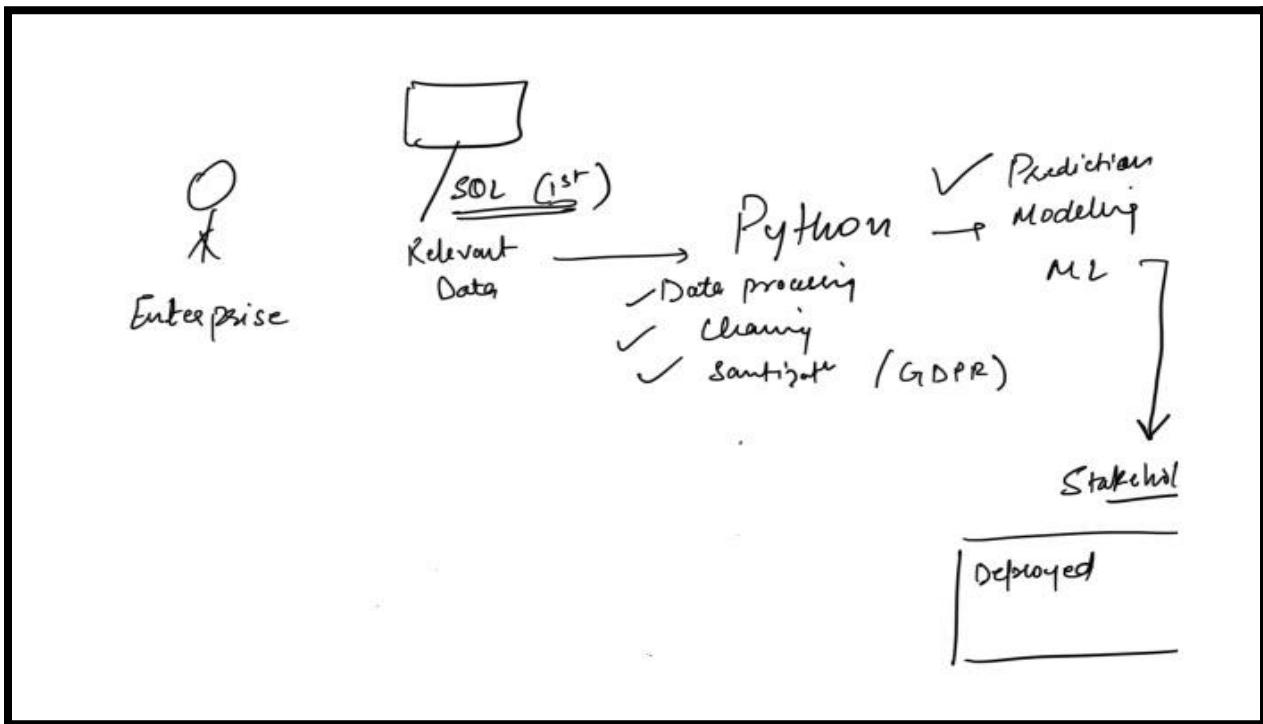


# Tableau Script 1

## Building Scenario

- Suppose you are working as a Data Scientist in a XYZ Enterprise. Now the work flow that is being followed in 95 % of industry is :
  - You require SQL to extract the relevant data from the data source. Data extraction costs a lot to the companies
  - Using Python, you would require to clean and process the data.
  - Finally you will use some ML modeling techniques to the give predictions.



**Q. Do you think your stakeholder could understand those predictions, charts etc?**

**Q. Do you think they would know how to run a python file to see those charts and understand it ?**

## **Why use Tableau?**

- Highly interactive
- Easily Deployable
- Tableau Desktop: Paid
- Tableau Public : Free
- No coding
- Interactive Dashboards

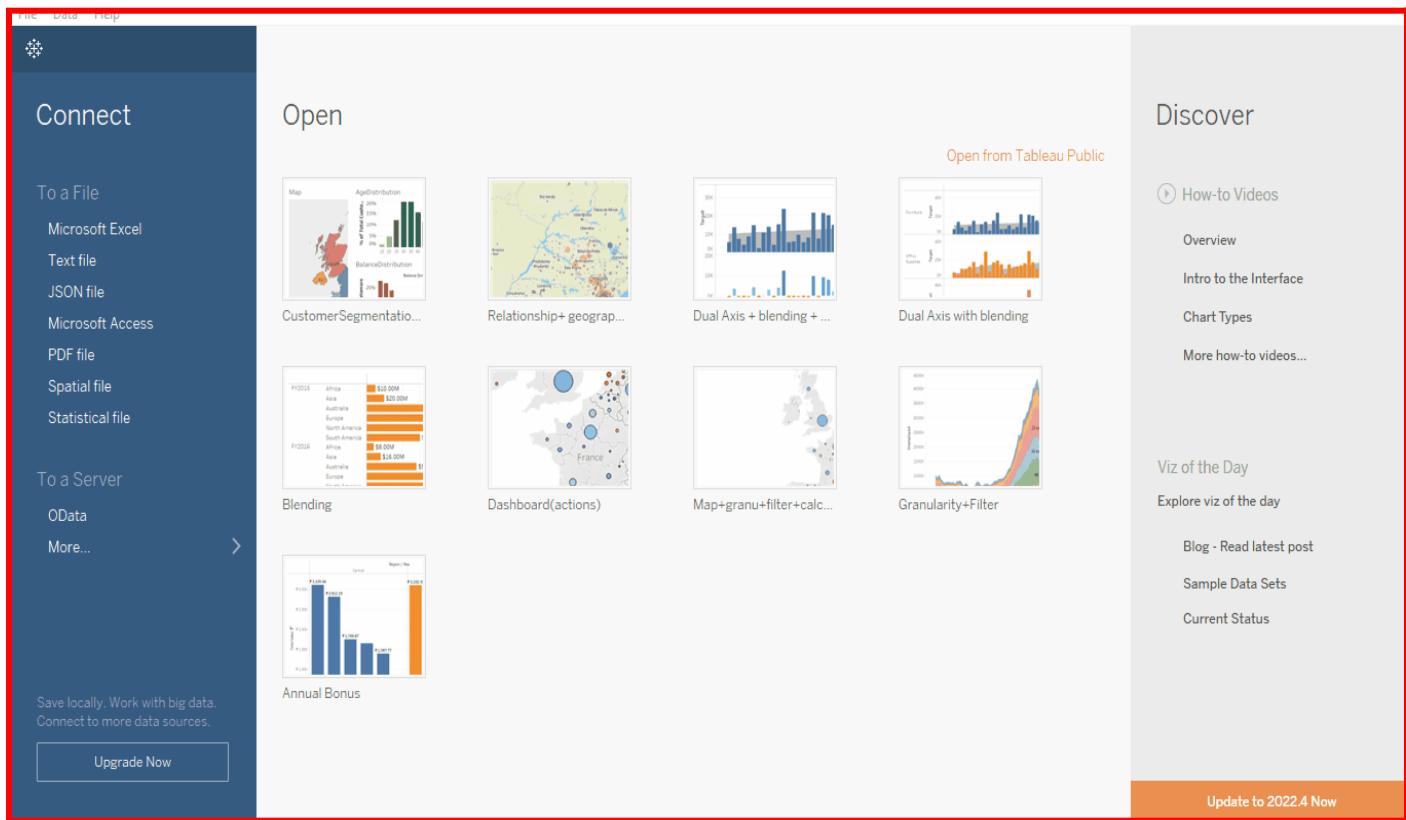
## **Agenda**

1. Build a basic tableau dashboard from a CSV file
2. Publish yours dashboards on your portfolio website
3. Basic understanding of charts

## **Data Set : Sample Superstore**

- Do some basic data description by excel file so learners get the idea.
- Give them basic idea tableau connectors : **file and server**

## How to connect and preview dataset in tableau (gif)?



### Observation:

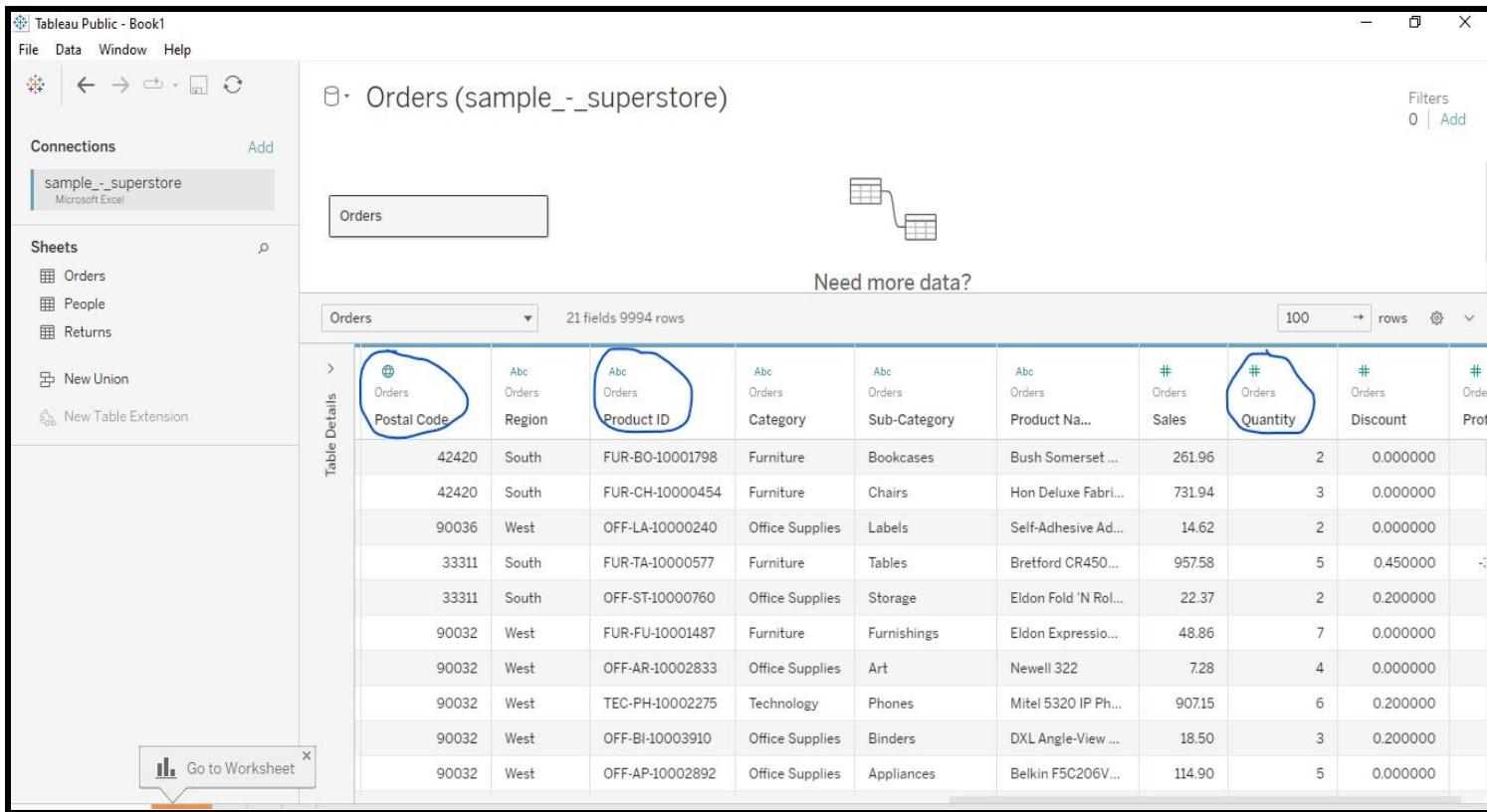
1. We used an excel file to import our data in tableau.
2. There are many other methods too.

- The data is mainly divided into Measure and Dimensions
  - **Measure:** Anything that is numerical
  - **Dimension:** Anything that is non-numerical

### Preview of Dataset

- Explore fields of our data
- How tableau automatically understand data type of each field

- **Postal Code** : geographic location 
- **Product ID** : String 
- **Quantity** : Numeric 



The screenshot shows the Tableau Public interface with the 'Orders' worksheet selected. The data preview shows 21 fields and 9994 rows. The columns are labeled: Order ID, Region, Product ID, Category, Sub-Category, Product Name, Sales, Quantity, and Discount. The 'Postal Code' column is circled in blue, indicating it is a geographic location type. The 'Product ID' column is also circled in blue, indicating it is a string type. The 'Quantity' column is circled in blue, indicating it is a numeric type.

Order ID	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount
42420	South	FUR-BO-10001798	Furniture	Bookcases	Bush Somerset ...	261.96	2	0.000000
42420	South	FUR-CH-10000454	Furniture	Chairs	Hon Deluxe Fabri...	731.94	3	0.000000
90036	West	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive Ad...	14.62	2	0.000000
33311	South	FUR-TA-10000577	Furniture	Tables	Bretford CR450...	957.58	5	0.450000
33311	South	OFF-ST-10000760	Office Supplies	Storage	Eldon Fold 'N Rol...	22.37	2	0.200000
90032	West	FUR-FU-10001487	Furniture	Furnishings	Eldon Expressio...	48.86	7	0.000000
90032	West	OFF-AR-10002833	Office Supplies	Art	Newell 322	7.28	4	0.000000
90032	West	TEC-PH-10002275	Technology	Phones	Mitel 5320 IP Ph...	907.15	6	0.200000
90032	West	OFF-BI-10003910	Office Supplies	Binders	DXL Angle-View ...	18.50	3	0.200000
90032	West	OFF-AP-10002892	Office Supplies	Appliances	Belkin F5C206V...	114.90	5	0.000000

## Observation:

1. Tableau is smart enough to understand the type each column

Let's do some more pre-processing on another dataset to make our understanding robust before we move to building charts.

Consider the Dataset : [World\\_Bank\\_CO2](#)

- Before analysis it require some data cleaning, so we are going to **introduce data cleaning on the Assessment dataset**
- Ask learners what is the fundamental issue they observe when they see data
  - **Issue:** Years in column will take up huge amount of space
  - **Analogy:** if you want to inc carpet area of your home, you would make a multi-floor on top of that rather than buying new land and make a new home

B	C	D	E	F	G	H	I	J	K	L
2										
3	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	1966
4	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	null						
5	AND	CO2 emissions (kt)	EN.ATM.CO2E.KT	null						
6	AFG	CO2 emissions (kt)	EN.ATM.CO2E.KT	414.371	491.378	689.396	707.731	839.743	1008.425	1092.766
7	AGO	CO2 emissions (kt)	EN.ATM.CO2E.KT	550.05	454.708	1180.774	1151.438	1224.778	1188.108	1554.808
8	ALB	CO2 emissions (kt)	EN.ATM.CO2E.KT	2024.184	2280.874	2464.224	2082.856	2016.85	2174.531	2552.232
9	ARB	CO2 emissions (kt)	EN.ATM.CO2E.KT	59563.98	65151.09	74357.70	87895.97	103196.2	123828.1	139079.1
10	ARE	CO2 emissions (kt)	EN.ATM.CO2E.KT	11.001	11.001	18.335	22.002	18.335	22.002	25.669
11	ARG	CO2 emissions (kt)	EN.ATM.CO2E.KT	48815.10	51180.31	53695.88	50083.88	55727.39	58866.35	63138.40
12	ARM	CO2 emissions (kt)	EN.ATM.CO2E.KT	null						
13	ASM	CO2 emissions (kt)	EN.ATM.CO2E.KT	null						
14	ATG	CO2 emissions (kt)	EN.ATM.CO2E.KT	36.67	47.671	102.676	84.341	91.675	150.347	348.365
15	AUS	CO2 emissions (kt)	EN.ATM.CO2E.KT	88202.35	90589.56	94912.96	101029.5	108979.5	120966.9	120332.6
16	AUT	CO2 emissions (kt)	EN.ATM.CO2E.KT	30821.13	31862.56	33905.08	36992.69	38943.54	38188.13	39258.90
17	AZE	CO2 emissions (kt)	EN.ATM.CO2E.KT	null						
18	BDI	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	44.004	47.671	47.671	36.67	47.671



CO2 (kt) RAW DATA

CO2 Data Cleaned

CO2 (kt) for



Explore

- What's the next issue with data ?

- Top 2 lines are blank with only a statement not in tabular format.
  - In python we would write code to remove it

- Due to above issue, interpretation of data is not proper
  - Each field is now recognised as string **AB**
  - This is **CO2(kt) raw data** is a part table with null values in front of it.

CO2 (kt) RAW DATA

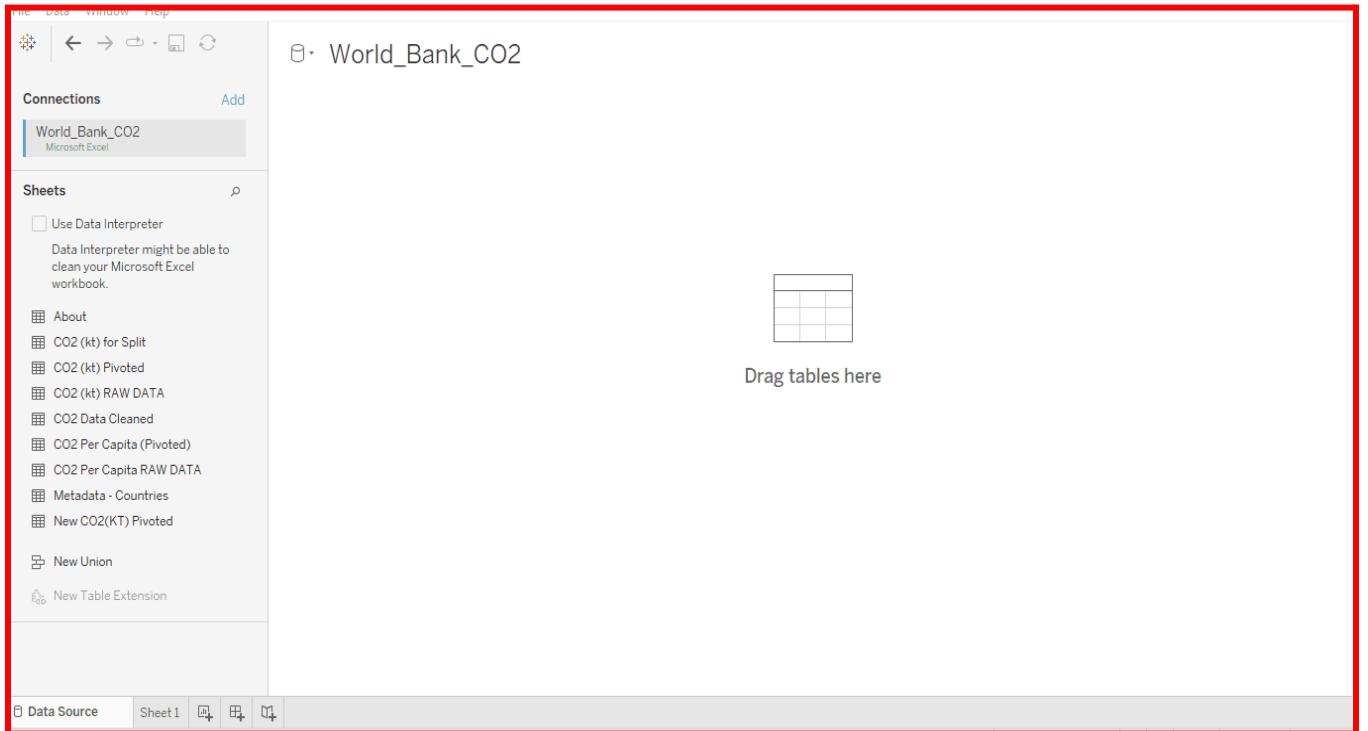
Need more data?

Table Details

CO2 (kt) RAW DATA 60 fields 250 rows 100 rows

F1	F2	F3	F4	F5	F6	F7	F8	F9
This is CO2(kt) RAW DATA	null	null	null	null	null	null	null	
Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	196
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	null	null	null
Andorra	AND	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	null	null	null
Afghanistan	AFG	CO2 emissions (kt)	EN.ATM.CO2E.KT	414.371	491.378	689.396	707.731	836
Angola	AGO	CO2 emissions (kt)	EN.ATM.CO2E.KT	550.05	454.708	1180.77	1151.44	122
Albania	ALB	CO2 emissions (kt)	EN.ATM.CO2E.KT	2024.18	2280.87	2464.22	2082.86	201
Arab World	ARB	CO2 emissions (kt)	EN.ATM.CO2E.KT	59564	65151.1	74357.7	87896	103
United Arab Emirates	ARE	CO2 emissions (kt)	EN.ATM.CO2E.KT	11.001	11.001	18.335	22.002	18.3
Argentina	ARG	CO2 emissions (kt)	EN.ATM.CO2E.KT	48815.1	51180.3	53695.9	50083.9	557

- Using Data interpreter to do basic cleaning



### **Observation:**

1. Basic data cleaning can be done using data interpretator.
2. If the data is very messy, then we might use python or excel before importing to it tableau.

- For each country we have a row. Now what we want is , for each country and year we should have a row.
- Basically we want our years be as rows not in columns

## Q. How are you going to do that ?

- Using pivot

Table Details 

	CO2 (kt) RAW DATA	CO2 (kt) RAW DATA	Abc	Abc	#	#	#	#
	Country Name	Country Code	CO2 (kt) RAW DATA	Indicator Name	Indicator Code	CO2 (kt) RAW DATA	CO2 (kt) RAW DATA	CO2 (kt) RAW DATA
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT		null	null	null	null
Andorra	AND	CO2 emissions (kt)	EN.ATM.CO2E.KT		null	null	null	null
Afghanistan	AFG	CO2 emissions (kt)	EN.ATM.CO2E.KT		414.37	491.38	689.40	707.73
Angola	AGO	CO2 emissions (kt)	EN.ATM.CO2E.KT		550.05	454.71	1,180.77	1,151.44
Albania	ALB	CO2 emissions (kt)	EN.ATM.CO2E.KT		2,024.18	2,280.87	2,464.22	2,082.86
Arab World	ARB	CO2 emissions (kt)	EN.ATM.CO2E.KT		59,563.99	65,151.10	74,357.71	87,895.98
United Arab Emirates	ARE	CO2 emissions (kt)	EN.ATM.CO2E.KT		11.00	11.00	18.34	22.00
Argentina	ARG	CO2 emissions (kt)	EN.ATM.CO2E.KT		48,815.10	51,180.32	53,695.88	50,083.89
Armenia	ARM	CO2 emissions (kt)	EN.ATM.CO2E.KT		null	null	null	null

## Pivot(gif)

- Select a column , then **press and hold shift**, move till the last column.
- Then click pivot and then change the names

The screenshot shows the Power BI desktop interface. On the left, the 'Connections' pane shows a single connection named 'World\_Bank\_CO2'. The 'Sheets' pane lists various tables and visualizations, with 'CO2 (kt) Pivoted' being the currently selected sheet. The main workspace displays the 'CO2 (kt) RAW DATA (World\_Bank\_CO2)' table. The table has 56 fields and 248 rows. The columns are labeled: Country Code, Indicator Name, Indicator Code, 1960, 1961, 1962, 1963, 1964, and 1965. The data shows CO2 emissions in kilotonnes for different countries over time. A red box highlights the table area.

Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	null	null	null	null
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	null	null	null	null
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	414.37	491.38	689.40	707.73	839.74	1,008.43
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	550.05	454.71	1,180.77	1,151.44	1,224.78	1,188.11
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	2,024.18	2,280.87	2,464.22	2,082.86	2,016.85	2,174.53
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	59,563.99	65,151.10	74,357.71	87,895.98	103,196.28	123,828.20
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	11.00	11.00	18.34	22.00	18.34	22.00
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	48,815.10	51,180.32	53,695.88	50,083.89	55,727.40	58,866.35
EN	CO2 emissions (kt)	EN.ATM.CO2E.KT	null	null	null	null	null	null

## Observation:

1. After pivoting for each country and year we have a row.

## Q. How do you deal with null in the Value column?

The screenshot shows the Power BI desktop interface with a red border around the main workspace. On the left, the 'Connections' pane shows a connection to 'World\_Bank\_CO2' (Microsoft Excel). The 'Sheets' pane lists various data processing steps: 'Cleaned with Data Interpreter' (checked), 'About', 'CO2 (kt) for Split', 'CO2 (kt) Pivoted', 'CO2 (kt) RAW DATA', 'CO2 Data Cleaned', 'CO2 Per Capita (Pivoted)', 'CO2 Per Capita RAW DATA', 'Metadata - Countries', 'New CO2(KT) Pivoted', 'CO2 (kt) for ...lit A1:E10000', 'CO2 (kt) Pi...d A1:E10000', 'CO2 Data Cl...d A1:F10000', 'New Union', and 'New Table Extension'. The main workspace displays a table titled 'CO2 (kt) RAW DATA (World\_Bank\_CO2)' with 12896 rows. The table has six columns: 'Country Name', 'Country Code', 'Indicator Name', 'Indicator Code', 'Years', and 'Values'. All the 'Values' cells in the table are populated with the word 'null'. There is also a note at the top right of the workspace saying 'Need more data?' and 'Drag tables here to relate them. [Learn more](#)'.

Country Name	Country Code	Indicator Name	Indicator Code	Years	Values
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1960	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1961	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1962	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1963	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1964	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1965	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1966	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1967	null
Aruba	ABW	CO2 emissions (kt)	EN.ATM.CO2E.KT	1968	null

### Observation:

1. The null values are being from our dataset.
2. We easily set range for our null values.

## Coming back to original dataset Sample-Superstore

**Problem Statement:** Analyze the factors that influence the sales and profit of the stores.

- Q1. Which state shows more profit and sales?
- Q2. What category/subcategory shows more profit and sales?
- Q3. What is sales and profit over the time ?

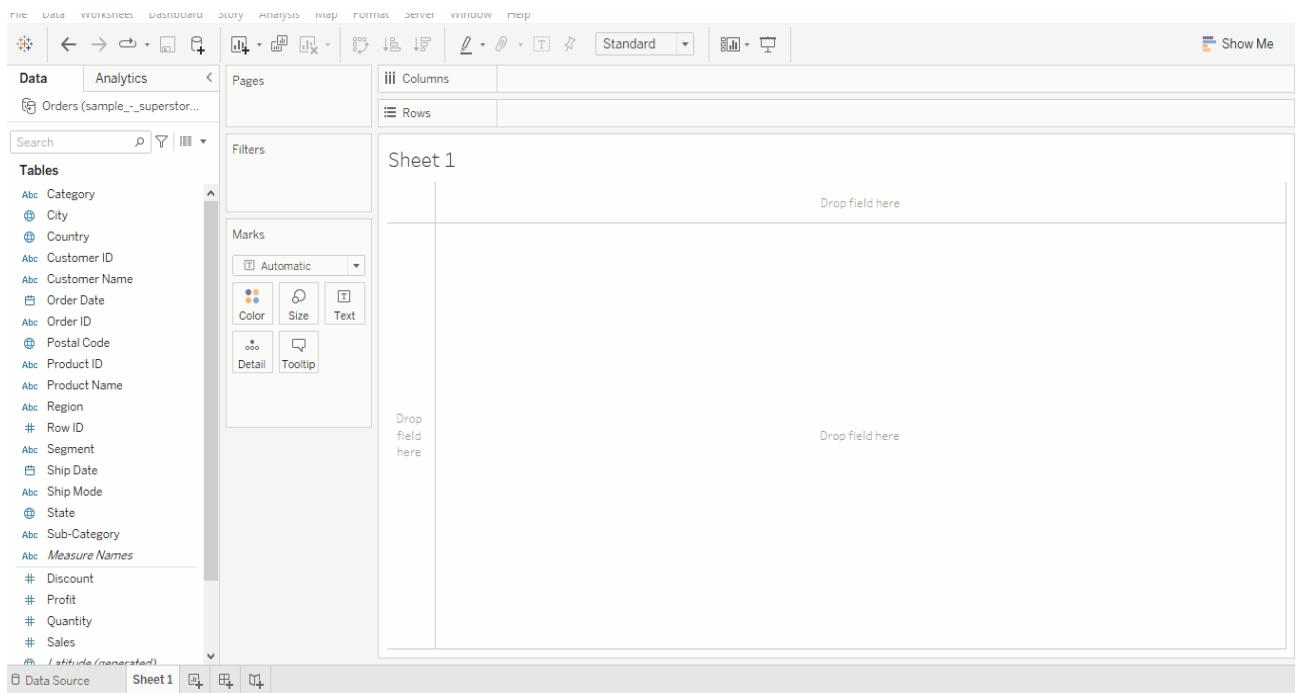
- Click on sheet button below to reach analysis page

The screenshot shows the Tableau desktop interface with the 'sample\_-\_superstore' dataset loaded. On the left, the 'Connections' pane shows the local connection. The 'Sheets' pane lists 'Orders', 'People', 'Returns', 'New Union', and 'New Table Extension'. A blue arrow points from the 'Sheets' pane towards the bottom navigation bar. The main workspace is titled 'Sheet 1' and contains a blank canvas with three 'Drop Field here' placeholder boxes. The top menu bar includes File, Data, Window, and Help. The bottom navigation bar includes 'Data Source' (with a dropdown arrow), 'Sheet 1' (which is highlighted with a blue border), and other sheet icons.

- Let's see profit of each state in US
- By dragging the country to the sheet, the tableau understands its geographical location.
- Now we want states, so drag them on a US map, it shows all the states.

Q. On what basis, can I differentiate b/w those states of the US?

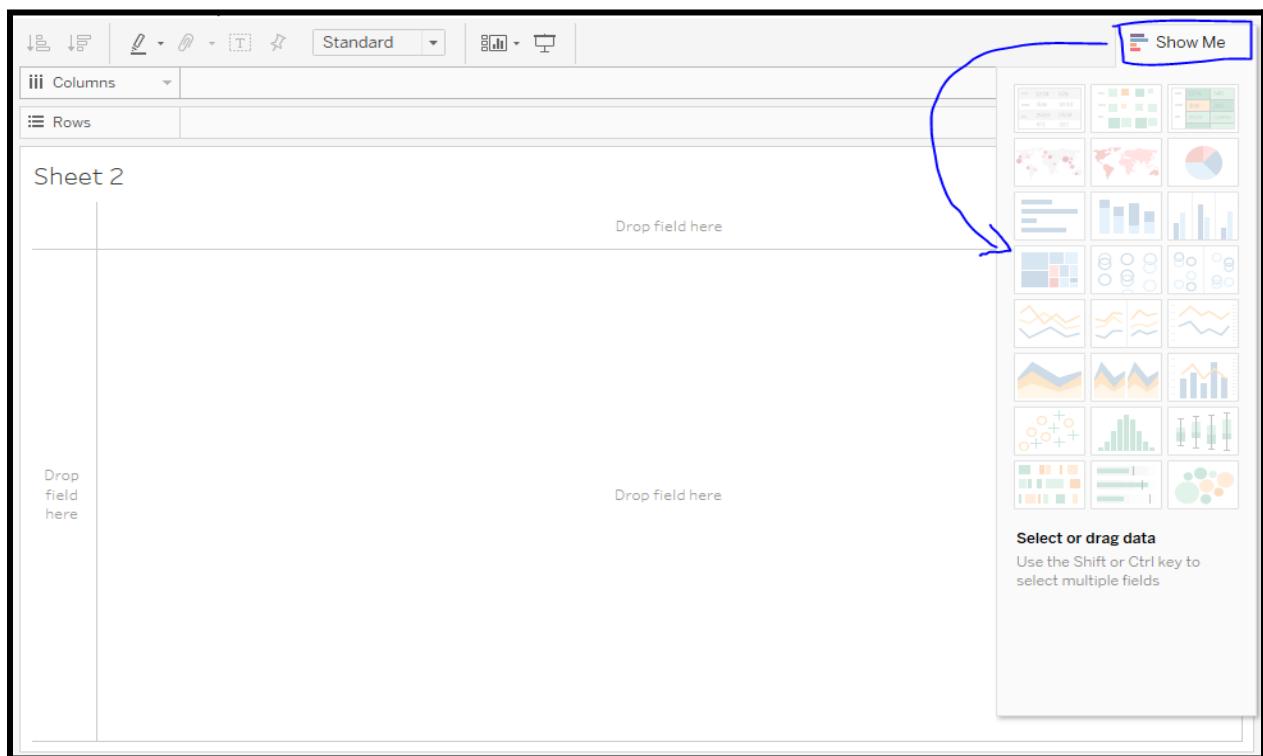
- Look at the section called **Marks**, drag the **profit** to **color under the Marks section**.
- You would find a horizontal bar on the left side which shows the profit in different states.
- We can also label our states by dragging it to **Label under Marks section**.



### Observation:

1. Hue Legend is displaying profit in each state.
2. How **labeling** is done **under marks section**

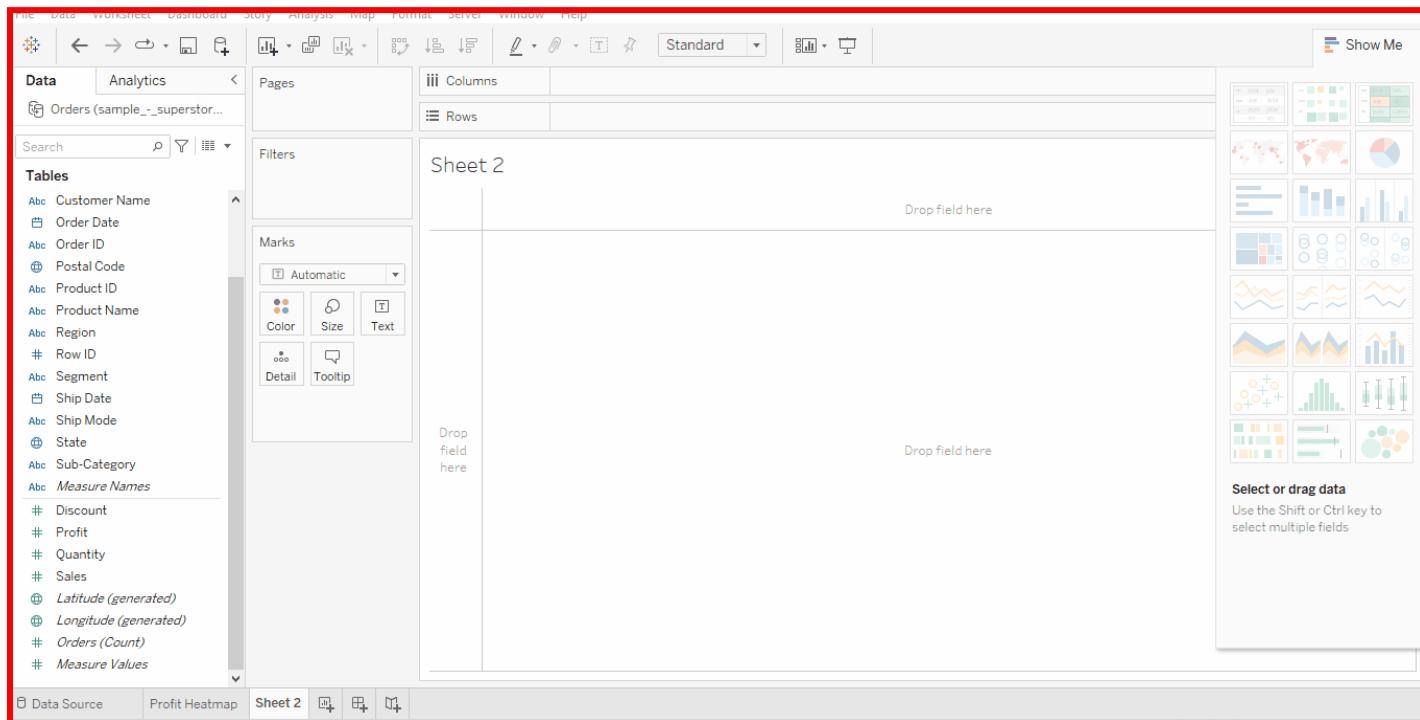
- As of now we saw Profit in each state, but we also want **incorporate sales** in our viz. For that we will use a **Tree map**.
- If you see our tree map is hidden, in order to use we have drag dimensions and measures.



#### Observation:

1. Viz under Show Me will be activated, once we dragged reasonable dimension and measures on our sheets.

- After creating a treemap, the size of boxes are governed by **sales**.
- There are 10 negative values shown in the corner below but they are not being shown cuz size of boxes cannot be negative.



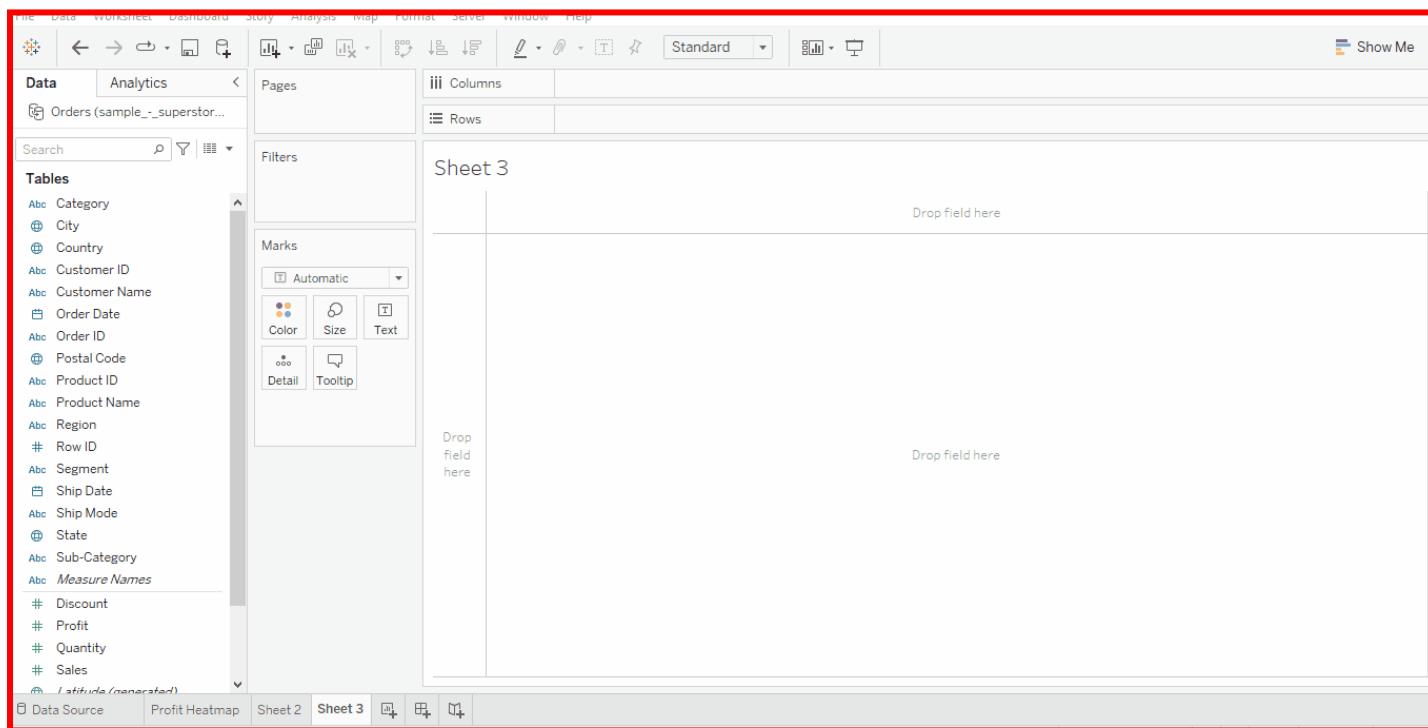
### Observation:

1. The first question of our analysis is done and similarly we can do the 2nd question.
2. Negative values are not displayed.
3. Automatic labeling, coloring, sizing of boxes are done as we selected **TreeMap**

- Over the time we will observe our **sales and profit** using **line chart**



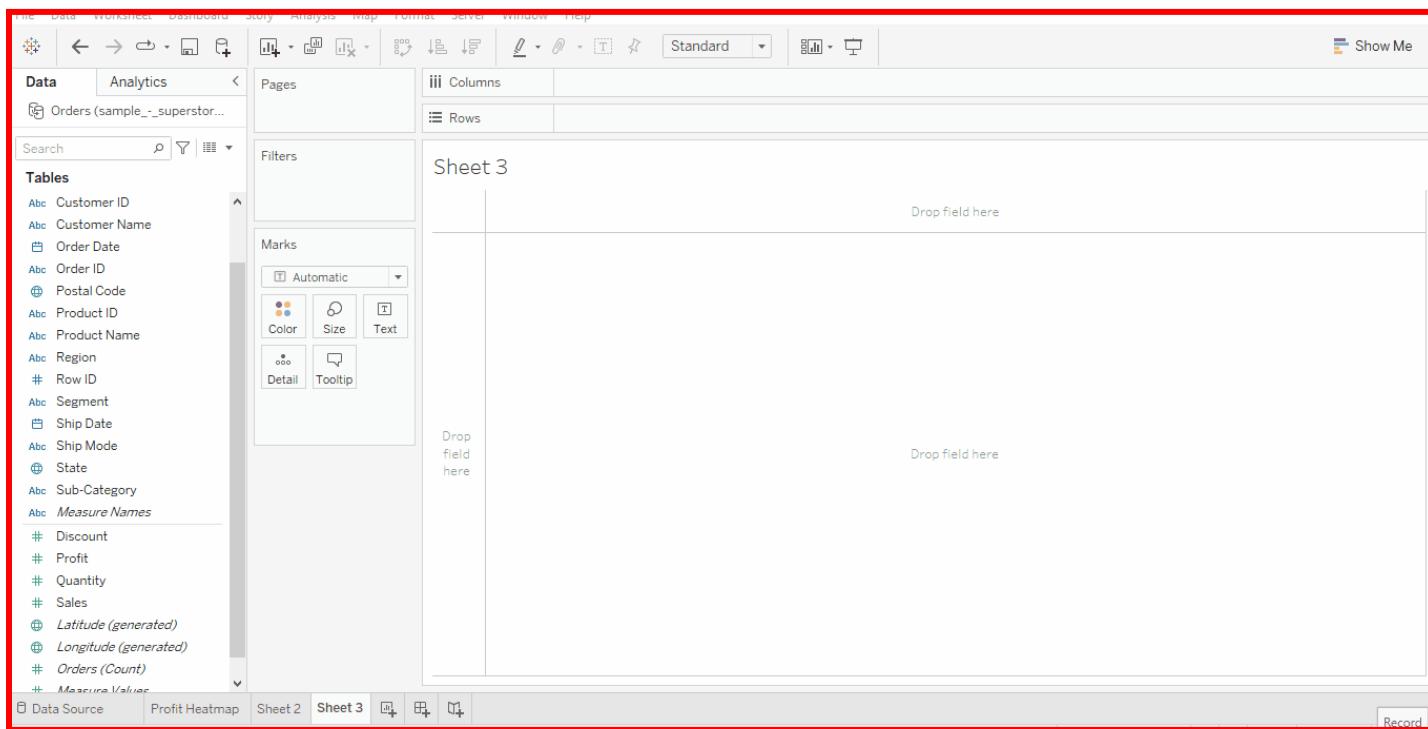
- When drag **orderdate** to column in the sheet, it is aggregated at the level of year, but we want to see monthly sales over years.
- So we expanded orderdate, saw **2 options** as months in the list appeared.
- We will choose **Month** option with **May 2015(indicates years at level of months)** and not **Month** option with **May (indicates only particular month but for all the years )**



### Observation:

1. We can choose the aggregation level of dates according to our requirement

- Now we will build our line chart for both profit and sales.
- Observe how we label our plot and then format it.



### **Observation:**

1. Comparison of sales and profit
2. Highest profit in Dec 2016
3. Legends displaying sales and profit

Q. Show me inferences where profit was exceptionally higher as a percentage of revenue and for which sub-category?

#### Approach/Intuition building :

- If I am selling an item for 100 rupees, tell me the instances where profit margin is 80 rupees, i.e., profit is way too much, which are the instances and for which subcategories?
- Which plot would be useful to represent each instances (order ids)?
- Therefore the question boils down to, which are those order ids for which we see the highest profit margin?

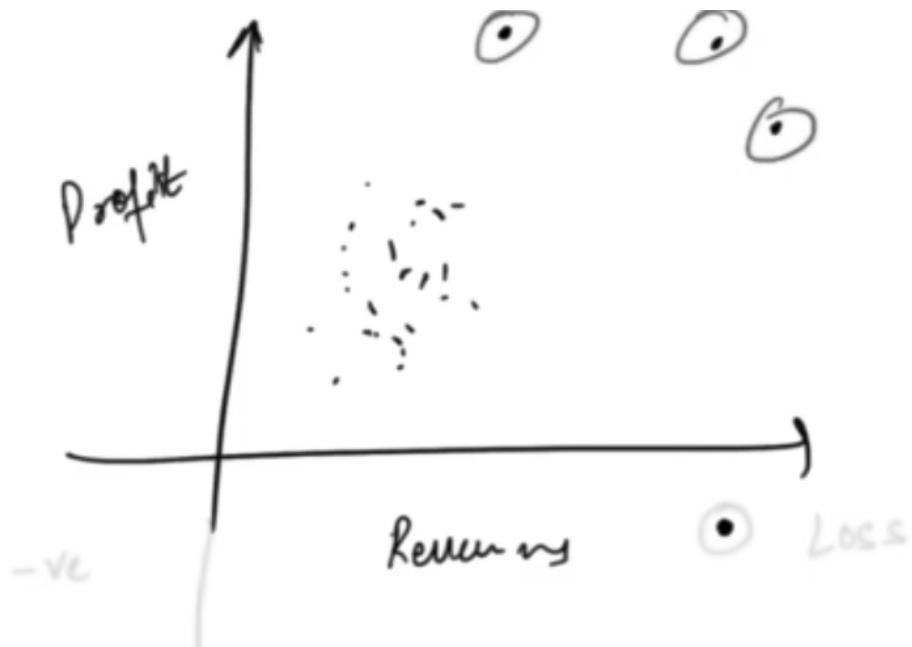
Solution :

We will use scatterplot.

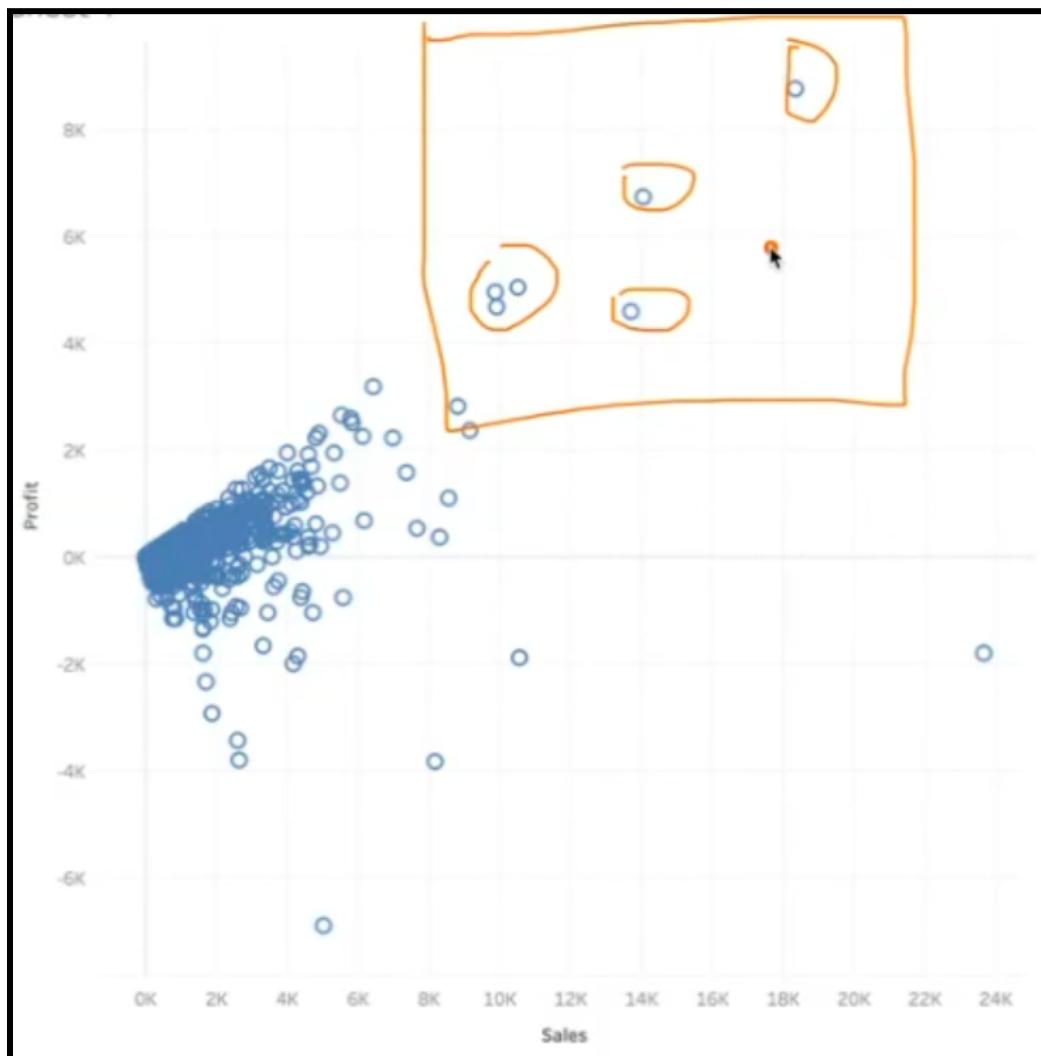
How do we know we should use scatterplot?

The question gives us the hint to find the **exceptional** data points.

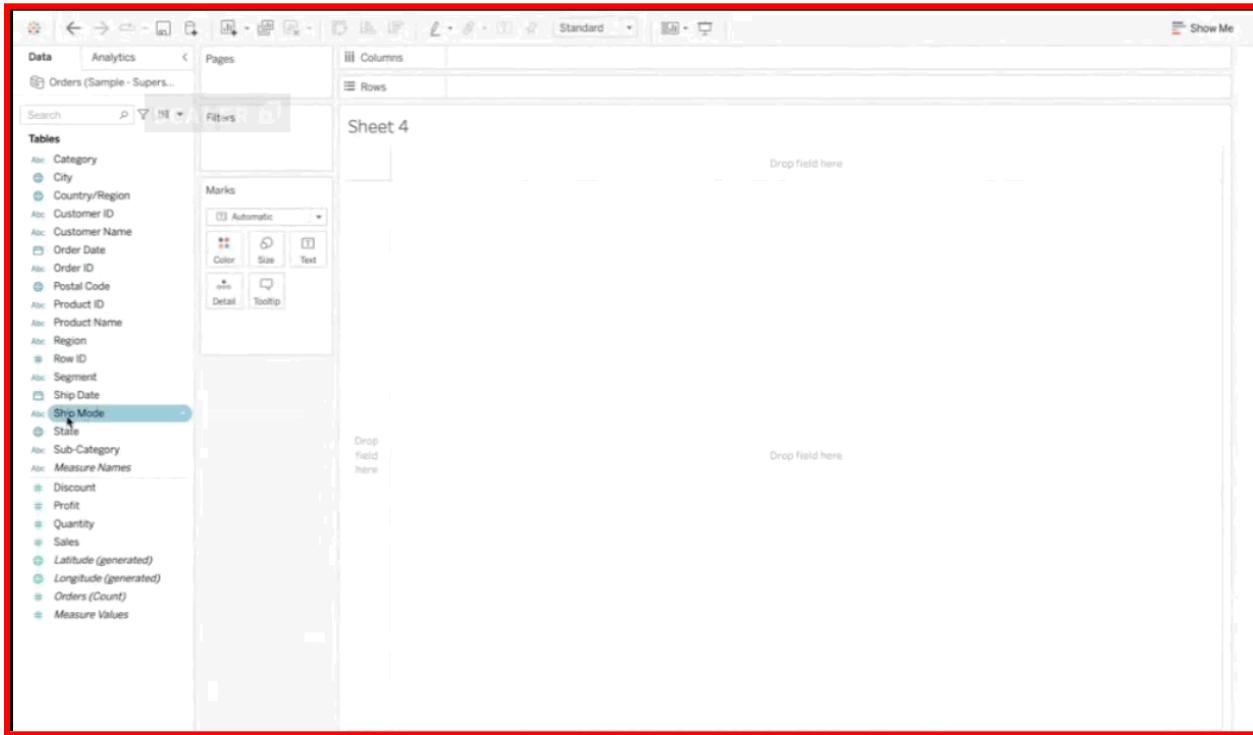
Exceptions/Outliers/Extreme values suggest that we should use scatterplot.



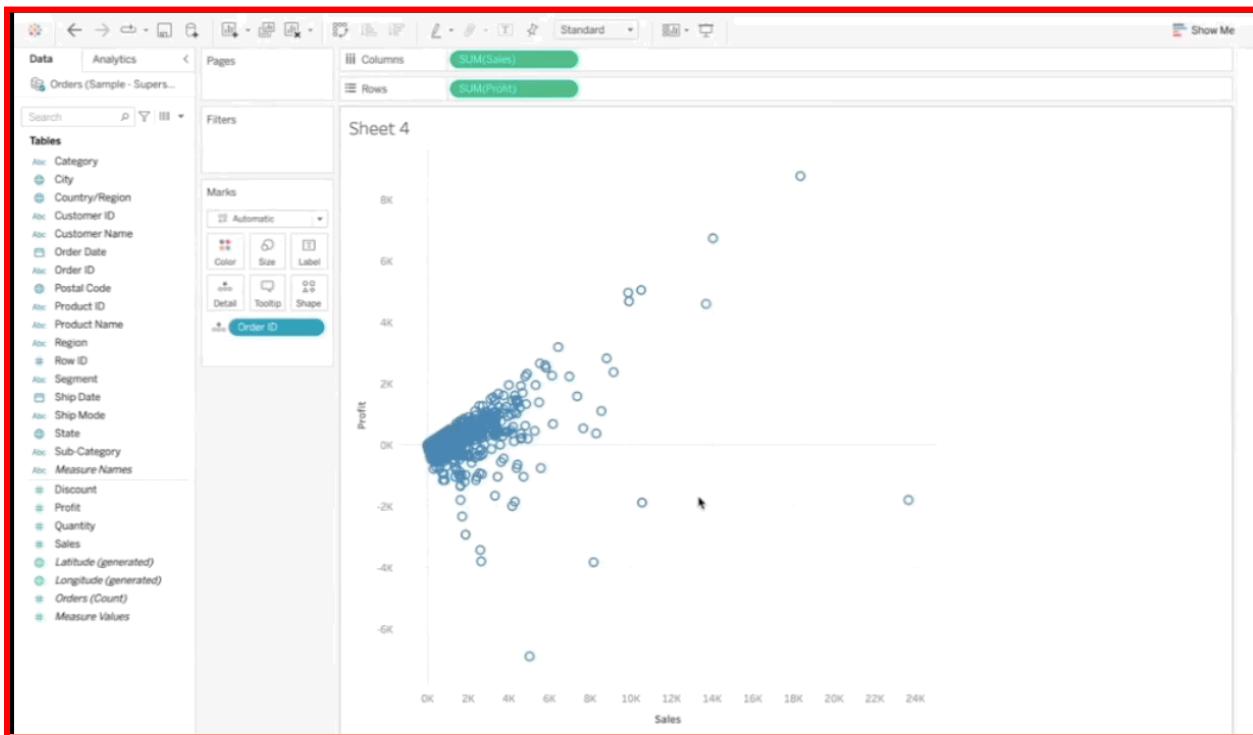
- The data points in the negative profit are the loss making orders.
  - The data points within the box below depict those orders in which we are interested.
  - We drag and drop
    - Sales on *Column* and
    - Profit on *Rows*
- to get the following scatter plot in Tableau worksheet.



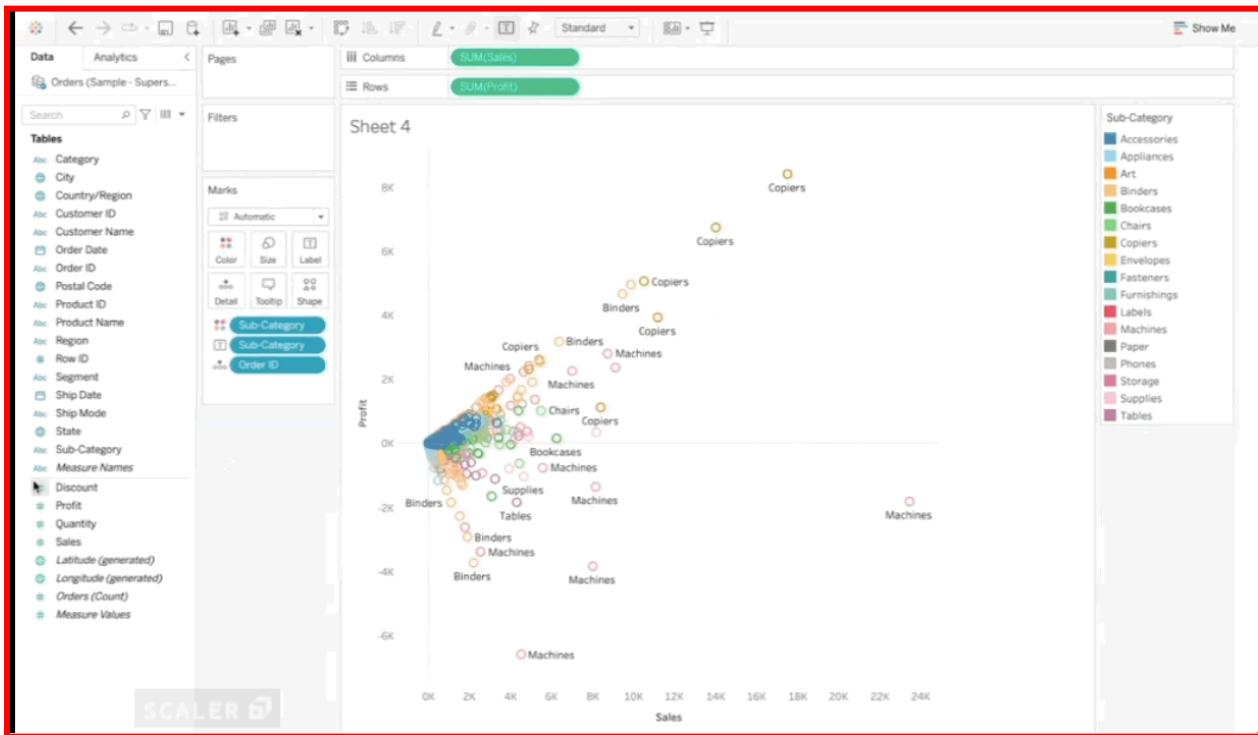
## Steps (Gif) :



Segregating the sub categories with respect to colors



Distinguishing the categories with respect to the shapes :



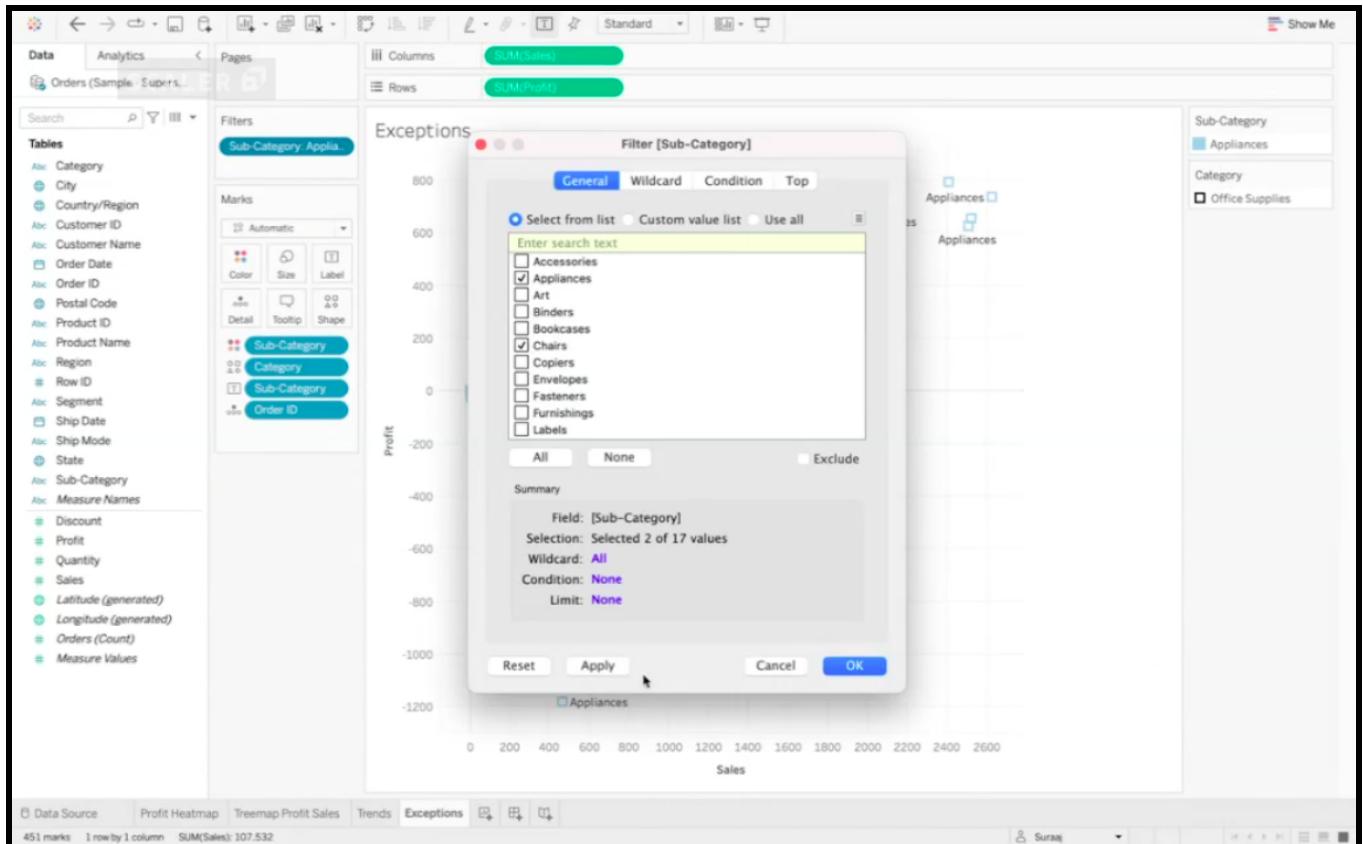
Inferences :

- We see that the instances present in the square box are copiers from Technology and Binders from office supplies
- While technology category has been exceptionally high loss making

Using Quick Filter to filter out the sub categories :

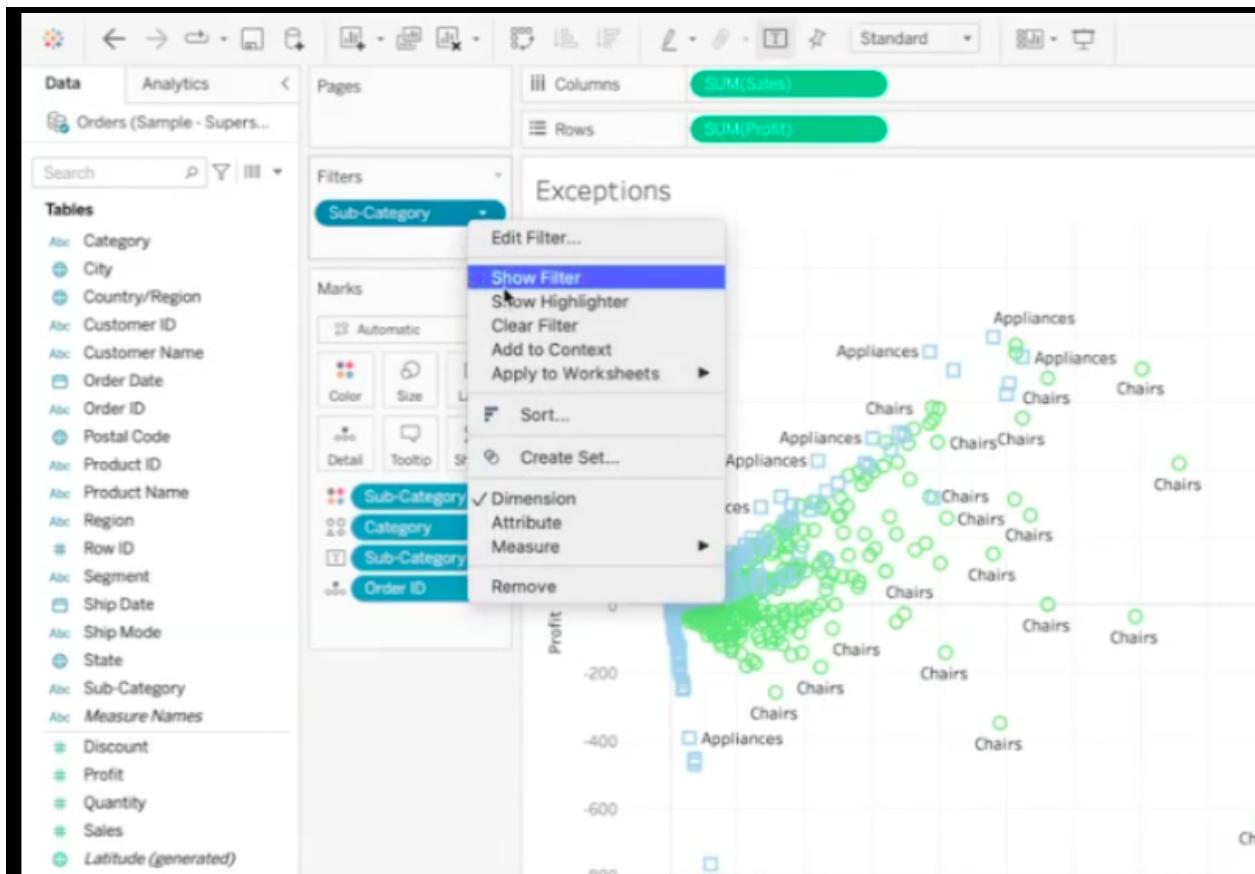
Method 1 :

- Drag the sub category in to the Filters Marks card
- Every time we select the sub categories we want to filter, click apply and ok.

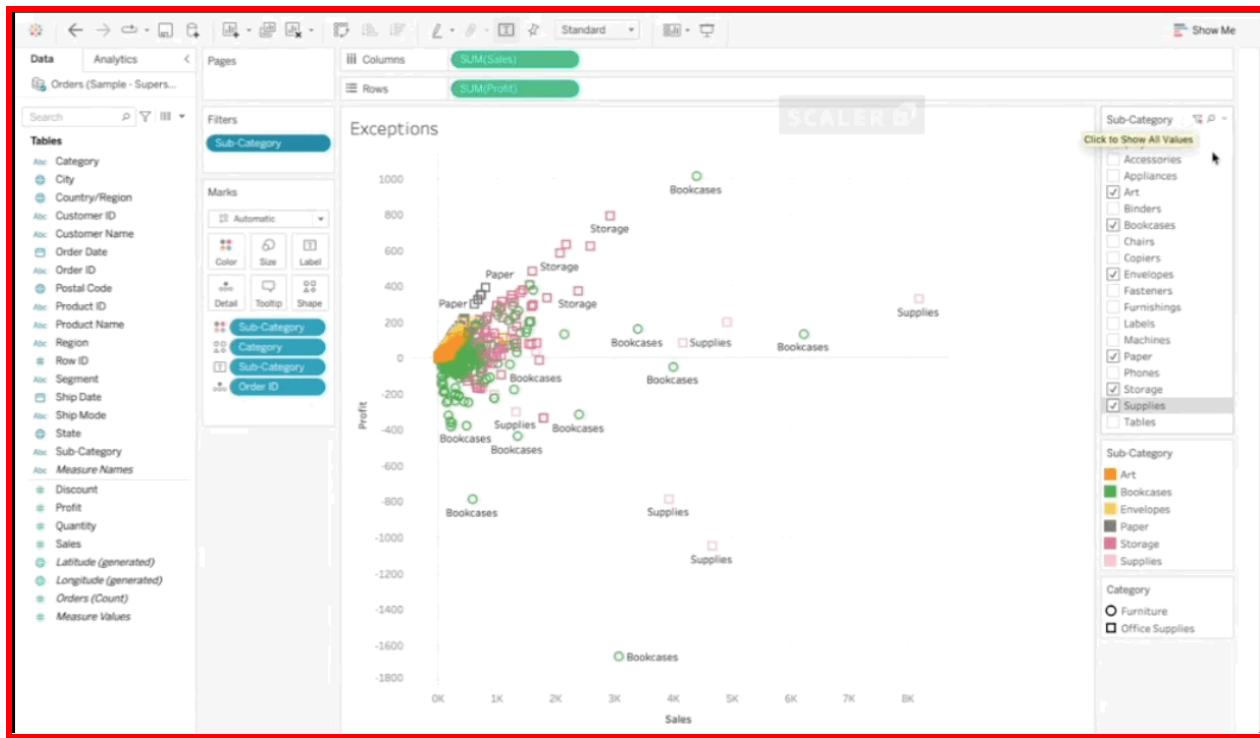


### Method 2 : (Recommended) - Refer the screenshots below :

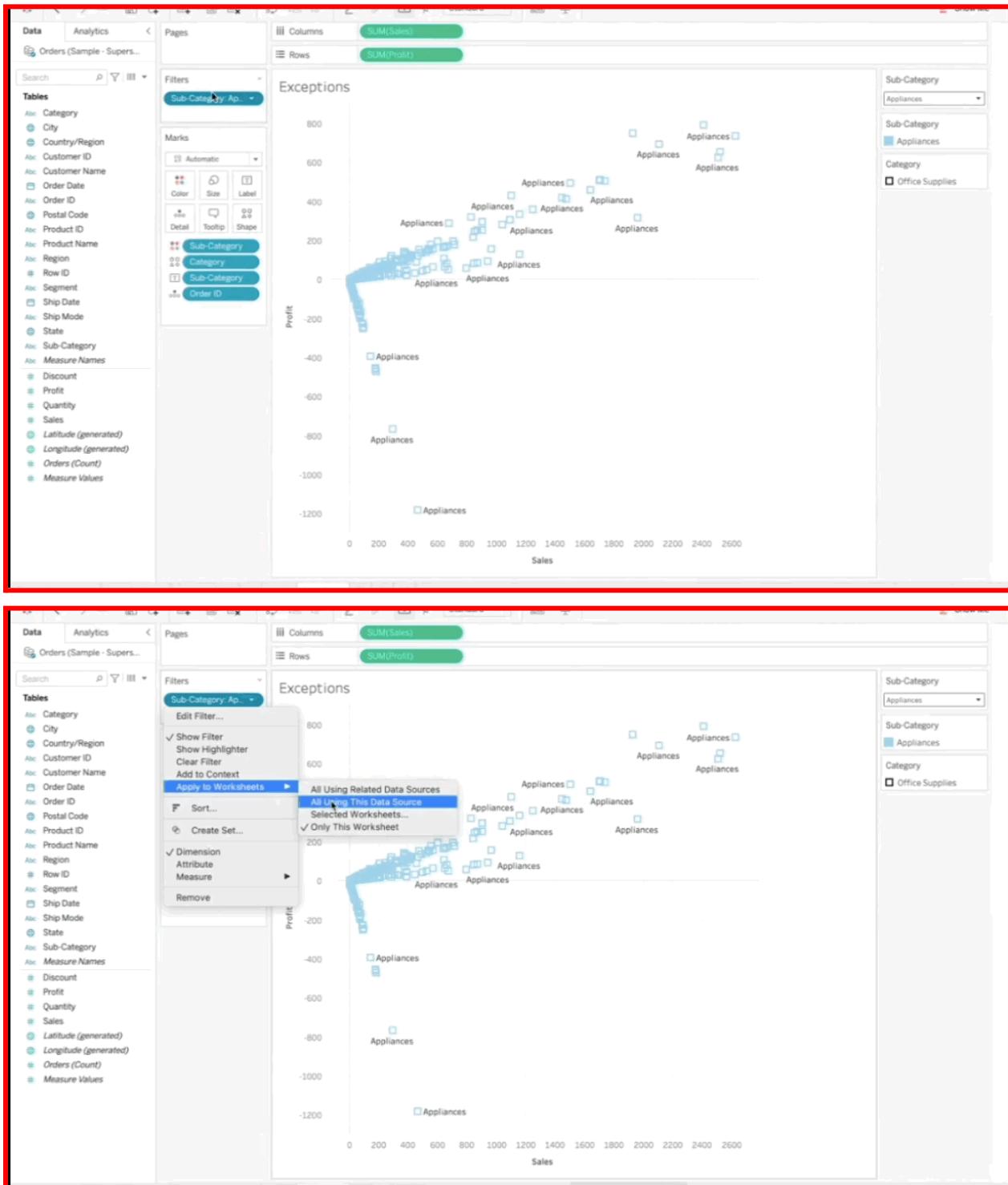
- Drag the sub category in to the Filters Marks card
- Right click on the filter and click Show Filter to give users easy filtering control on the right hand side.



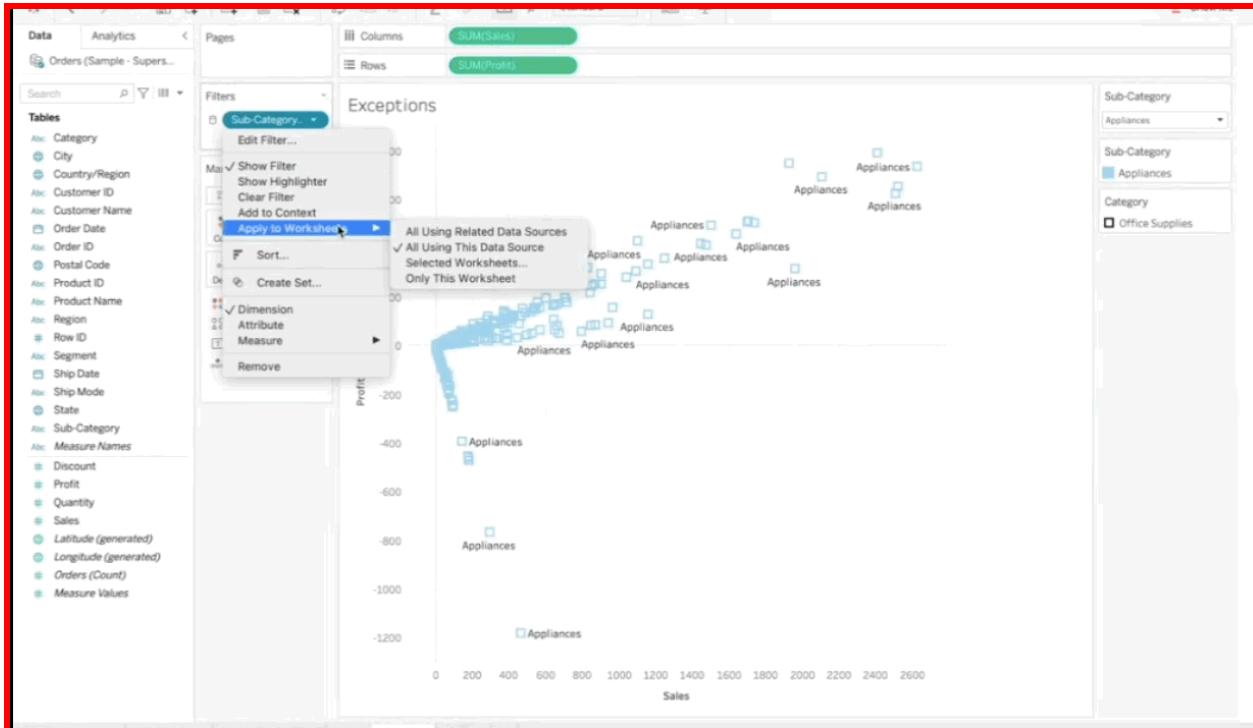
To beautify the filter, click on *multiple value drop down*, it becomes a drop down filter.



Next, in order to filter all the sheets by the same field, we do the following :

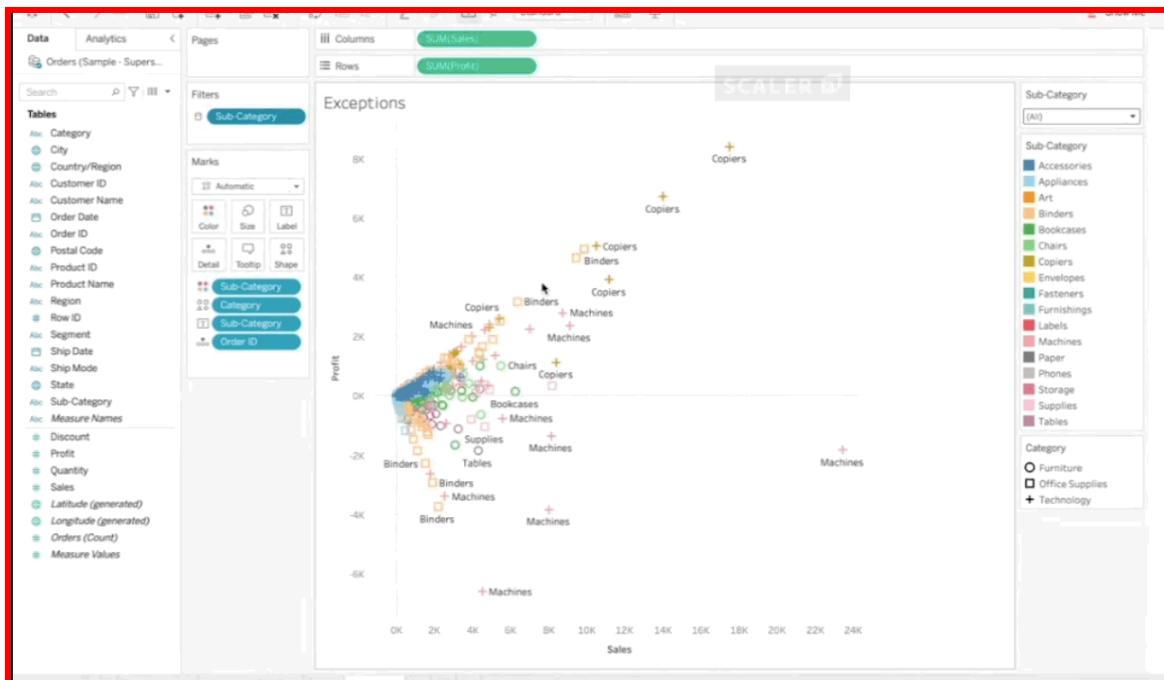


Apply filter on selected worksheets :

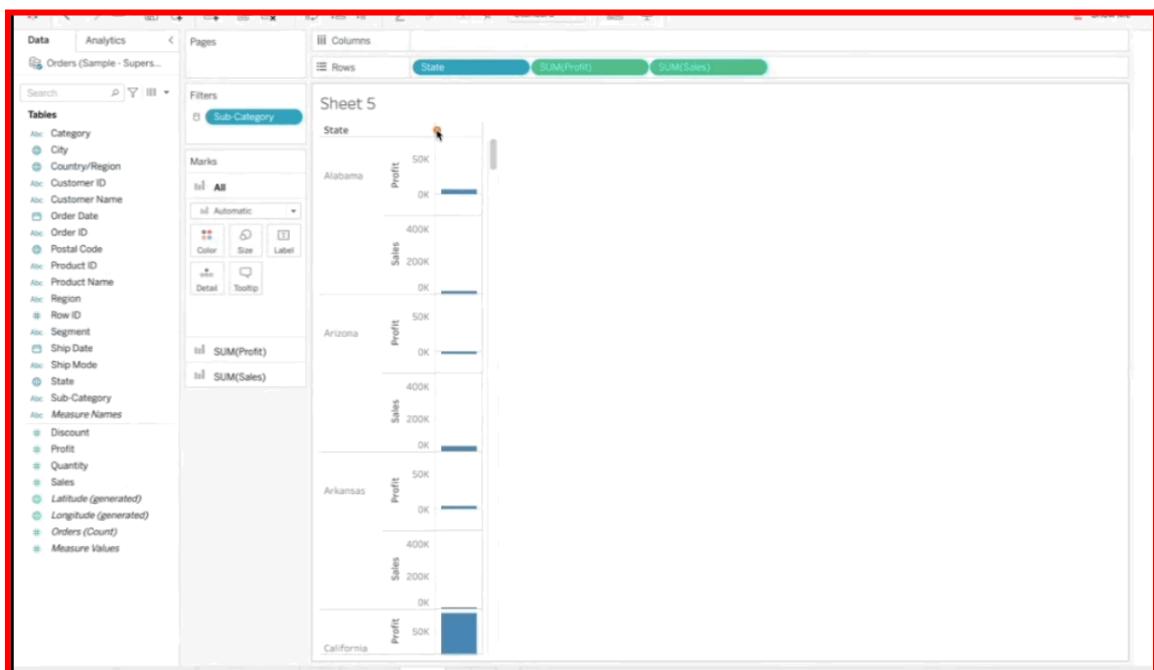


## Note :

- What if we want to do an average of the sales and not sum?



- How to convert continuous variables to discrete?



Q. Show the top 10 states by profit

This screenshot shows the Tableau interface with the 'Orders (Sample - Superstore)' data source selected. The 'Data' tab is active. In the 'Columns' shelf, there is one column named 'State'. In the 'Rows' shelf, there are two measures: 'SUM(Profit)' and 'SUM(Sales)'. The 'Marks' card is set to 'Automatic'. The 'Filters' card shows a dropdown menu for 'Sub-Category' which is currently set to 'All'. The 'Tables' shelf on the left lists various dimensions and measures, with 'State' being the only dimension currently selected.

State	Profit	Sales
Alabama	5,786,8253	19,510,64
Arizona	-3,427,9246	35,282,001
Arkansas	4,008,6871	11,678,13
California	76,381,3871	457,687,631500002
Colorado	-6,527,8579	32,108,118
Connecticut	3,511,4918	13,384,357
Delaware	9,977,3748	27,451,069
District of Columbia	1,059,5893	2,865,02
Florida	-3,391,301,700000	89,473,708000000
Georgia	16,250,0433	49,095,84
Idaho	826,7231	4,382,486
Illinois	-12,607,887	80,166,101
Indiana	18,382,9363	53,555,36
Iowa	1,183,8119	4,579,76
Kansas	836,4435	2,914,31
Kentucky	11,199,6966	36,591,75
Louisiana	2,196,1023	9,217,03
Maine	454,486	1,270,53
Maryland	7,031,1788	23,705,523
Massachusetts	6,785,5016	28,634,434
Michigan	24,463,1876	76,269,614
Minnesota	10,823,1874	29,863,15
Mississippi	3,172,9762	10,771,34
Missouri	6,436,2105	22,205,15
Montana	1,833,3285	5,589,352
Nebraska	2,037,0942	7,464,93
Nevada	3,316,7659	16,729,102
New Hampshire	1,706,5028	7,292,524
New Jersey	9,772,913800000	35,764,312
New Mexico	1,157,1161	4,783,522
New York	74,038,5486	310,876,271
North Carolina	-7,490,912200000	55,603,164
North Dakota	230,1497	919,91

This screenshot shows the same Tableau interface as the first one, but with a 'Filter [State]' dialog box open over the data view. The dialog has tabs for 'General', 'Wildcard', 'Condition', and 'Top'. The 'Top' tab is selected, showing a dropdown menu for 'By field:' with 'Top' and 'Count' options. Below this, there is another dropdown for 'By formula:' with a similar 'Top' and 'Count' option. At the bottom of the dialog are 'Reset', 'Apply', 'Cancel', and 'OK' buttons. The background data view remains the same as in the first screenshot.

State	Profit	Sales
Alabama	5,786,8253	19,510,64
Arizona	-3,427,9246	35,282,001
Arkansas	4,008,6871	11,678,13
California	76,381,3871	457,687,631500002
Colorado	-6,527,8579	32,108,118
Connecticut	3,511,4918	13,384,357
Delaware	9,977,3748	27,451,069
District of Columbia	1,059,5893	2,865,02
Florida	-3,391,301,700000	89,473,708000000
Georgia	16,250,0433	49,095,84
Idaho	826,7231	4,382,486
Illinois	-12,607,887	80,166,101
Indiana	18,382,9363	53,555,36
Iowa	1,183,8119	4,579,76
Kansas	836,4435	2,914,31
Kentucky	11,199,6966	36,591,75
Louisiana	2,196,1023	9,217,03
Maine	454,486	1,270,53
Maryland	7,031,1788	23,705,523
Massachusetts	6,785,5016	28,634,434
Michigan	24,463,1876	76,269,614
Minnesota	10,823,1874	29,863,15
Mississippi	3,172,9762	10,771,34
Missouri	6,436,2105	22,205,15
Montana	1,833,3285	5,589,352
Nebraska	2,037,0942	7,464,93
Nevada	3,316,7659	16,729,102
New Hampshire	1,706,5028	7,292,524
New Jersey	9,772,913800000	35,764,312
New Mexico	1,157,1161	4,783,522
New York	74,038,5486	310,876,271
North Carolina	-7,490,912200000	55,603,164
North Dakota	230,1497	919,91

To sort the top 10 in descending order :

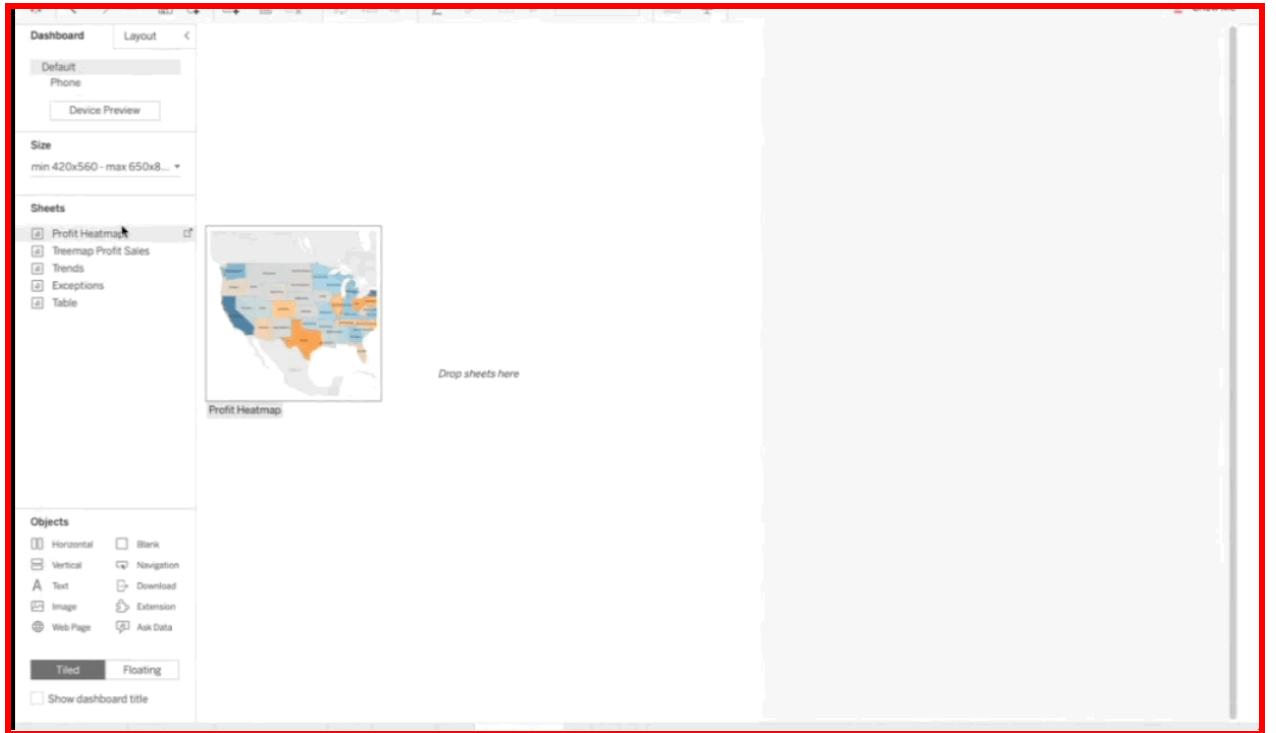
The screenshot shows the Tableau Data Prep interface. On the left, there's a sidebar with a 'Tables' section containing various dimensions and measures from the 'Orders (Sample - Superstore)' dataset. The main area displays a table with three columns: 'State', 'Profit', and 'Sales'. The rows show data for several US states, such as California, Delaware, Georgia, Indiana, Kentucky, Michigan, Minnesota, New York, Virginia, and Washington. The 'Sales' column is sorted in descending order, with California at the top. The interface includes a 'Filters' section with a dropdown for 'Sub-Category' set to 'State', and a 'Marks' section with options like 'Automatic', 'Color', 'Size', 'Text', 'Detail', and 'Tooltip'.

State	Profit	Sales
California	76,381,3871	457,687,631,500,002
Delaware	9,977,3748	27,451,069
Georgia	16,250,0433	49,095,84
Indiana	18,382,9363	53,555,36
Kentucky	11,199,6966	36,591,75
Michigan	24,463,1876	76,269,614
Minnesota	10,823,1874	29,863,15
New York	74,038,5486	310,876,271
Virginia	18,597,9504	70,636,72
Washington	33,402,6517	138,641,27

### Creation of Dashboard :

- Dashboard is a collection of the analytics sheets

Increase the dashboard width :



### To add the worksheets on the dashboard view :

- First click the Floating button on the left bottom to make the worksheets freely movable on the view.
- Drag and drop the worksheets on the view. And resize the worksheet to make them clearly understandable.

Screenshot of the dashboard builder interface showing the layout configuration screen.

**Dashboard Layout**

**Sheets**

- Profit Heatmap
- Treemap Profit Sales
- Trends
- Exceptions
- Table

**Objects**

- Horizontal
- Vertical
- Text
- Image
- Web Page
- Blank
- Navigation
- Download
- Extension
- Ask Data

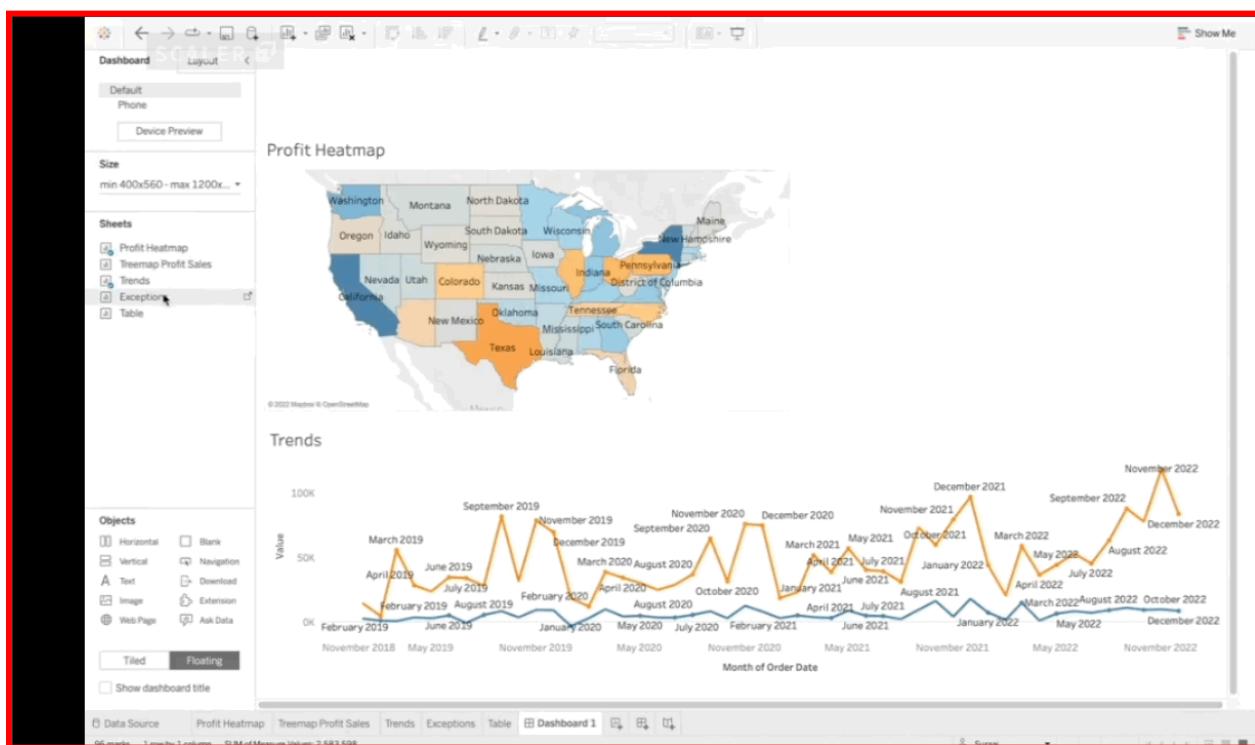
**Layout Options**

- Tiled
- Floating

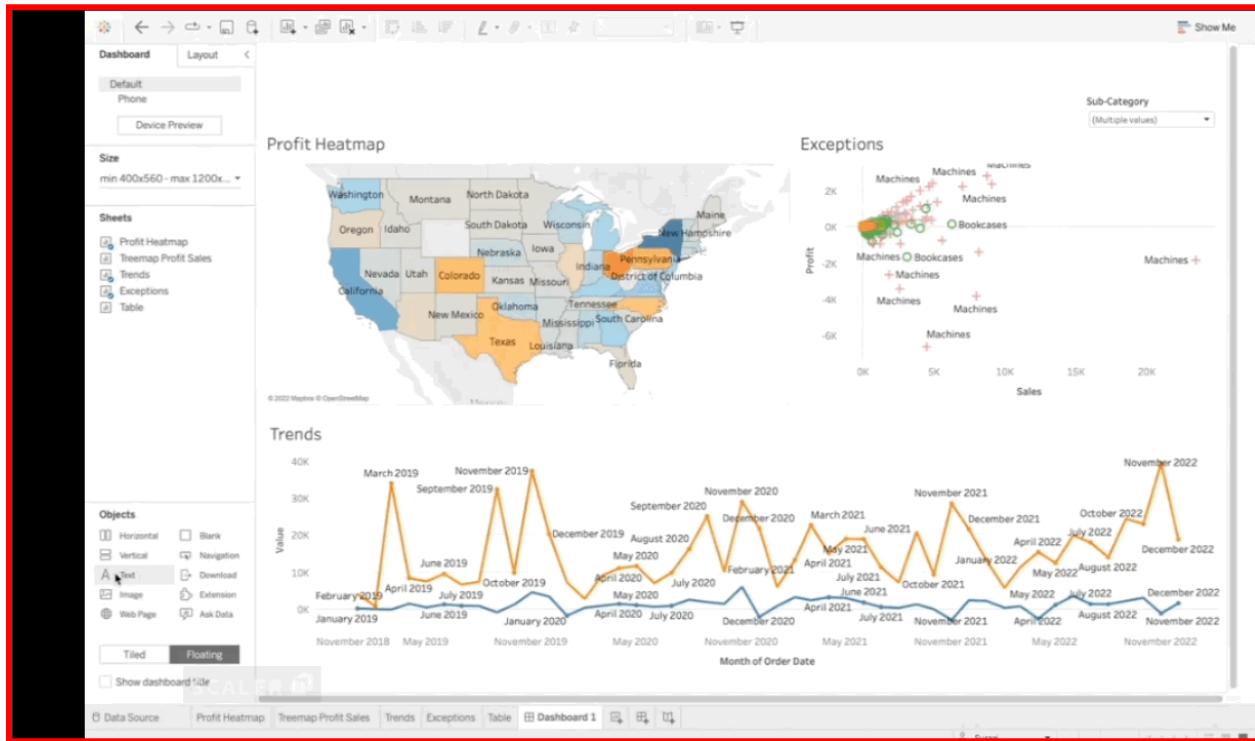
**Size**  
min 400x560 - max 1200x...

**Drop sheets here:**

**Toolbar:** Data Source, Profit Heatmap, Treemap Profit Sales, Trends, Exceptions, Table, Dashboard 1, etc.

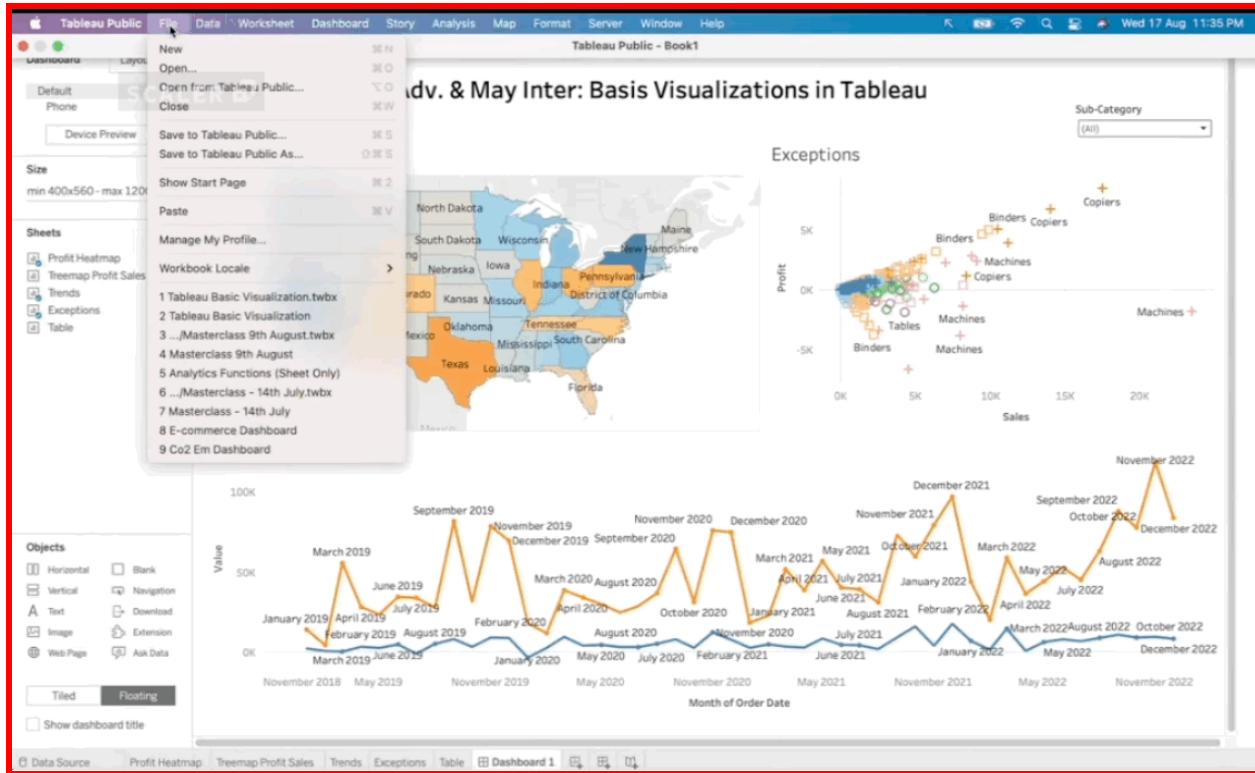


Add the dashboard title either by using the **Text** button (left bottom) or by using **Show dashboard title** (left bottom)



### Steps to publish the dashboard :

- Go to **File → Save to Tableau Public as**
- You have to login in to Tableau public online account in case you haven't logged in already.
- Save the dashboard(workbook) by a name.
- Data will be published on the public cloud.



### Note :

If we want to connect Tableau to a data source using Open Data Protocol (Odata) services.

URL to be pasted : <https://data.seattle.gov/OData.svc/28ny-9ts8>

