DR. ALVIN'S PUBLICATIONS

LEARNING TABLEAU
PART VII

CALCULATED FIELDS & LOD

DR. ALVIN ANG

WWW.ALVINANG.SG

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1. EXAMPLE 1 48

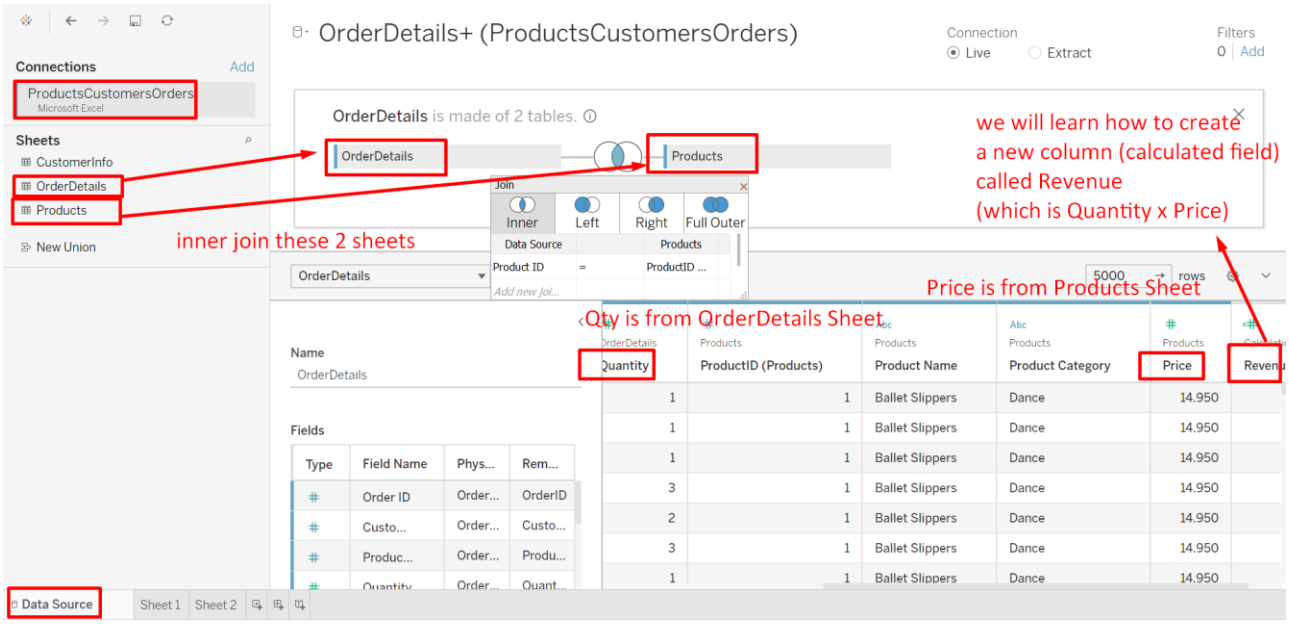
About Dr. Alvin Ang *52*

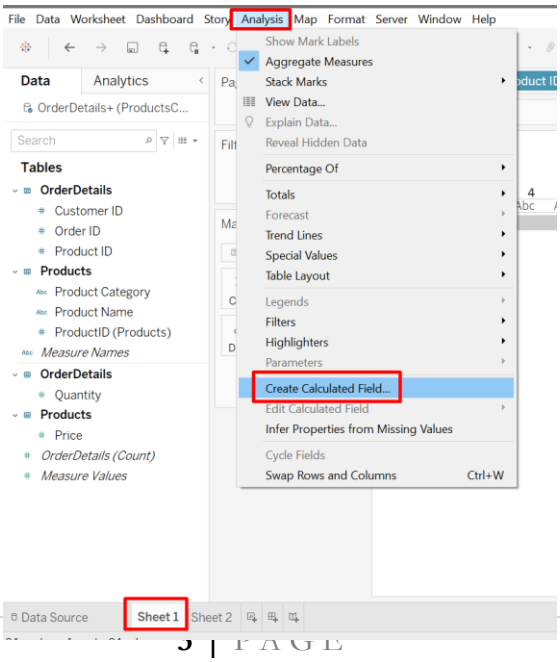
I. CALCULATED FIELDS

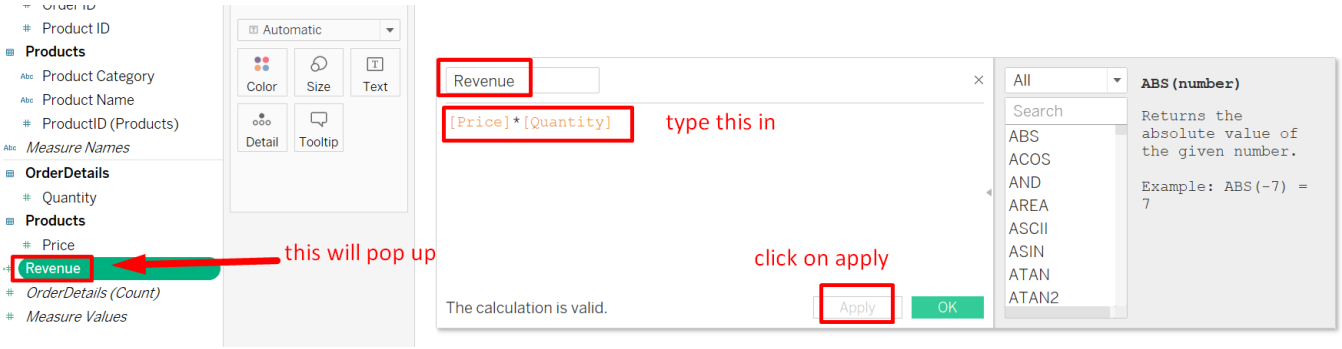
A. PRODUCT CUSTOMERS ORDERS.XLSX

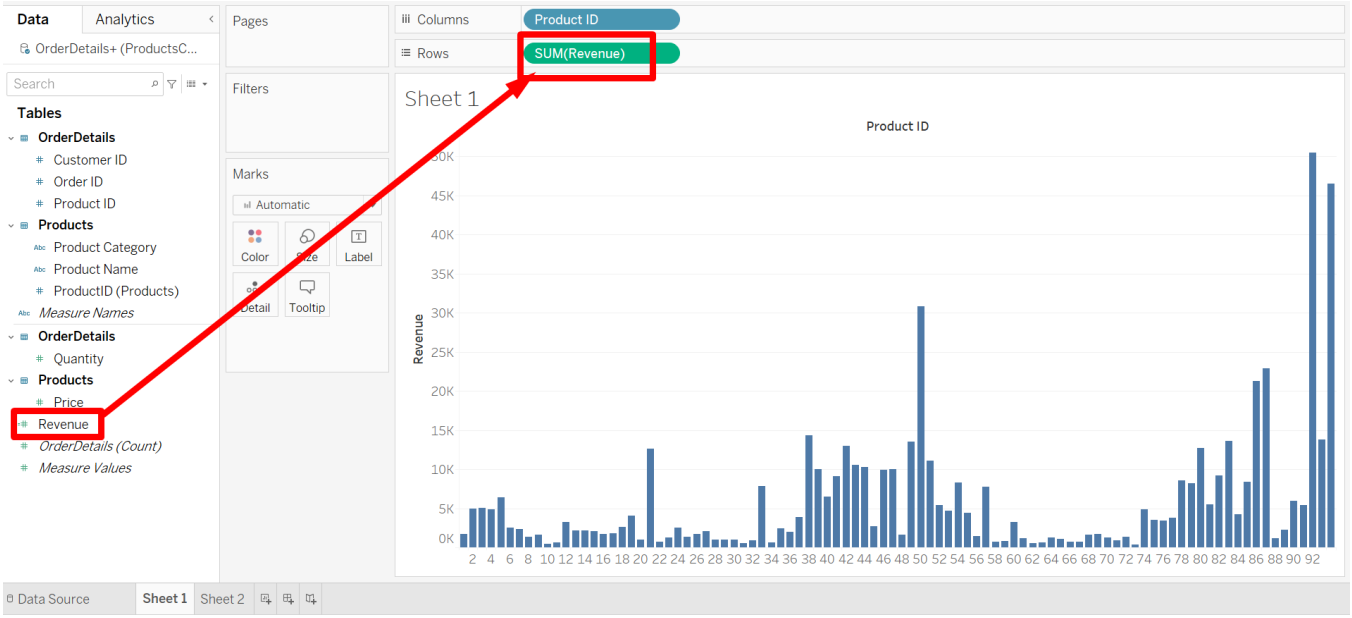
1. REVENUE = PRICE * QUANTITY

https://www.alvinang.sg/s/ProductsCustomersOrders.xlsx





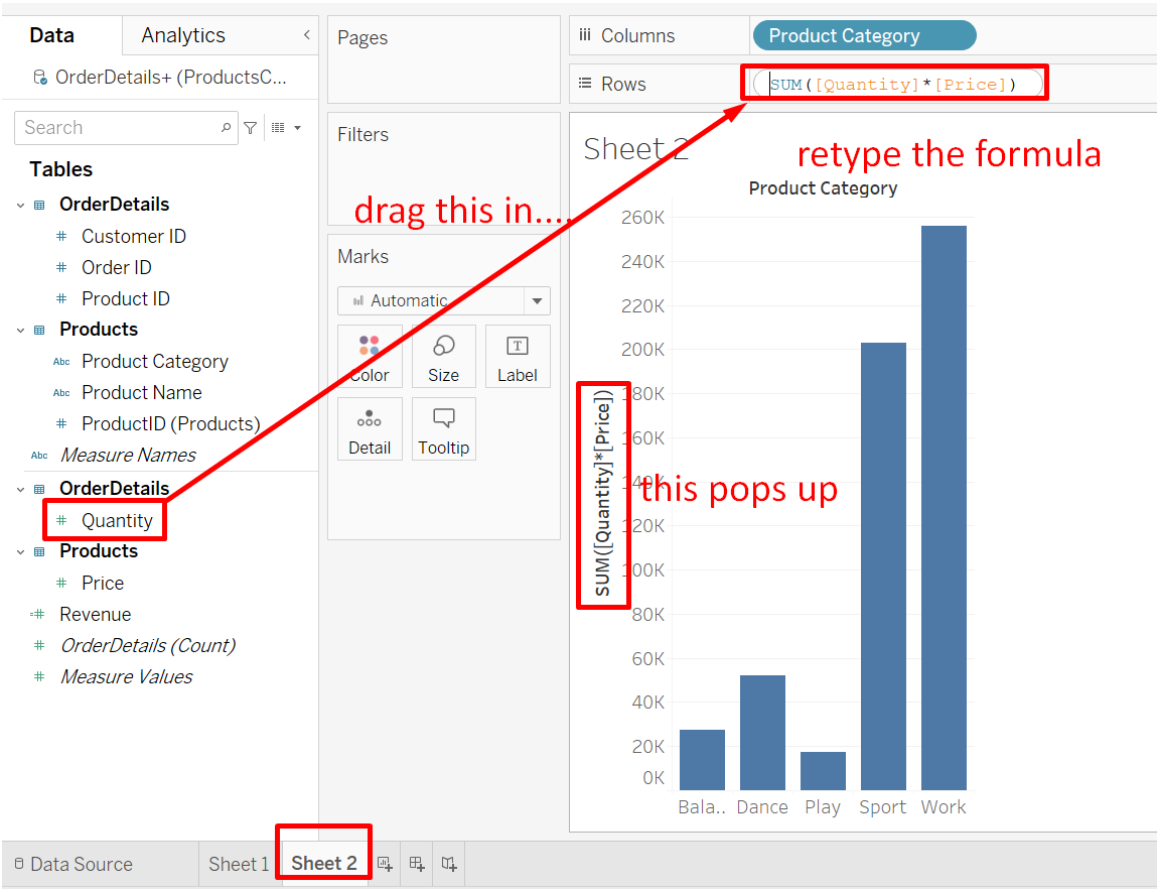




2. QUANTITY * PRICE

https://www.alvinang.sg/s/ProductsCustomersOrders.xlsx

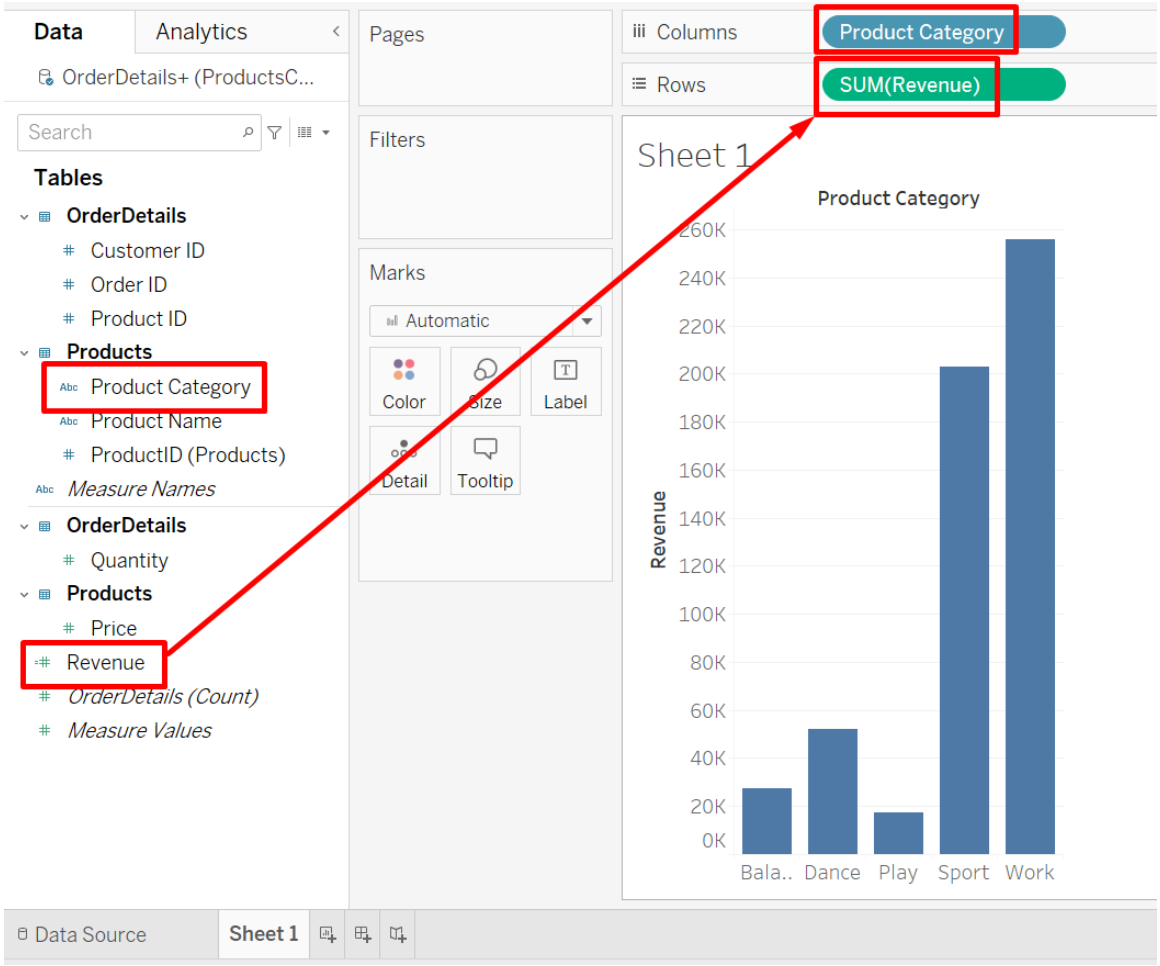
In continuation from previous section, we can shortcut by typing the formula directly into the ROWS….



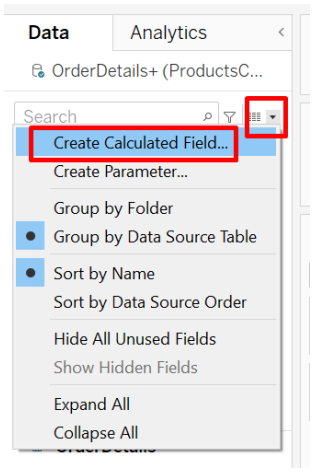
3. GOOD OR BAD REVENUE

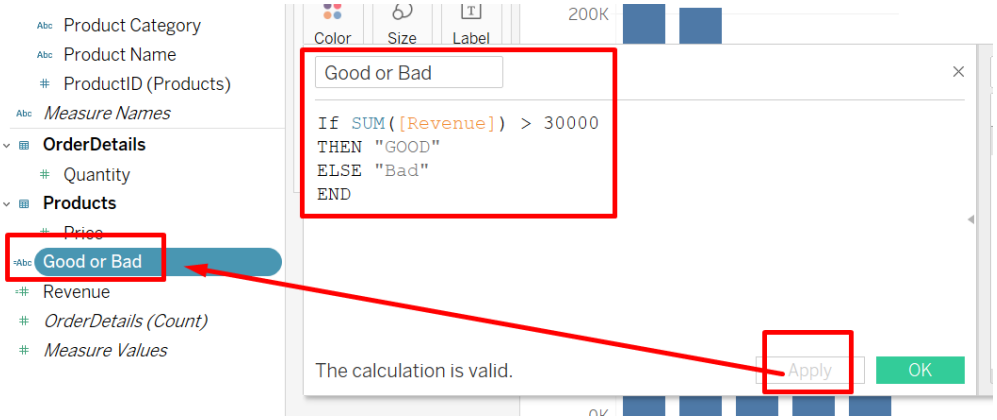
https://www.alvinang.sg/s/ProductsCustomersOrders.xlsx

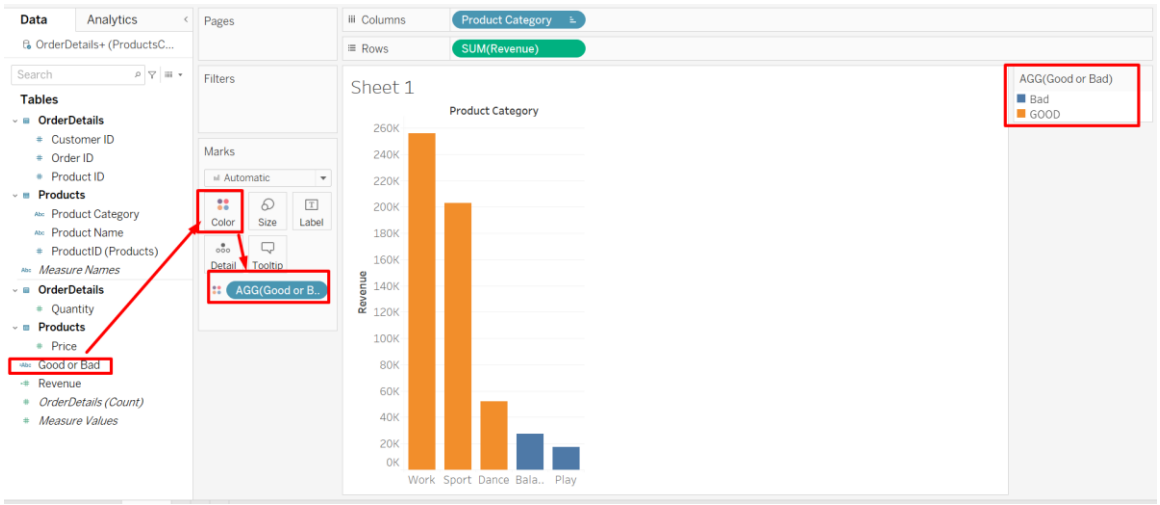
Continue off from previous section



Recall that Revenue = Quantity * Price

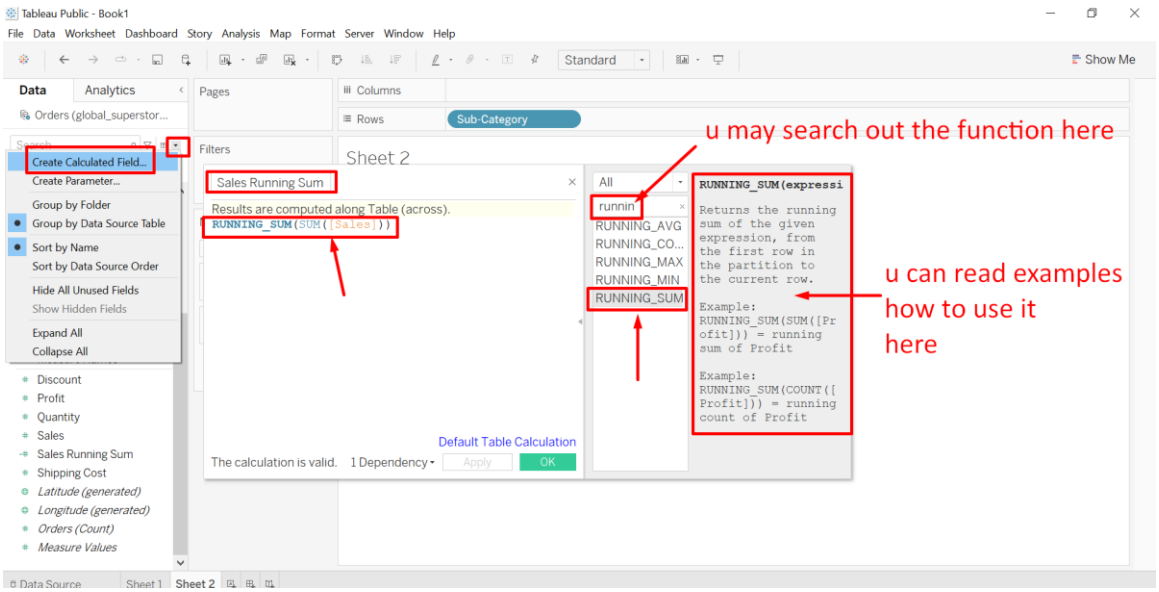


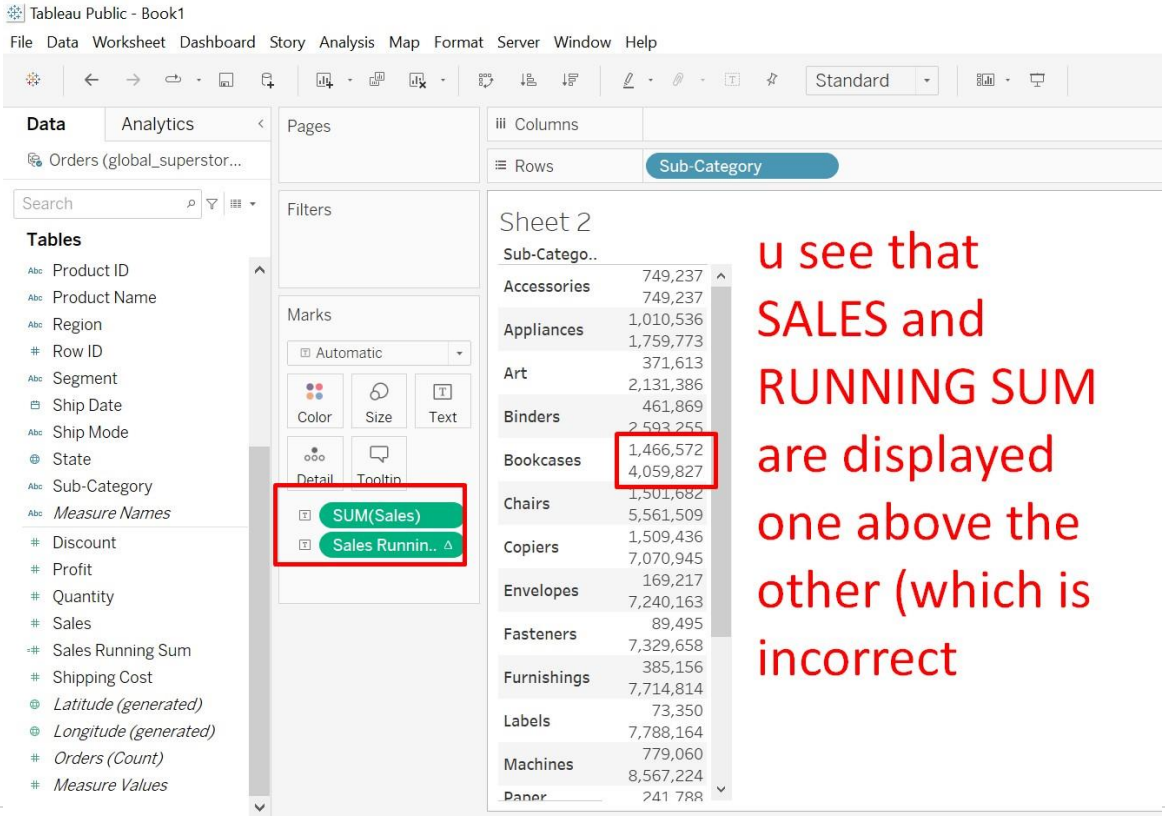


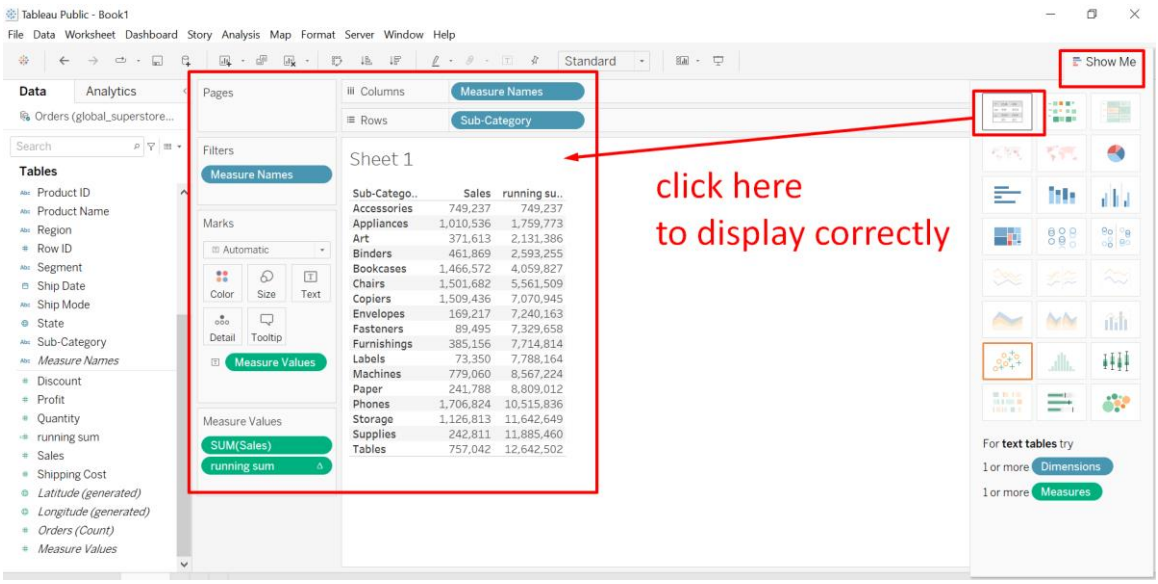


B. GLOBAL SUPERSTORE.XLSX

1. RUNNING SUM

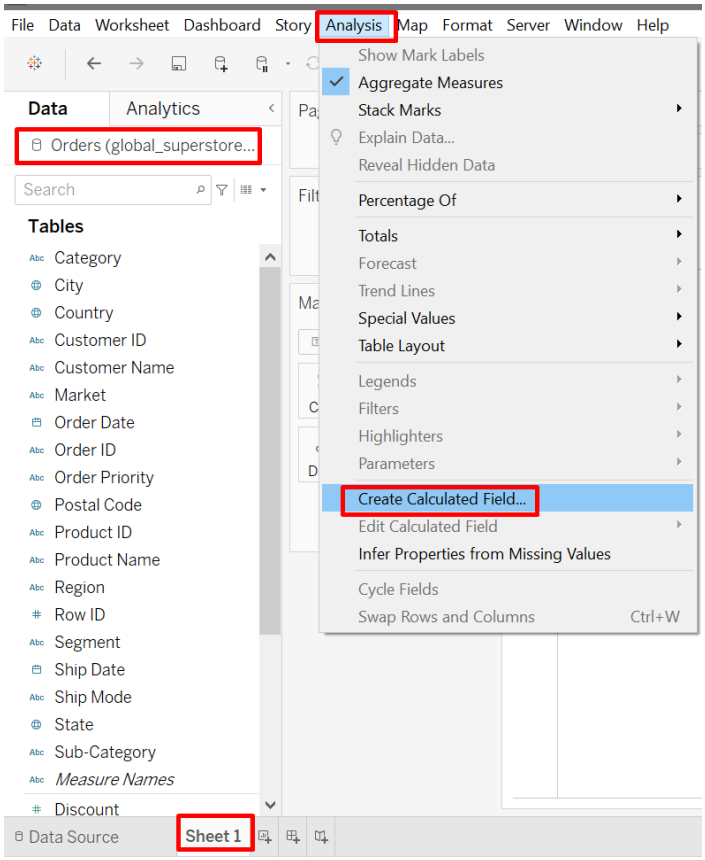


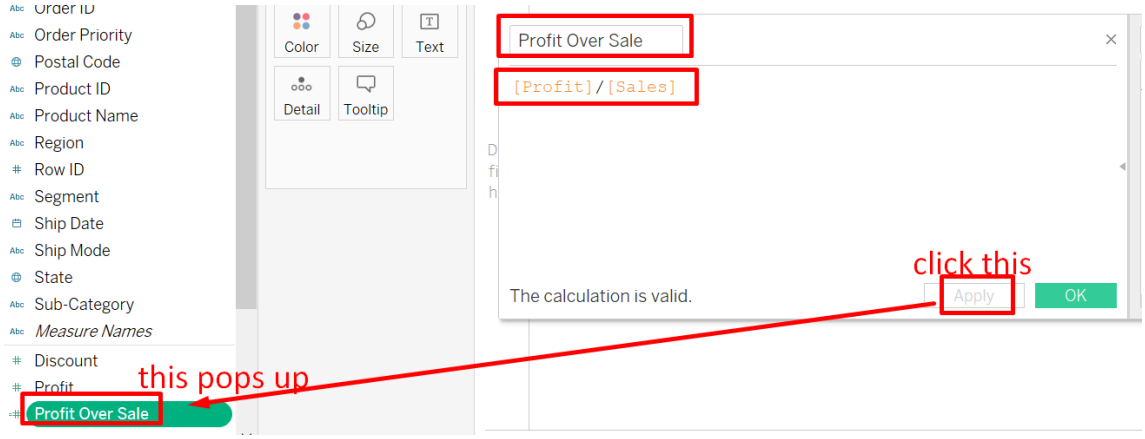


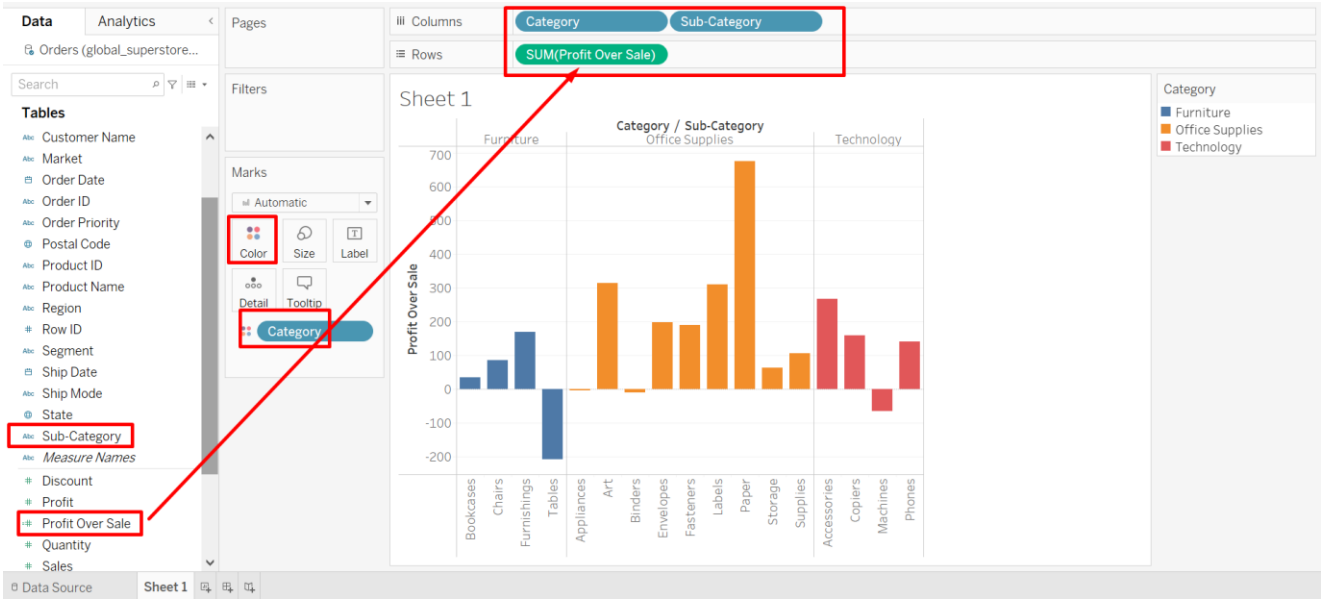


2. PROFIT / SALES

https://www.alvinang.sg/s/global_superstore_2016.xlsx

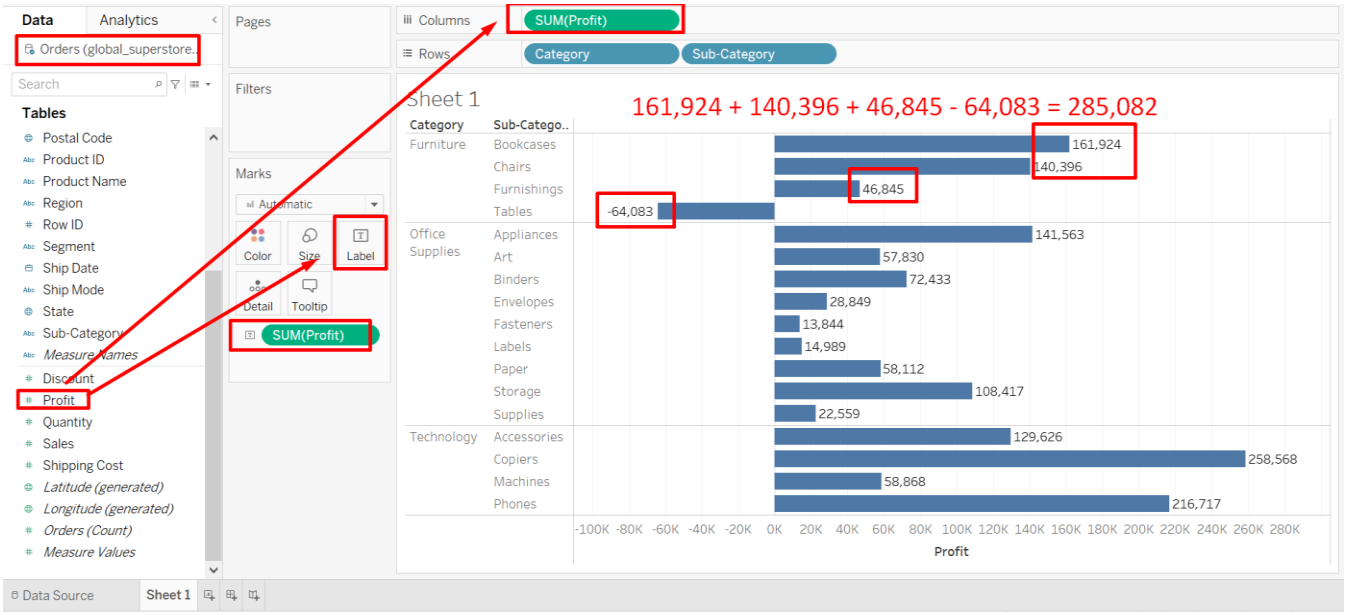


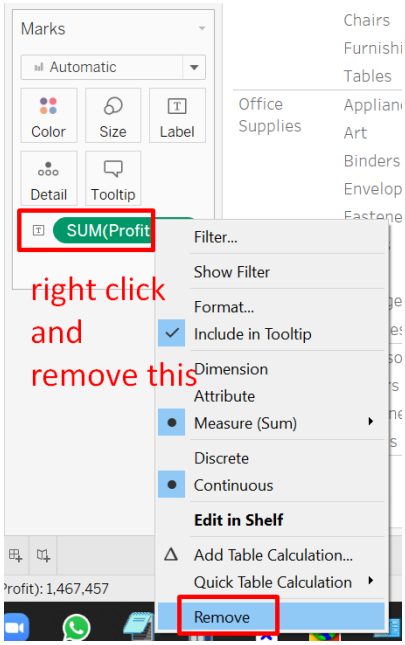


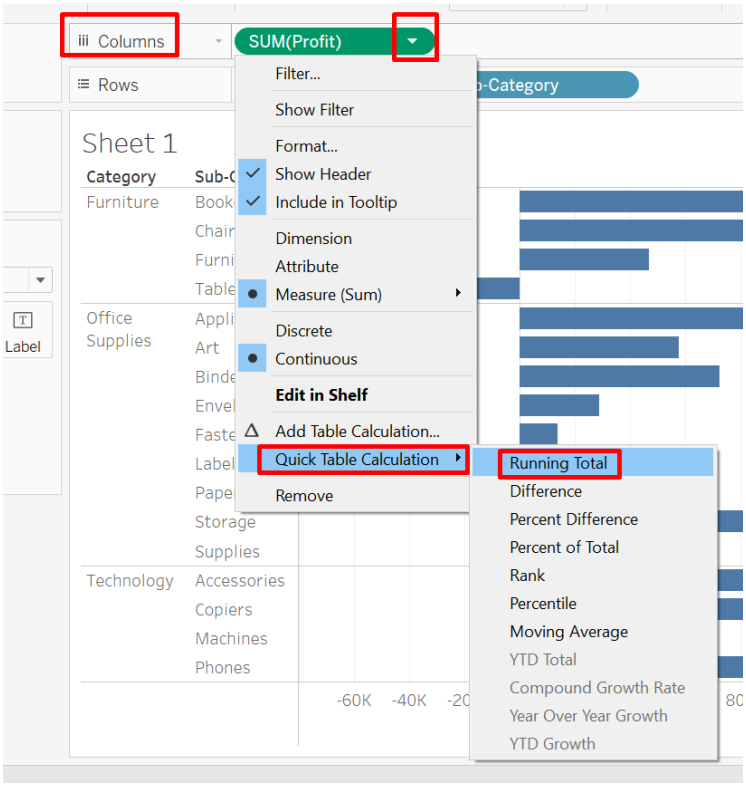


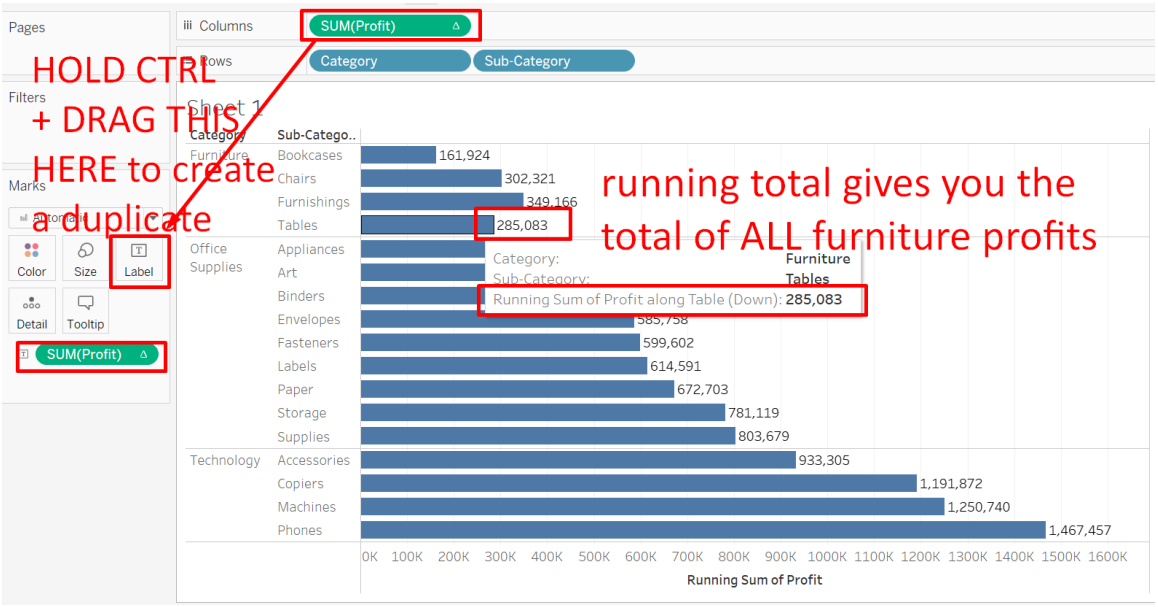
3. RUNNING TOTAL

https://www.alvinang.sg/s/global_superstore_2016.xlsx



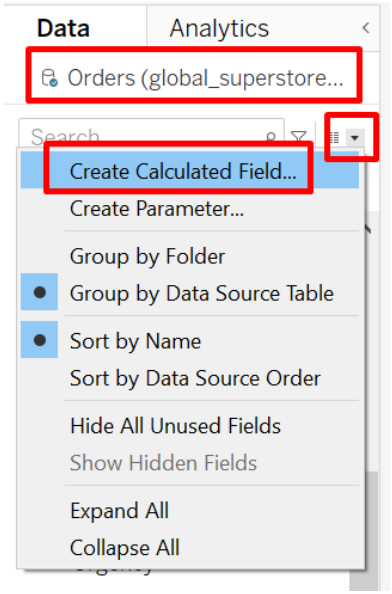


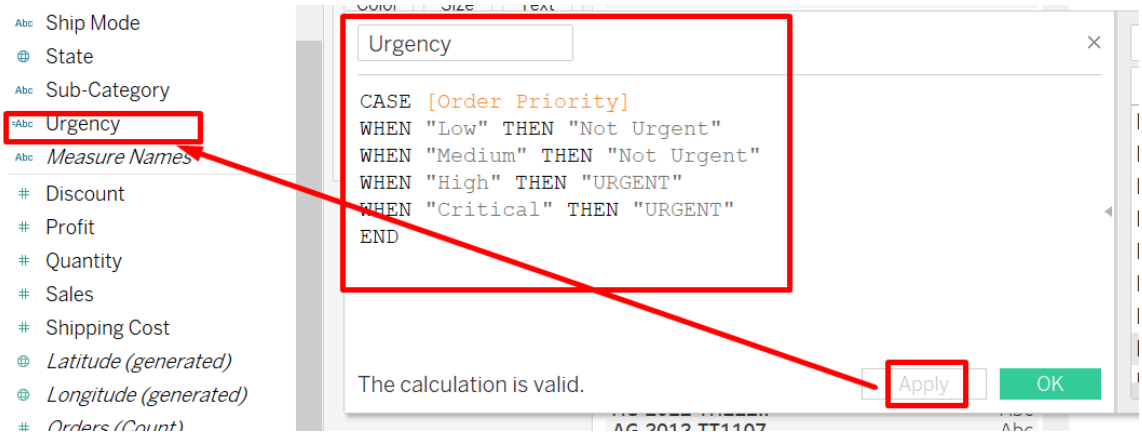


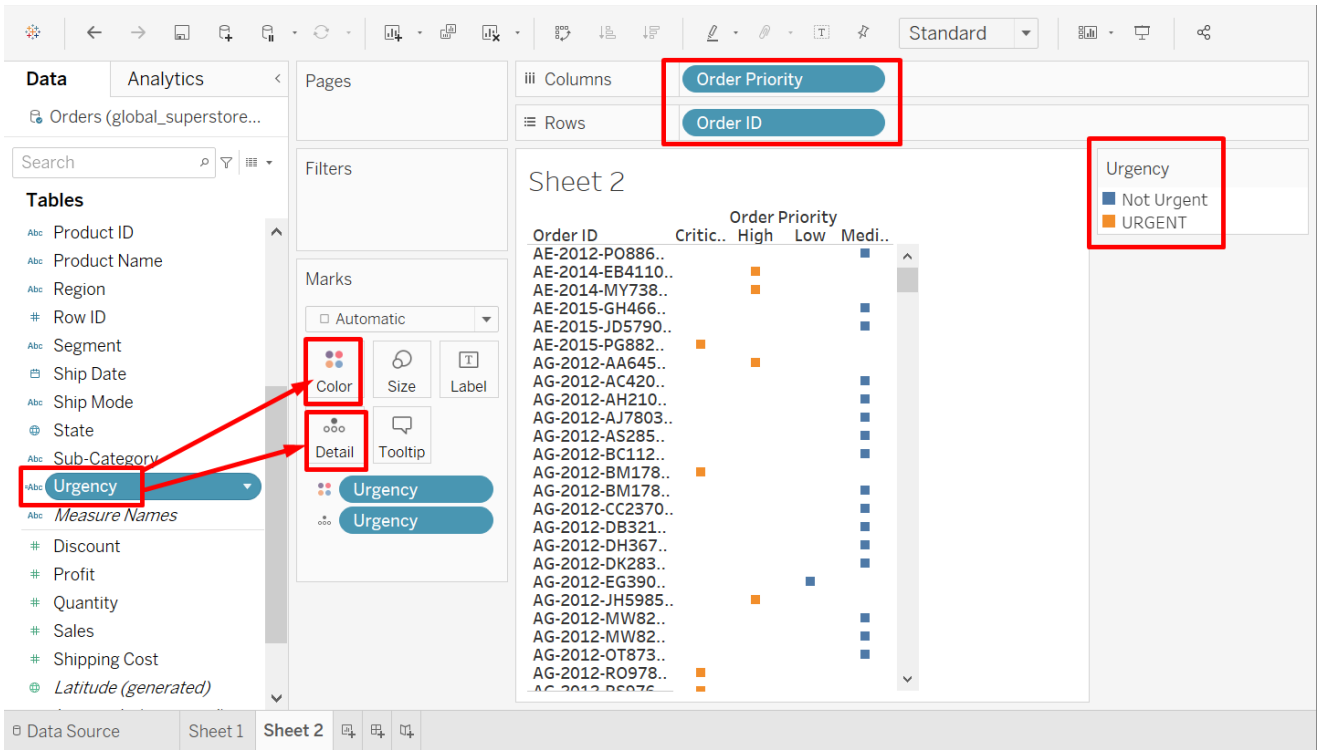


4. URGENCY OF ORDER PRIORITY

https://www.alvinang.sg/s/global_superstore_2016.xlsx

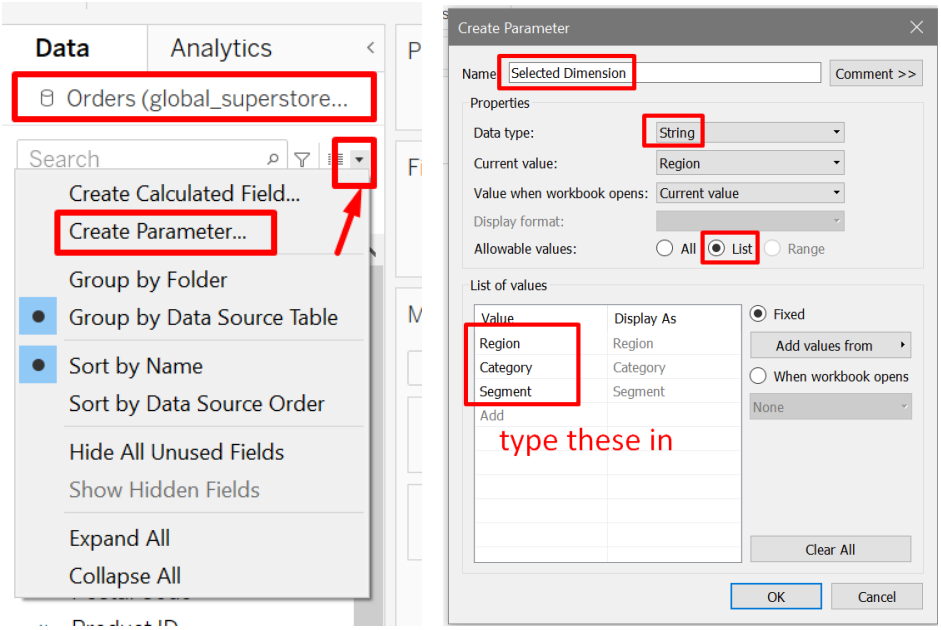


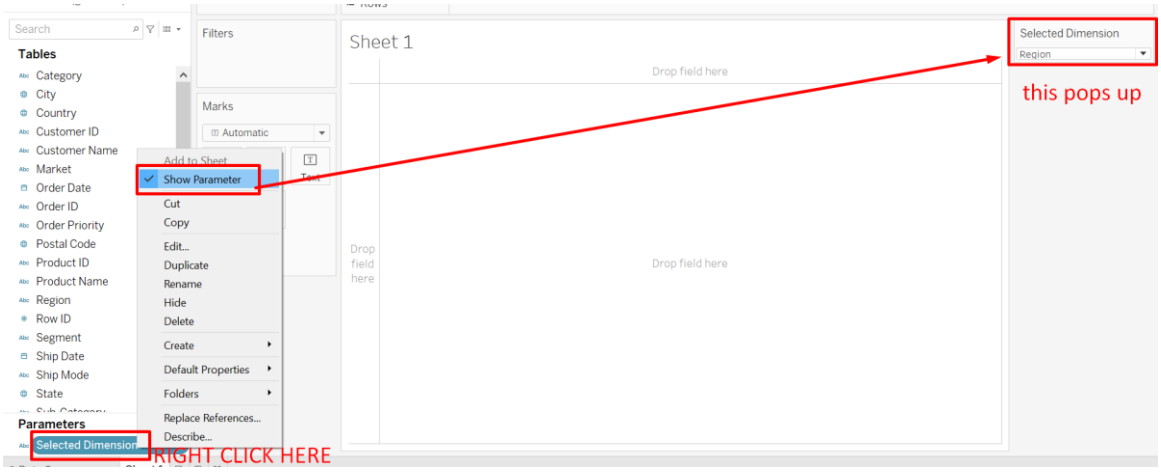


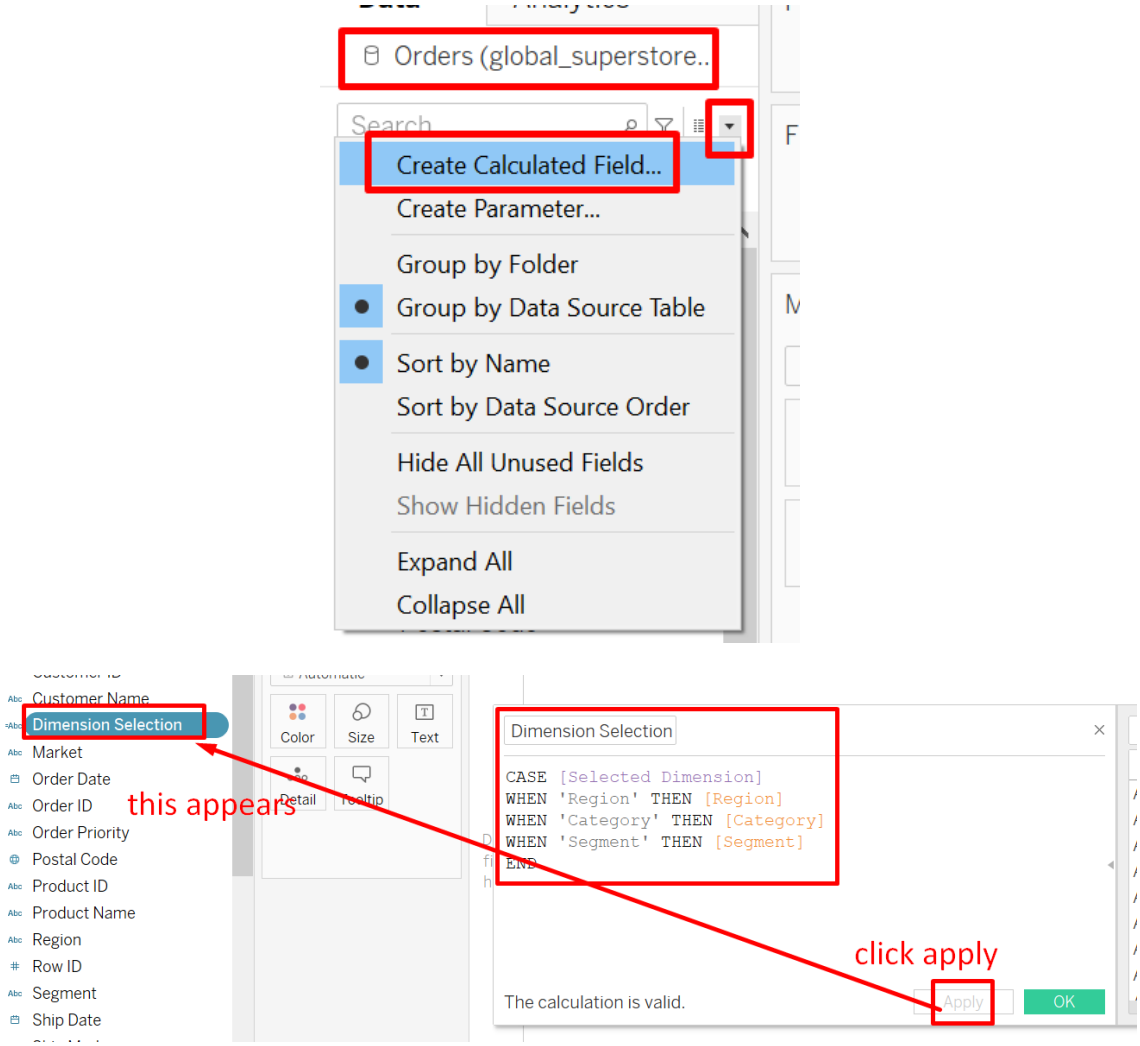


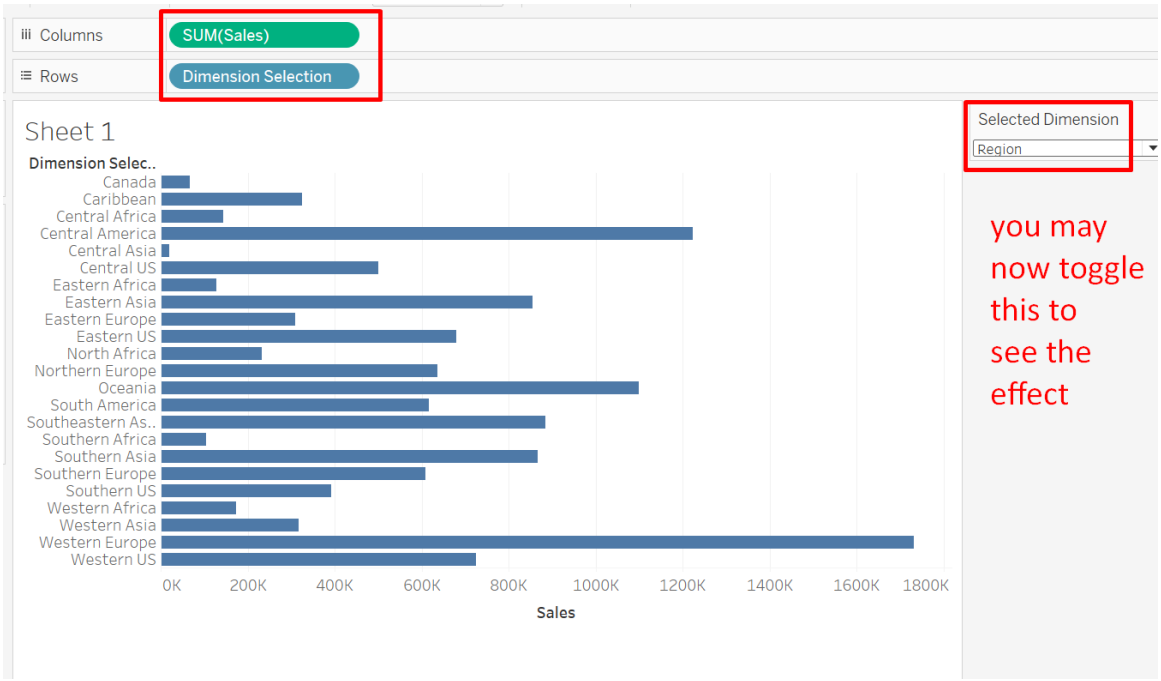
5. USING PARAMETER TO CREATE DYNAMIC VIEWS

https://www.alvinang.sg/s/global_superstore_2016.xlsx





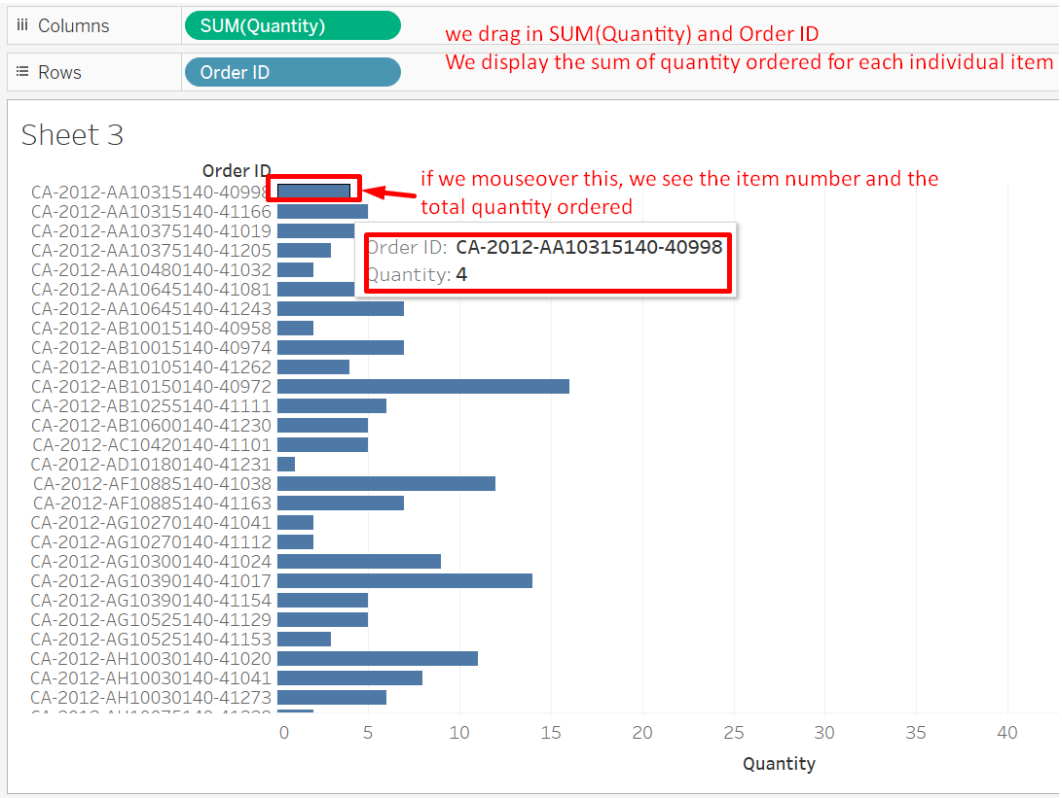


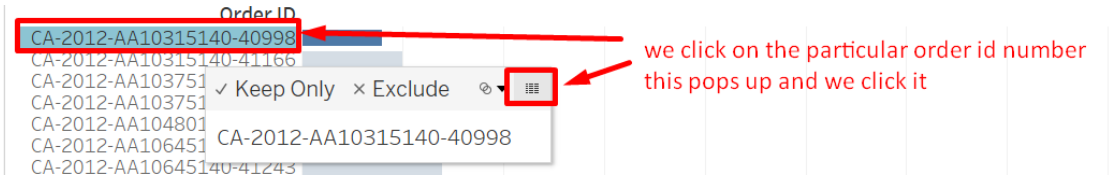


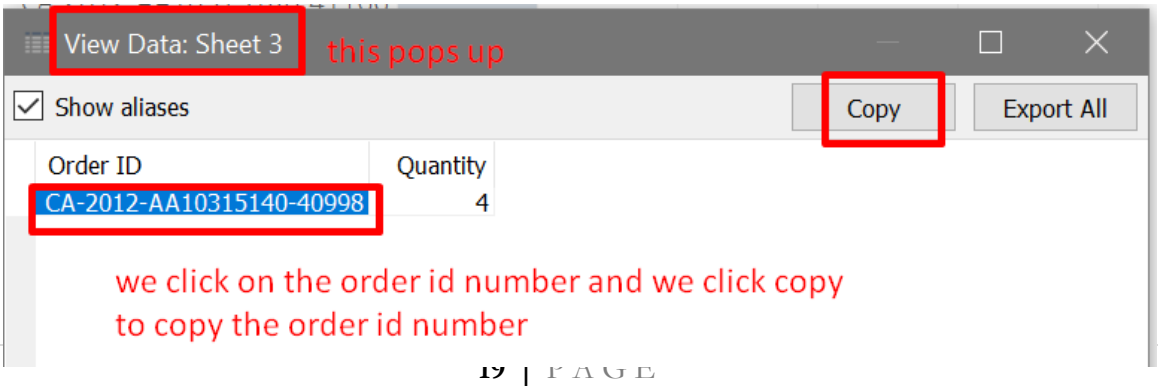
C. SAMPLE SUPERSTORE.XLSX

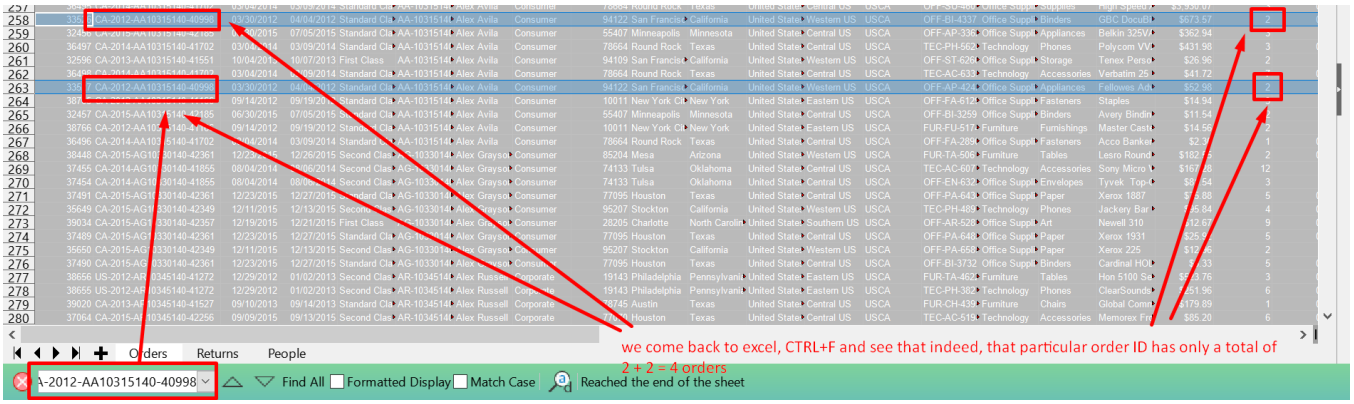
https://www.alvinang.sg/s/Sample-Superstore-USA.xls

1. DOUBLE CHECKING OUR DATA



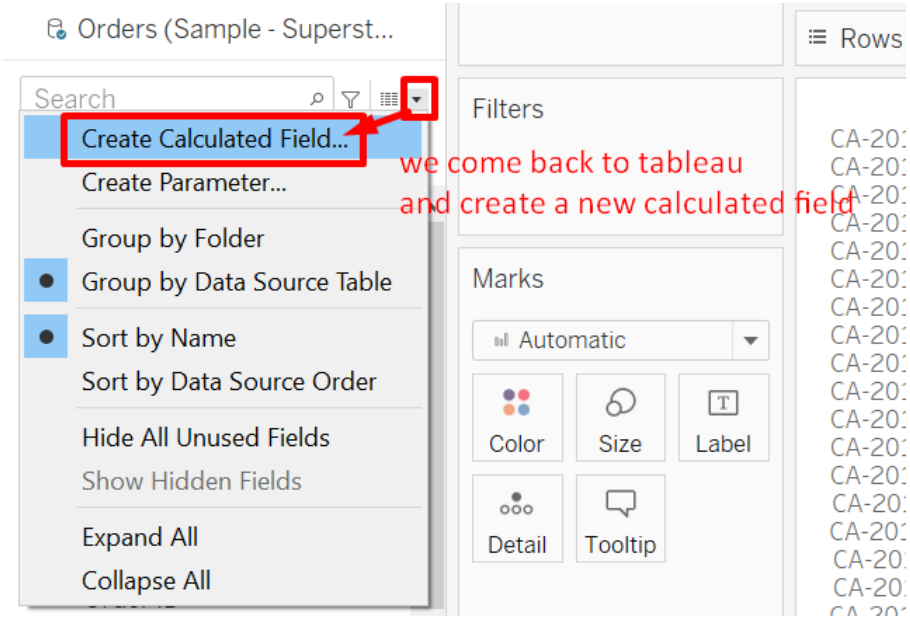


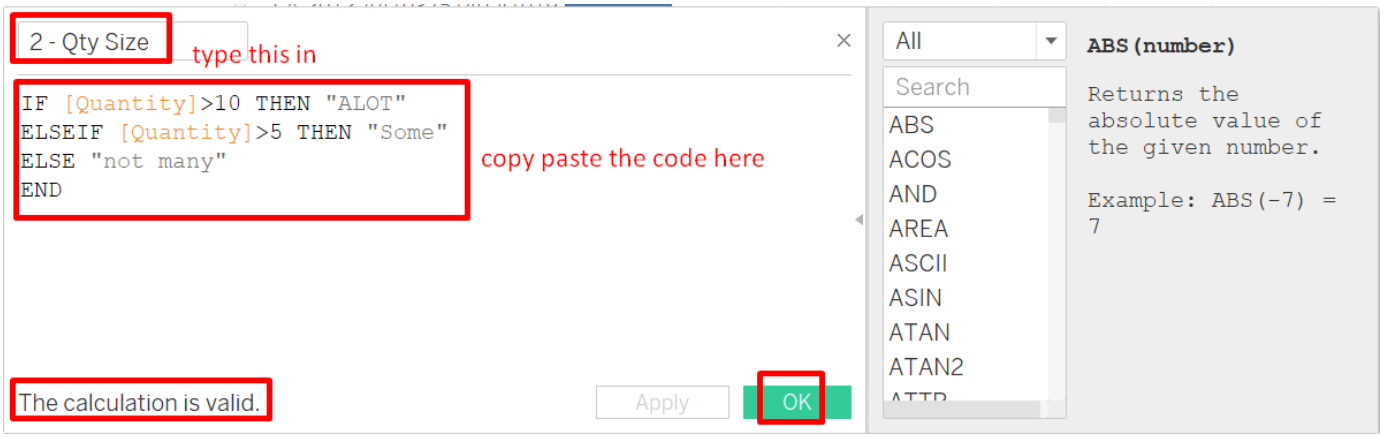




2. ALOT / SOME / NOT MANY

a) Try to spot the error…





CODE:

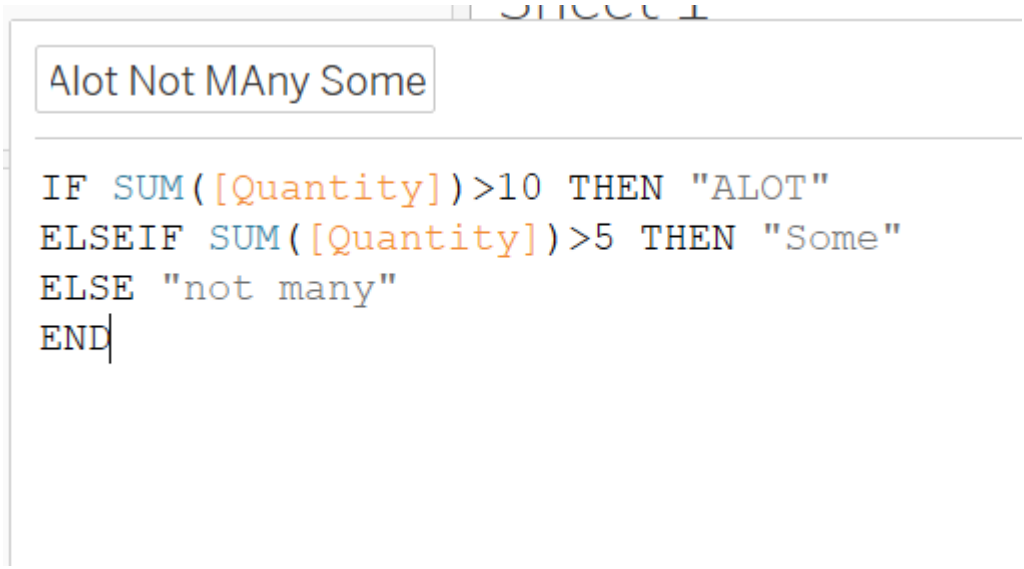
```
IF [Quantity]>10 THEN "ALOT"

ELSEIF [Quantity]>5 THEN "Some"

ELSE "not many"

END
```

Notice the above… "Not Many" is more than "Some"? "Some" is more than "Not Many"? ….

There's something wrong with the code!

Can you find out where's the error?

b) Correct Answer



IF SUM([Quantity])>10 THEN "ALOT"

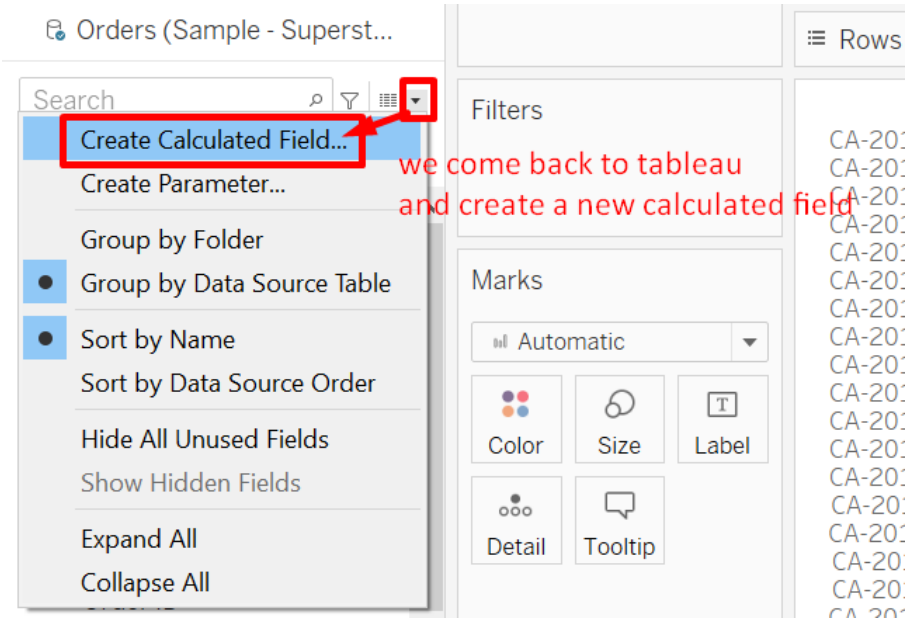
ELSEIF SUM([Quantity])>5 THEN "Some"

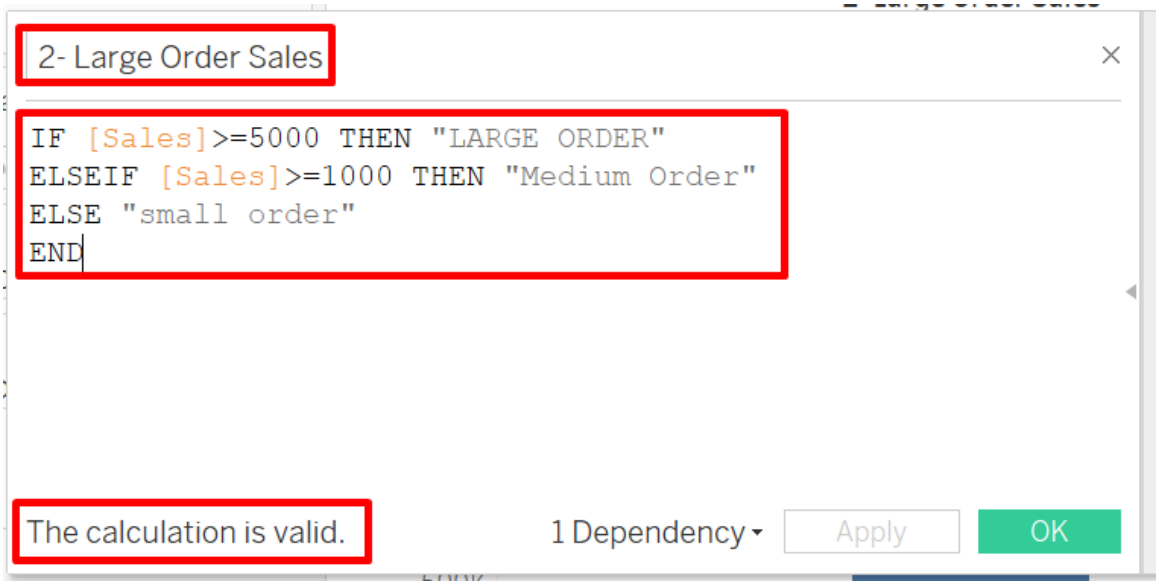
ELSE "not many"

END

3. LARGE / MEDIUM / SMALL ORDERS

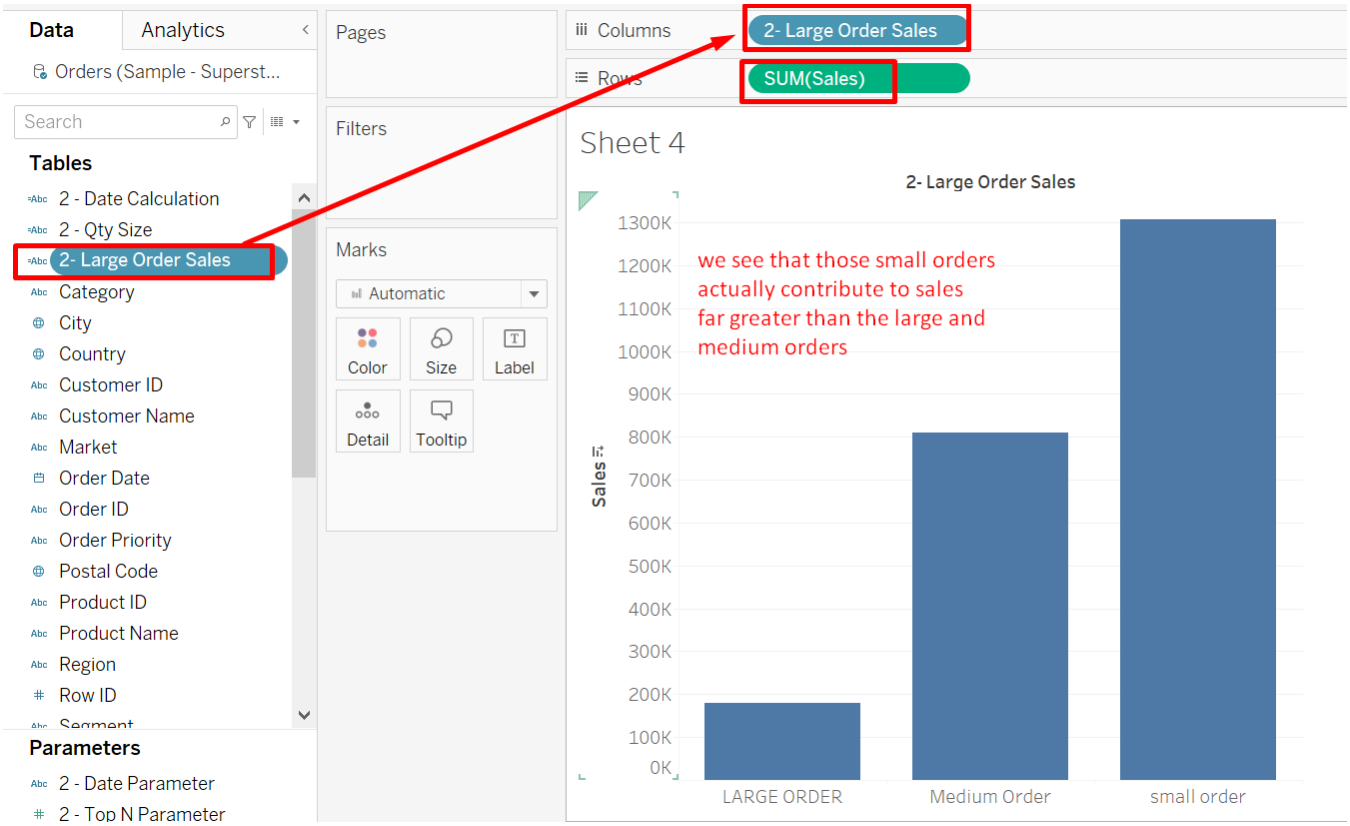
https://www.alvinang.sg/s/Sample-Superstore-USA.xls





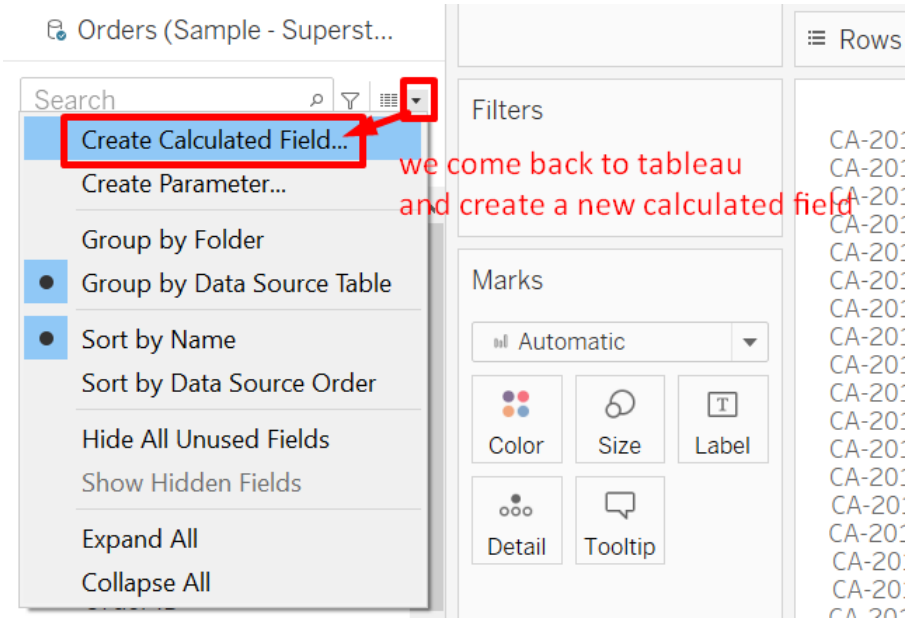
Code:

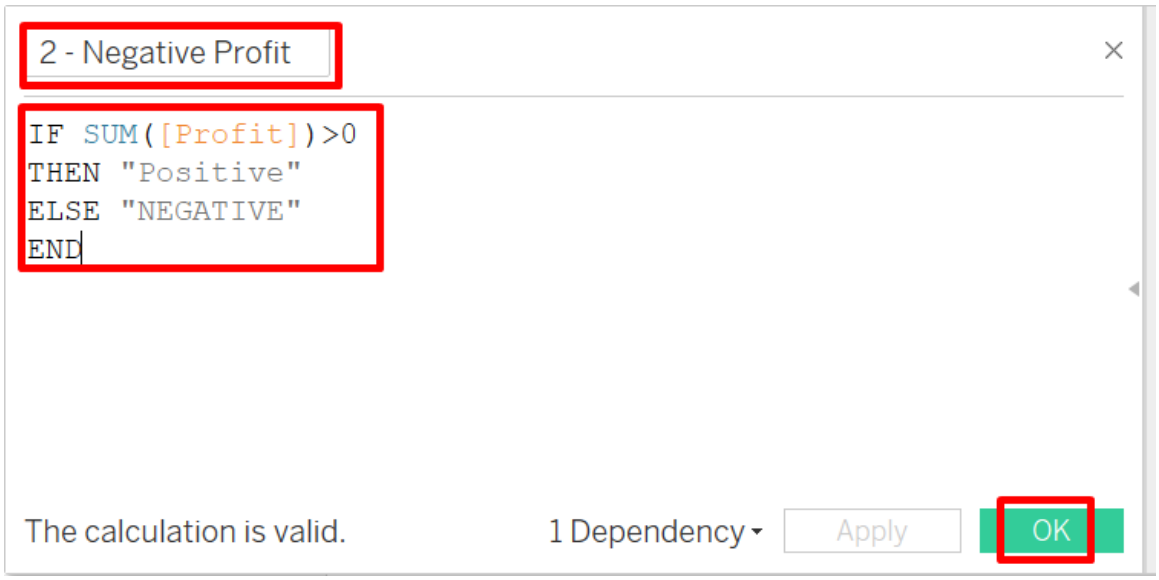
```
IF [Sales]>=5000 THEN "LARGE ORDER"
ELSEIF [Sales]>=1000 THEN "Medium Order"
ELSE "small order"
END
```



4. NEGATIVE PROFITS

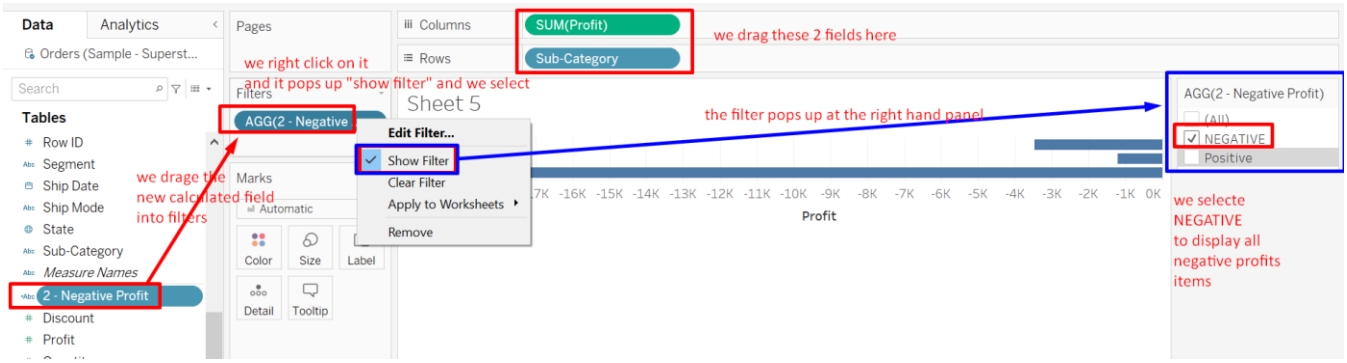
https://www.alvinang.sg/s/Sample-Superstore-USA.xls





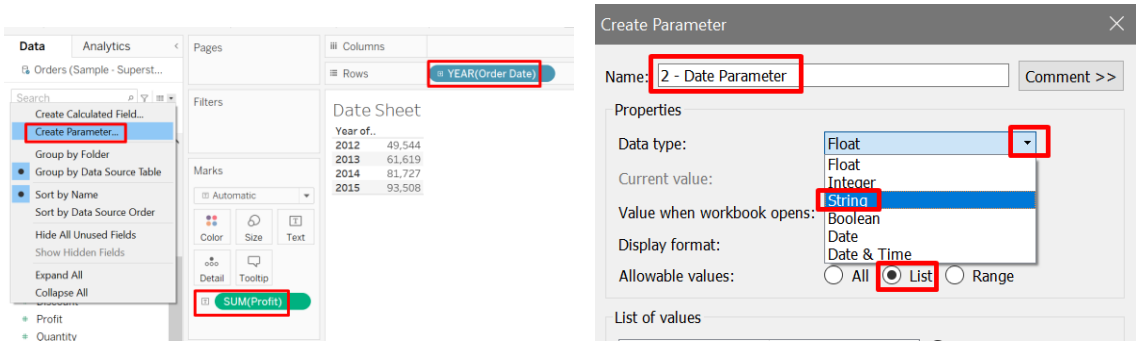
Code:

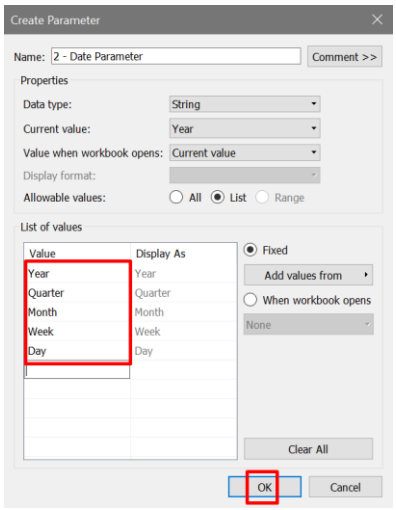
```
IF SUM([Profit])>0
THEN "Positive"
ELSE "NEGATIVE"
END
```

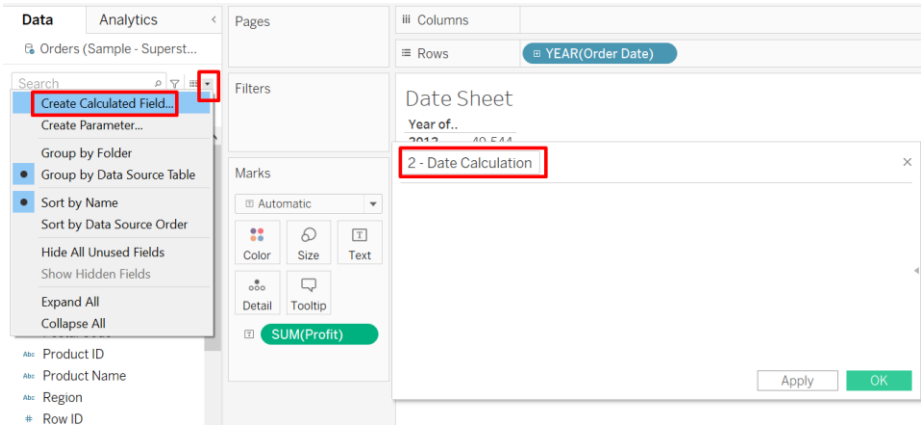


5. CREATING A TOGGLE TO VIEW SALES VIA YEAR / QUARTER / MONTH…

- https://www.alvinang.sg/s/Sample-Superstore-USA.xls

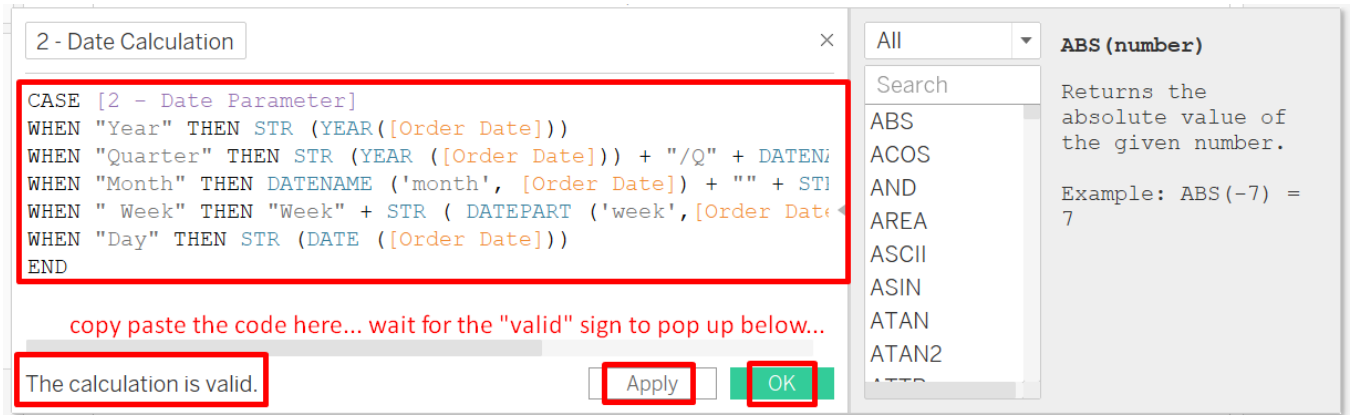


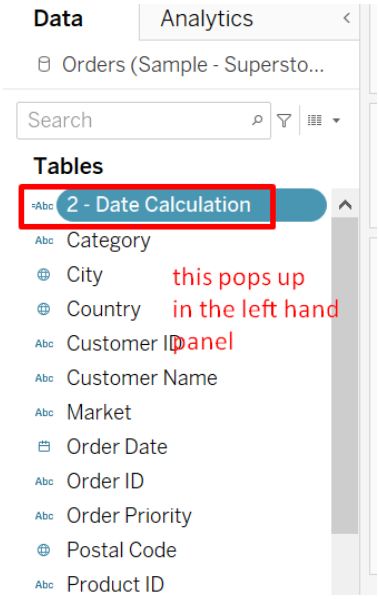


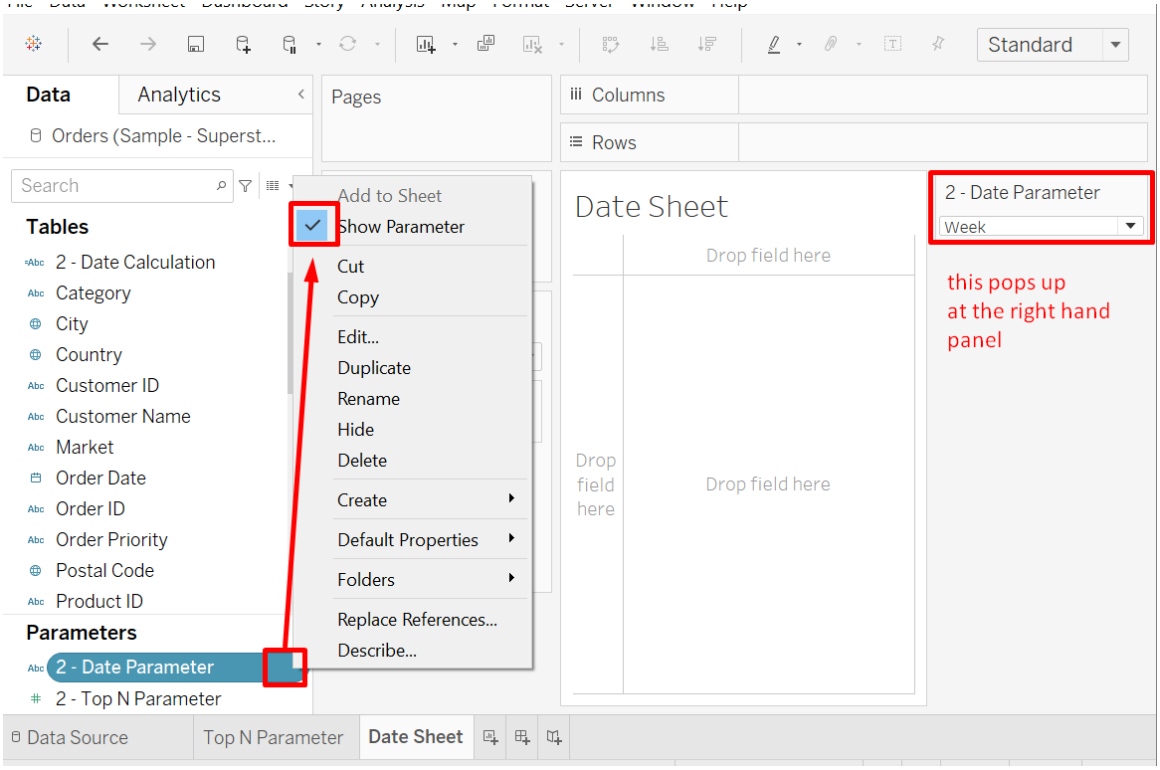


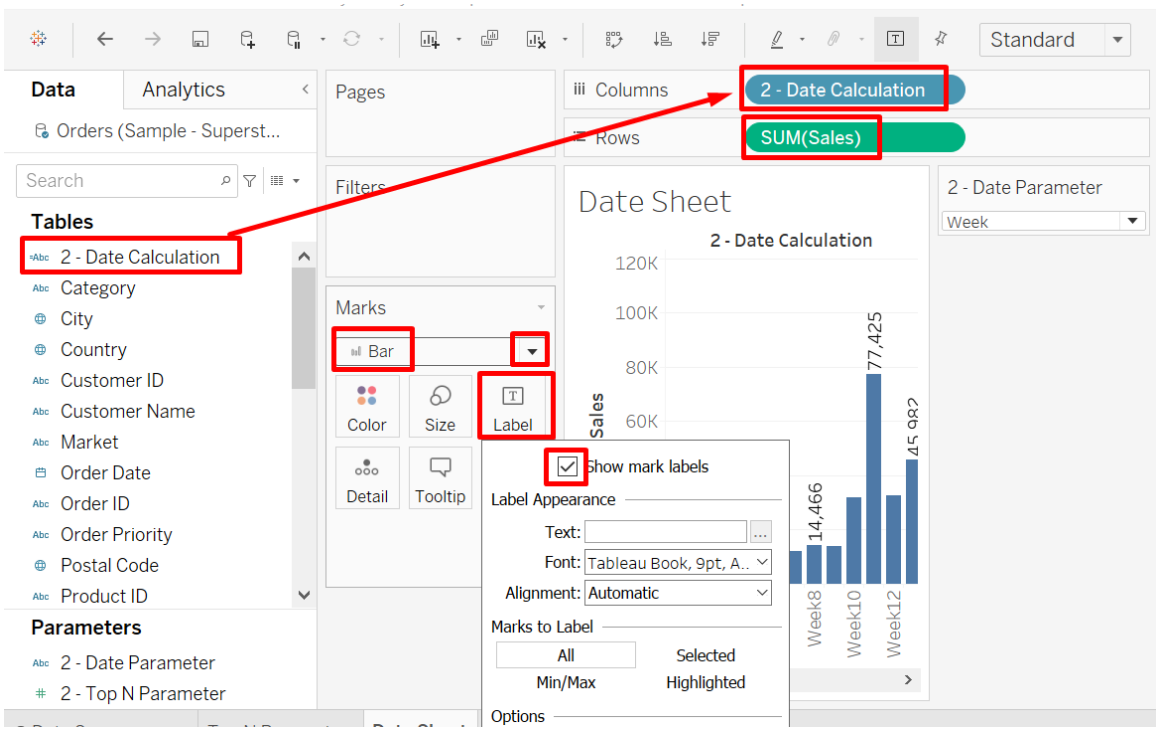
Code:

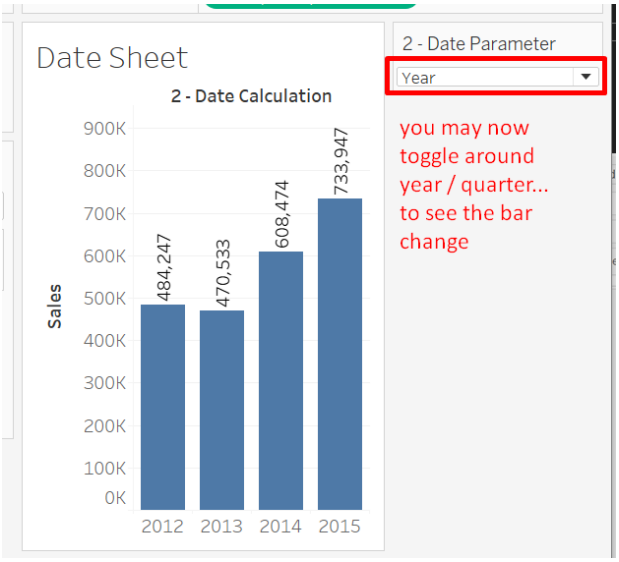
```
CASE [2 - Date Parameter]

WHEN "Year" THEN STR (YEAR([Order Date]))

WHEN "Quarter" THEN STR (YEAR ([Order Date])) + "/Q" + DATENAME('quarter', [Order Date])

WHEN "Month" THEN DATENAME ('month', [Order Date]) + "" + STR (YEAR ([Order Date]))

WHEN "Week" THEN "Week" + STR ( DATEPART ('week',[Order Date]))

WHEN "Day" THEN STR (DATE ([Order Date]))

END
```

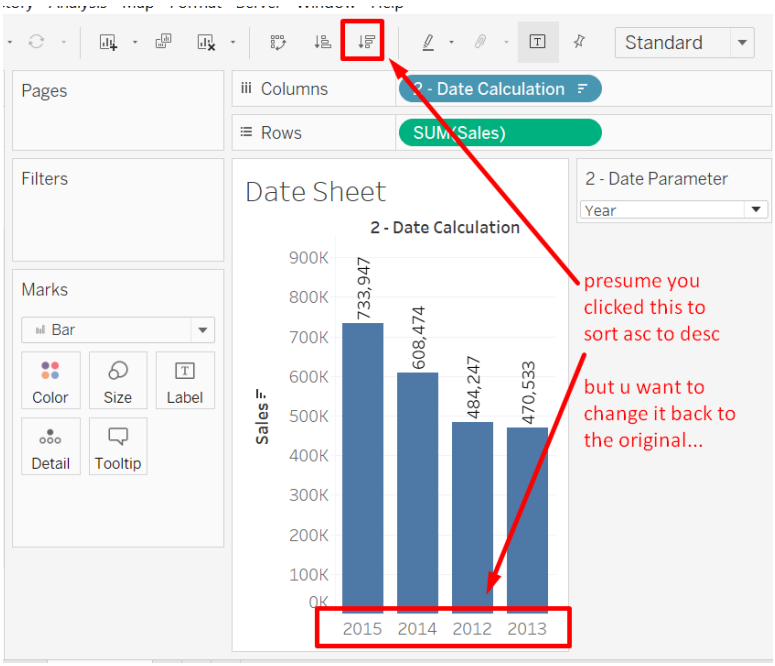


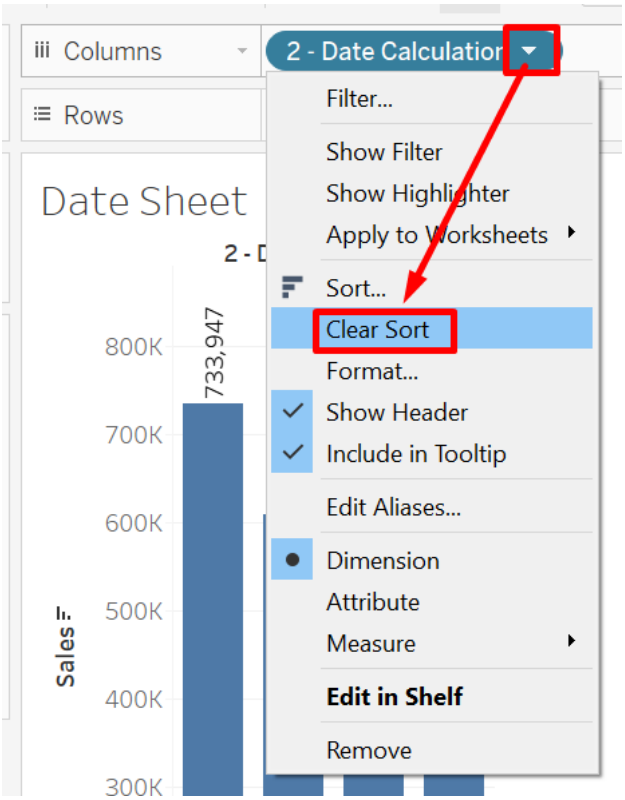


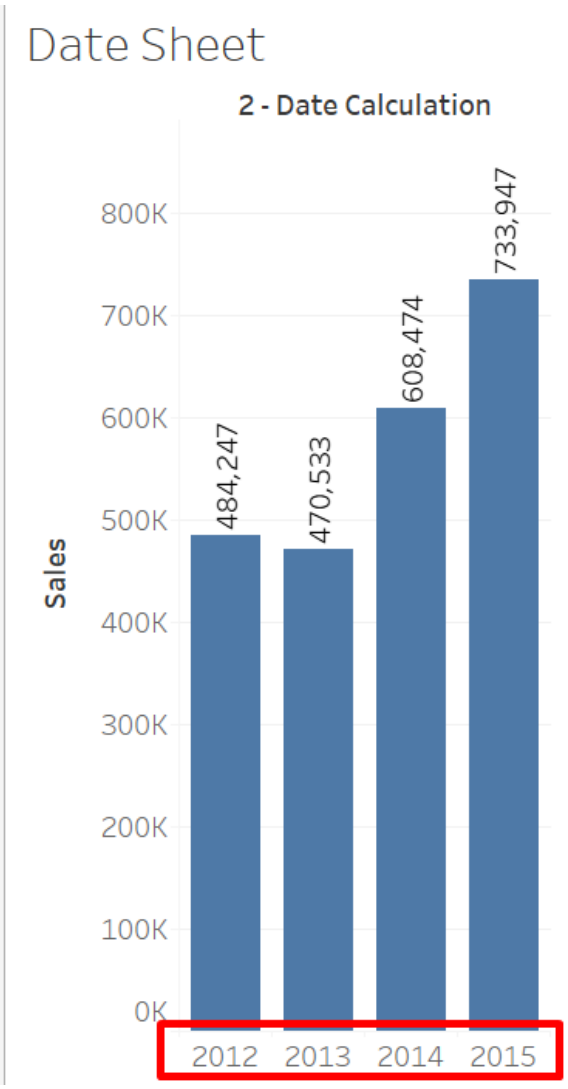






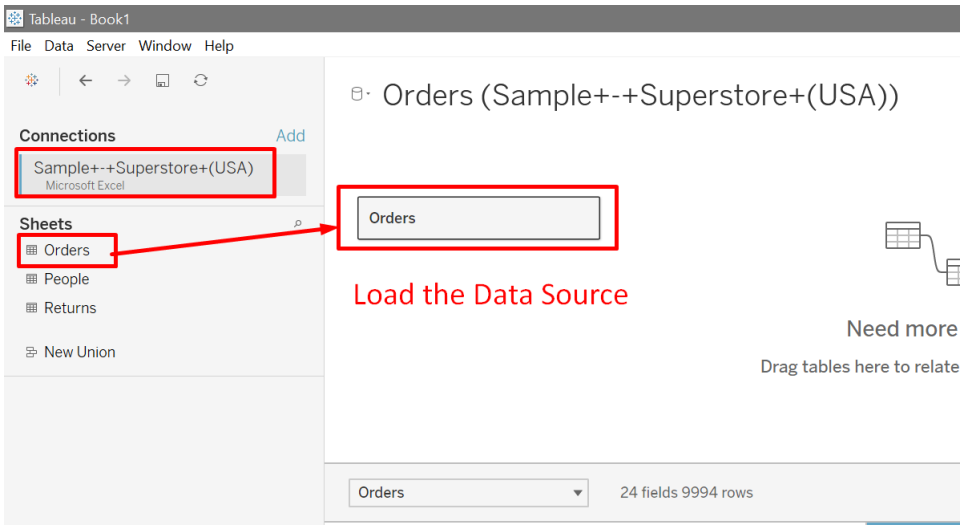






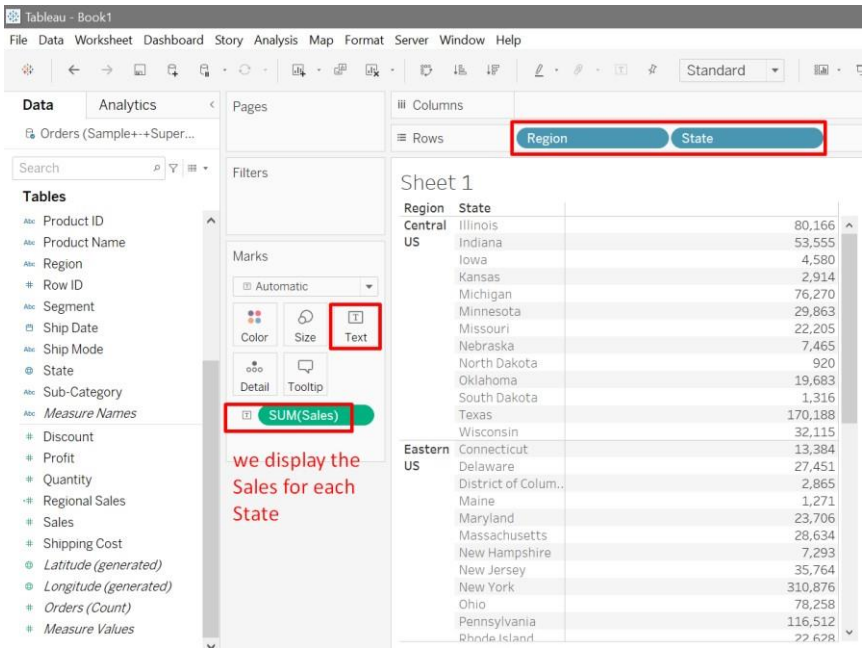
It is now back to running order.

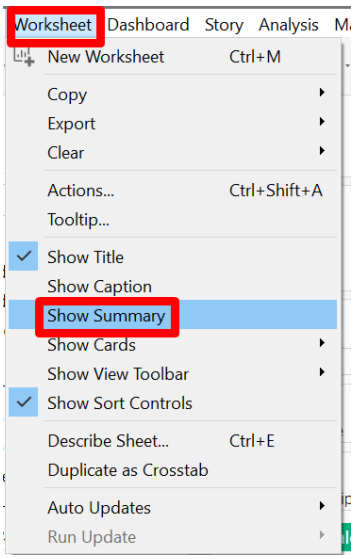
- https://www.tableau.com/about/blog/LOD-expressions
- https://www.alvinang.sg/s/Sample-Superstore-USA.xlsx

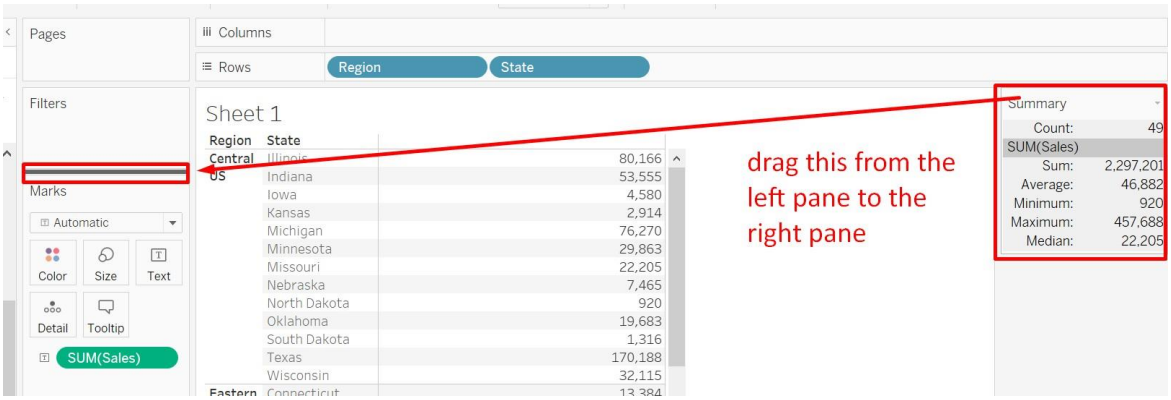


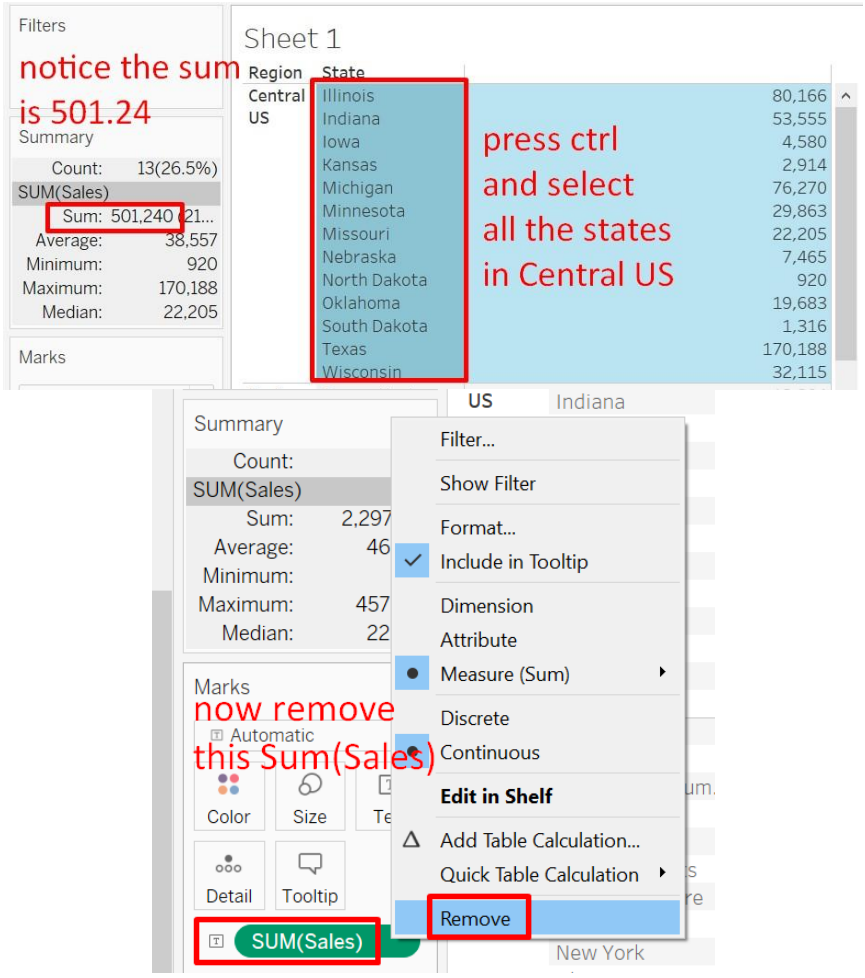
A. FIXED LOD

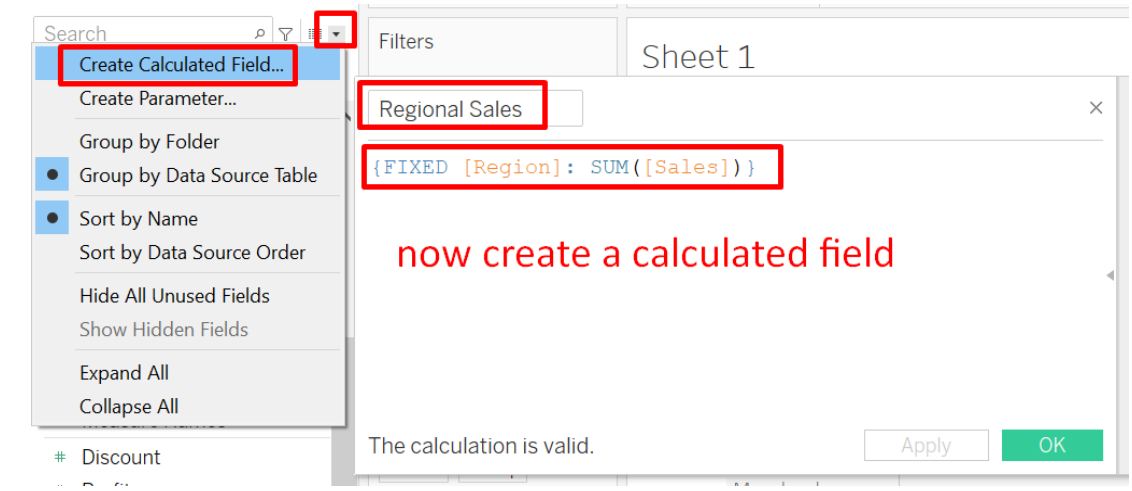
1. EXAMPLE 1: FIXING THE REGION

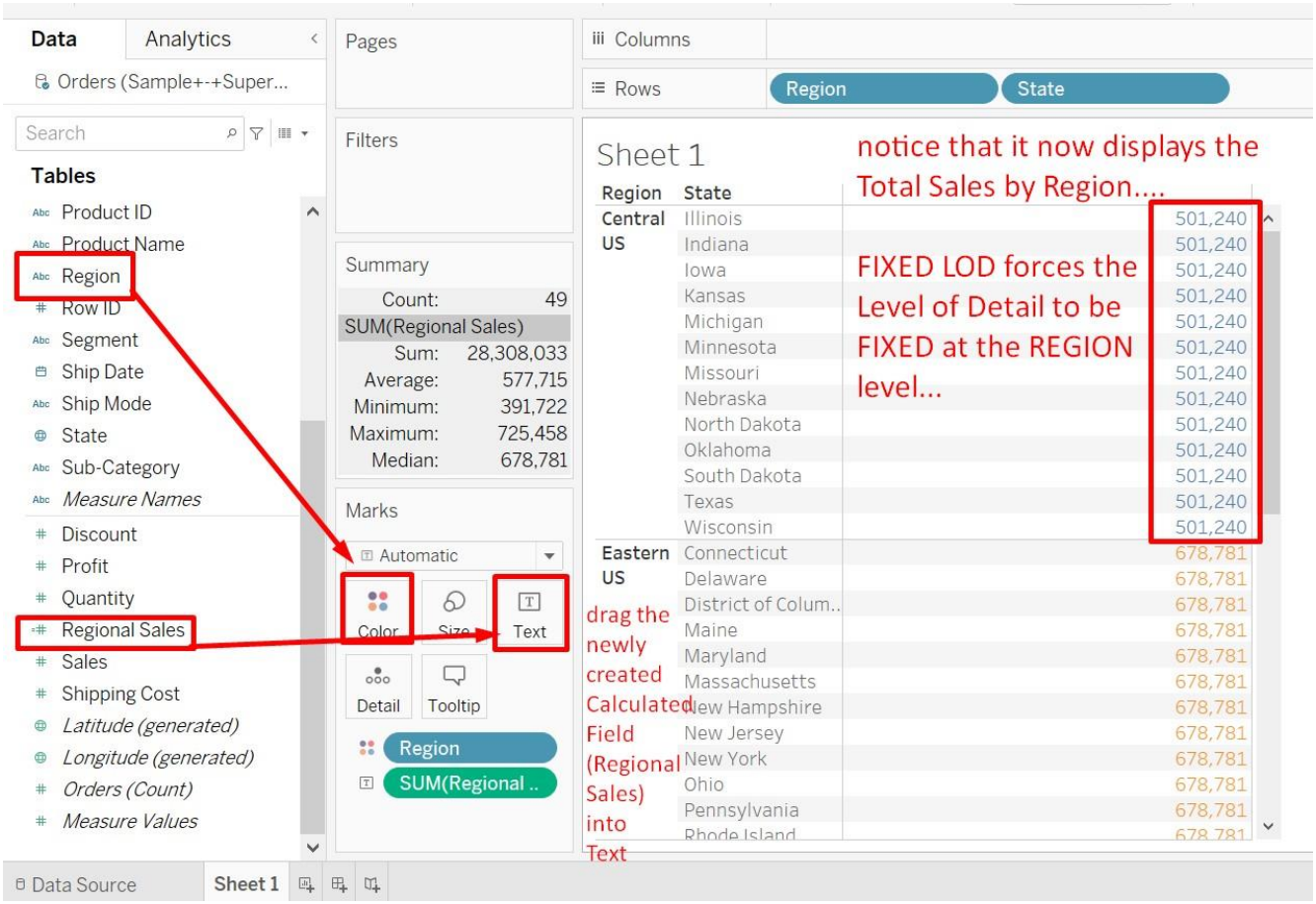








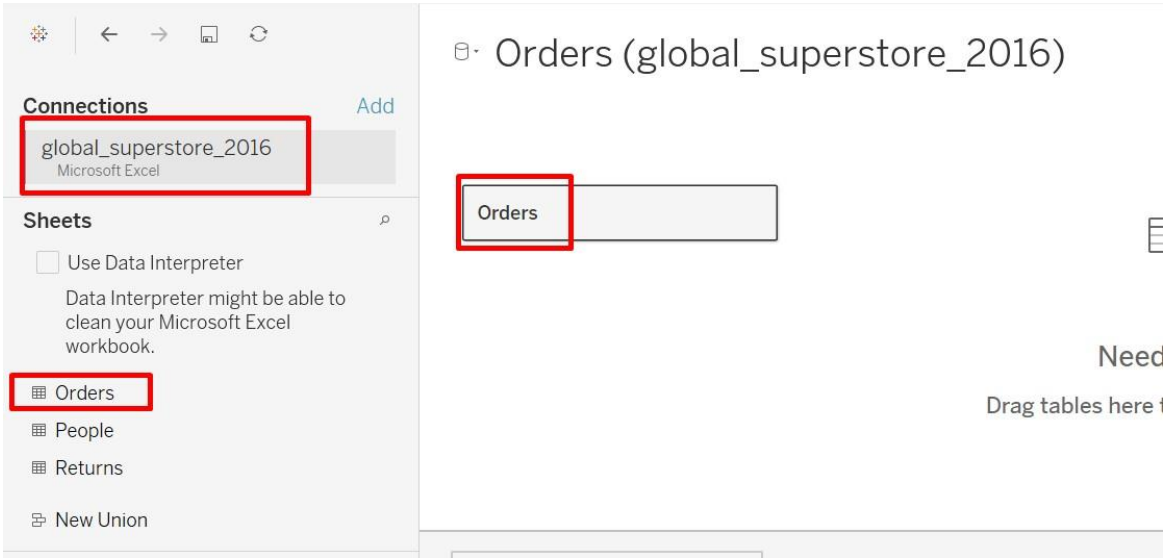


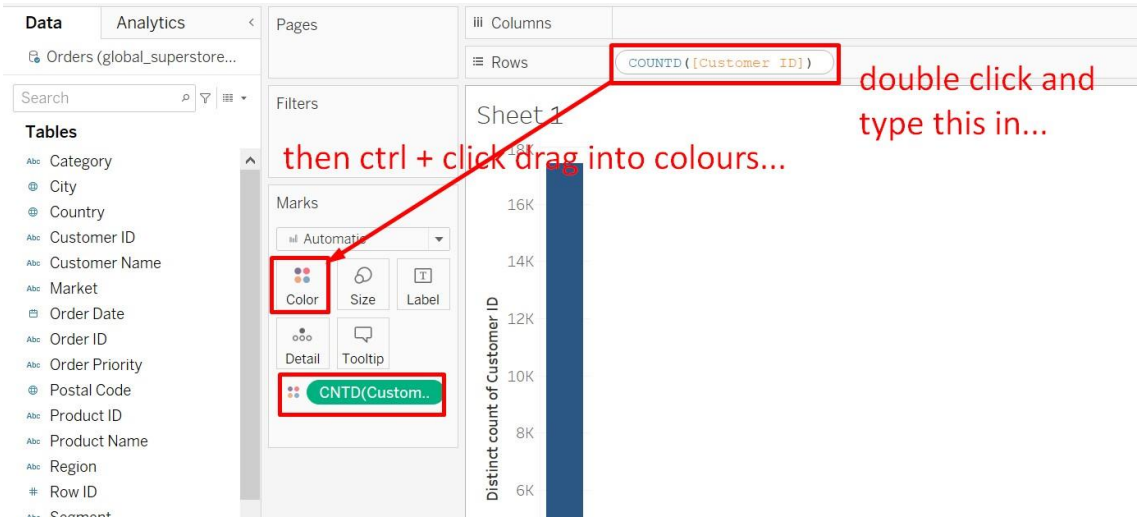


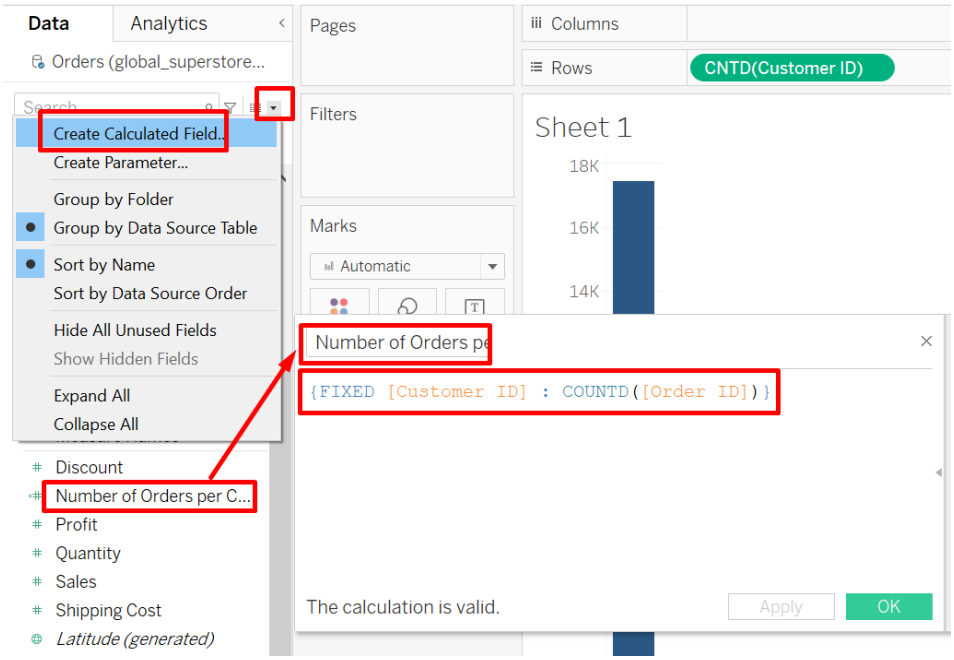
2. EXAMPLE 2 : FIXING THE CUSTOMER

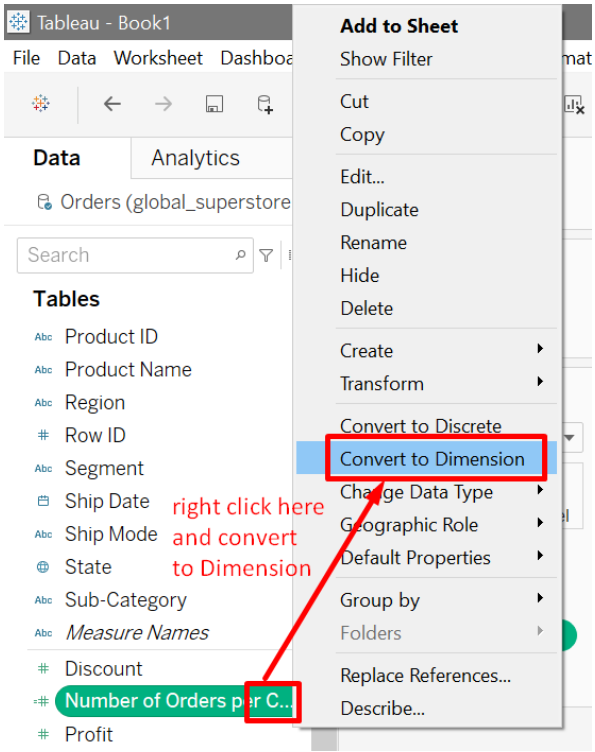
- How many customers have made 1, 2, 3, N orders?

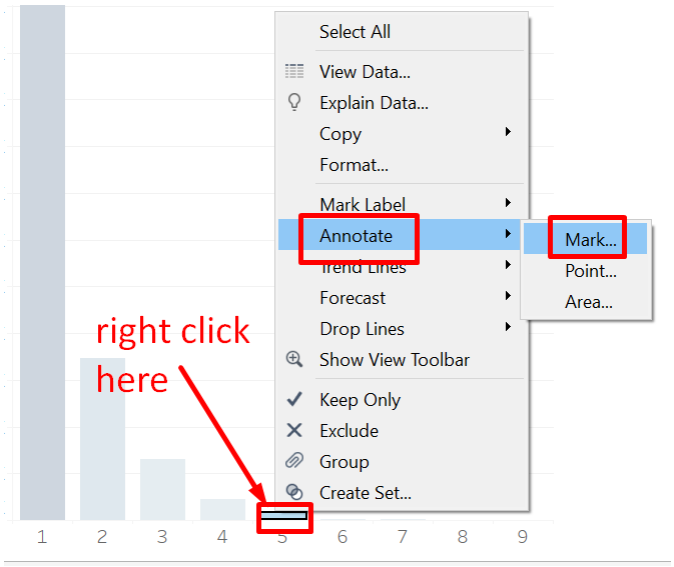
  File can be found here: https://www.alvinang.sg/s/global_superstore_2016.xlsx

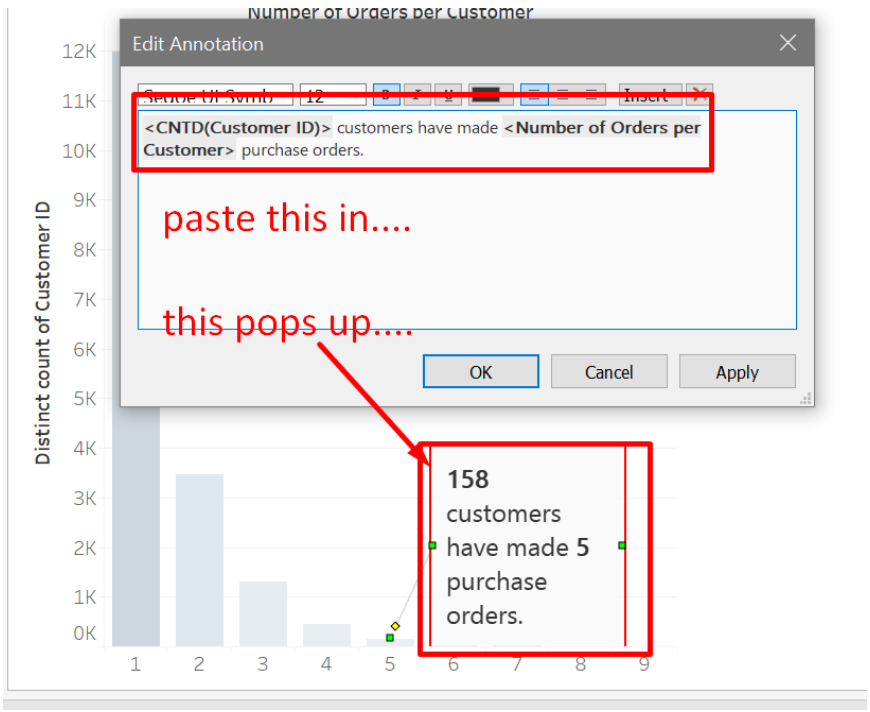


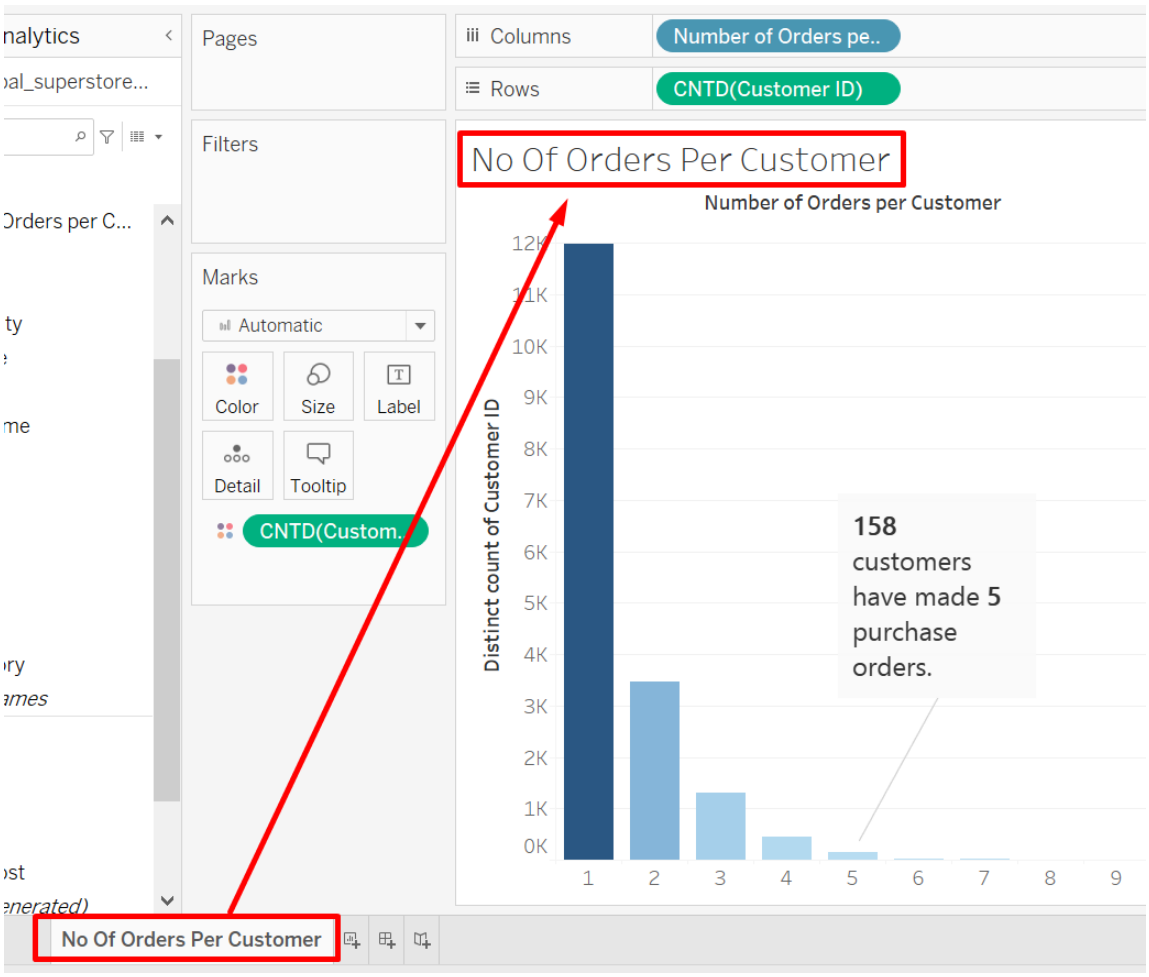












B. INCLUDE LOD

1. EXAMPLE 1

Order ID	Name	Sales
1	Alvin	46
2	Bobo	15
3	Cat	256
4	David	15
5	David	546
6	Eugene	104
7	Eugene	15
8	Gina	190
9	Helen	516
10	Helen	156
11	Helen	1165
12	Ivan	35
	Average=	254.9166667

AVG([Sales])

Total / 12

How Tableau Does Average

How INCLUDE LOD does Average by INCLUDING only the Names

Order ID	Name	Sales
1	Alvin	46
2	Bobo	15
3	Cat	256
4, 5	David	561
6,7	Eugene	119
8	Gina	190
9,10,11	Helen	1837
12	Ivan	35
	Average =	382.375

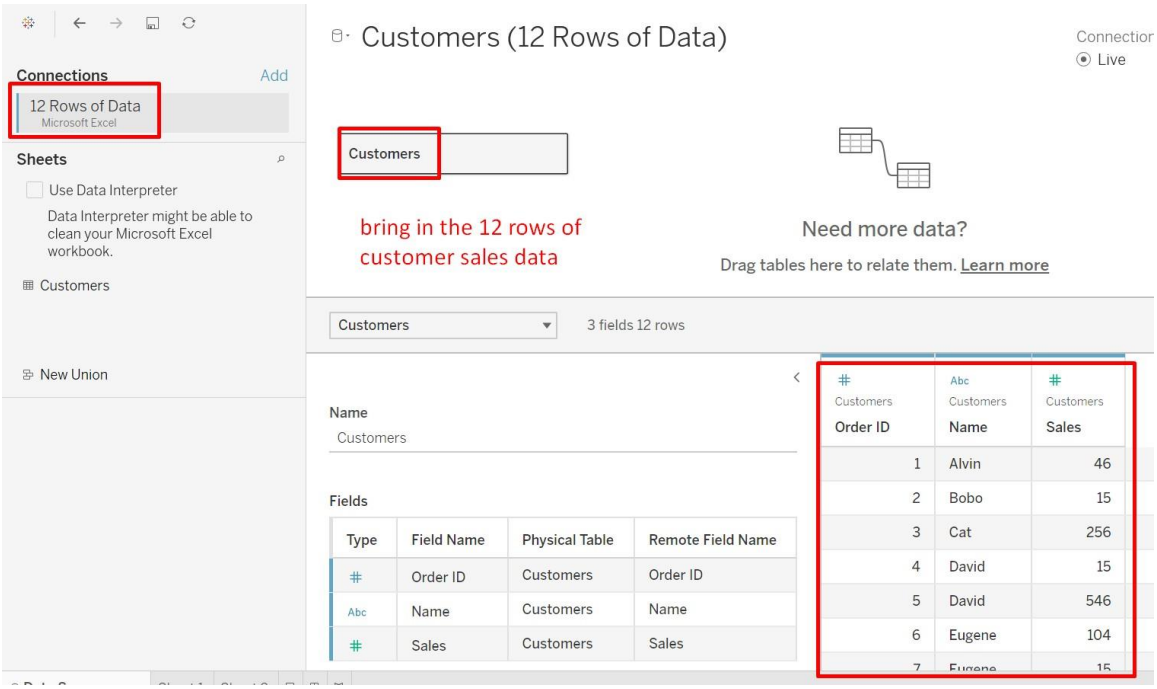
AVG {INCLUDE [Name] : Sum (Sales)}

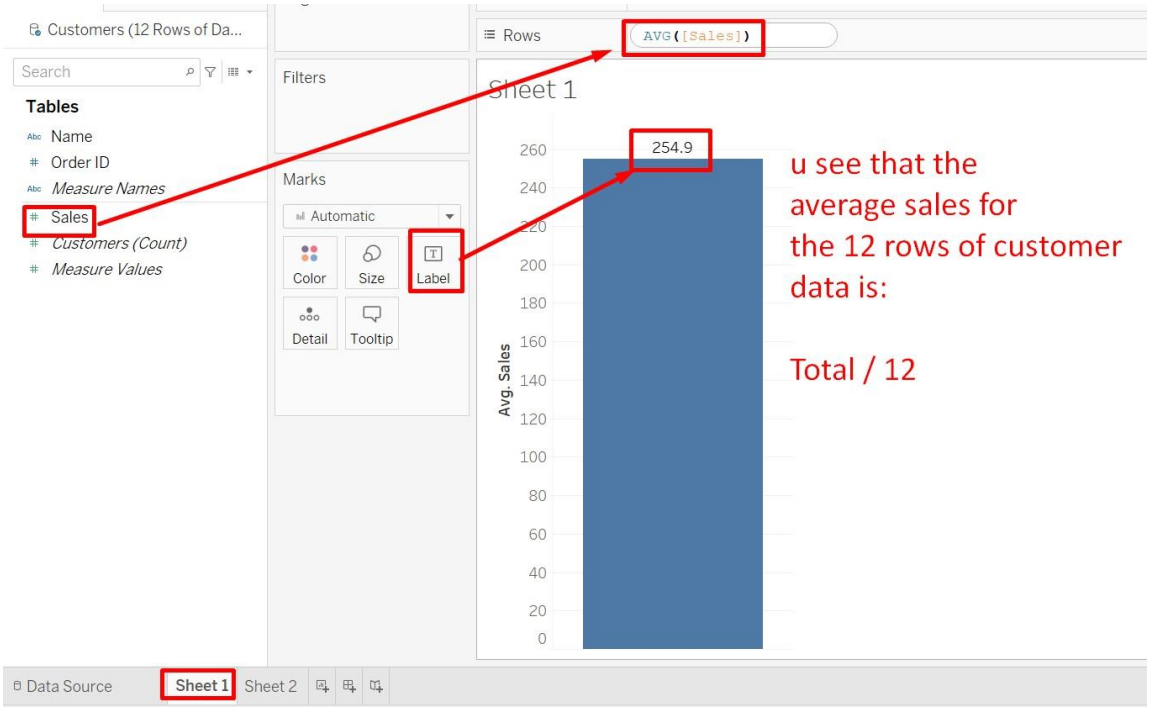
Total / 8

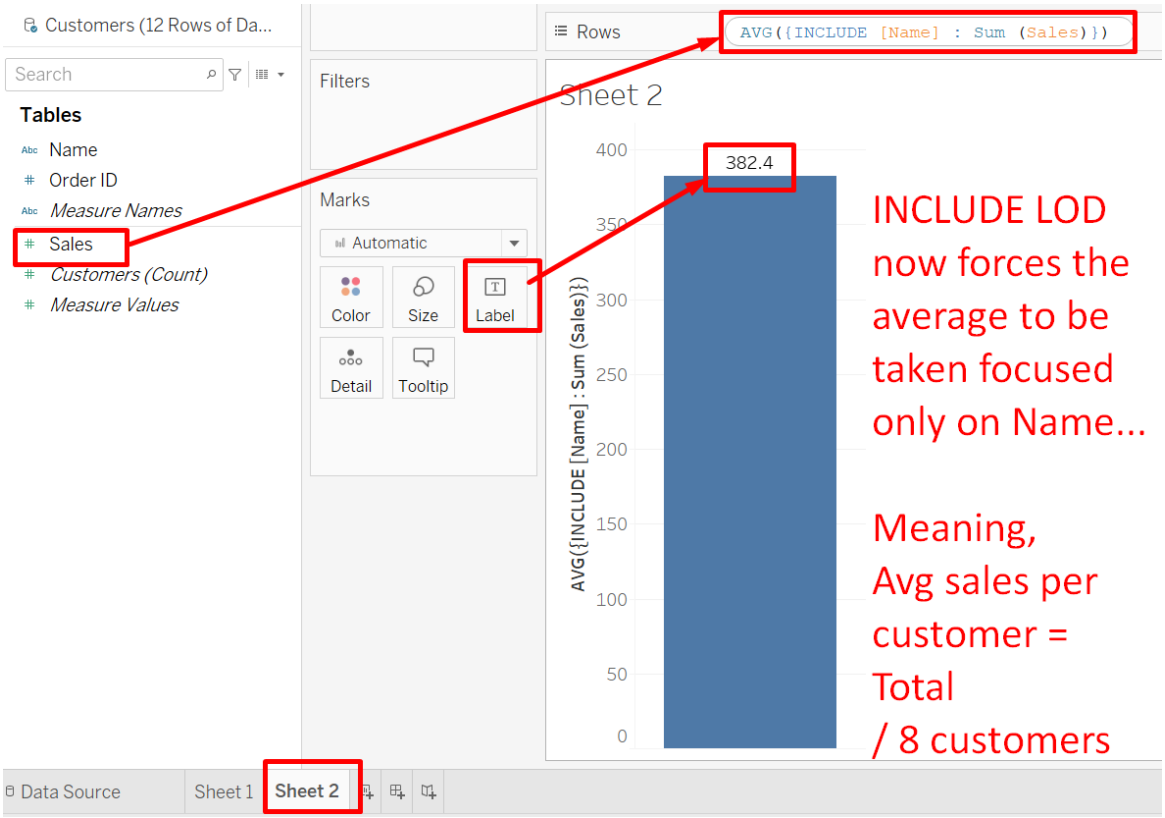
File can be found here: https://www.alvinang.sg/s/12-rows-of-customer-sales.xlsx

The left table shows: Average per Order ID.

The right table shows Average per Customer.



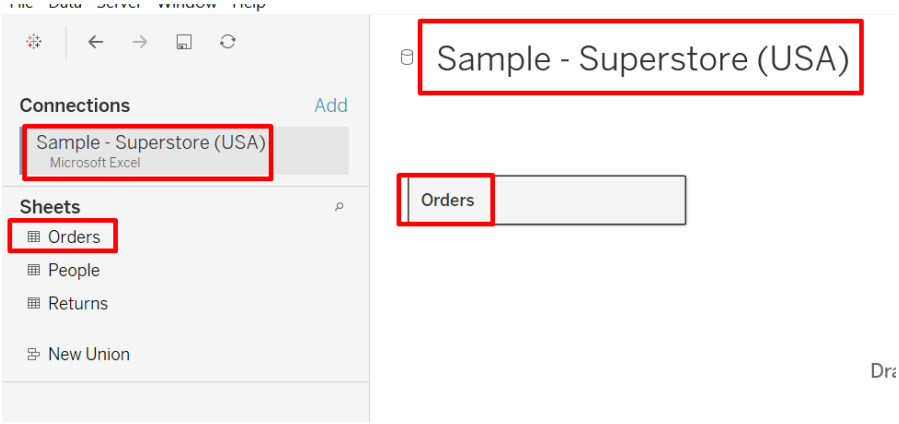




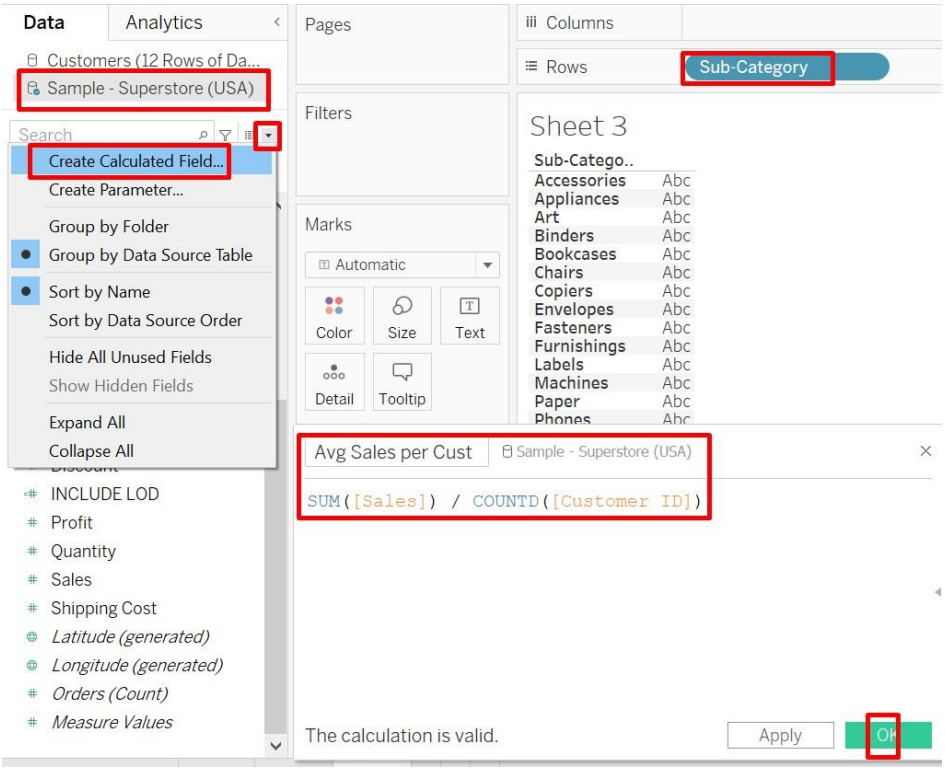
AVG({INCLUDE [Name] : Sum (Sales)})

2. EXAMPLE 2

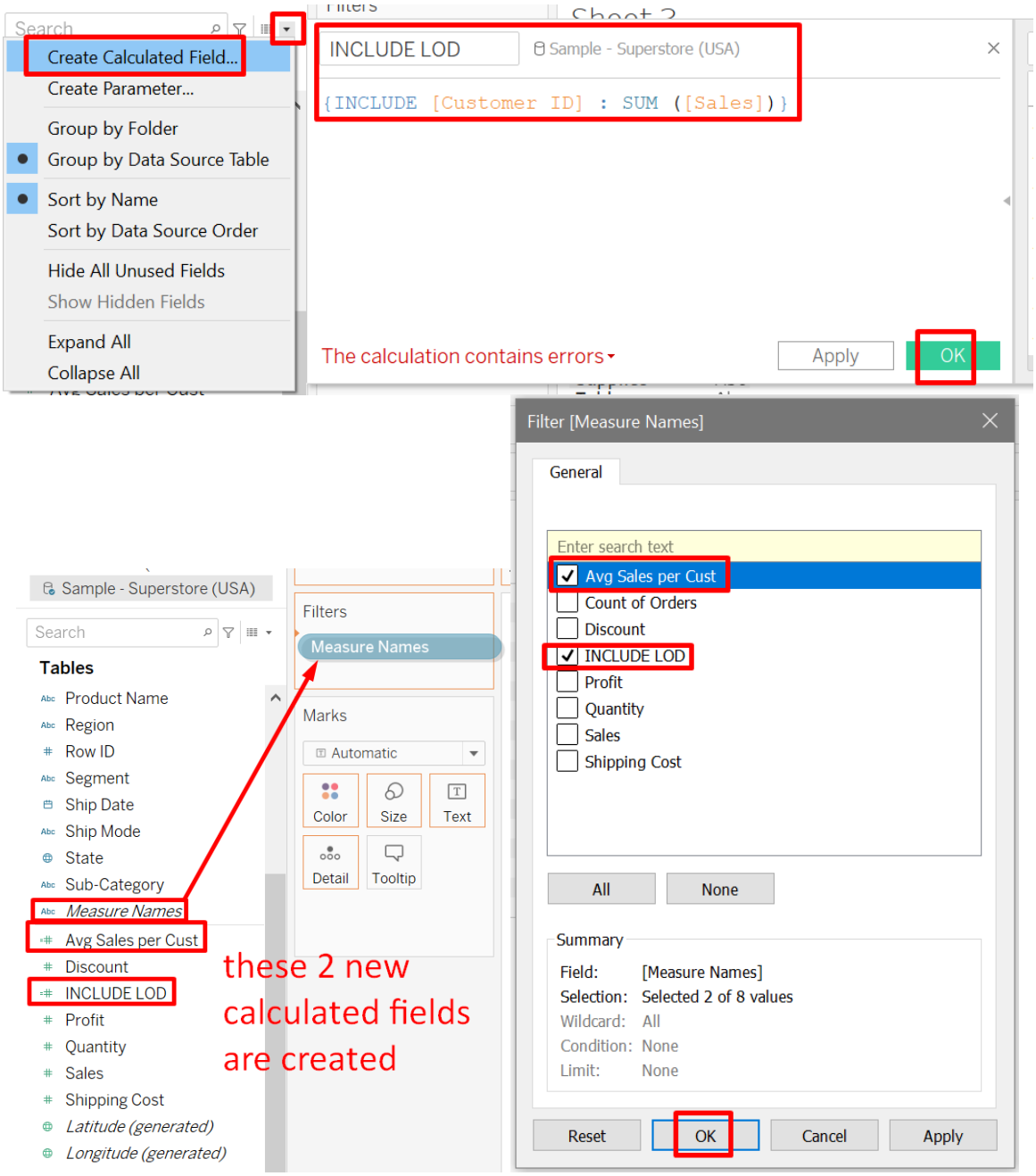
File can be found here: https://www.alvinang.sg/s/Sample-Superstore-USA.xls

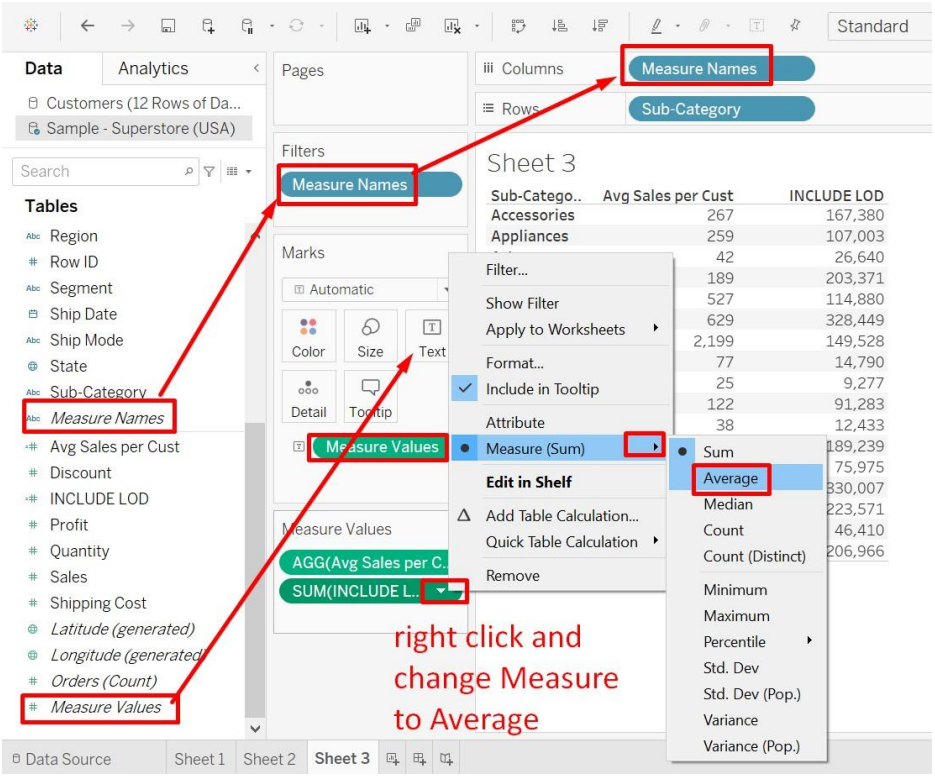


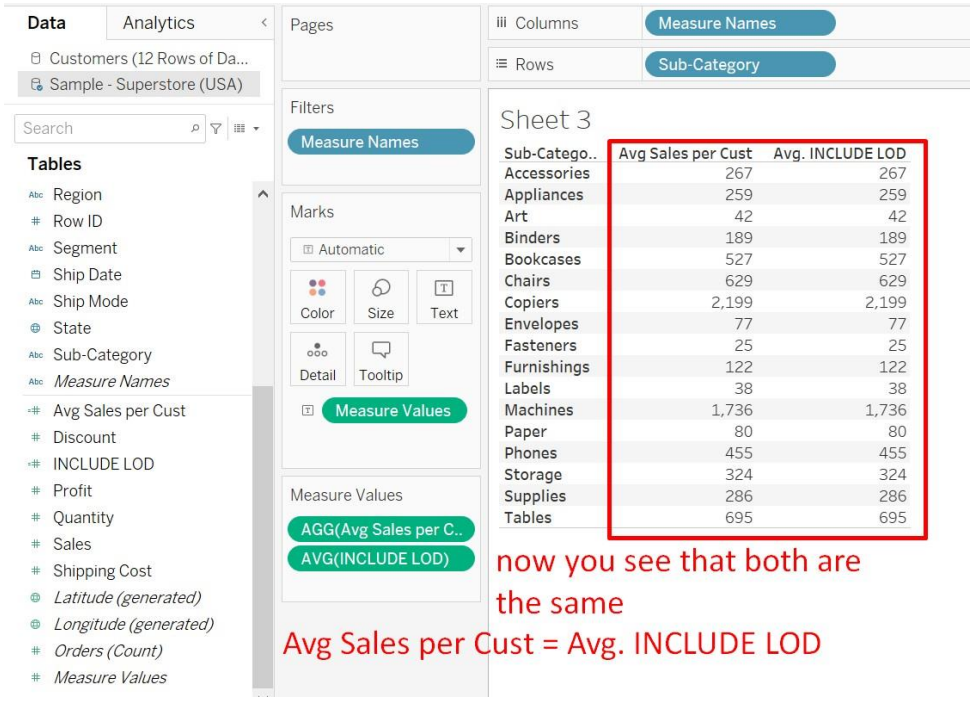
SUM([Sales]) / COUNTD([Customer ID])



{INCLUDE [Customer ID] : SUM ([Sales])}



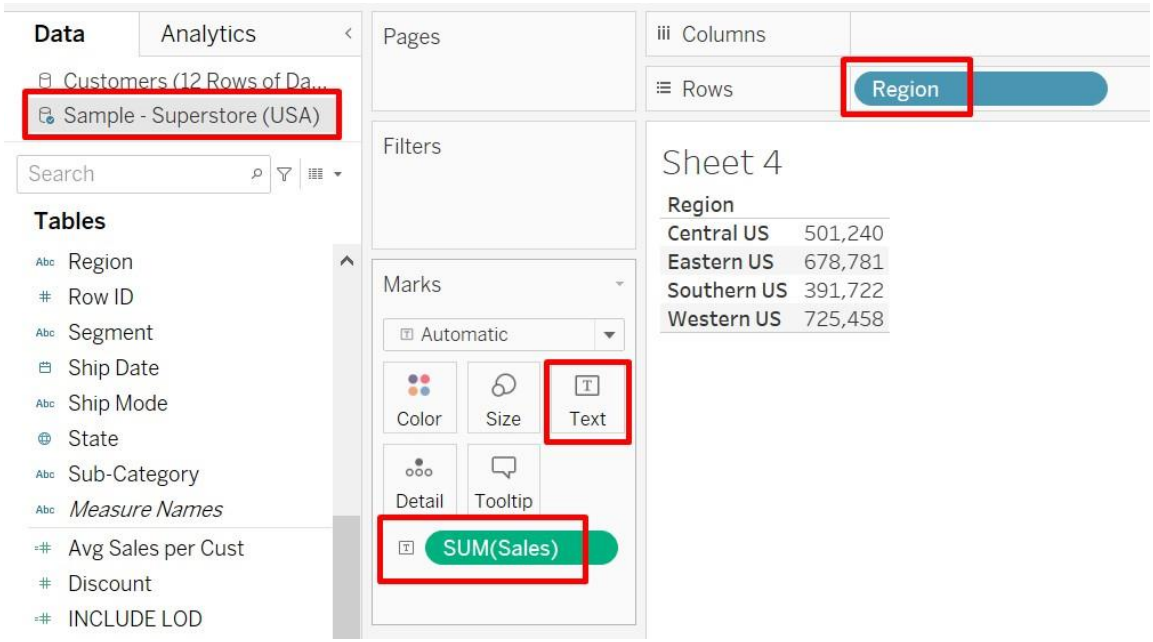


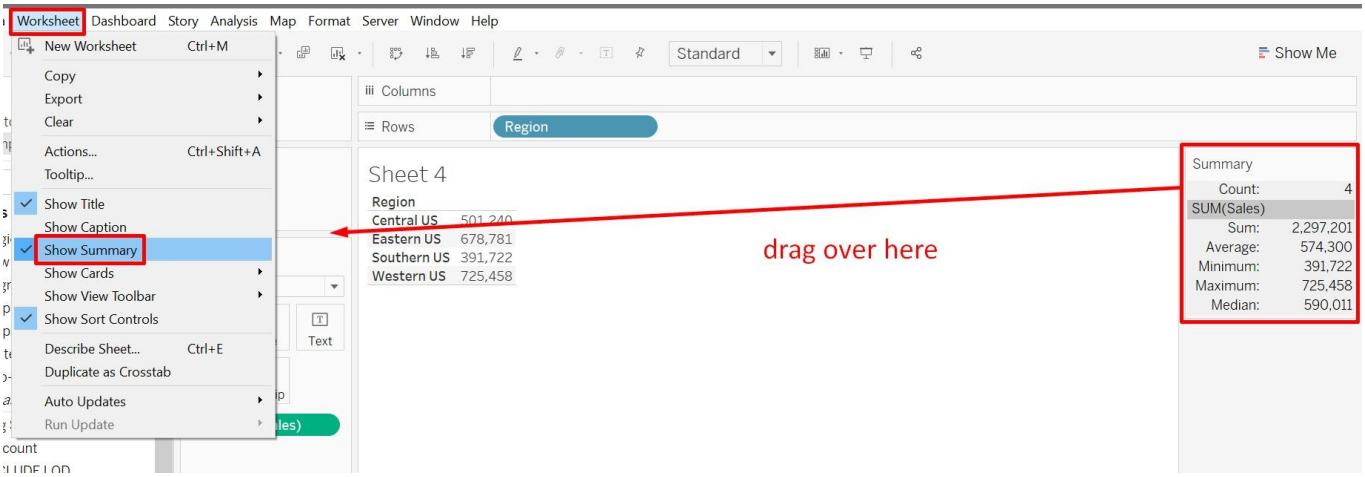


C. EXCLUDE LOD

1. EXAMPLE 1

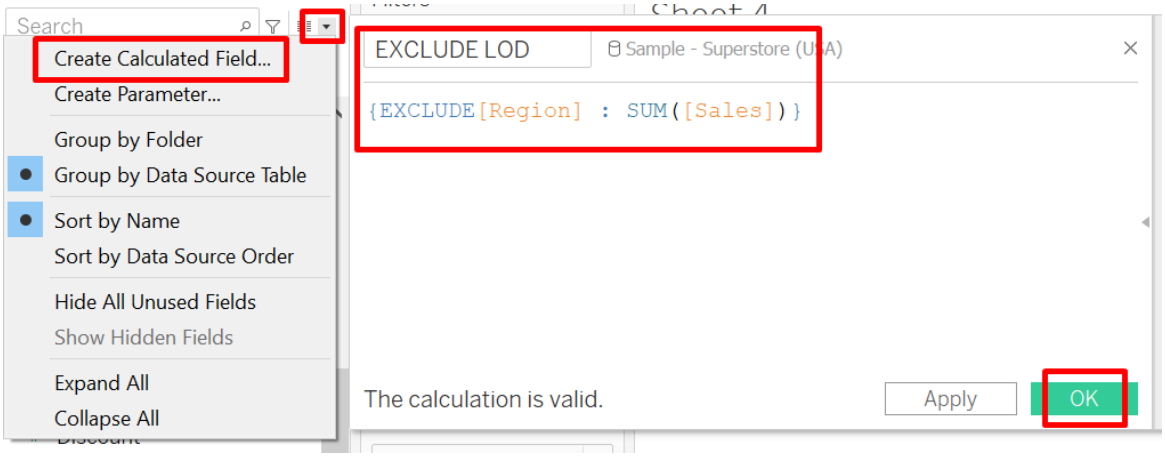
File can be found here: https://www.alvinang.sg/s/Sample-Superstore-USA.xls



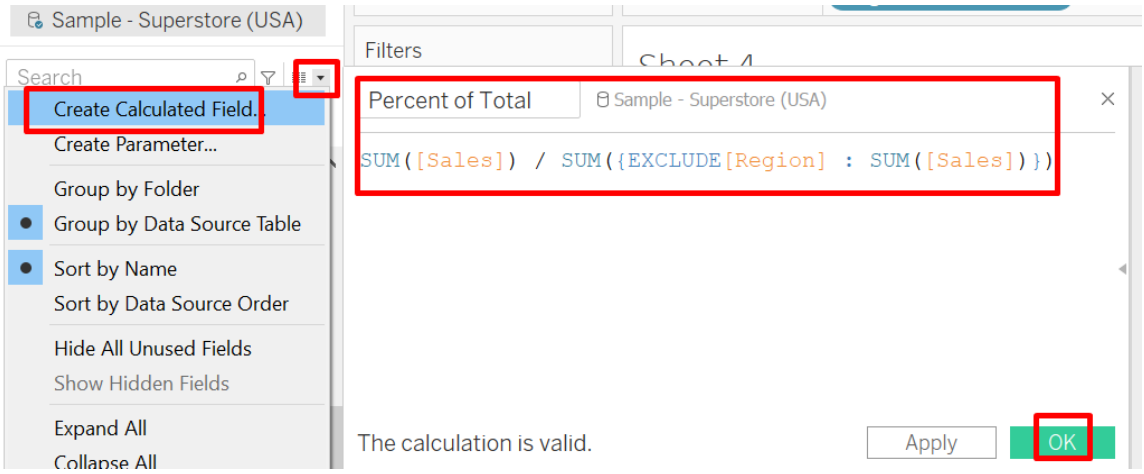


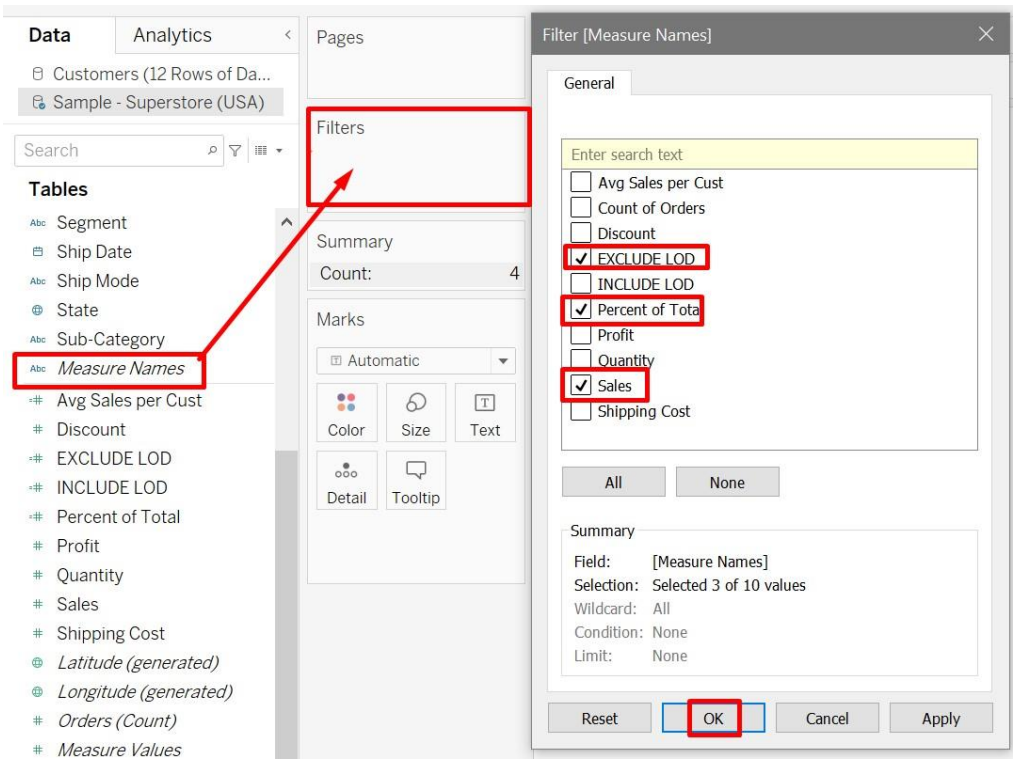
Notice that the summary gives us the total sum of all regions = 2,297,201.

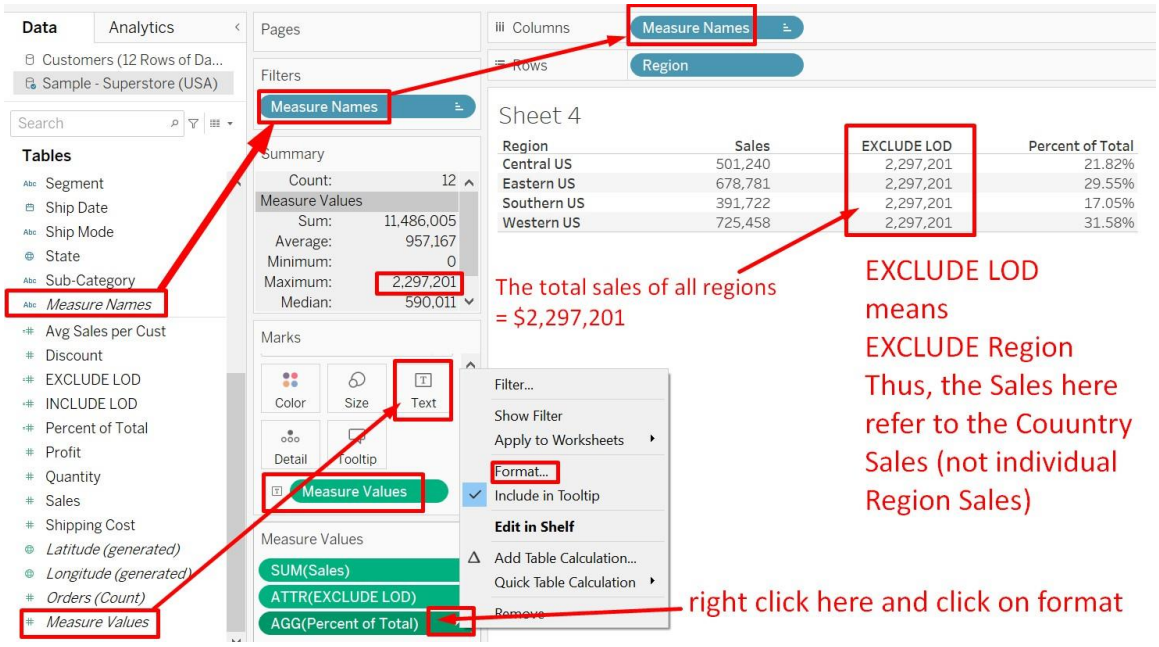
{EXCLUDE[Region] : SUM([Sales])}

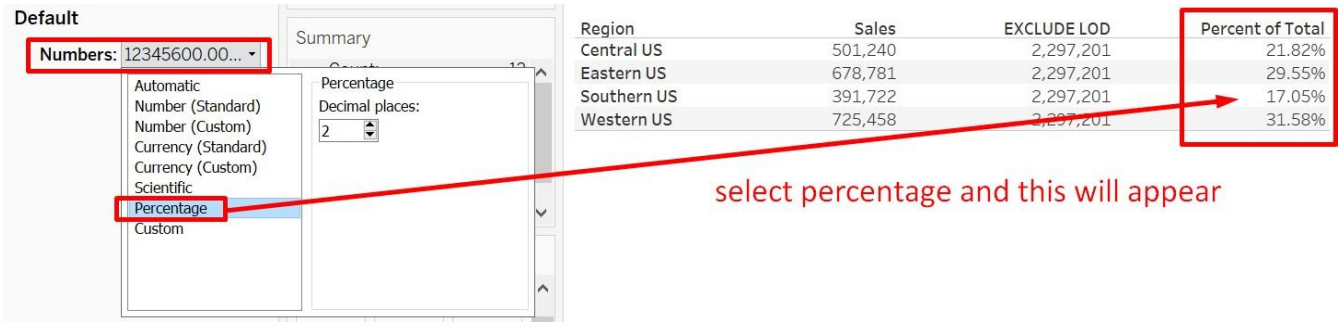


SUM([Sales]) / SUM({EXCLUDE[Region] : SUM([Sales])})









Region	Sales	EXCLUDE LOD	Percent of Total
Central US	501,240	2,297,201	21.82%
Eastern US	678,781	2,297,201	29.55%
Southern US	391,722	2,297,201	17.05%
Western US	725,458	2,297,201	31.58%

Percent of Total =
Individual Region Sales / Total Country Sales

EXCLUDE LOD = Total Country Sales
= Sum of all Region Sales (because u exclude the level of detail, which is generalizing to country)

Dr. Alvin Ang earned his Ph.D., Masters and Bachelor degrees from NTU, Singapore. He was a Professor, Scientist and Financial Consultant. Currently, he owns a self-started business and is a Personal/Business Advisor.

More about him at www.AlvinAng.sg