Joins

Joins allows us to analyze the data from more than one source.

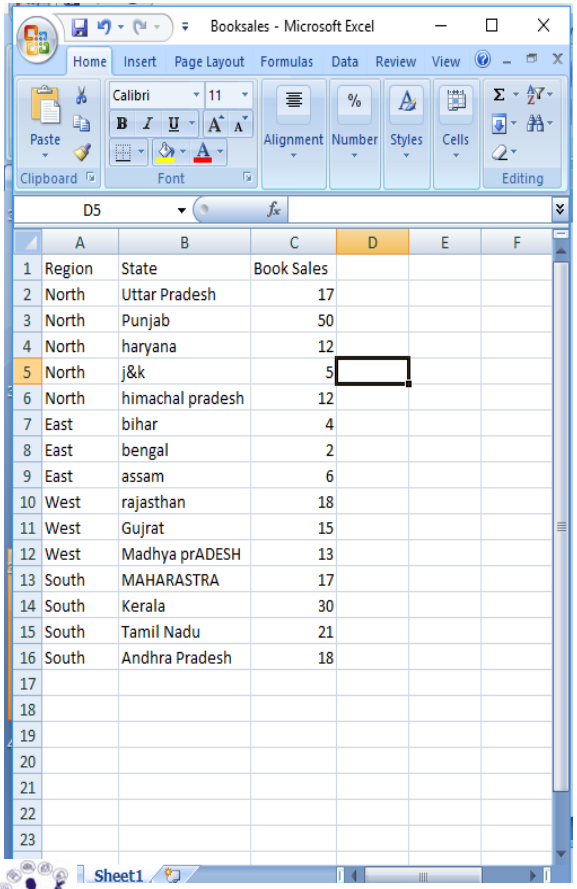
Types of joins:

1. Inner Join
2. Left Join
3. Right Join
4. Full Join

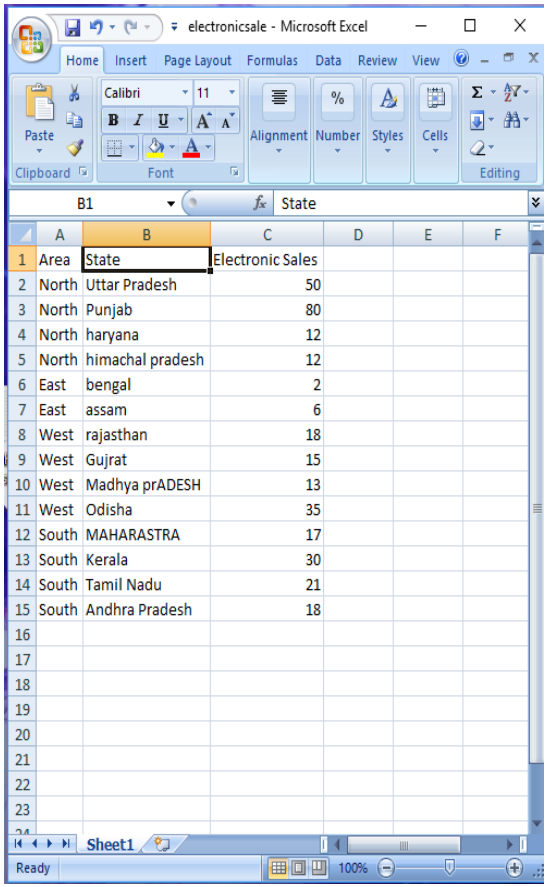
Cross Database Join: Getting the data from different data sources.

Data Blending

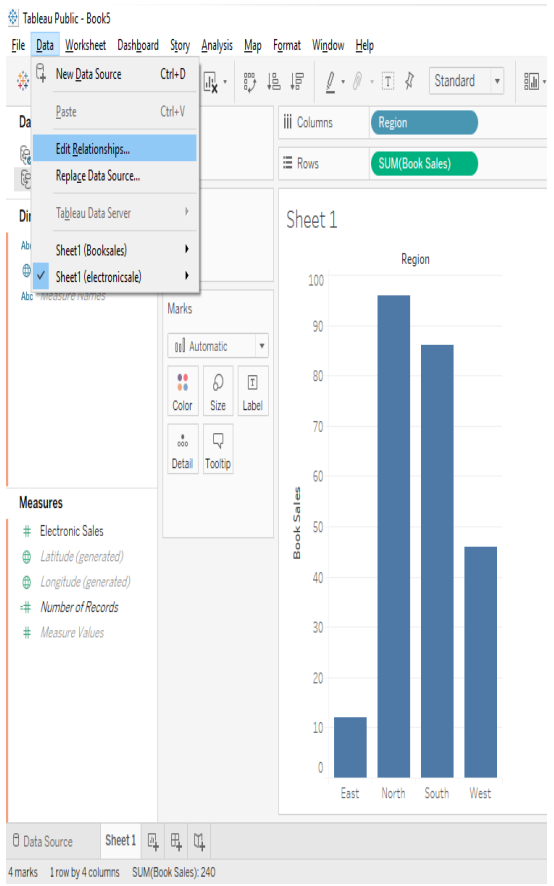
Like Joins data blending, allows us to analyze the data from more than one source and it gives more advanced options.



	A	B	C
1	Region	State	Book Sales
2	North	Uttar Pradesh	17
3	North	Punjab	50
4	North	haryana	12
5	North	j&k	5
6	North	himachal pradesh	12
7	East	bihar	4
8	East	bengal	2
9	East	assam	6
10	West	rajasthan	18
11	West	Gujrat	15
12	West	Madhya prADESH	13
13	South	MAHARASTRA	17
14	South	Kerala	30
15	South	Tamil Nadu	21
16	South	Andhra Pradesh	18

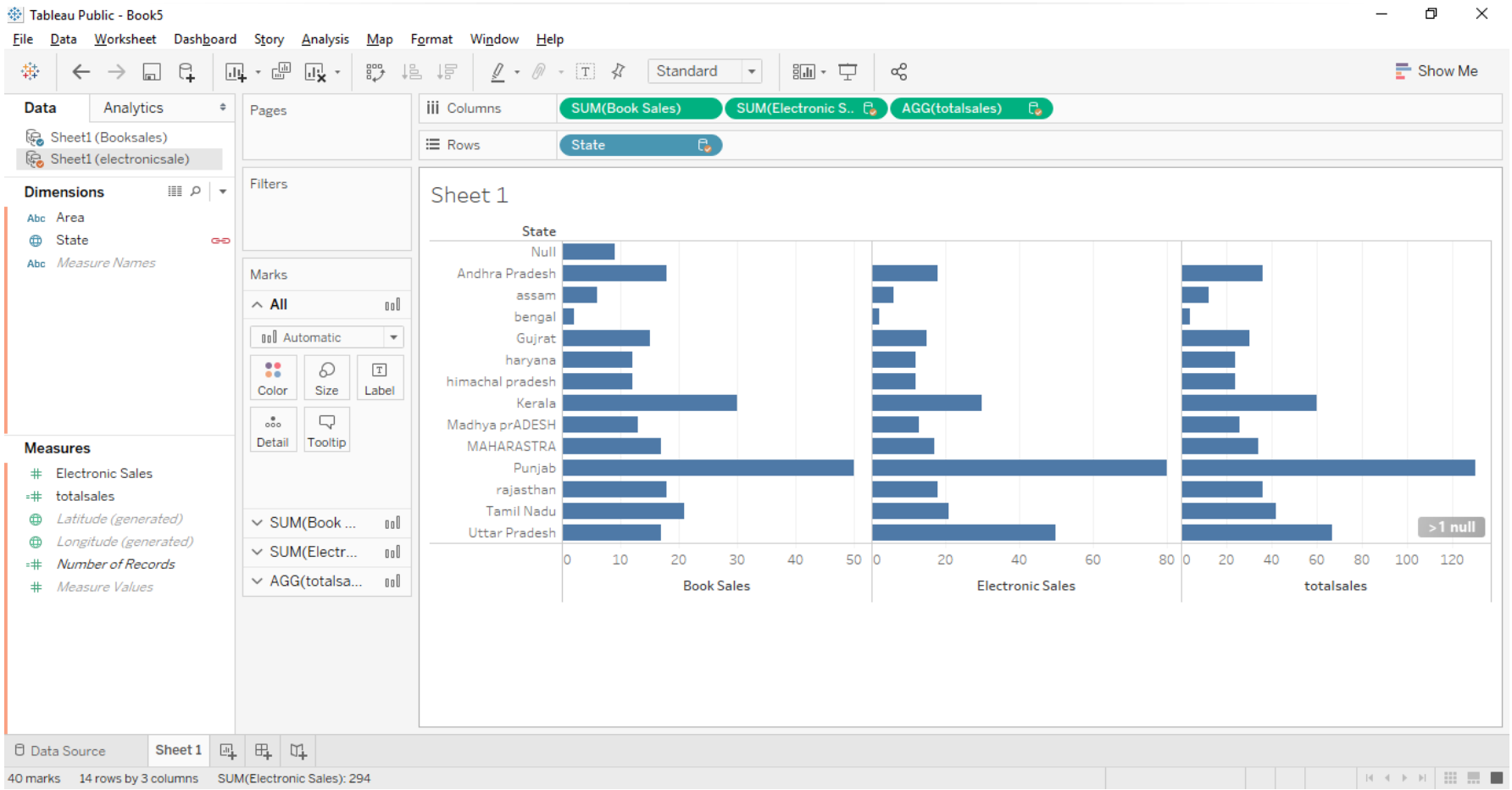


	A	B	C
1	Area	State	Electronic Sales
2	North	Uttar Pradesh	50
3	North	Punjab	80
4	North	haryana	12
5	North	himachal pradesh	12
6	East	bengal	2
7	East	assam	6
8	West	rajasthan	18
9	West	Gujrat	15
10	West	Madhya prADESH	13
11	West	Odisha	35
12	South	MAHARASTRA	17
13	South	Kerala	30
14	South	Tamil Nadu	21
15	South	Andhra Pradesh	18



Data Blending Calculations

We can also create calculated fields using data blending.



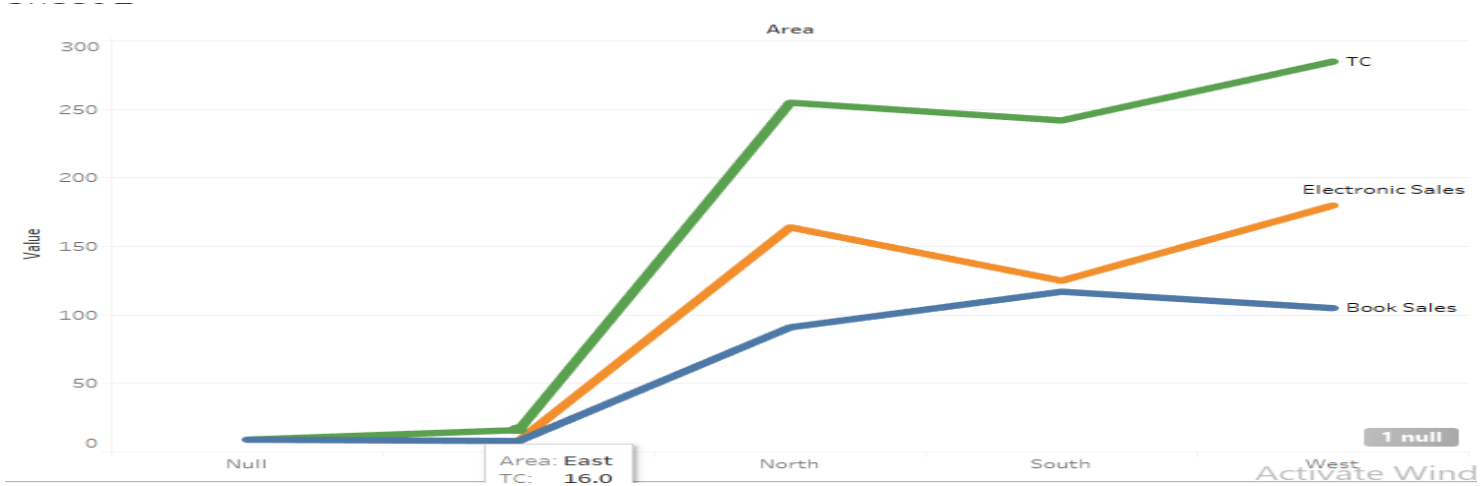
ASSIGNMENT

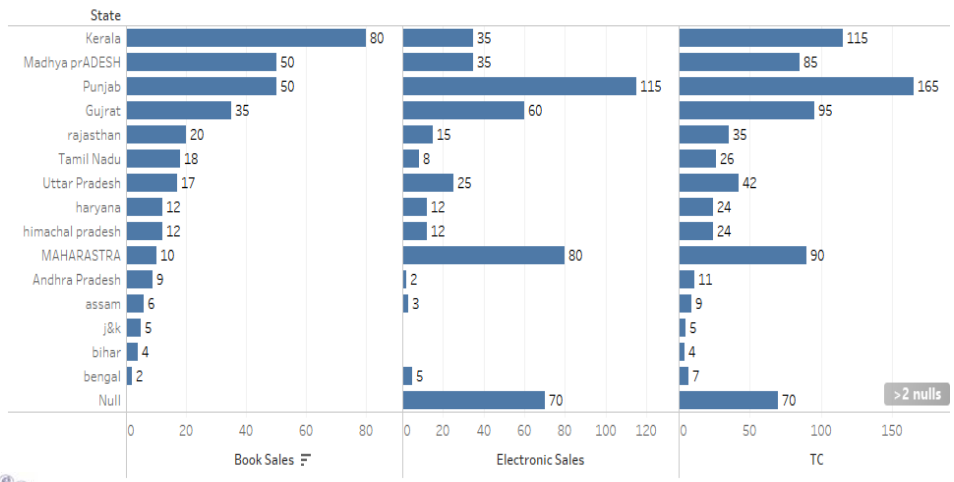
Use Inner Join to join electronic & books data source and in the Tabular format display electric, book & total sales on the basis of Region & State.

Use Full Join to join electronic & books sheets and create a line graph to display Area wise Electronic ,Book & Total sales in same plot area.

Blend the data from electronic & books data source and display Electronic ,Book & Total sales on the basis of state.

ASSIGNMENT



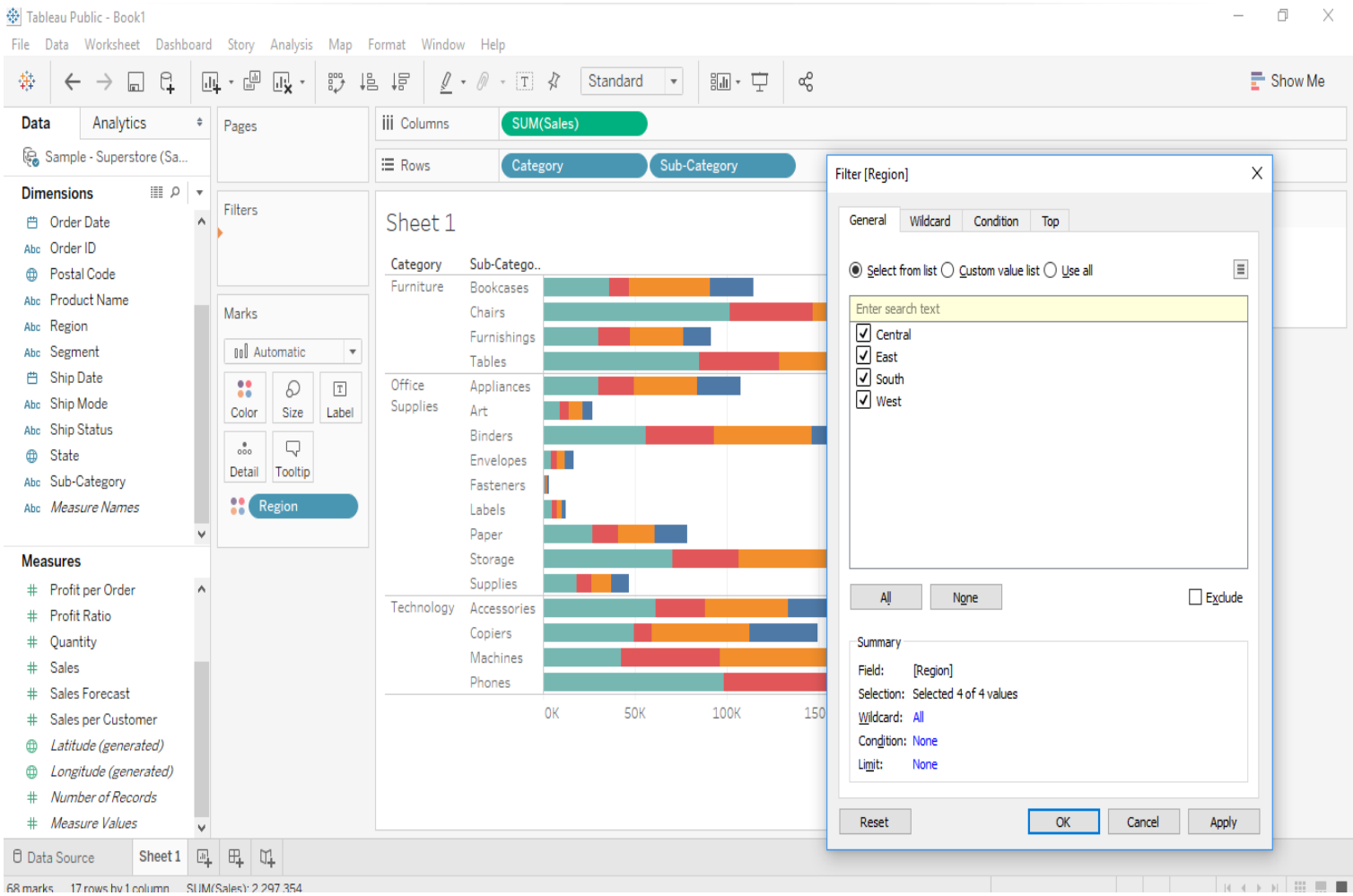


Region	State	Book Sales	Electronic Sales	TC
East	assam	6.0	3.0	9.0
	bengal	2.0	5.0	7.0
North	haryana	12.0	12.0	24.0
	himachal pradesh	12.0	12.0	24.0
	Punjab	50.0	115.0	165.0
	Uttar Pradesh	17.0	25.0	42.0
South	Andhra Pradesh	9.0	2.0	11.0
	Kerala	80.0	35.0	115.0
	MAHARASTRA	10.0	80.0	90.0
	Tamil Nadu	18.0	8.0	26.0
West	Gujrat	35.0	60.0	95.0
	Madhya prADESH	50.0	35.0	85.0
	rajasthan	20.0	15.0	35.0

Filtering Charts

Filters are used to filter the graphical view by four options:

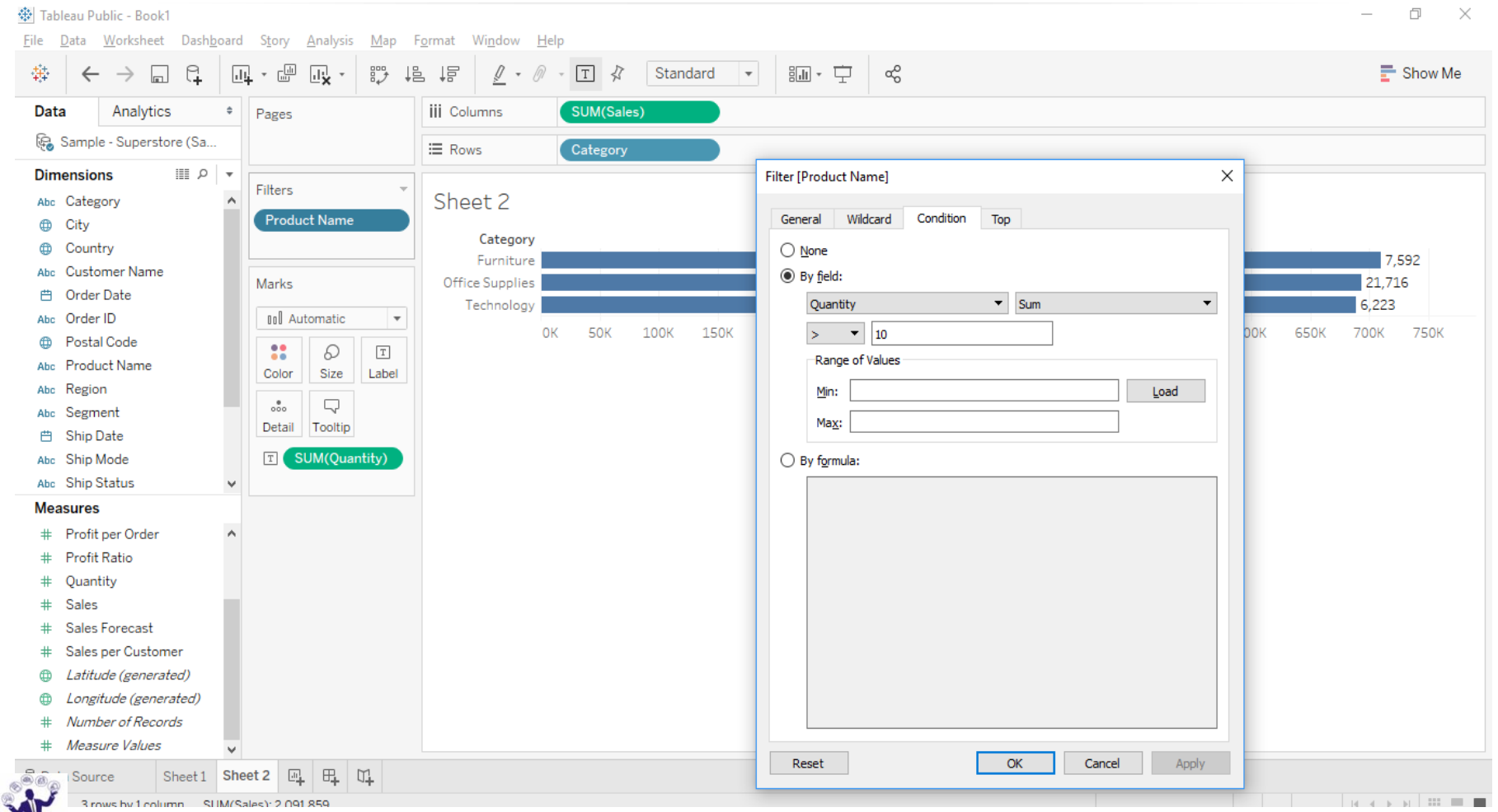
- General
- Wildcard
- Condition
- Top



Filtering Charts

Filtering using condition tab.

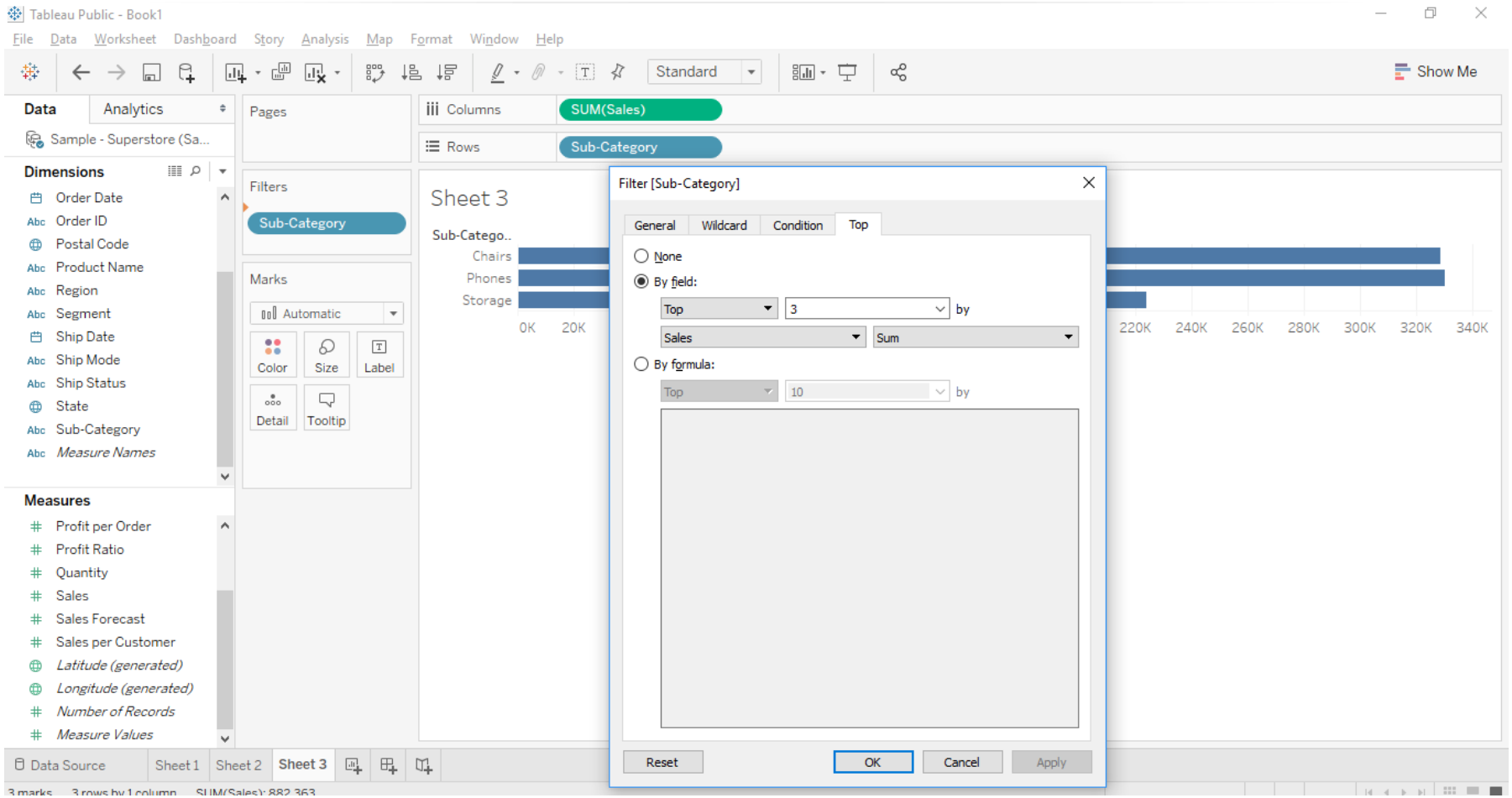
Eg: Total sales of the products where quantity sold is greater than 10.



Filtering Charts

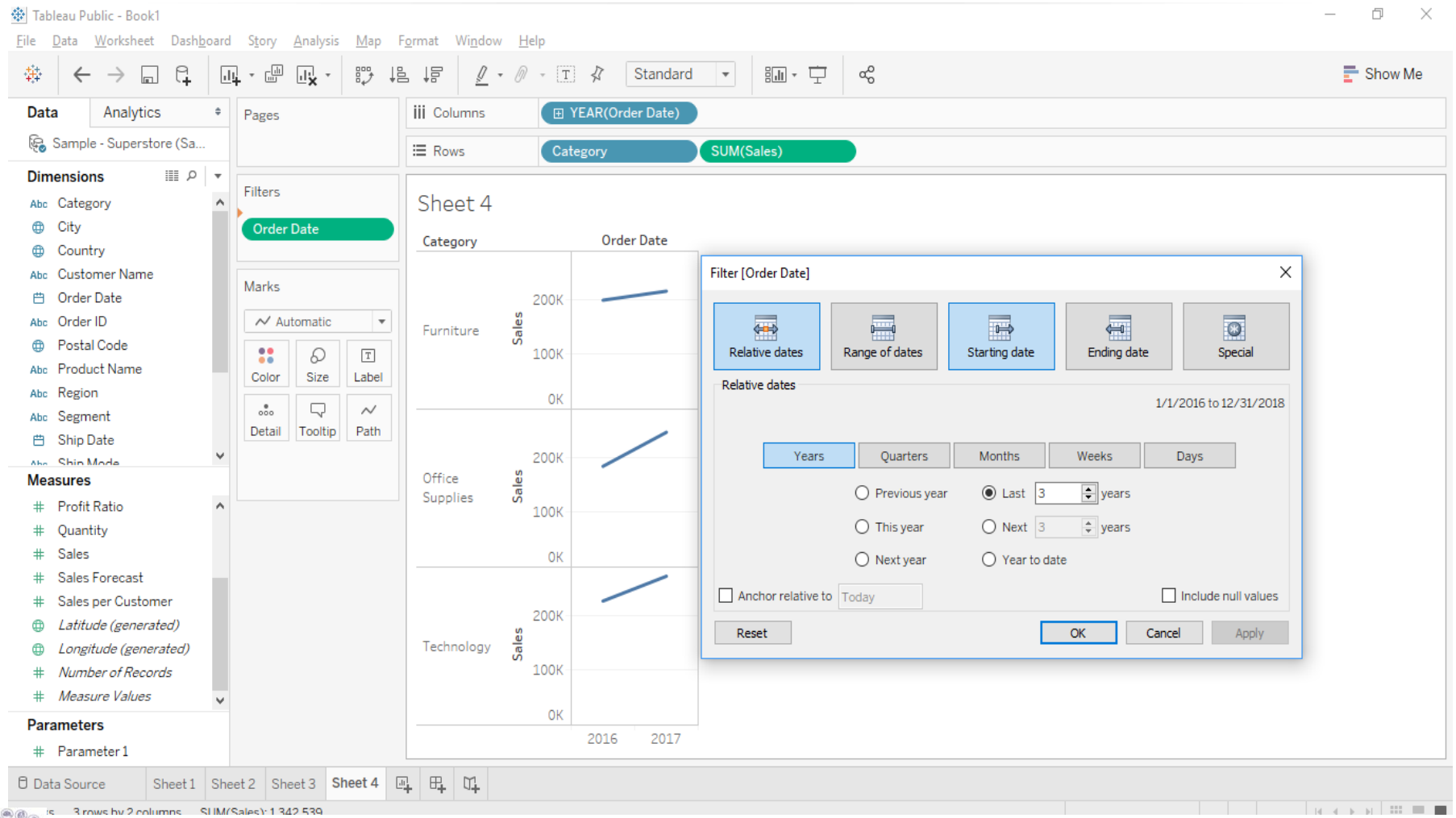
Filtering using Top tab.

Eg: Category wise Top / Bottom sales.



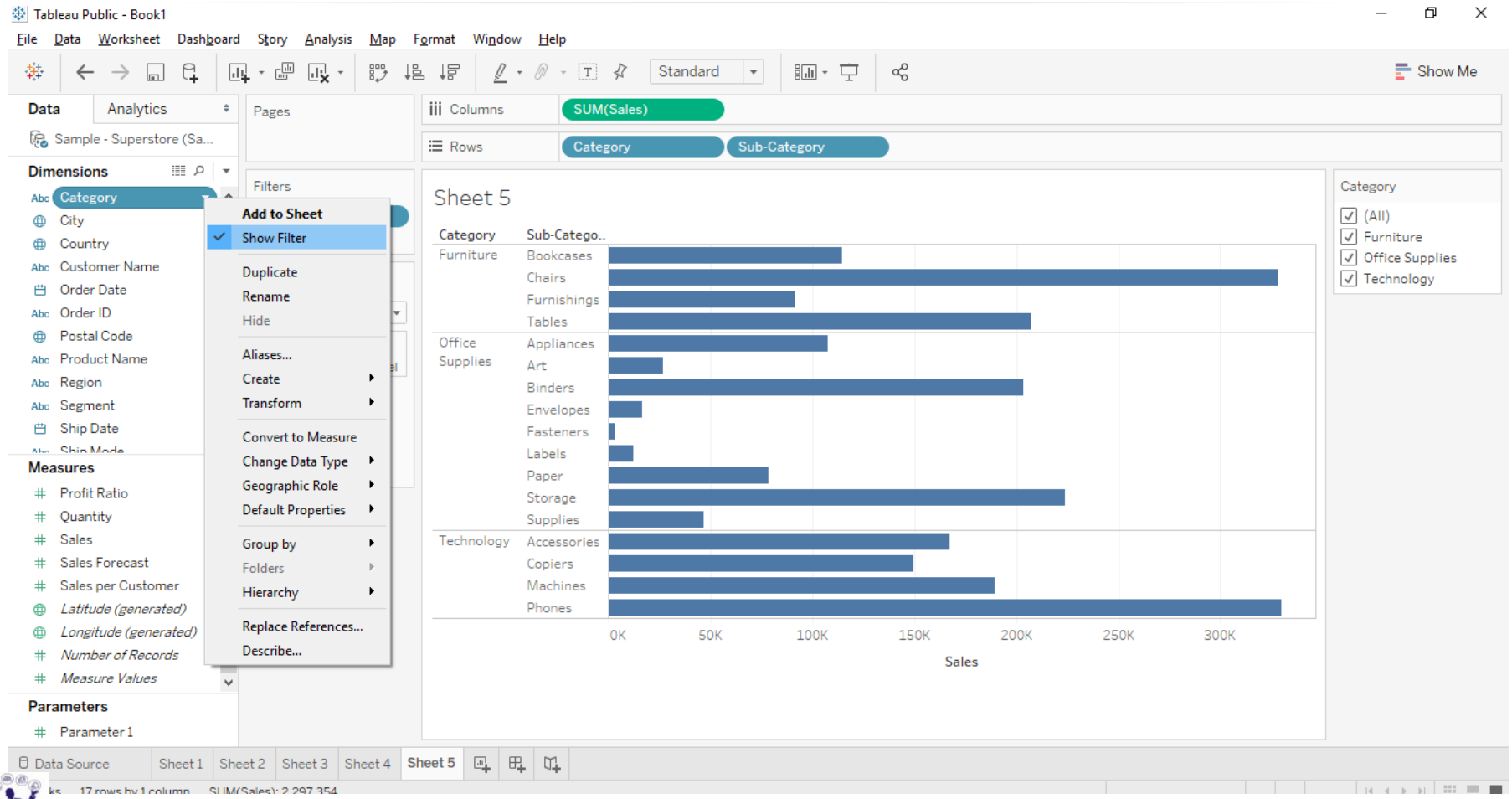
Filtering Dates

Tableau allows us to filter the data based on dates, moth, quarters , years..



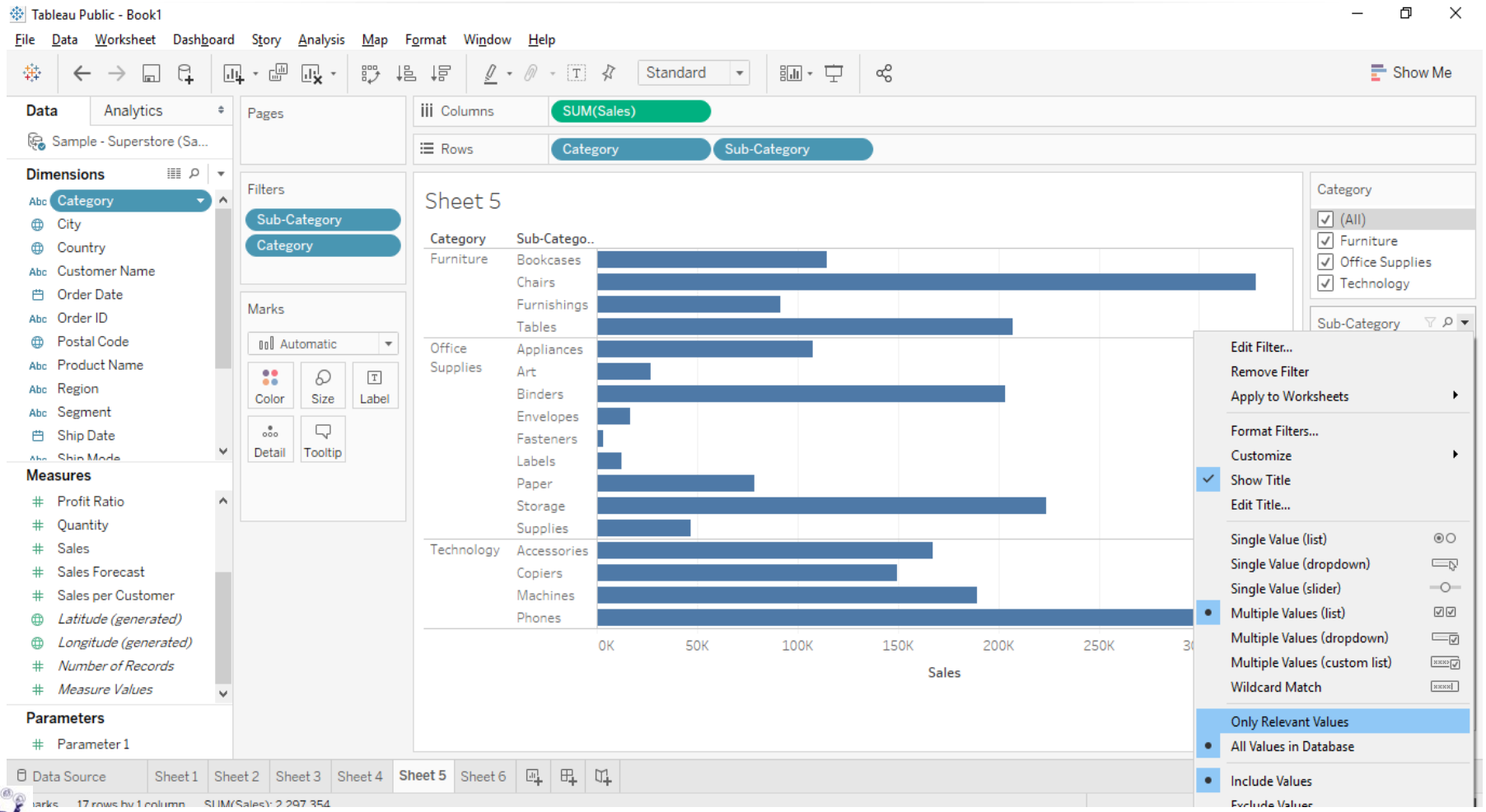
Interactive Filters

Interactive filters allows us to update the graph at runtime.



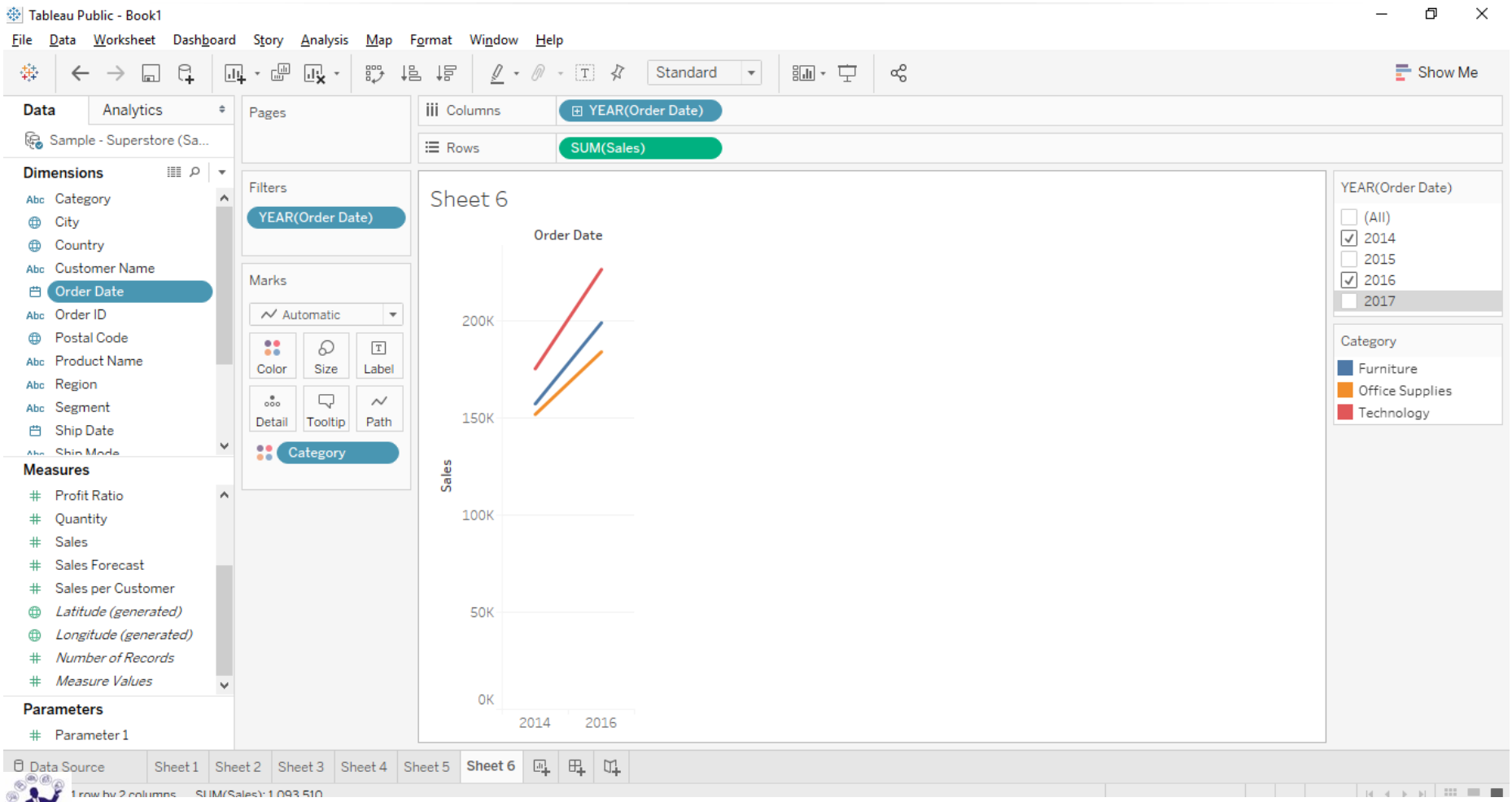
Advance Interactive Filters

Advance Interactive filters also referred to as dependent filters.



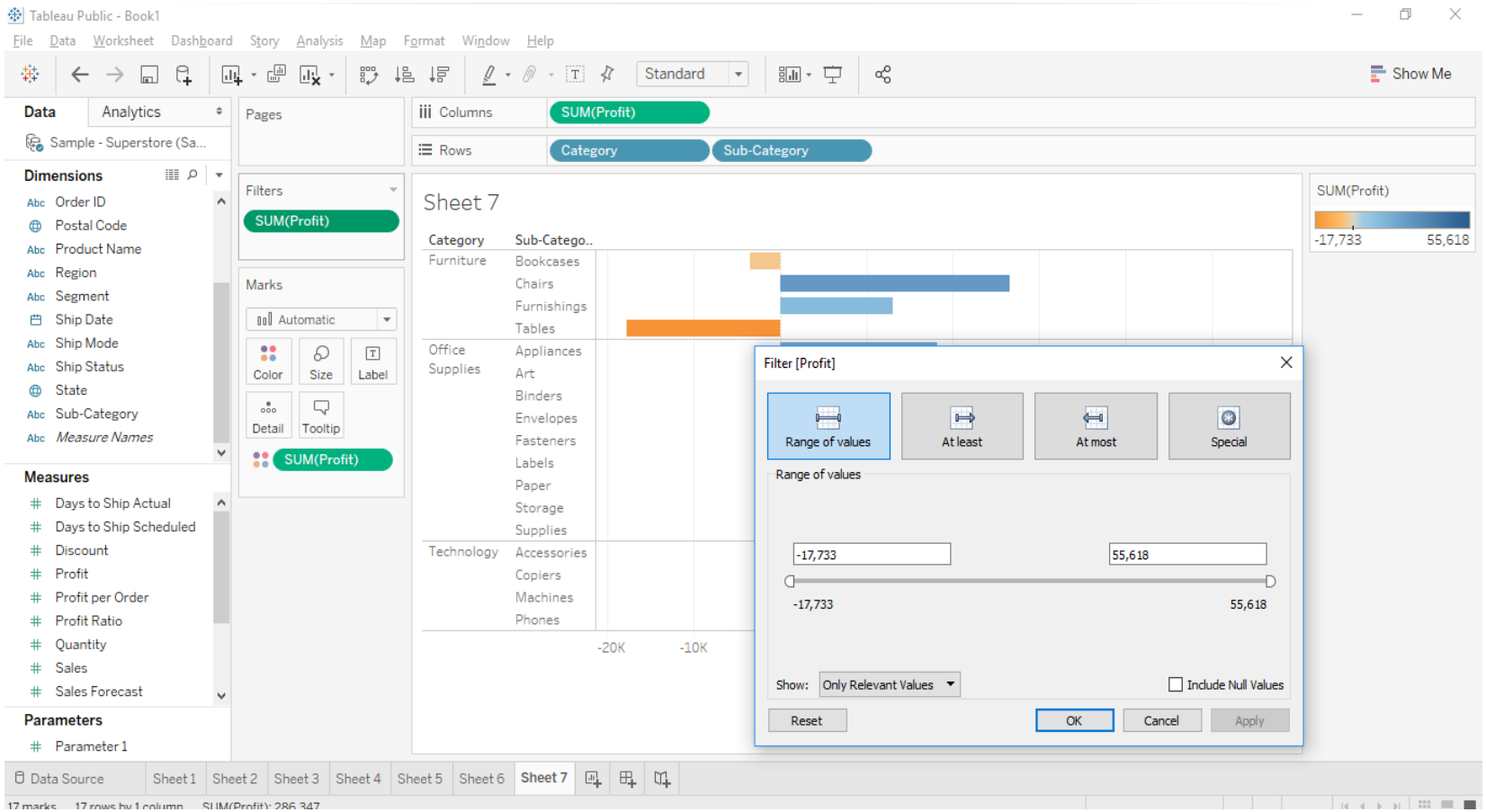
Interactive Date Filters

We can also use interactive filters with date fields.



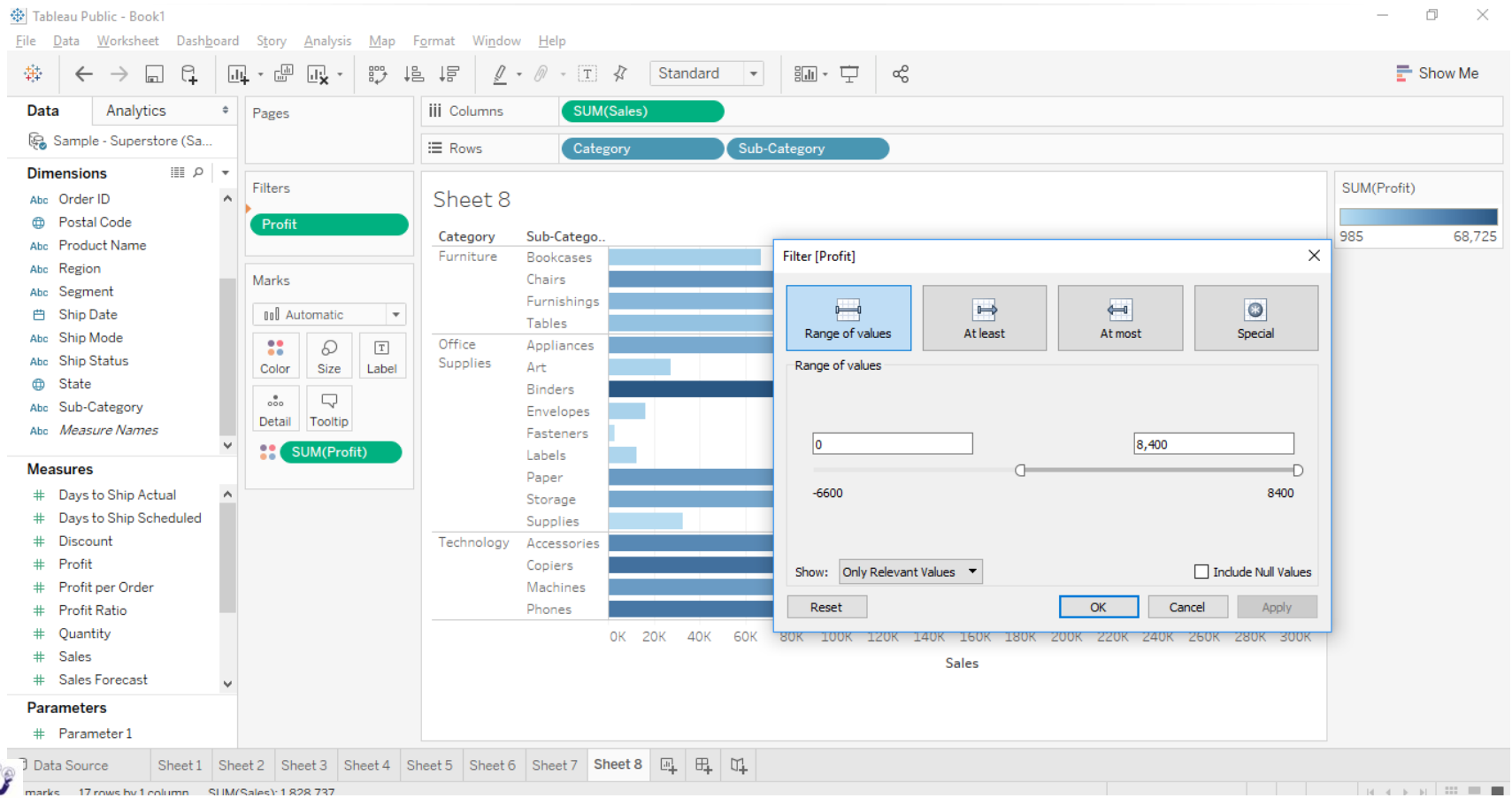
Where Filters

Summary Level Filters Eg: Analyzing the sales on the basis of profit i.e. showing only those categories where the total profit is positive.



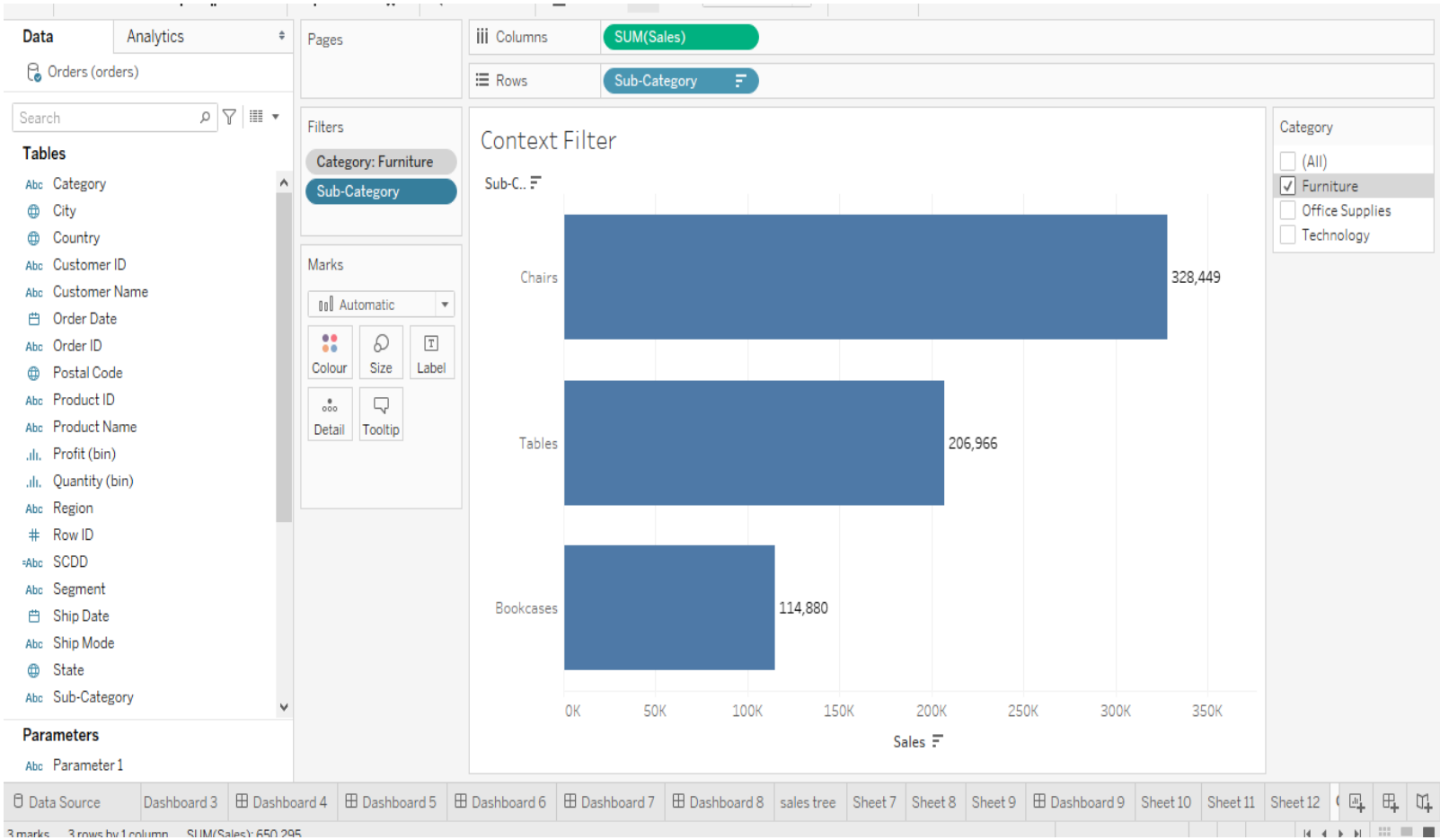
Where Filters

Record Level Filters Eg: Analyzing the sales on the basis of profit i.e. showing only those categories where the profit is positive.



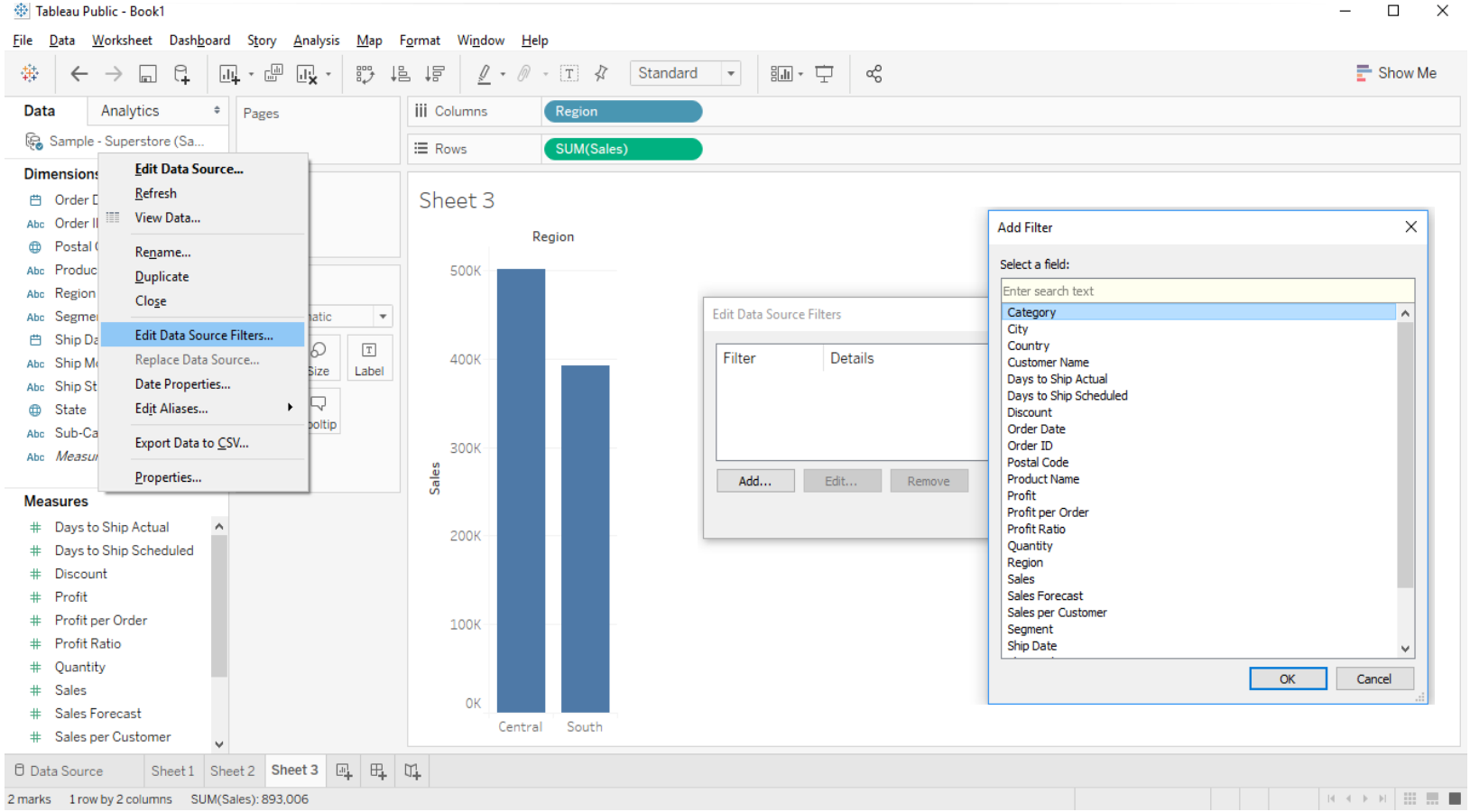
Context Filter

The filters are independent to each other. If we want that the second filter to process on the records returned by the first filter, the second filter is known as dependent filters because they process only the data that passes through the context filter.



Data Source Filters

Data source filter will filter the data from the data source i.e. It will impact all the sheets created from the respective data .



Ways to Filter

Filter by Self – Drag & Drop the desired pill in the filter self and set the options.

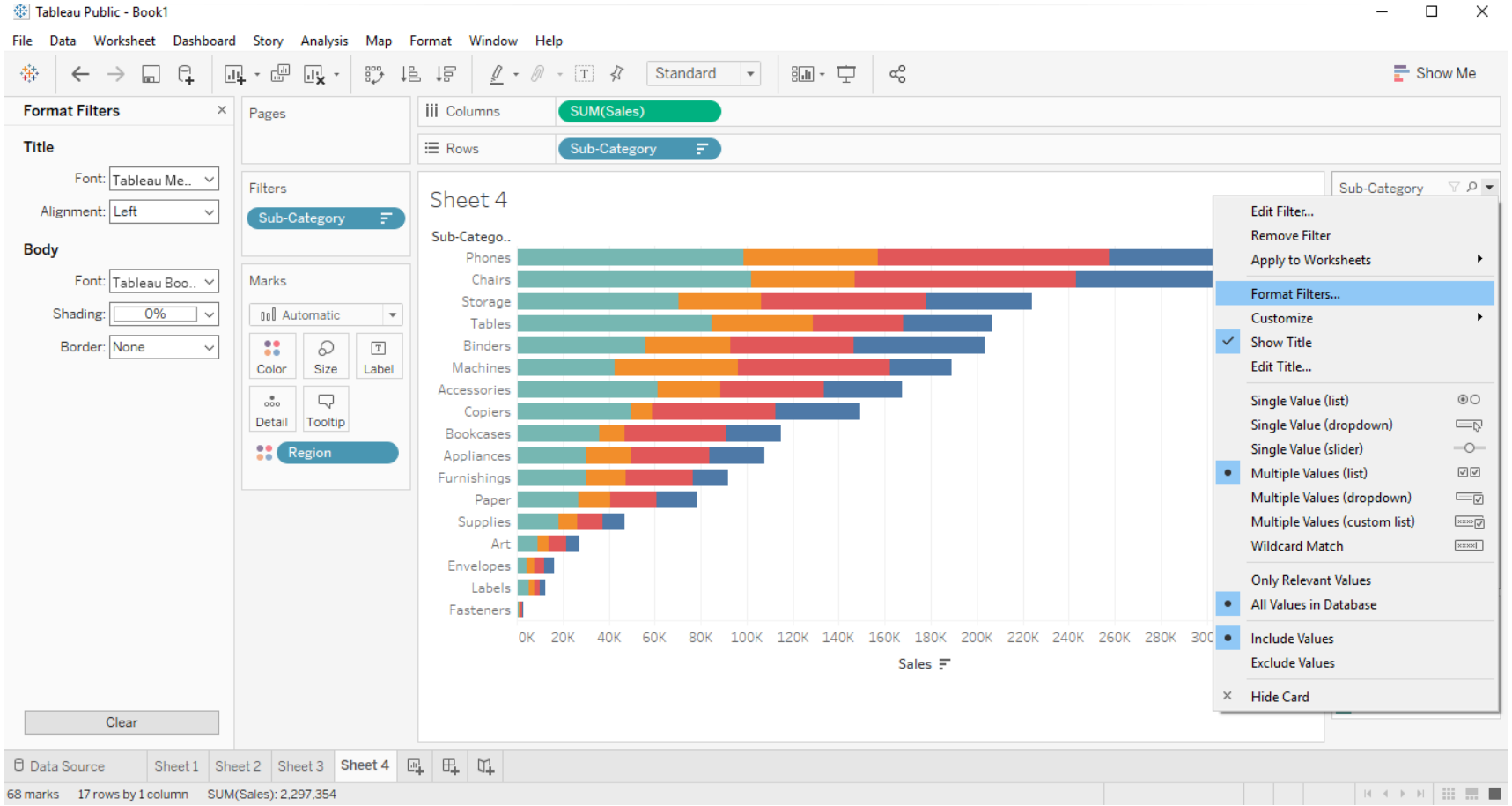
Interactive Filters – Click on the desired pill, from the drop down list select Show Filter.

Headers – In the Graph double click on the header, to filter for that header.

Legends – Click on the legend and select the Keep Only option.

Formatting Filter

In filters click on the drop down arrow and select format filters to get the filter formatting options.



ASSIGNMENT

Create a Bar chart to display top 10 profit making subcategories along with the categories.

Chart to display only those Sub Categories & categories where the revenue is 200K to 250K.

Display month wise profit of each category . Should be interactive on the basis of year. Use a slider as filter.

Create a bar chart to represent category & subcategory wise sales, where the revenue is more than 200K and profit is more than 20K.

Using the data source filter update all the above charts only for Technology category.

test

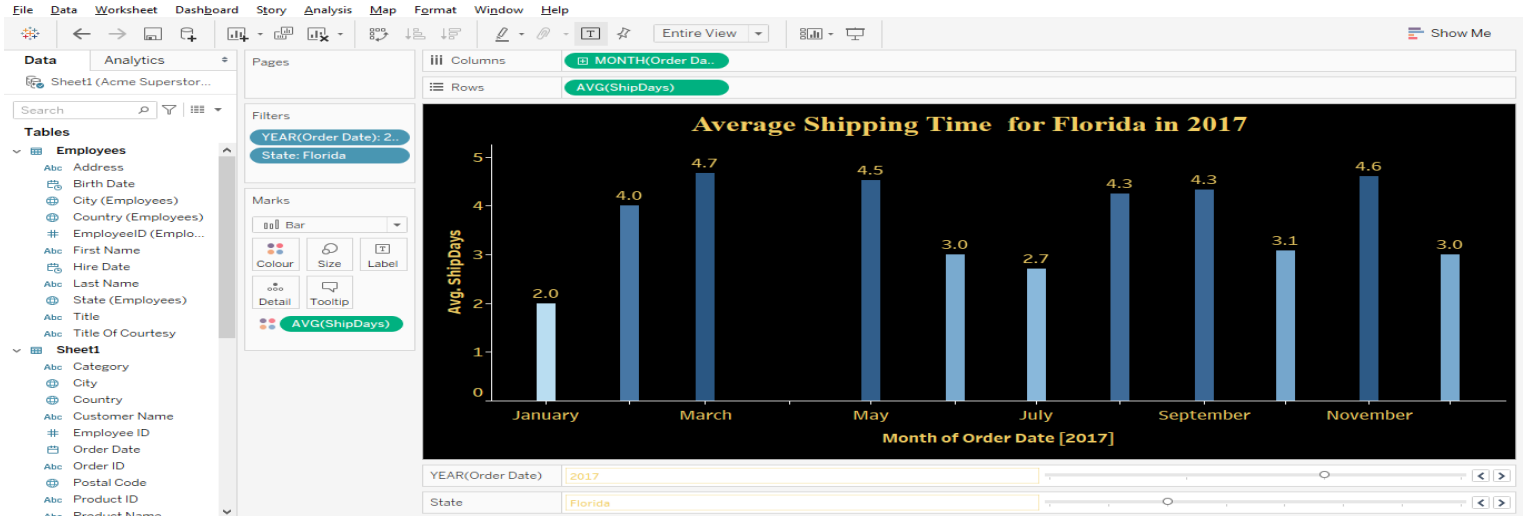
Q1: Use the Superstore data to develop a visualization to show how long it takes, on average, for orders to ship (the time it takes to ship an order after the order is received) on a monthly basis. (Hint - this will require a calculation.). How does the average shipping time vary by state?

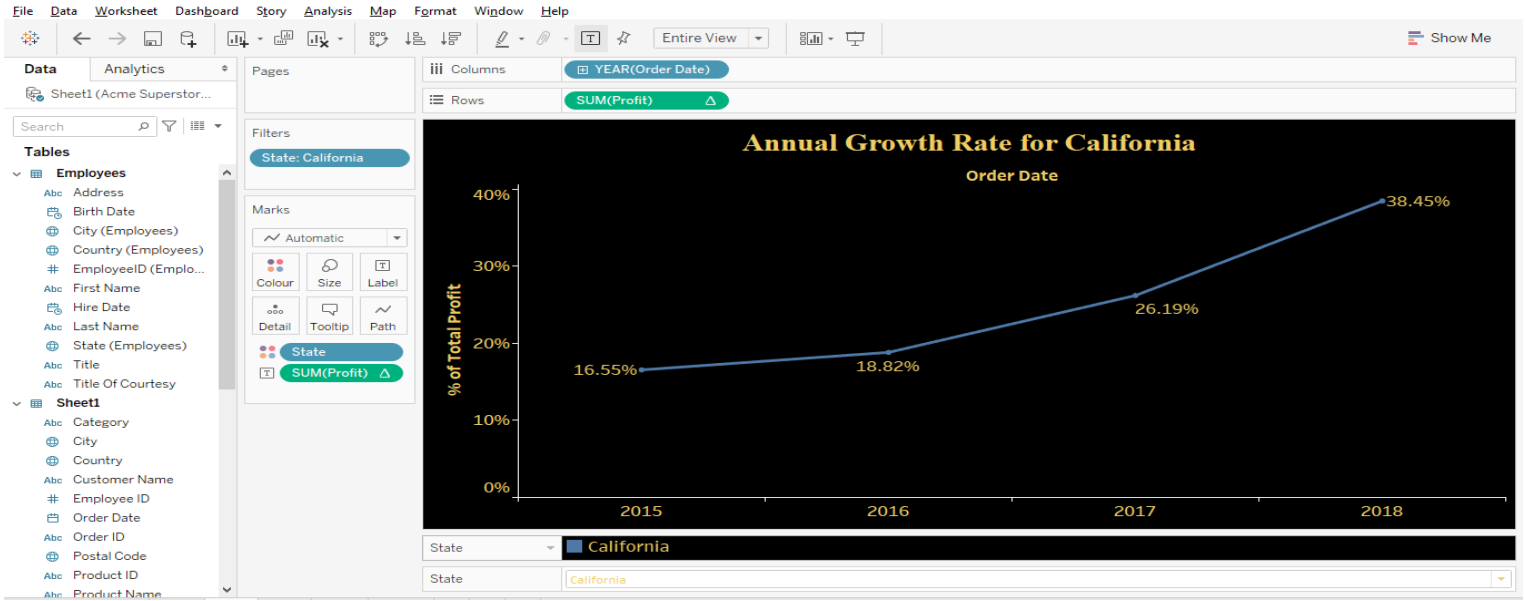
Q2: Use the Superstore data to produce a visualization to help managers understand annual growth (or lack thereof) in profit by state.

Q3: Use the Employees data to create a visualization that shows the number of customers per salesperson. Please display the salesperson's last name, not their ID. (Hint - you will need to join multiple tables so that the orders placed are attached to the employee who helped to place the order)

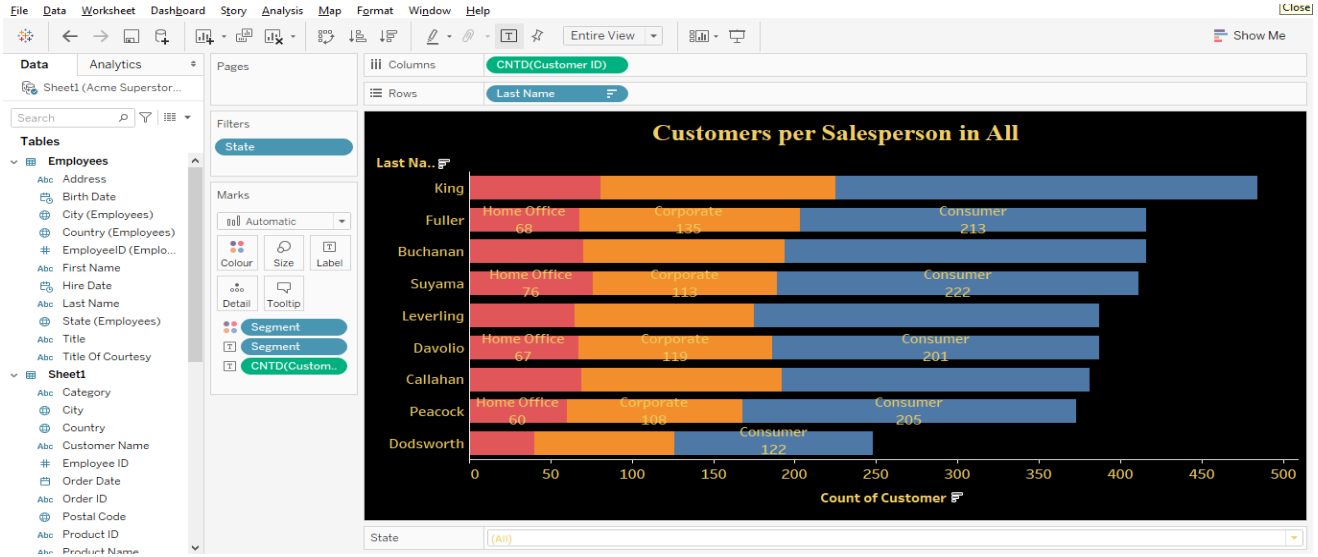
Q4: Use the Employees data to produce a visualization that shows total Sales by SalesPerson and City to analyze which salesperson is selling how much, and where they are selling.

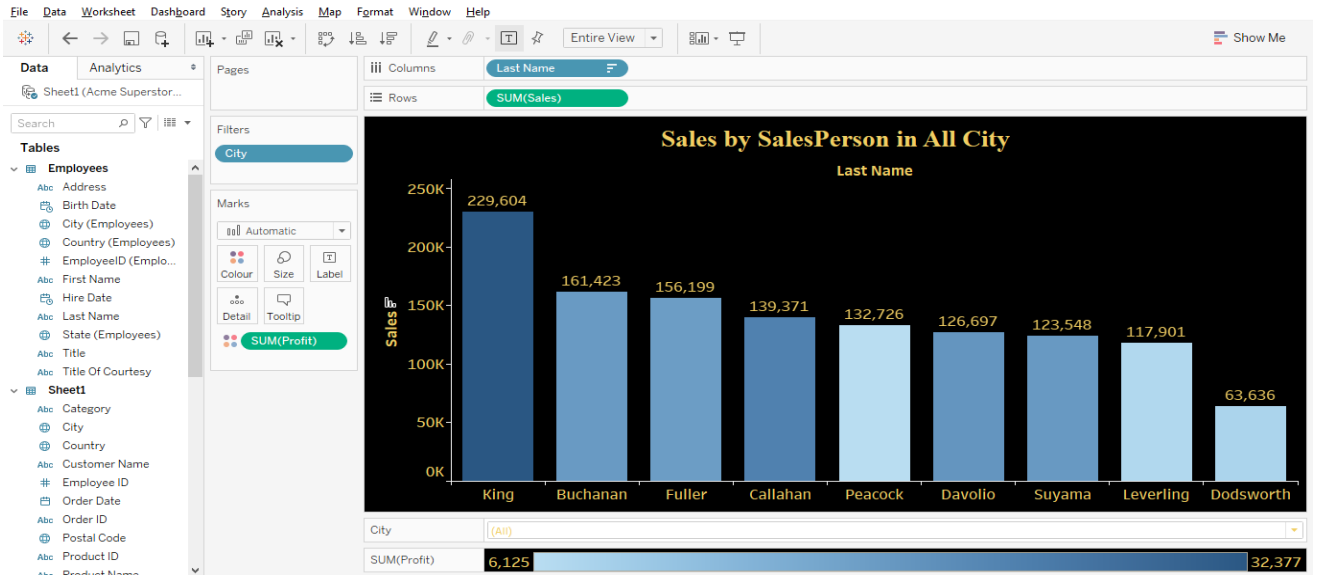
test


File Data Worksheet Dashboard Story Analysis Map Format Window Help
Entire View
Show Me
Data Analytics
Sheet1 (Acme Superstor...
Search
Tables
Employees
Address
Birth Date
City (Employees)
Country (Employees)
EmployeeID (Emplo...
First Name
Hire Date
Last Name
State (Employees)
Title
Title Of Courtesy
Sheet1
Category
City
Country
Customer Name
Employee ID
Order Date
Order ID
Postal Code
Product ID
Pages
Filters
YEAR(Order Date): 2..
State: Florida
Marks
Bar
Colour
Size
Label
Detail
Tooltip
AVG(ShipDays)
Columns
MONTH(Order Da..
Rows
AVG(ShipDays)
Average Shipping Time for Florida in 2017
Avg. ShipDays
0
1
2
3
4
5
2.0
4.0
4.7
4.5
3.0
2.7
4.3
4.3
3.1
4.6
3.0
January
March
May
July
September
November
Month of Order Date [2017]
YEAR(Order Date)
2017
State
Florida


File Data Worksheet Dashboard Story Analysis Map Format Window Help
Entire View
Show Me
Data Analytics
Sheet1 (Acme Superstor...
Search
Tables
Employees
Address
Birth Date
City (Employees)
Country (Employees)
EmployeeID (Emplo...
First Name
Hire Date
Last Name
State (Employees)
Title
Title Of Courtesy
Sheet1
Category
City
Country
Customer Name
Employee ID
Order Date
Order ID
Postal Code
Product ID
Product Name
Pages
Filters
State: California
Marks
Automatic
Colour
Size
Label
Detail
Tooltip
Path
State
SUM(Profit)
Columns
YEAR(Order Date)
Rows
SUM(Profit)
Annual Growth Rate for California
Order Date
% of Total Profit
0%
10%
20%
30%
40%
16.55%
18.82%
26.19%
38.45%
2015
2016
2017
2018
State
California
State
California

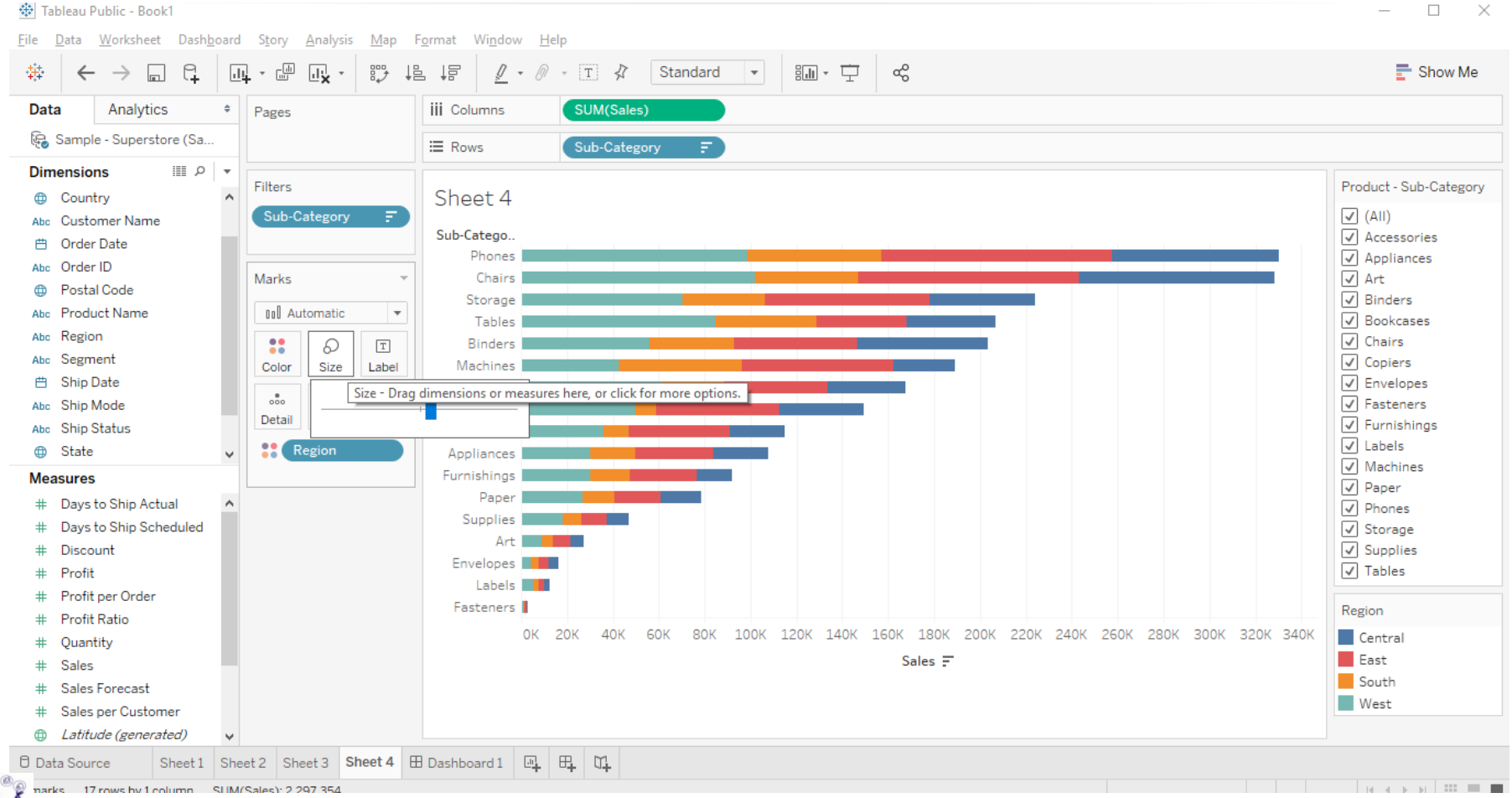
test


File Data Worksheet Dashboard Story Analysis Map Format Window Help
Entire View
Show Me
Data
Analytics
Sheet1 (Acme Superstor...
Search
Tables
Employees
Address
Birth Date
City (Employees)
Country (Employees)
EmployeeID (Emplo...
First Name
Hire Date
Last Name
State (Employees)
Title
Title Of Courtesy
Sheet1
Category
City
Country
Customer Name
Employee ID
Order Date
Order ID
Postal Code
Product ID
Pages
Filters
State
Marks
Automatic
Colour
Size
Label
Detail
Tooltip
Segment
Segment
CNTD(Custom..
Columns
CNTD(Customer ID)
Rows
Last Name
Customers per Salesperson in All
Last Na..
King
Fuller
Buchanan
Suyama
Leverling
Davolio
Callahan
Peacock
Dodsworth
Home Office 68
Corporate 135
Consumer 213
Home Office 76
Corporate 113
Consumer 222
Home Office 87
Corporate 119
Consumer 201
Home Office 60
Corporate 108
Consumer 205
Consumer 122
0 50 100 150 200 250 300 350 400 450 500
Count of Customer
State
(All)


File Data Worksheet Dashboard Story Analysis Map Format Window Help
Entire View
Show Me
Data
Analytics
Sheet1 (Acme Superstor...
Search
Tables
Employees
Address
Birth Date
City (Employees)
Country (Employees)
EmployeeID (Emplo...
First Name
Hire Date
Last Name
State (Employees)
Title
Title Of Courtesy
Sheet1
Category
City
Country
Customer Name
Employee ID
Order Date
Order ID
Postal Code
Product ID
Pages
Filters
City
Marks
Automatic
Colour
Size
Label
Detail
Tooltip
SUM(Profit)
Columns
Last Name
Rows
SUM(Sales)
Sales by SalesPerson in All City
Last Name
250K
200K
150K
100K
50K
0K
Sales
229,604
161,423
156,199
139,371
132,726
126,697
123,548
117,901
63,636
King
Buchanan
Fuller
Callahan
Peacock
Davolio
Suyama
Leverling
Dodsworth
City
(All)
SUM(Profit)
6,125
32,377

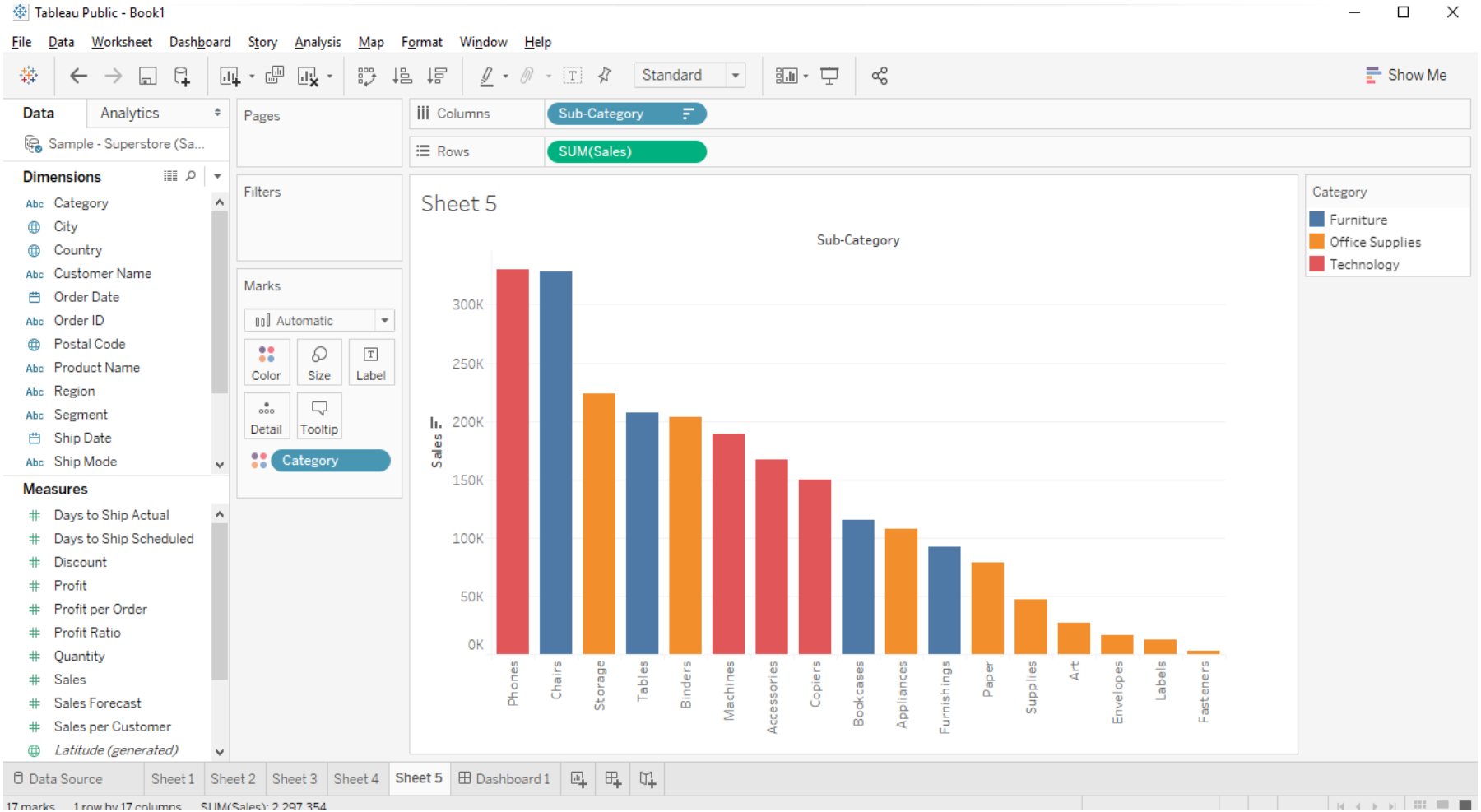
Manipulating Graph Size

The Size option in the Marks card allow us to alter the size of the graph.



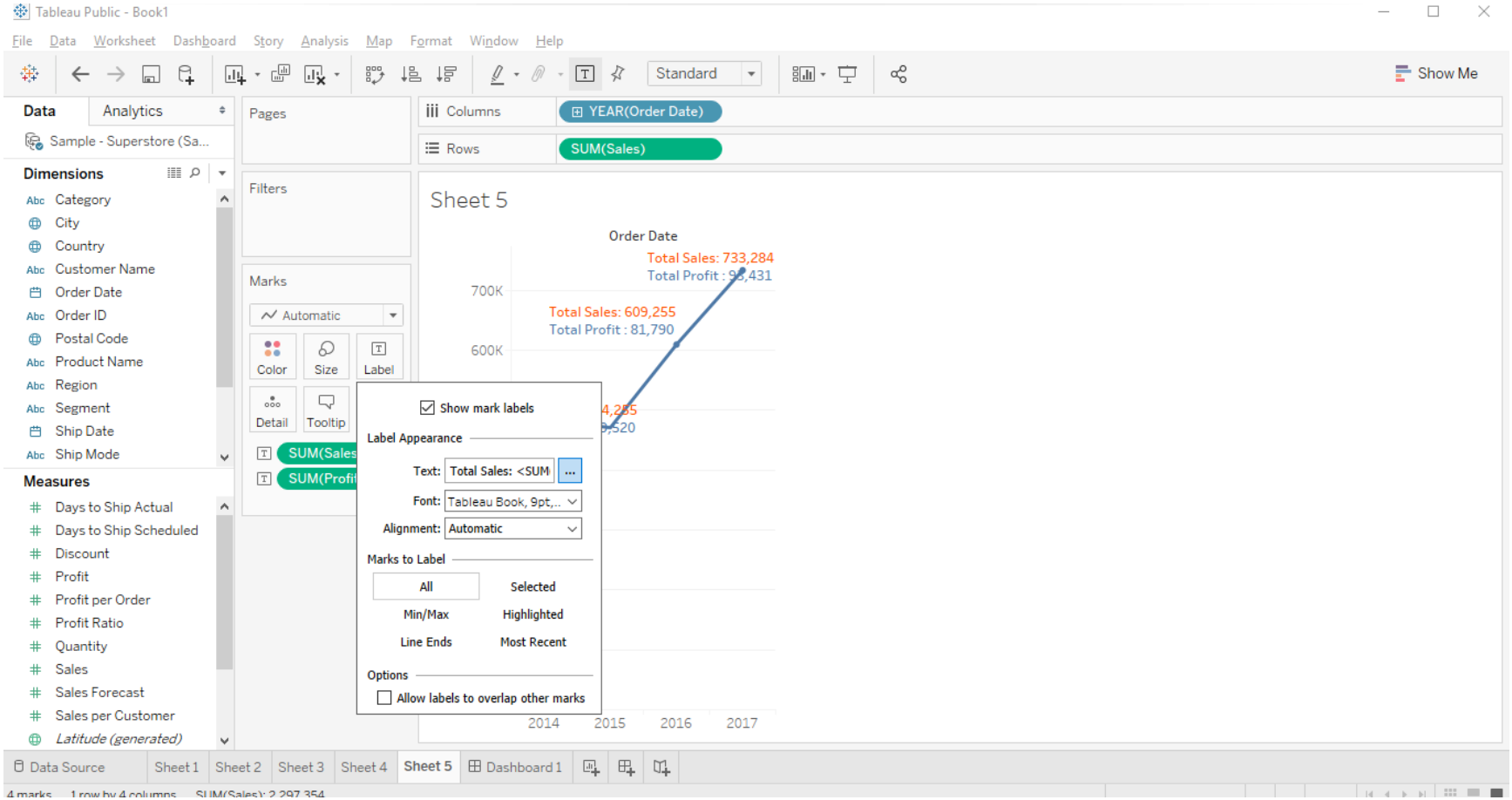
Manipulating Colors

Colors help us to further classify the data.



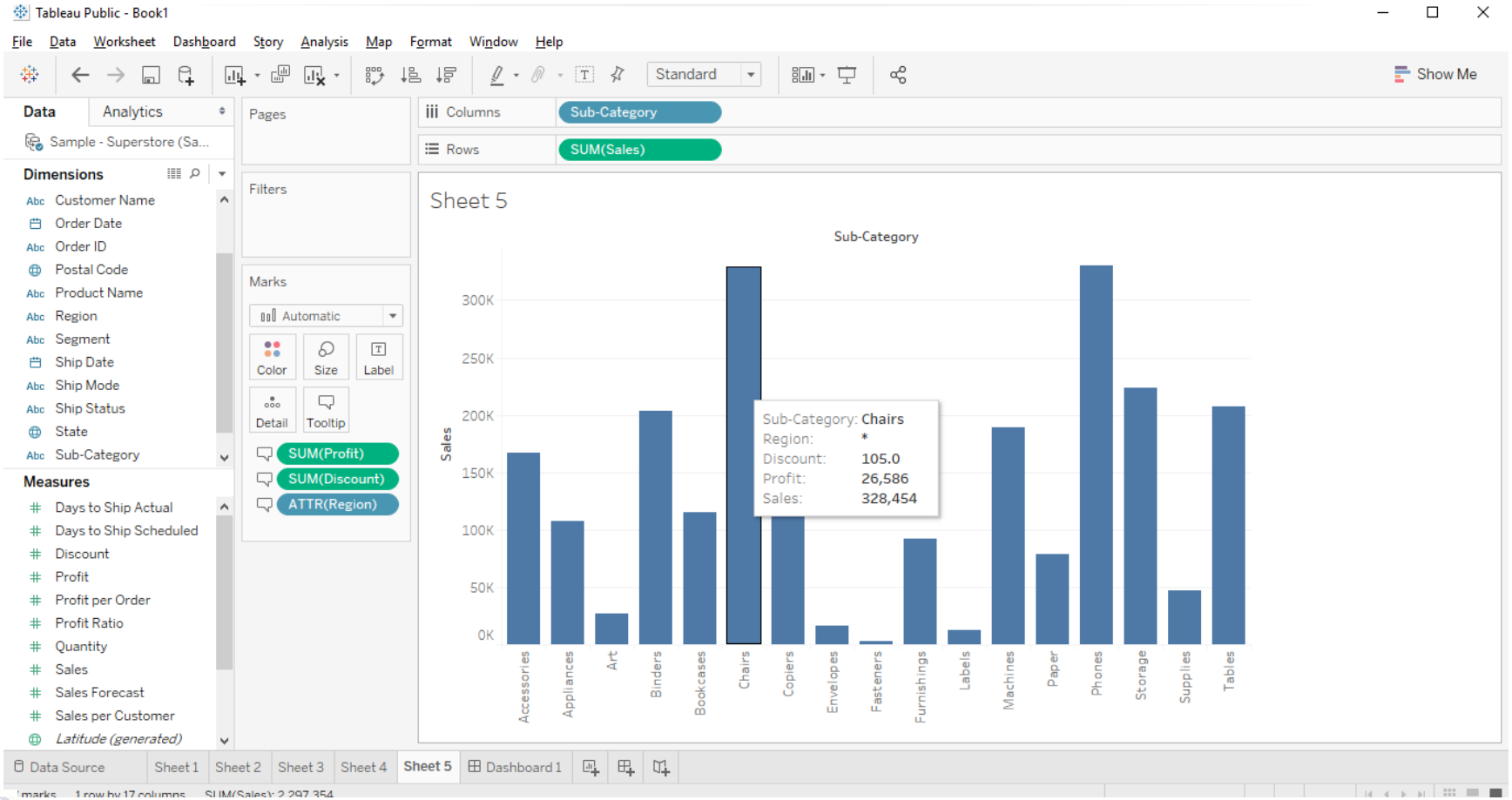
Displaying Text/Labels

Labels help us to show the exact data value.



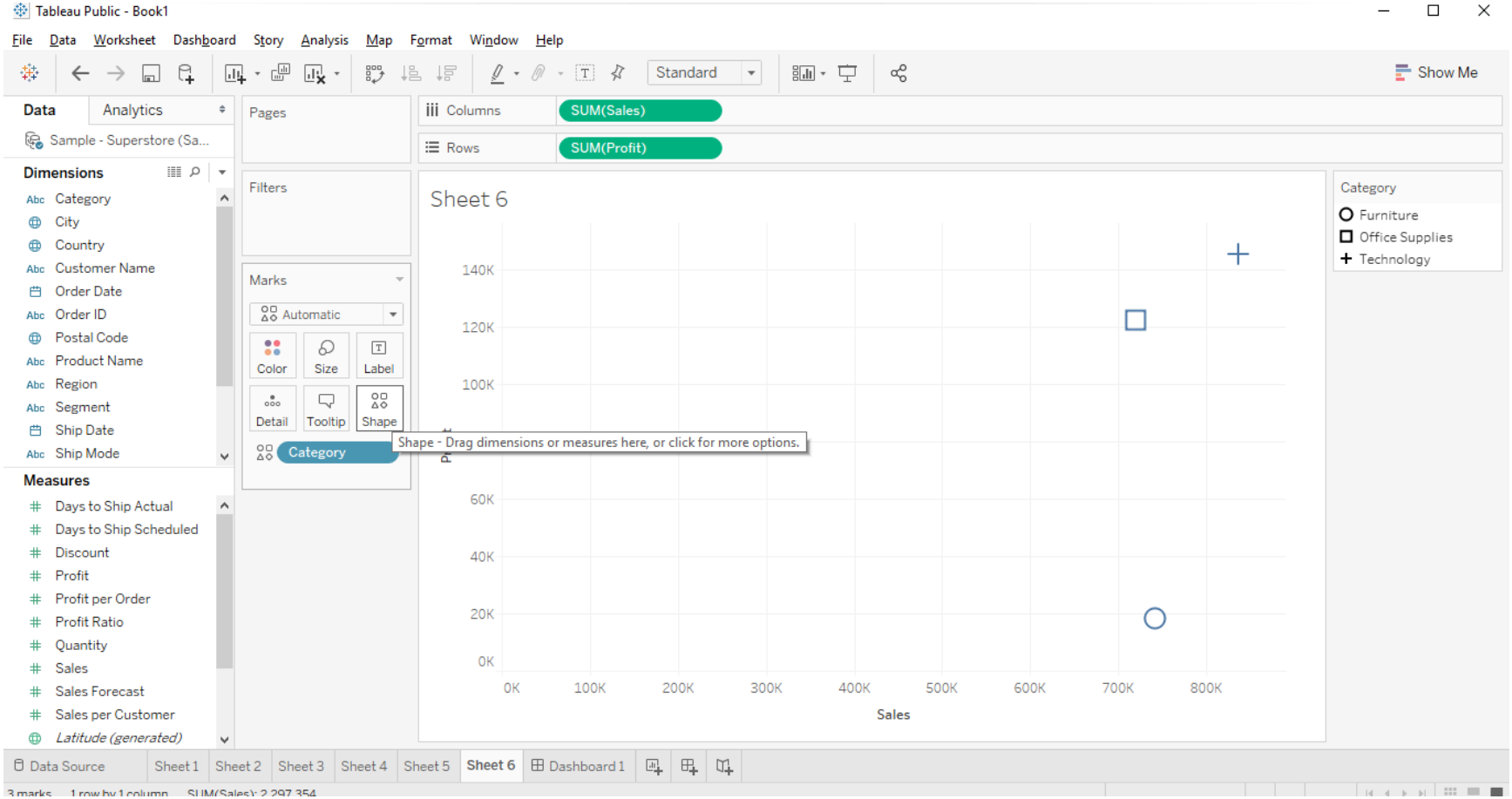
Getting Tooltip

When we click on any data point we get a small box known as tooltip. We can add any measure or dimension in the tooltip.



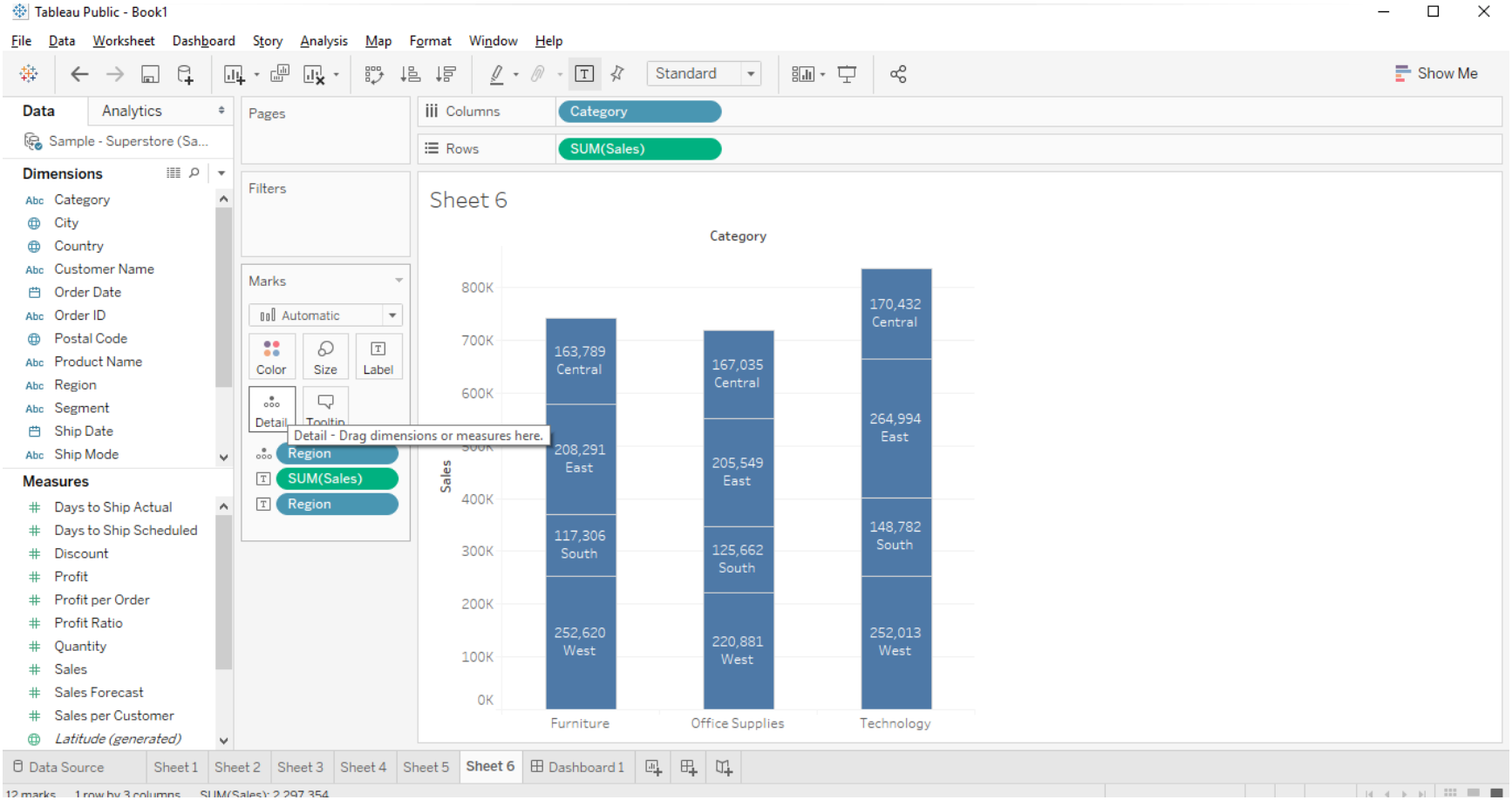
Assigning Shapes

Tableau also allows us to use default or customized shapes in charts.



Displaying Details

The Detail mark is similar to the colors mark. Colors creates the section in various colors, however, detail creates the section in same color.



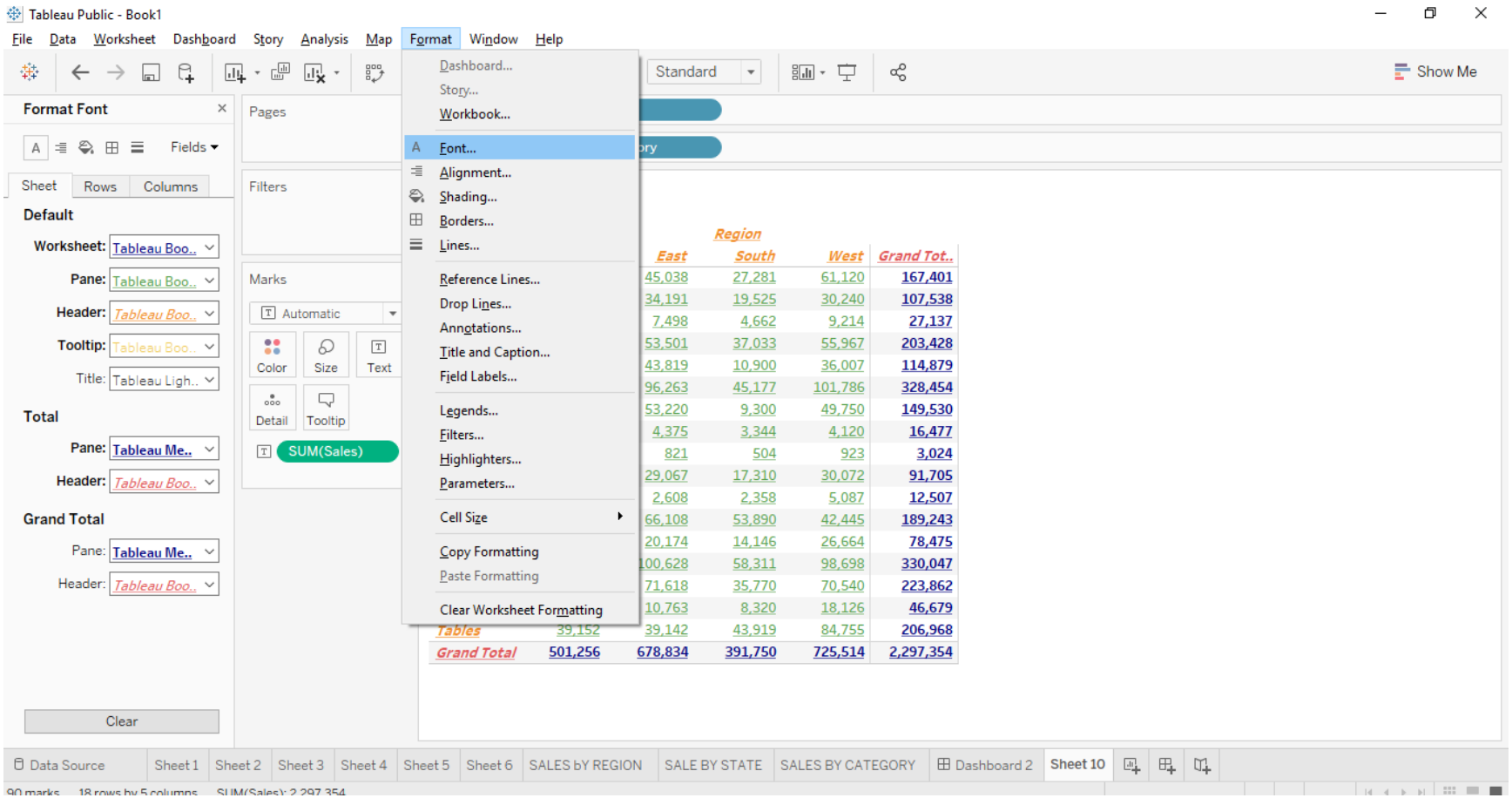
ASSIGNMENT

Create a bar chart to represent region wise profit. The Bars should also display category, sales & profit value.

Display sub category wise quantity sold & average profit using bar chart.

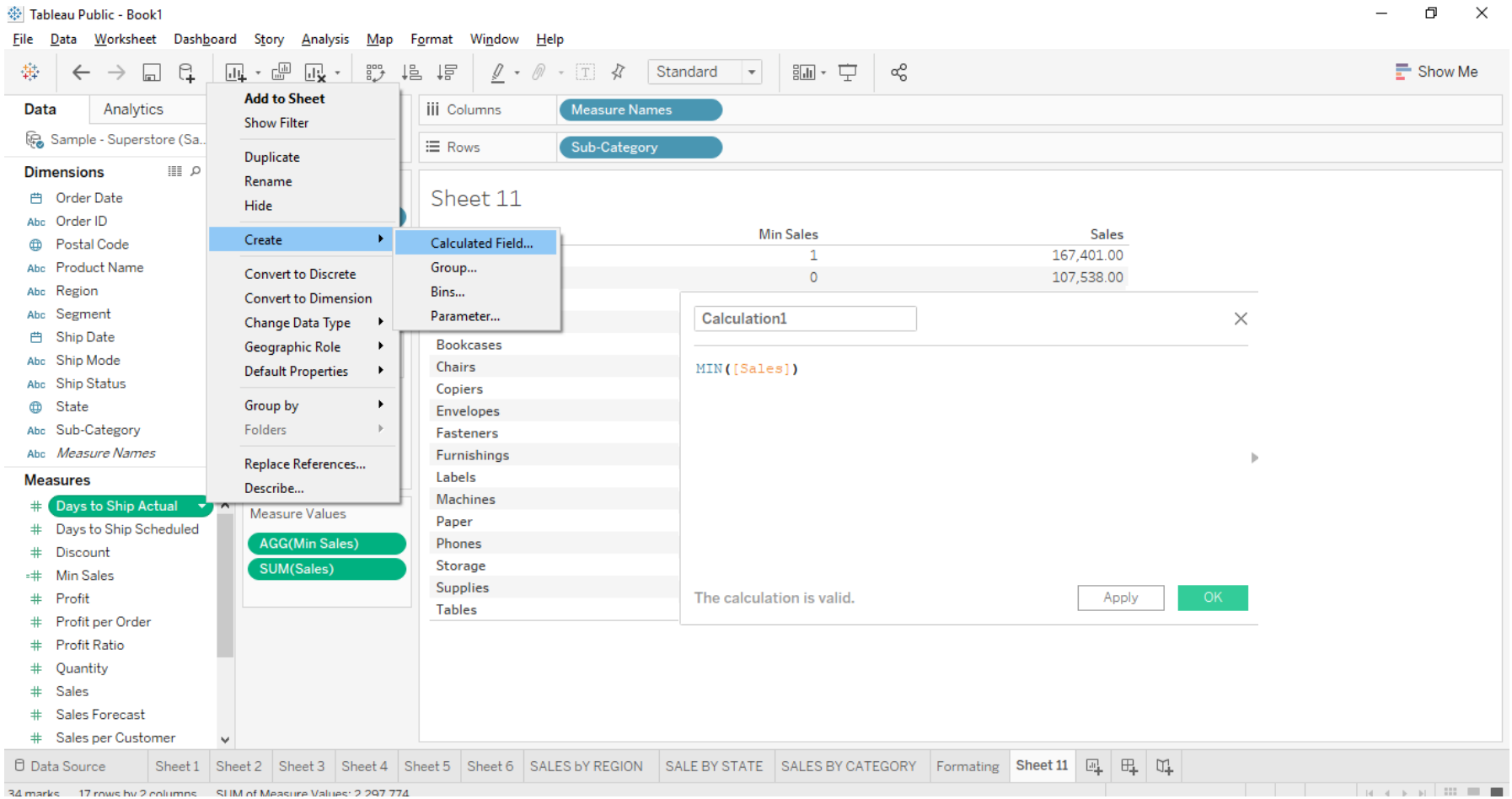
Formatting Data

Tableau also allows us to format the data in various ways. We can change Font, Alignment, Sheet Colors & Borders



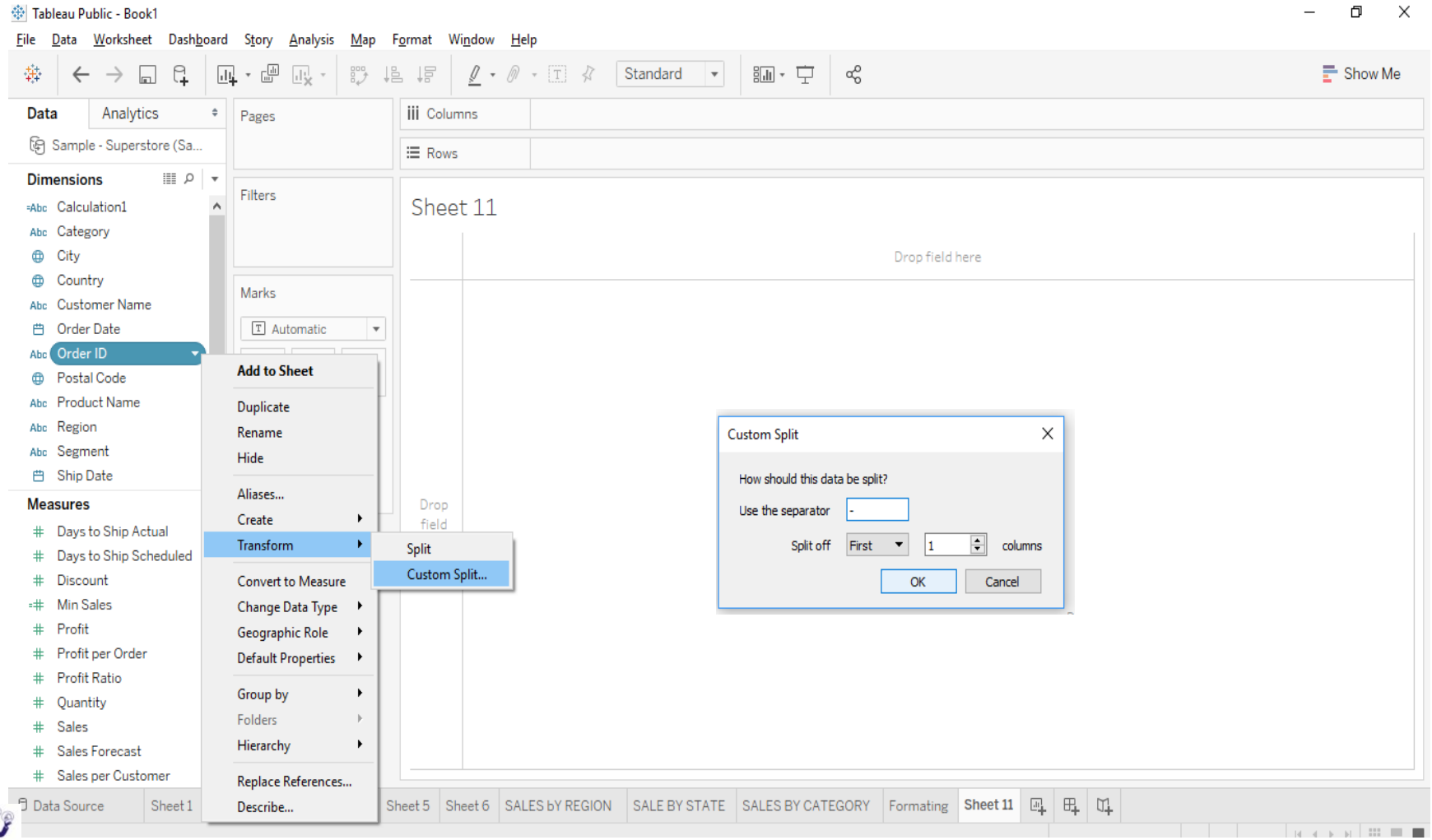
Calculations

We can create calculated fields in Tableau. As in Excel it also provides us various function like sum, max, min, ceiling, floor etc…



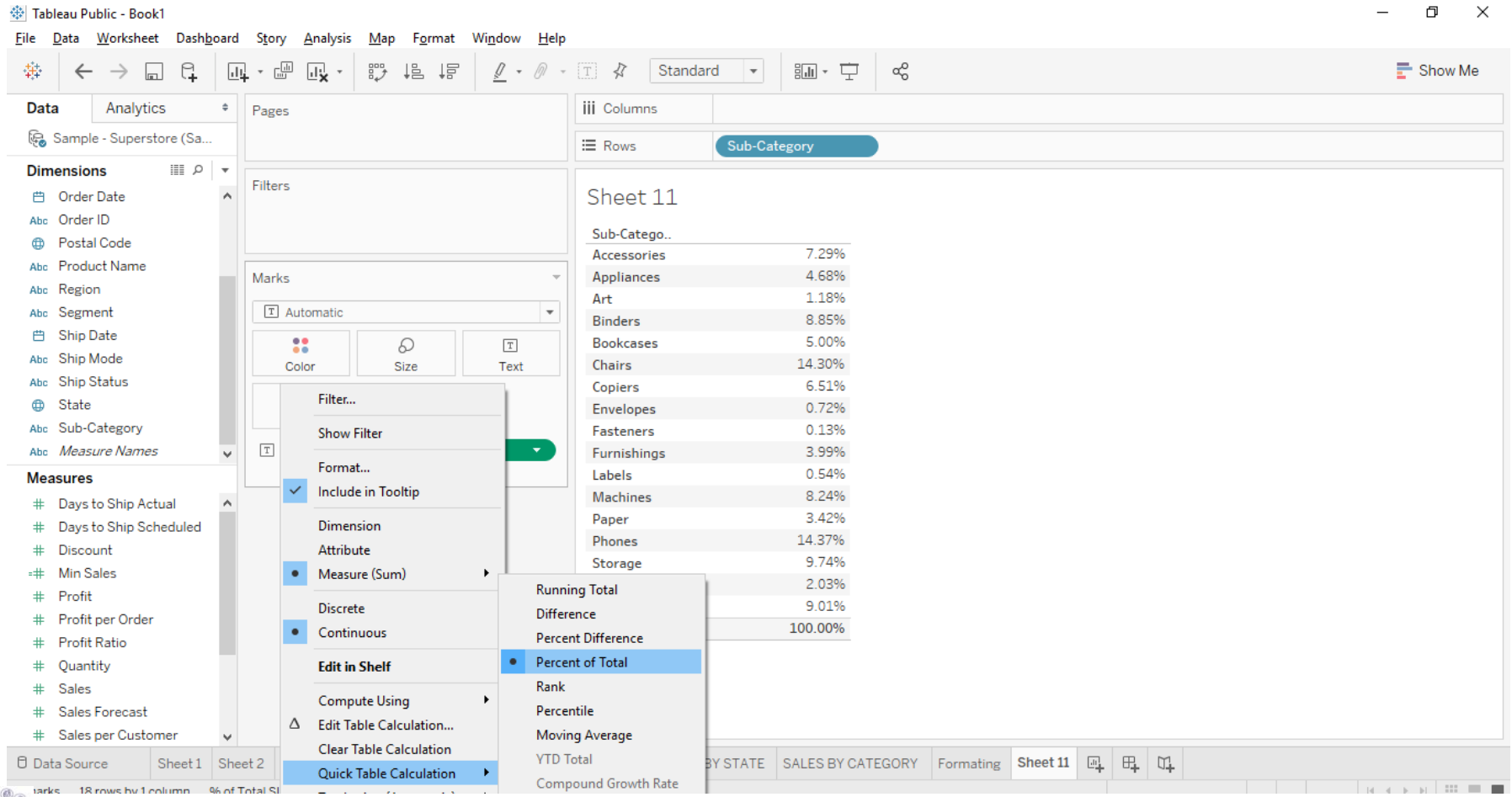
Calculations

String Functions: Most of the string functions we use in Excel are available in Tableau. Left, Right, Upper, Lower, Len, etc…



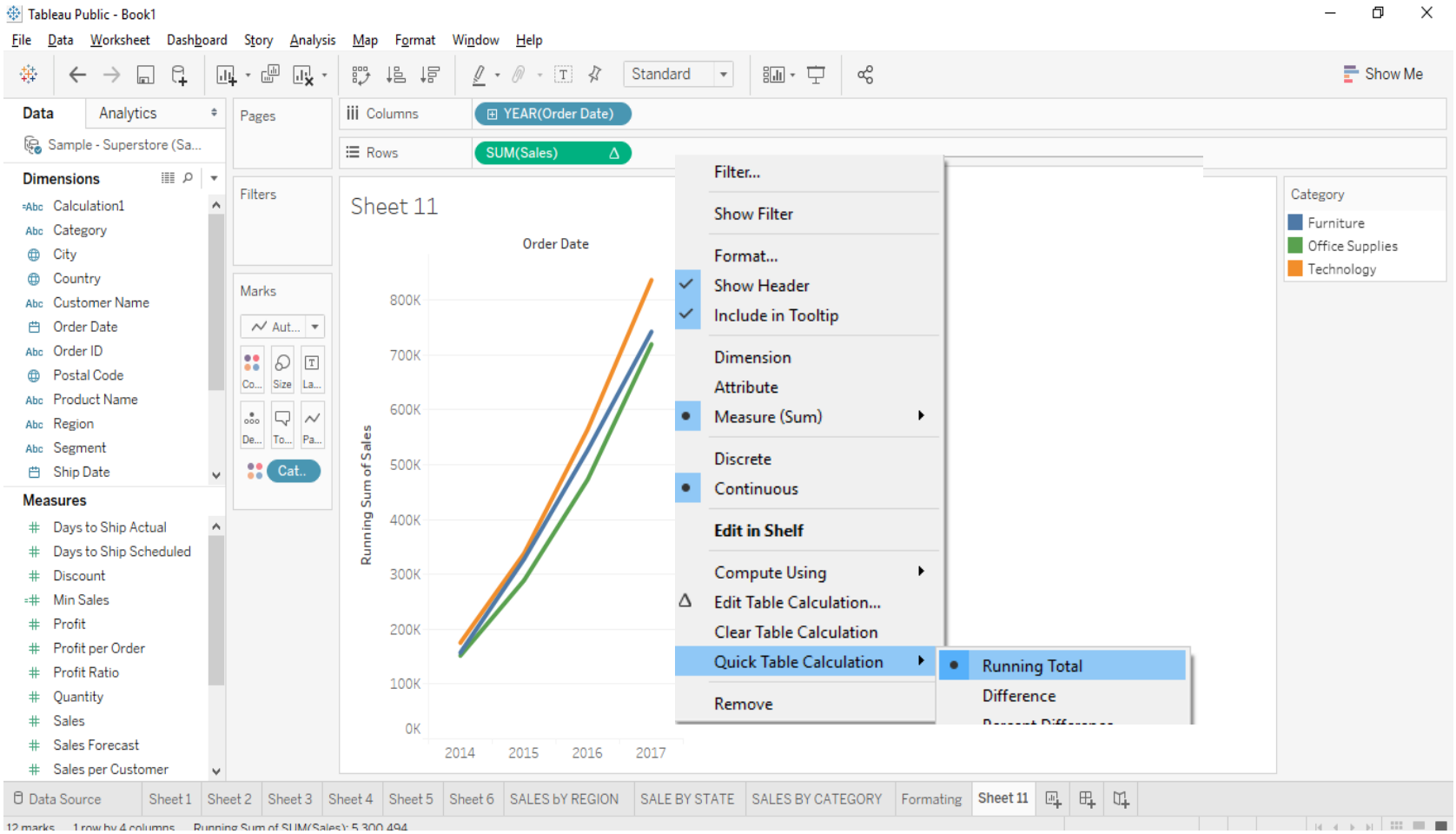
Calculations

Table Calculations (Percentage of Total **):** These are the calculations we do on the output received.



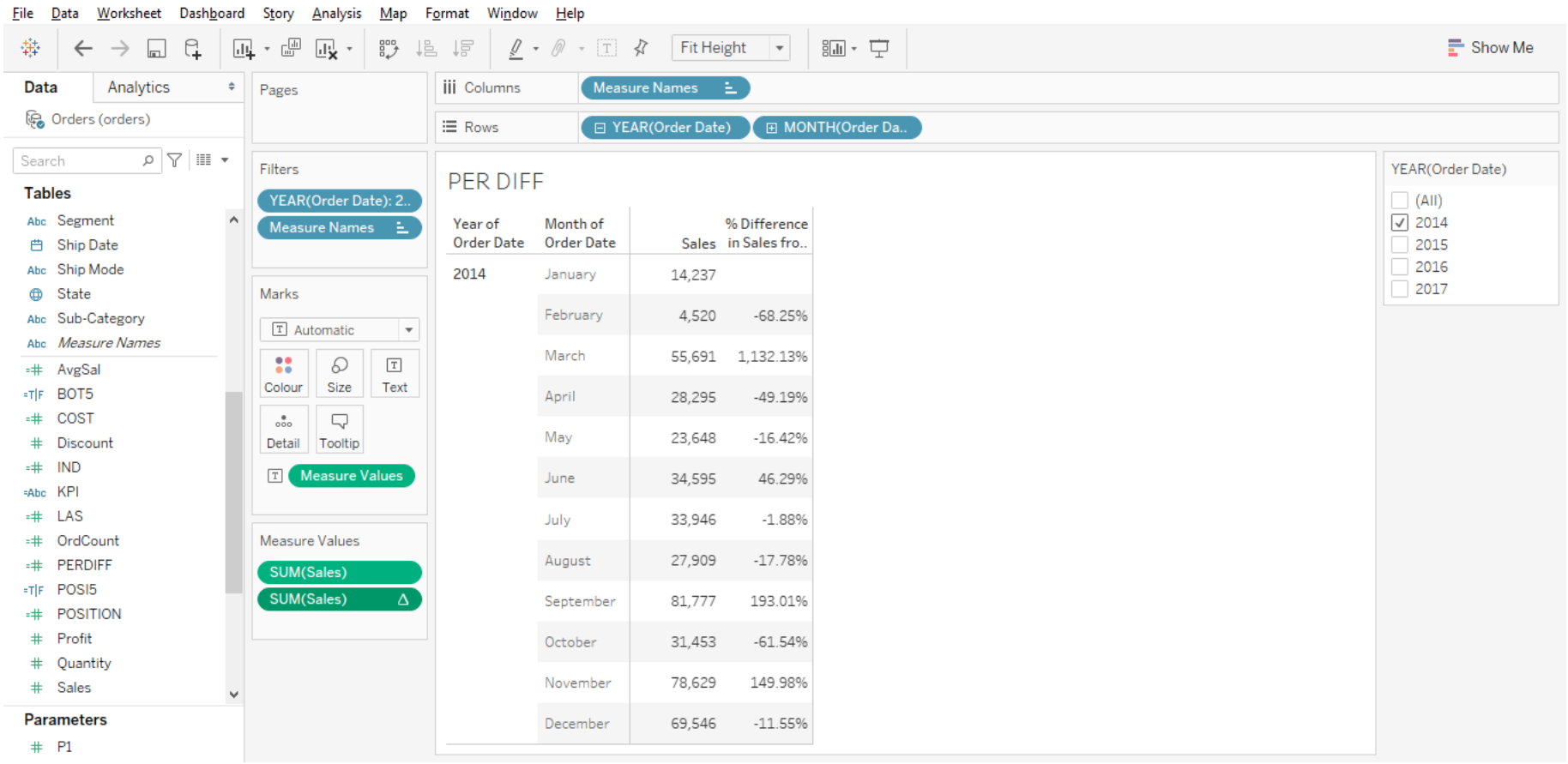
Calculations

Table Calculations (Running Total**):** These are the calculations we do on the output received.



Calculations

Table Calculations (Percentage Difference) **:** Gives the percentage difference between previous & current value



Year of Order Date	Month of Order Date	Sales	% Difference in Sales fro..
2014	January	14,237	
	February	4,520	-68.25%
	March	55,691	1,132.13%
	April	28,295	-49.19%
	May	23,648	-16.42%
	June	34,595	46.29%
	July	33,946	-1.88%
	August	27,909	-17.78%
	September	81,777	193.01%
	October	31,453	-61.54%
	November	78,629	149.98%
	December	69,546	-11.55%

Calculations

KPI (Key Performance Indicators) : highlight the trend of the value.