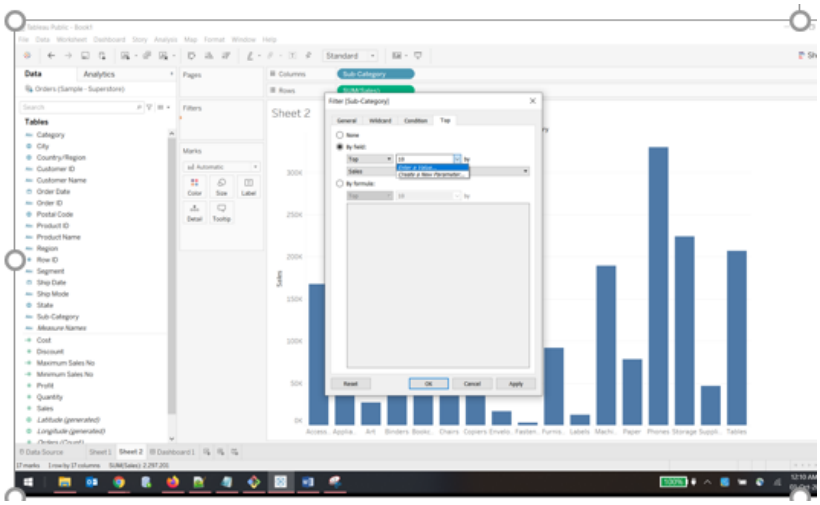
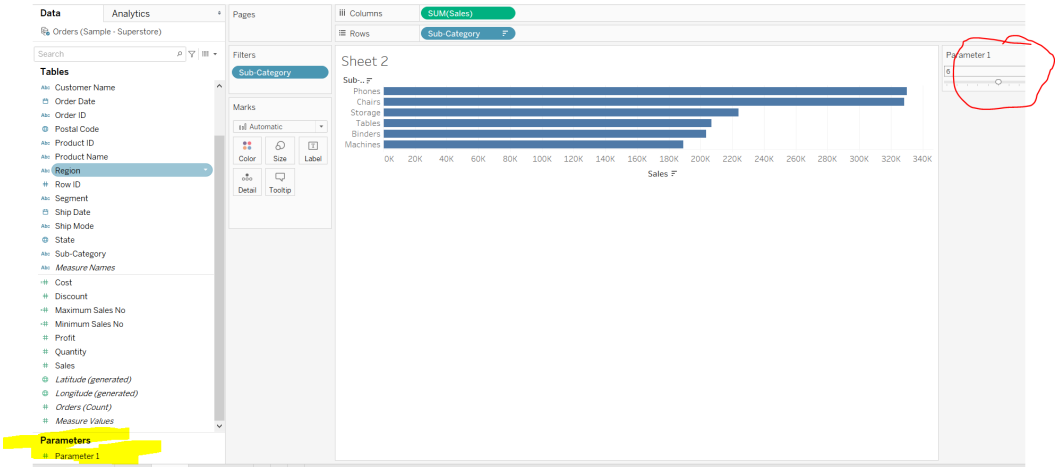
Tableau Notes

1. **Dimensions & Measures** – Dims are Qualitative and used for categorizing the data & Measures are Quantitative and can be aggregated.
2. **Data types in Tableau** - There are 6 Data types in Tableau.
    a. Text/String
    b. Date
    c. Date & Time
    d. Numerical
    e. Boolean
    f. Geographical
3. **Sorting**
4. **Filters**
    a. Filter the data by using a dimension
    b. Filter the date by using a measure
5. **Coloring the graph**
    a. Coloring the graph using a continuous field/measure
        When we try to filter the data using some column, which is having continuous values, the data will be colored with continuous color scale with single color.
    b. Coloring the graph using a Discrete Field/measure
        When we try to filter the data using some column, which is a dimension as it is a discrete column, the data will be colored with discrete color (means with different colors).
6. **Grouping the data**
    Grouping is nothing but combined certain category of elements in a group. This is done on a particular dimension, meaning grouping is dimension wise.
    In other terms, a group is nothing but combining certain elements in a dimension.
7. **Drill down & Hierarchies**
    a. Creating Hierarchies
    b. Delete Hierarchy
    c. Auto Defined Hierarchies Ex: Date Hierarchy
8. **Changing a field from Continuous to Discrete & vice versa**
    We can change the measure field from discrete to continuous and vice versa. This is done by clicking on the dropdown arrow on the particular measure from the rows/columns shelf.
9. **Parameters**
    Parameters are dynamic values, which can interact with the chart.
    a. Parameters with Filters
        We can create a filter with a parameter so that the user will have option to choose what value to pass in to the filter. So that the value that is passed in to the filter is a dynamic value.
        Parameter with filter is created as place some dimension, which you wanted as a filter in the filters tab then select the **"Top"** tab, select "By field", and then click on the drop down in the value field, so that we can see the option of "**Create a**

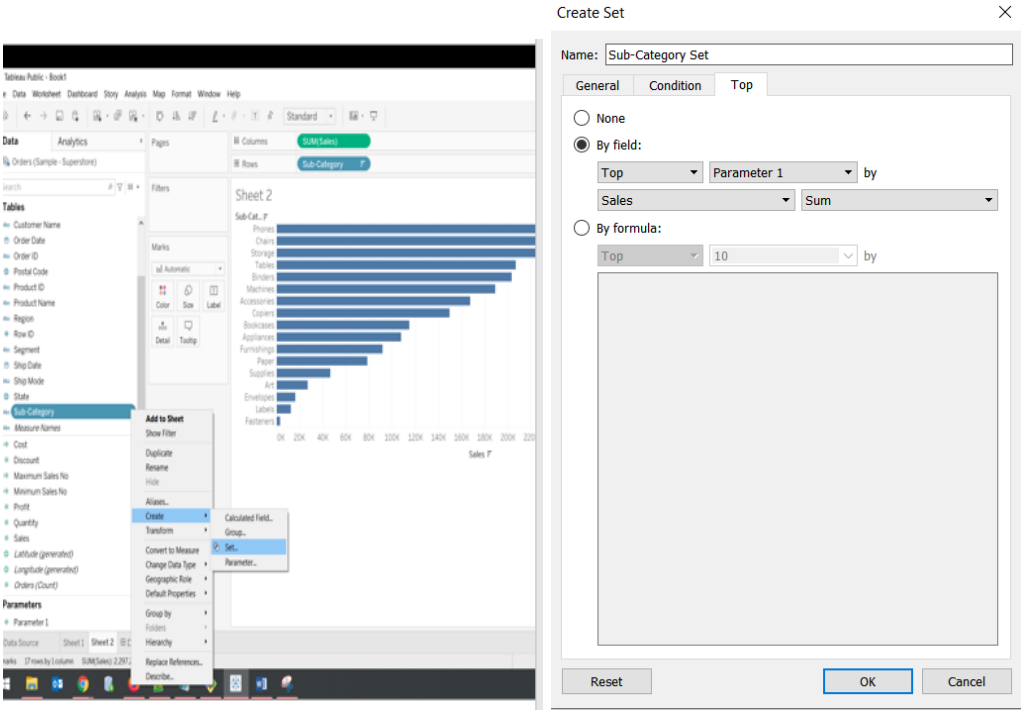
new parameter”. The newly created parameter is shown as a new element under Parameters in the left hand pane.





b. Parameters with Sets

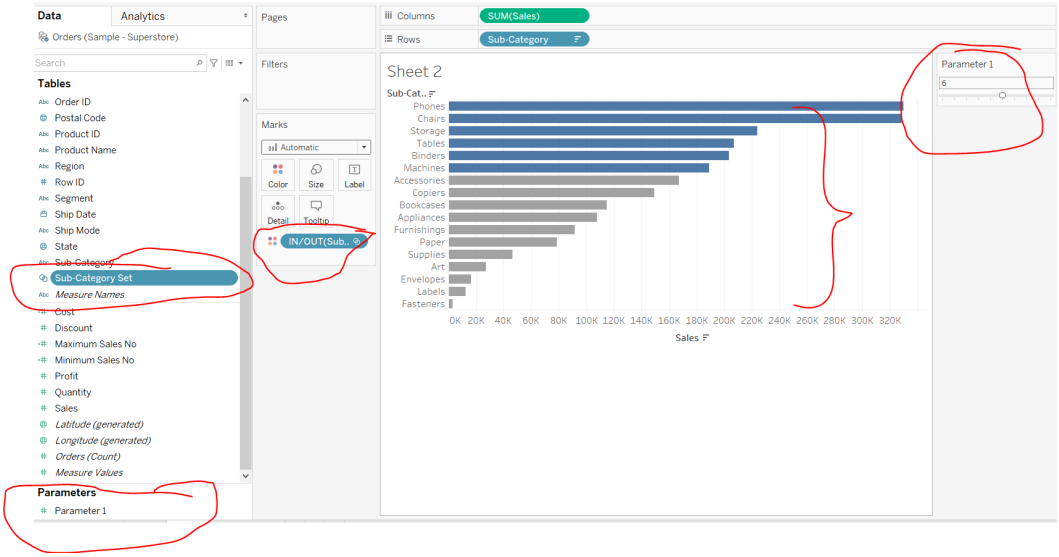
Sets are nothing but collection of few element. Sets can be created by clicking on the dim’s(whichever you wanted to make a set out of) drop down from the left side pane click on **“Create” ”Set”.**



Give the name of the set and then go to "Top" tab and then select the field option and then create or select an existing parameter as shown above. Now you can see the newly created set as an element in the dimension shelf of the left hand pane.

Now click on the dropdown of the parameter from the left pane and then click on "**Show Parameter Control".** Now drag and drop the newly created set in to the colors marker. So that, now if we select the parameter value as 7 then the data is shown in such a way that the top 7 subsets that are **"In to the set"** and other as greyed out indicating that they are **"Out of the Set".**

So here the user is dynamically creating a set by passing a parameter to the Set



10. Combine

Combine is used to combine 2 or more dimensions together, so that we can analyze the data in a more efficient way.
Steps to create a combined field: Click on dim-1 and then by holding CTRL, select the second dim and then click on the drop down of the 2nd dim then click on "**Create" "Combined Field".** We can see this combined field in the left hand pane.
Usage: To know the need for this feature, please check out the below video.
https://www.youtube.com/watch?v=snTmfMAPBNk&list=PLWPirh4EWFpGXTBu8ldLZGJCUeTMBpJFK&index=18

11. **Create Sets**

    Sets are basically custom fields are nothing but sub-set of data which is creating based on the some condition.

12. **Grouping**

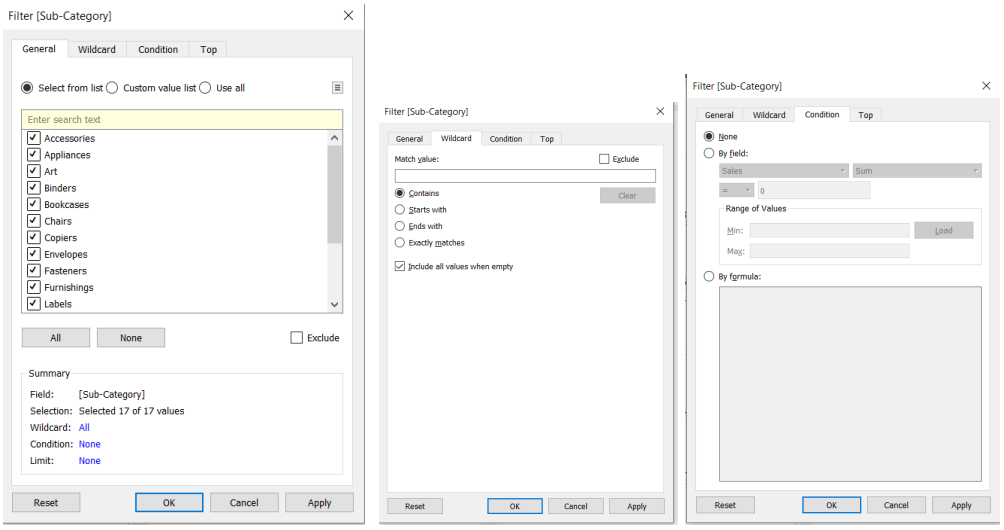
    Grouping is used for pack multiple data in to one package.
    Groups are useful for both correcting data errors (e.g., combining CA, Calif., and California into one data point) as well as answering "what if" type questions (e.g., "What if we combined the East and West regions?).
    You can create a group to combine related members in a field. For example, if you are working with a view that shows average test scores by major, you might want to group certain majors together to create major categories. English and History might be combined into a group called Liberal Arts Majors, while Biology and Physics might be grouped as Science Majors.

13. **Sets vs Groups**
14. **Set Actions**
15. **Titles and Caption**
16. **Export Options**
17. **Selecting and joining Multiple Data sources**
18. **Creating Folders in the Dimensions shelf**
19. **Data Blending**

    We can select 2 data sources and define a join between them. Now in a worksheet you will be able to see both the data sources. You can select any of the data sources first and then create an analysis. This data source will become Primary data source and a blue tick mark is shown on the data source name on the top left pane indicating it as a primary data source. Now, select the 2nd data source and create an analysis in the same sheet. This data source will become Secondary Data Source. Example: Office city sales data source and Coffe chain sales data set

20. Filters

    Under filter, we have General, Wildcard, Condition & Top tabs.
    General: it is used as a general filter to filter the discrete values selection manually
    Wildcard: It is used is filter with some expression like filter the products starting with 'A'. It is case sensitive. It also has stats with, ends with, contain & exactly matches.
    Condition: Used to filter using a condition like filtering with some other measure column like filter out the products which were sold less than 50k
    Top: It is used to select the top/bottom elements with the given criteria.

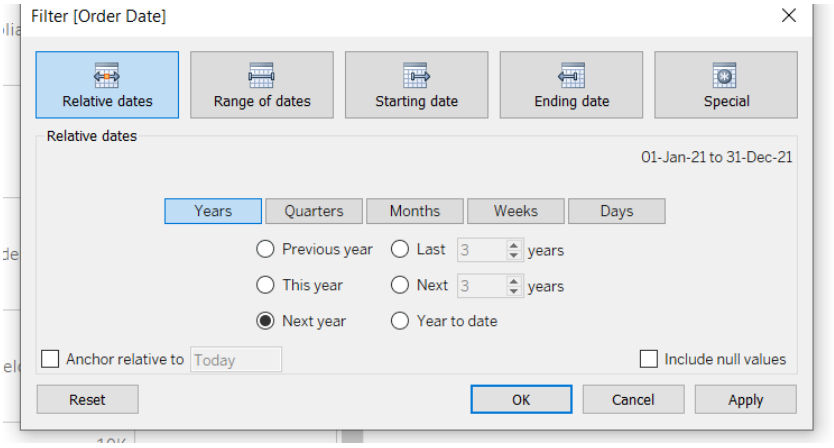


21. Date Filters

Here we have options like Relative Dates, Range of Dates, Starting Date, Ending Date & Special. As Tableau creates a date hierarchy automatically, here we have one more setting like whether we want to apply this filter at year level, Quarter level, month level, week level etc.

In the Relative Dates tab we have options like filter for last/previousyear/next 2/3/4/5 etc years/quarters/months etc.

In the Special tab we have the option to filter out the Null dates/Non-null dates.

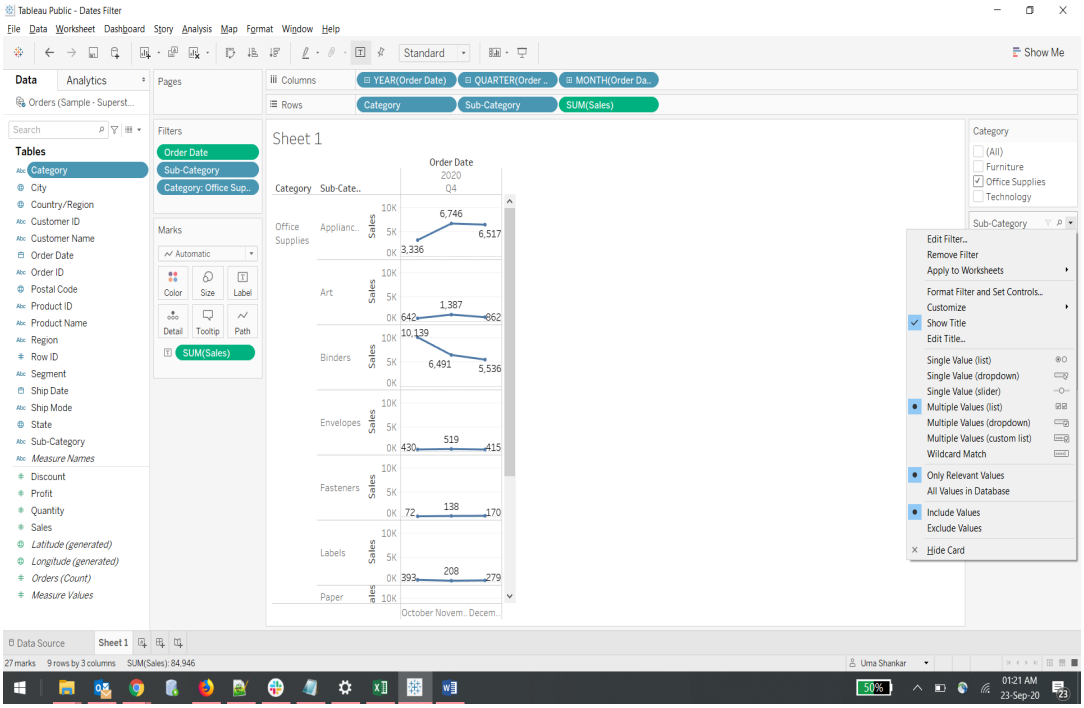


22. Interactive Filters

Here we create interactive filter layout on the right pane where we can select different layouts of the filter like slider, radio buttons, dropdown, choice buttons etc.

Steps: click on the dropdown arrow on a particular column and then select show filter. Then a filter layout is shown on the right hand side, where you can select a value to filter out. Change the layouts by clicking on the drop down arrow of the category

window(right hand side layout). We also have wildcard matching option in the layouts where we can enter an alphabet to select all those that match with that starting letter.

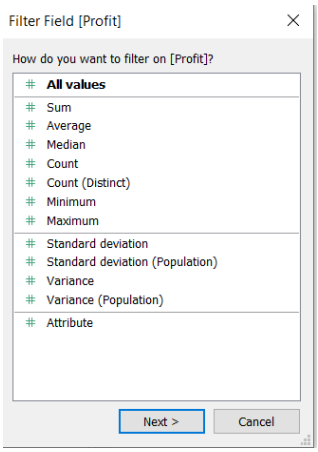


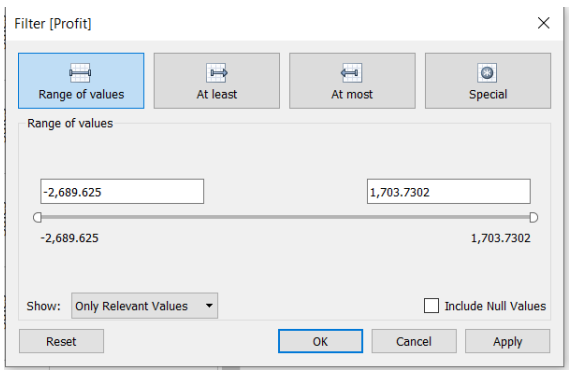
We can also 2 interactive filters and also set the second filter values as dependent on the first filter selection. Click on the down arrow of the second filter layout and select the Relevant values option.

23. Where Tableau Filters

Here we have filters based on a measure. We have 2 types Summary level and record level.

In summary level we select some aggregate function and define a filter on that.



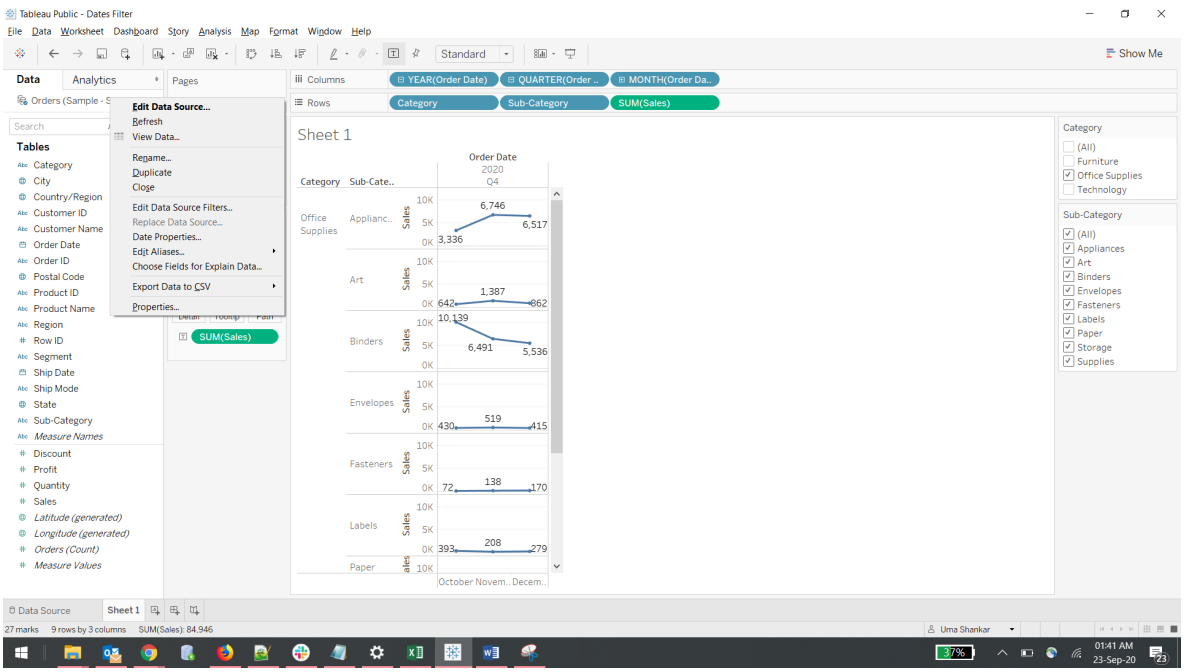


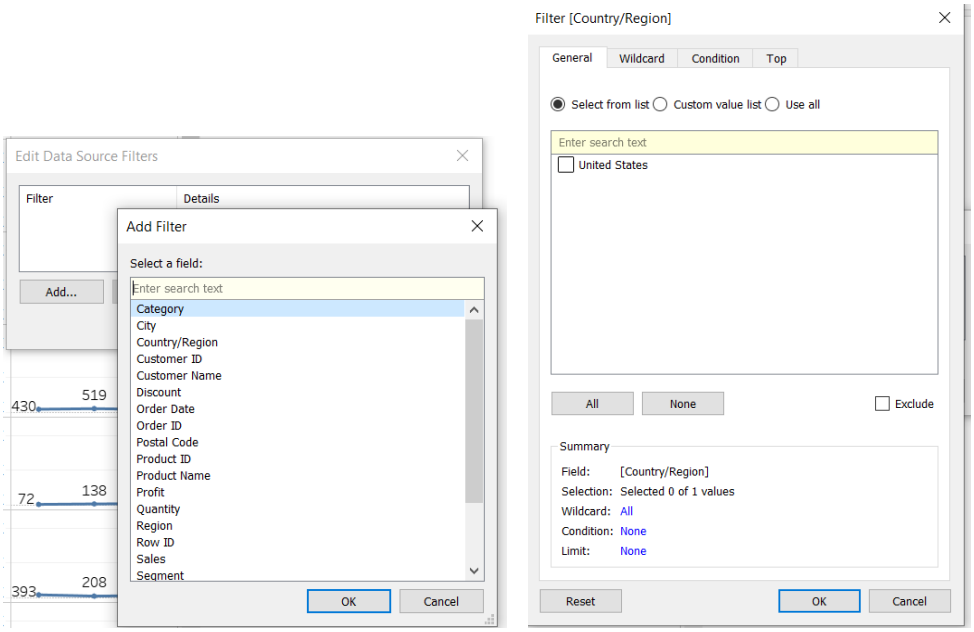
In the record level filter we will select All values option in the above 1st dialogue box and then we will define a filter saying that select the rows only that have certain criteria. Ex: Filter out the rows which have only profit atleast 0. As there are negative values(loss) in profit, we are not interested in seeing them in our analysis.

24. Data Source Filters

These are the filters which we define on the data source level. **This filter will applied at the workbook level, so it will be applied to all the sheets in the workbook.**

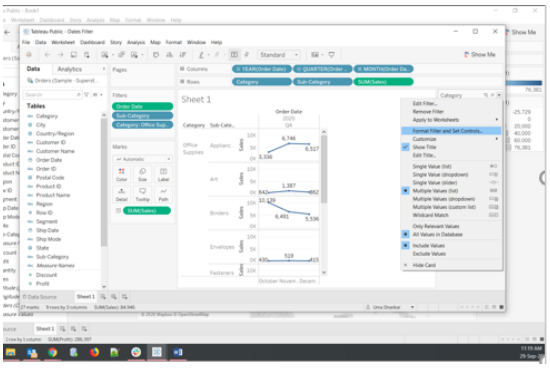
Ex: we want to work on the data related to Asia pacific region, then we rightclick on the data source on the top left hand side, then select **"Edit Data source Filters"** option. Now define the condition like Market = Asia-Pacific





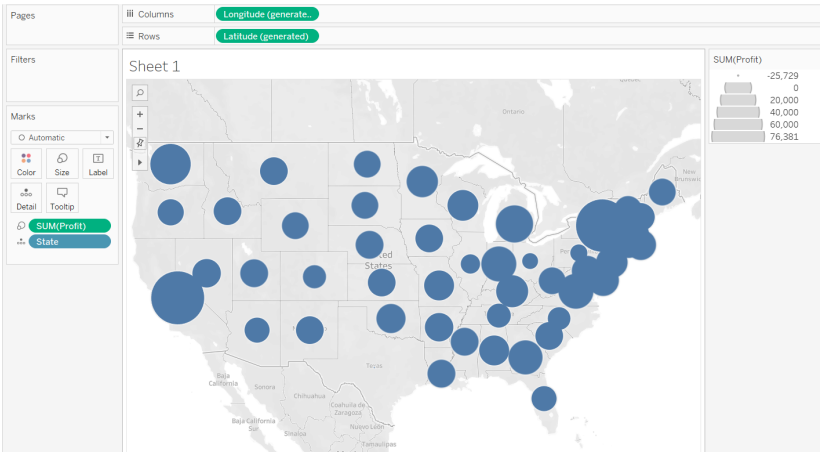
25. Format Filters

    Filters can be formatted to look in a nice way by using the “Format Filter and set controls” option, which comes by clicking on the right most down arrow of the filter pane. Some settings of the format filter are not visible at the worksheet level, but, they will be applied and shown in the workbook level.

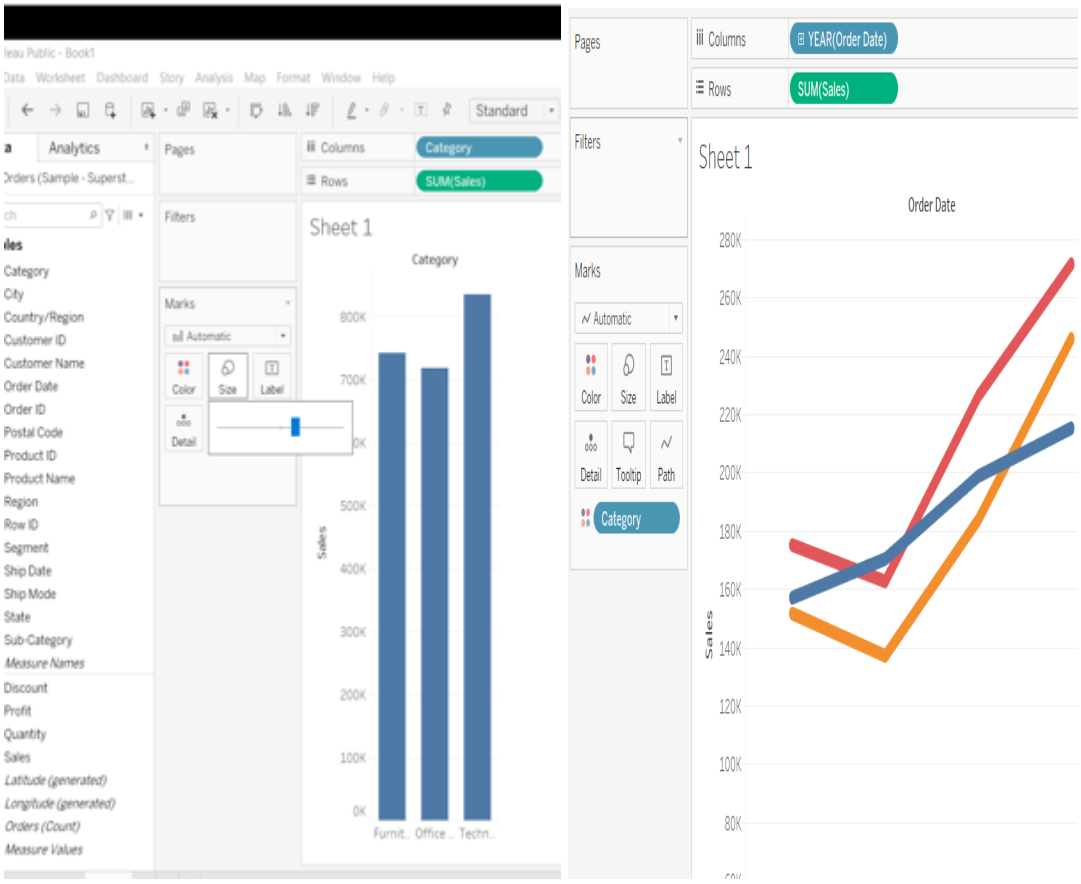


26. Marks Shelf: Size

    a. Size marker is used to showcase the data points in terms of the size of the marks(i.e. in circles) as shown below. Greater the size of the dot, higher the sales.



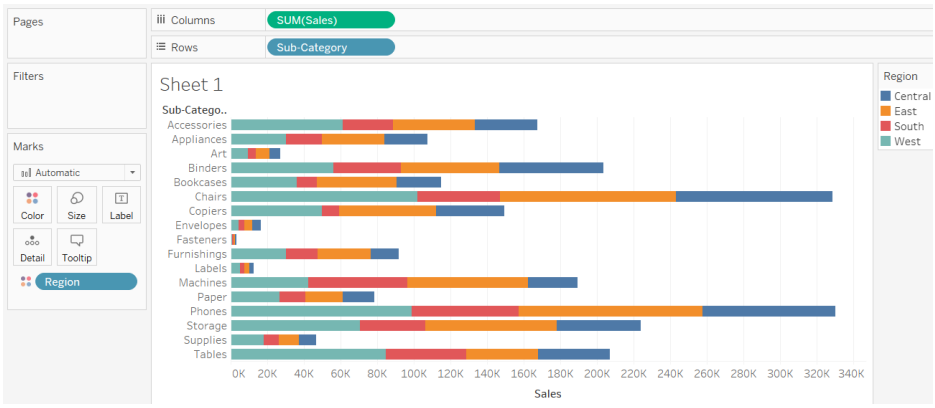
b. Second use case of the size marker is, we can say that the size marker is used to change the sizes of the different data points, i.e. either it is line graph, circles, bar chart etc. as shown in below images.



By scrolling the size marker, we can change the width of the bars on the graph. Same for Line chart also.

27. Marks Shelf: Color

The Color mark is **used to differentiate our data points** in the graph by using colors.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Rows
Sub-Category
Filters
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Accessories
Appliances
Art
Binders
Bookcases
Chairs
Copiers
Envelopes
Fasteners
Furnishings
Labels
Machines
Paper
Phones
Storage
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Tables
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Region
Central
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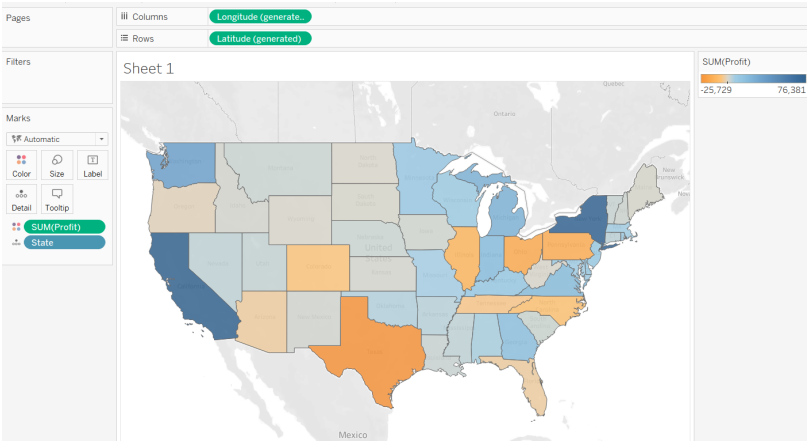
West


Pages
Columns
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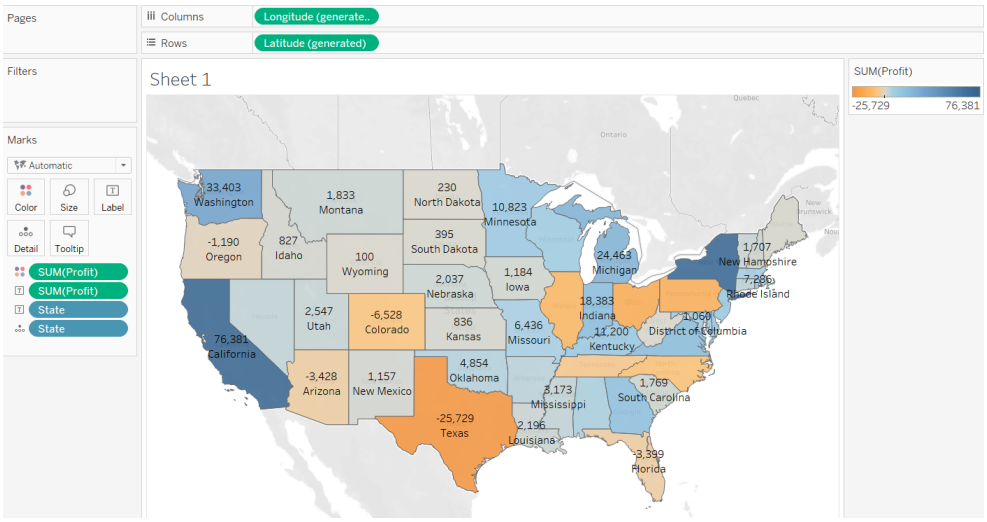
SUM(Profit)
State
Sheet 1
SUM(Profit)
-25,729
76,381
Mexico


Pages
Columns
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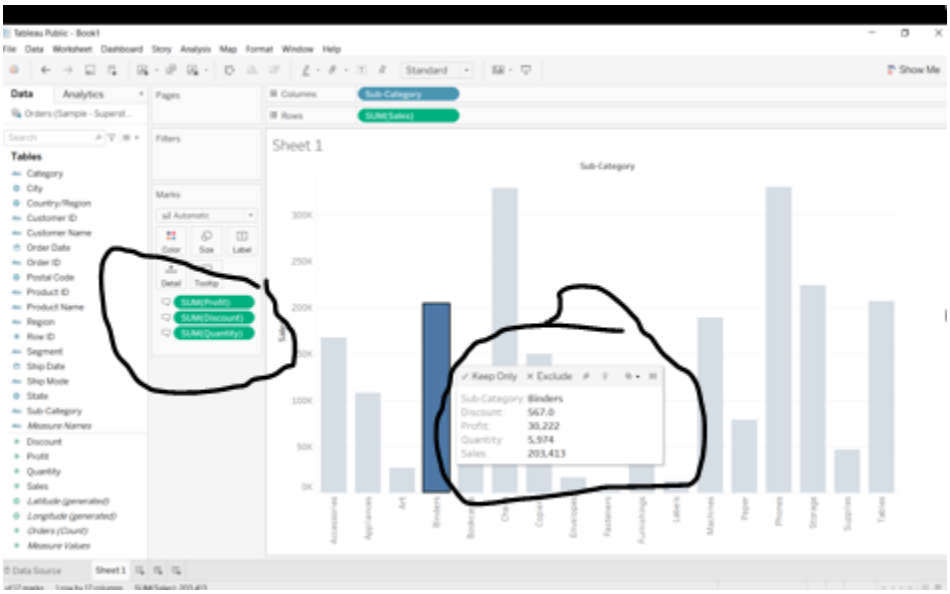
SUM(Profit)
SUM(Profit)
State
State
Sheet 1
SUM(Profit)
-25,729
76,381
33,403
Washington
1,833
Montana
230
North Dakota
10,823
Minnesota
-1,190
Oregon
827
Idaho
100
Wyoming
395
South Dakota
24,463
Michigan
1,707
New Hampshire
7,286
Rhode Island
2,037
Nebraska
1,184
Iowa
18,383
Indiana
1,060
District of Columbia
11,200
Kentucky
2,547
Utah
-6,528
Colorado
836
Kansas
6,436
Missouri
76,381
California
4,854
Oklahoma
-3,428
Arizona
1,157
New Mexico
3,173
Mississippi
1,769
South Carolina
-25,729
Texas
2,196
Louisiana
-3,399
Florida

28. Marks Shelf: Tooltip

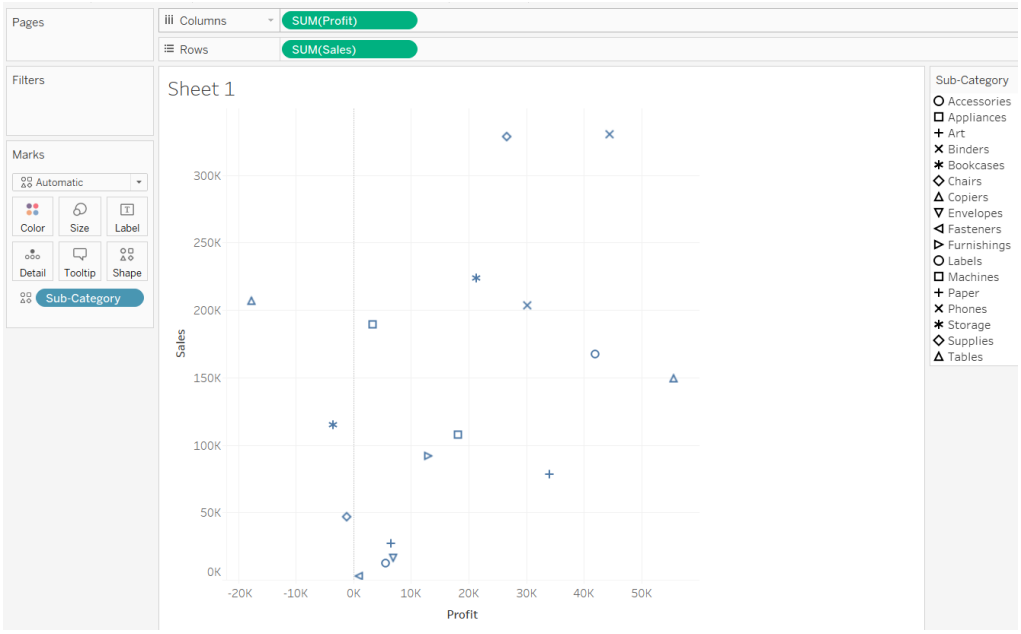
Tooltip is nothing but a info popup which shows up when we click on a data point/bar(in bar chart). By default, whatever measure/dim we select in to rows/columns shelves the tooltip shows that info to which that data point belongs.

We can also add more info by dragging and dropping that column in to the tooltip marker in the marks shelf as shown below.



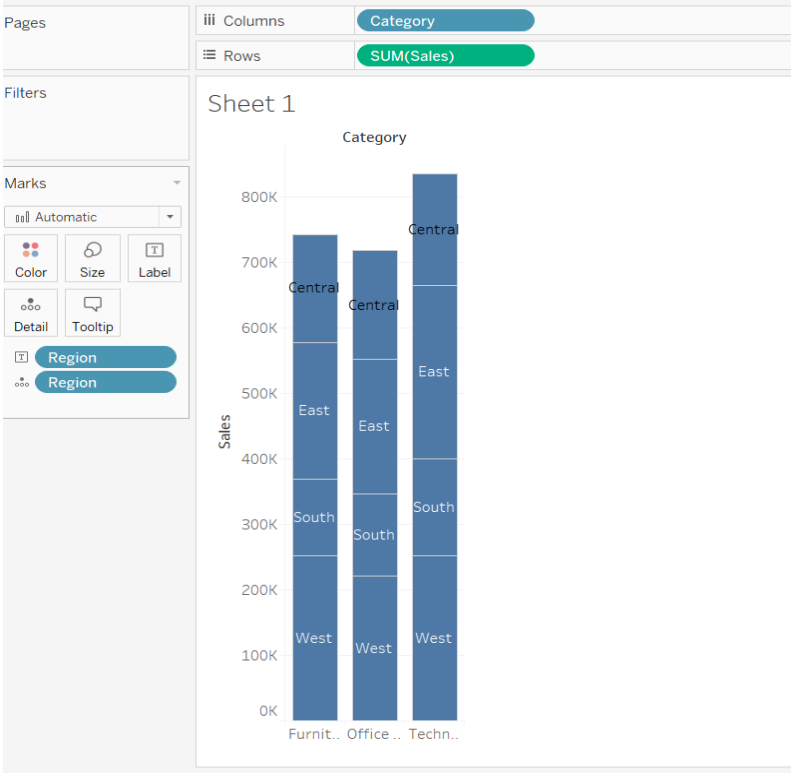
29. Marks Shelf: Shapes

Shapes marker is not shown up initially in the marks shelf. It will show up when we select 2 measures, 1 in to row and 1 in to column. This shapes marker is used to differentiate the different categorical data points using different shaped markers like .,o,*,x,^, etc.



30. Marks Shelf: Detail

The Detail marker is almost similar to the color marker. The Detail marker is used to show the different sub sections (according to some other dimension) of a data point.



31. Calculations

Calculated fields can be created by clicking on the dropdown of any of the measure columns (from the measures shelf), select the **create** option and then select **Calculated Field**. Then, write the formula and use that calculated field.