ALPHAMART’S SALES

PERFORMANCE ANALYSIS

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Project Description:

In the competitive world of retail, understanding sales performance is essential for growth and sustainability. AlphaMart recognizes the importance of data-driven decision-making in navigating this landscape.

Aim:

to uncover valuable insights from AlphaMart's sales data.

Objectives:

Analyzing

1. Revenue Trends
2. Geographical Sales Distribution
3. Customer Demographics
4. Top Product Performance
5. Key Performance Indicators

ALPHAMART'S SALES PERFORMANCE ANALYSIS

Learning outcomes:

1. Understanding chart types for univariate, bivariate, and multivariate analysis
2. Building and customizing geographical visualizations
3. Designing key performance indicators (KPIs)
4. Utilizing filters
5. Understanding level of details

TASK 1

Import the data from the file **‘AlphaMart Sales Dataset’.**

Link

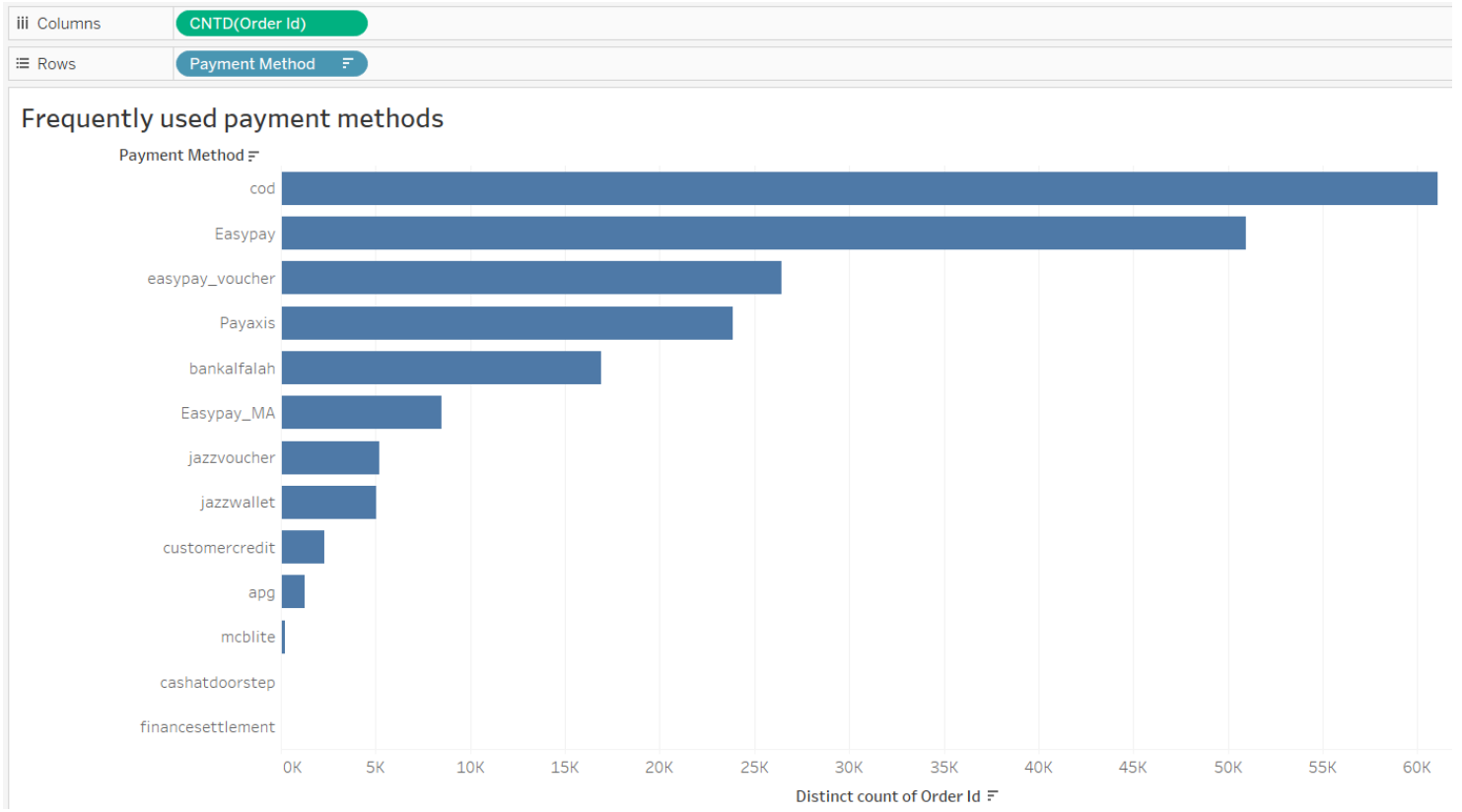
TASK 2

Find out the most frequently used payment methods for purchasing items.

COLUMN CHART

Purpose:

To compare numerical values across categories.



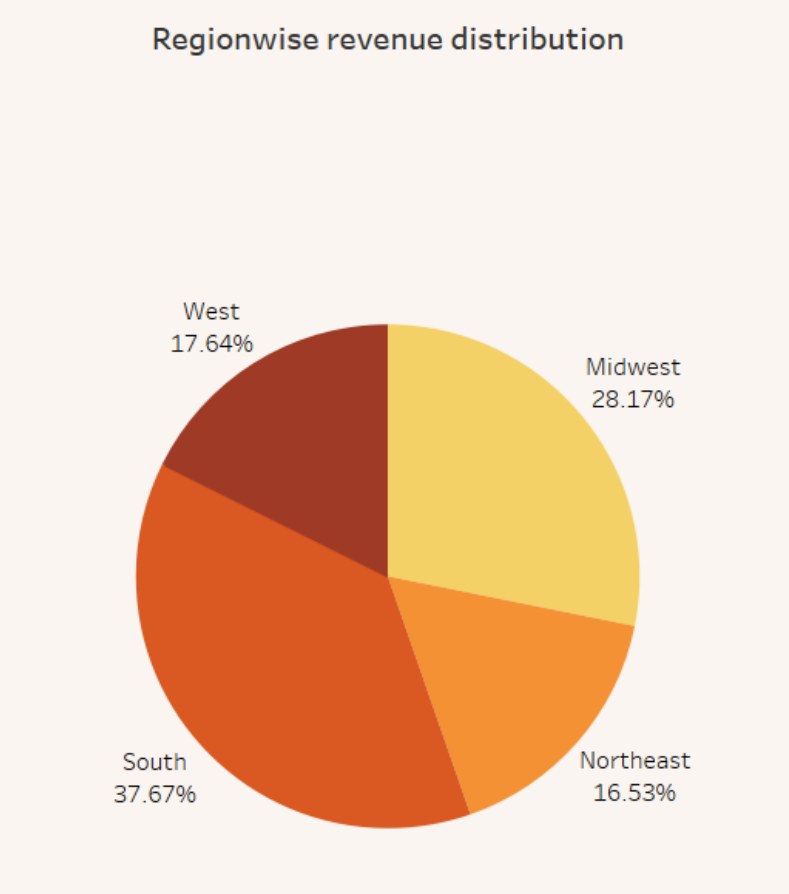
TASK 3

Visualize the percentage distribution of sales across different regions.

PIE CHART

Purpose:

Display proportions of a whole to highlight category contributions



TASK 4

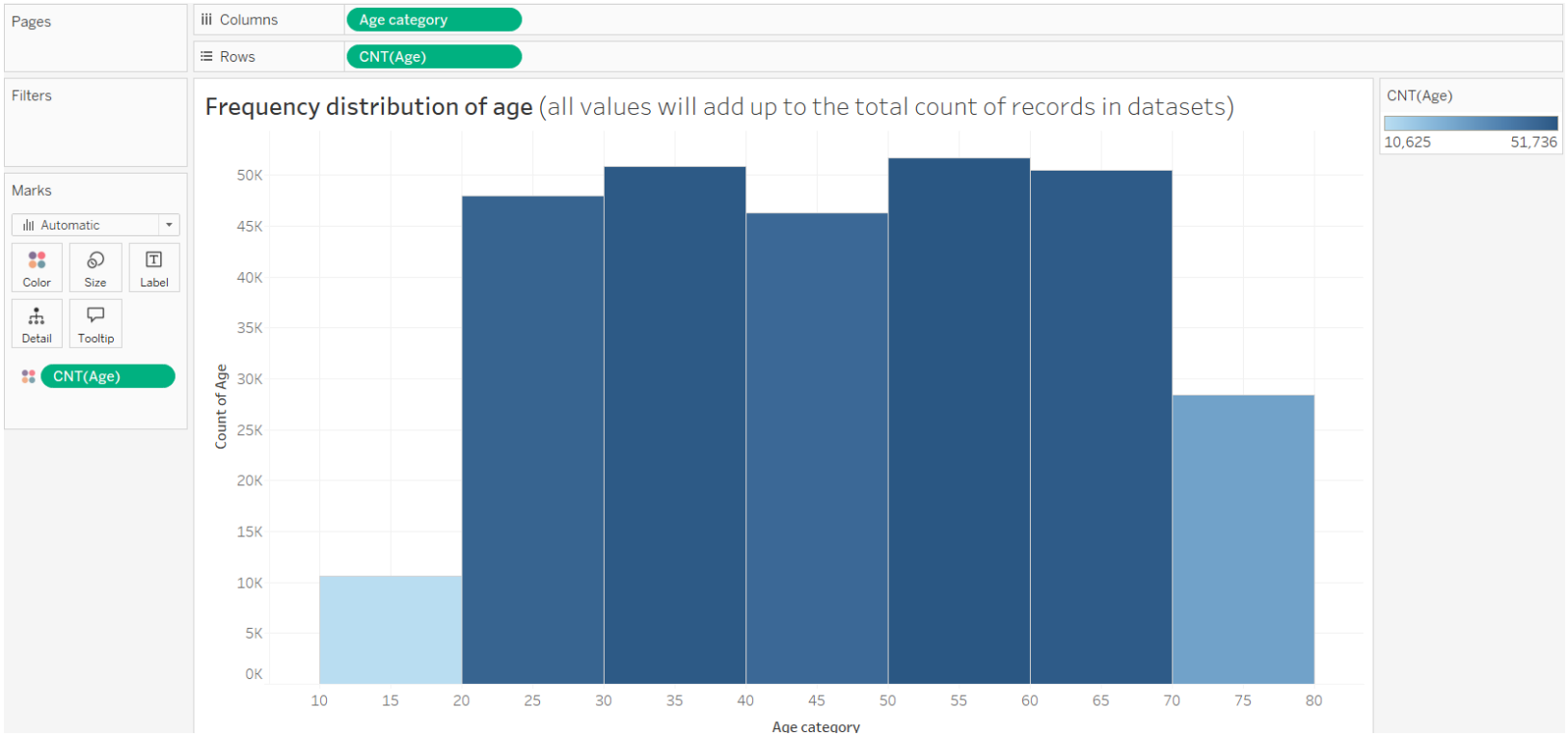
Visualize the frequency distribution of customer ages.

HISTOGRAM CHART

Purpose:

visualize the frequency distribution of customer ages

Columns: Bins of Age with size 10



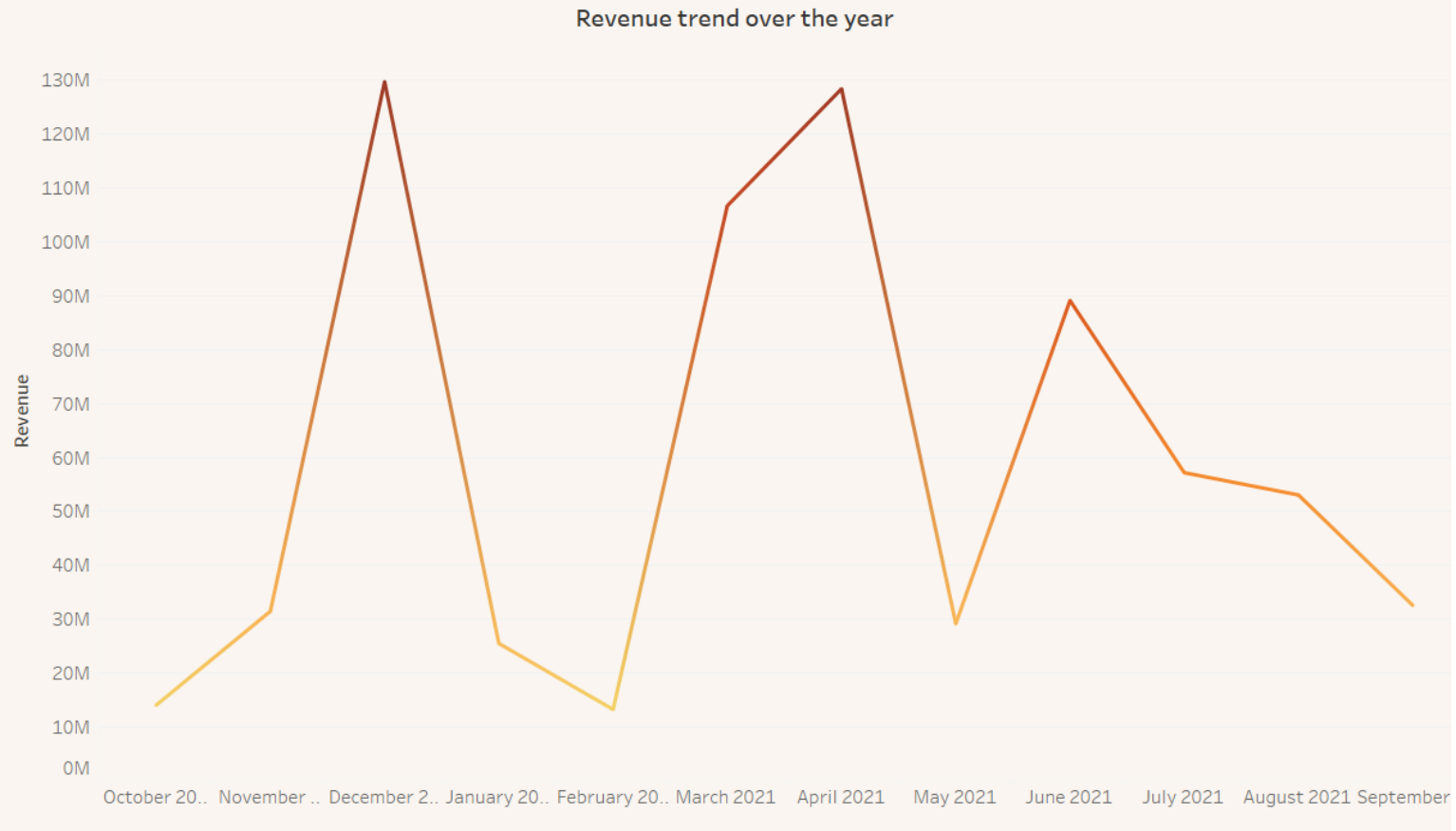
Task 5

Analyze the sales trend over the year.
(October 2020 to November 2021)

LINE CHART

Purpose:

Show the sales trend over the year.

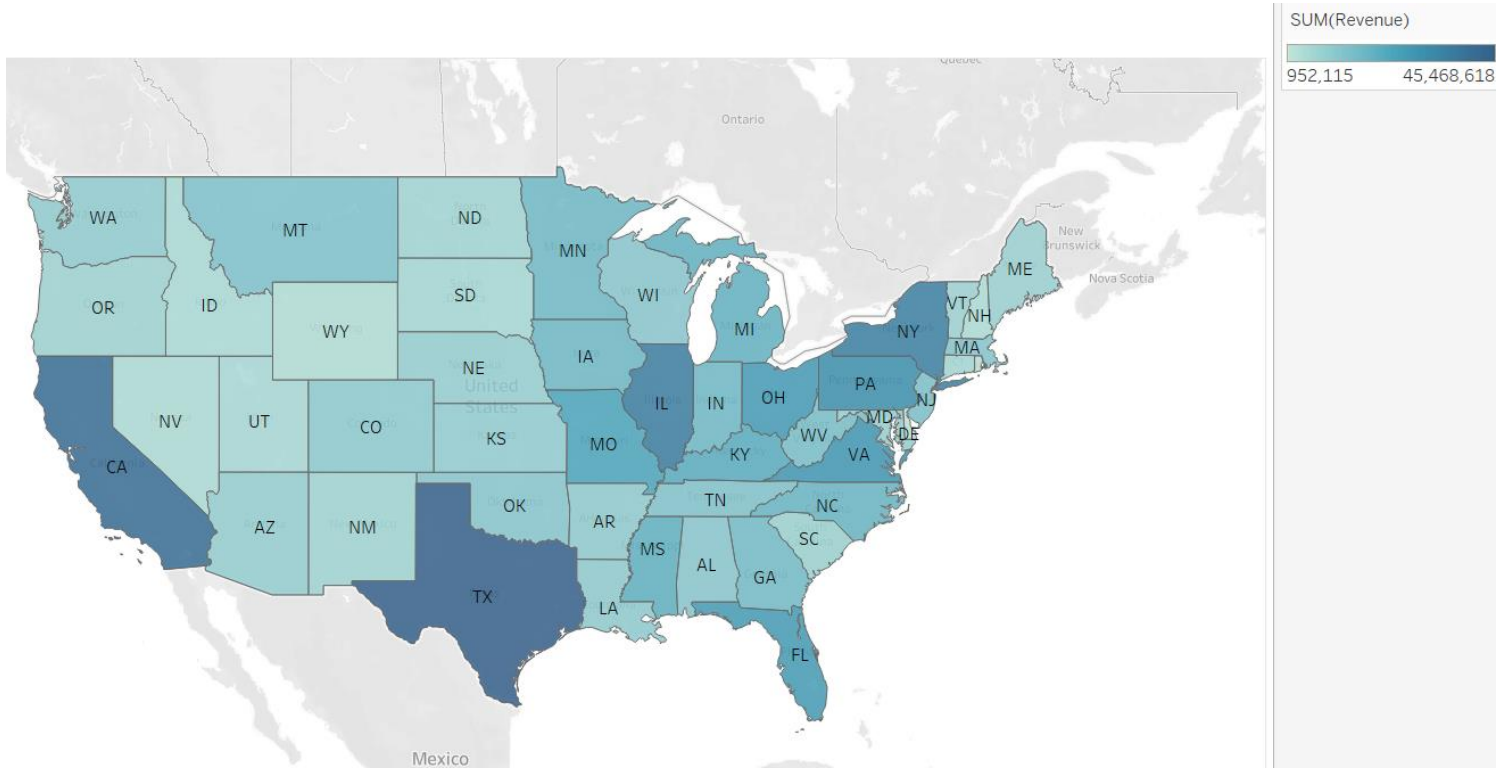


Task 6

Visualize sales from states using geographical map.

Geographical Map

Purpose:
Compare Visualize data distribution across geographic locations to identify patterns and trends.



Task 7

Create a KPI for a sales in a month.

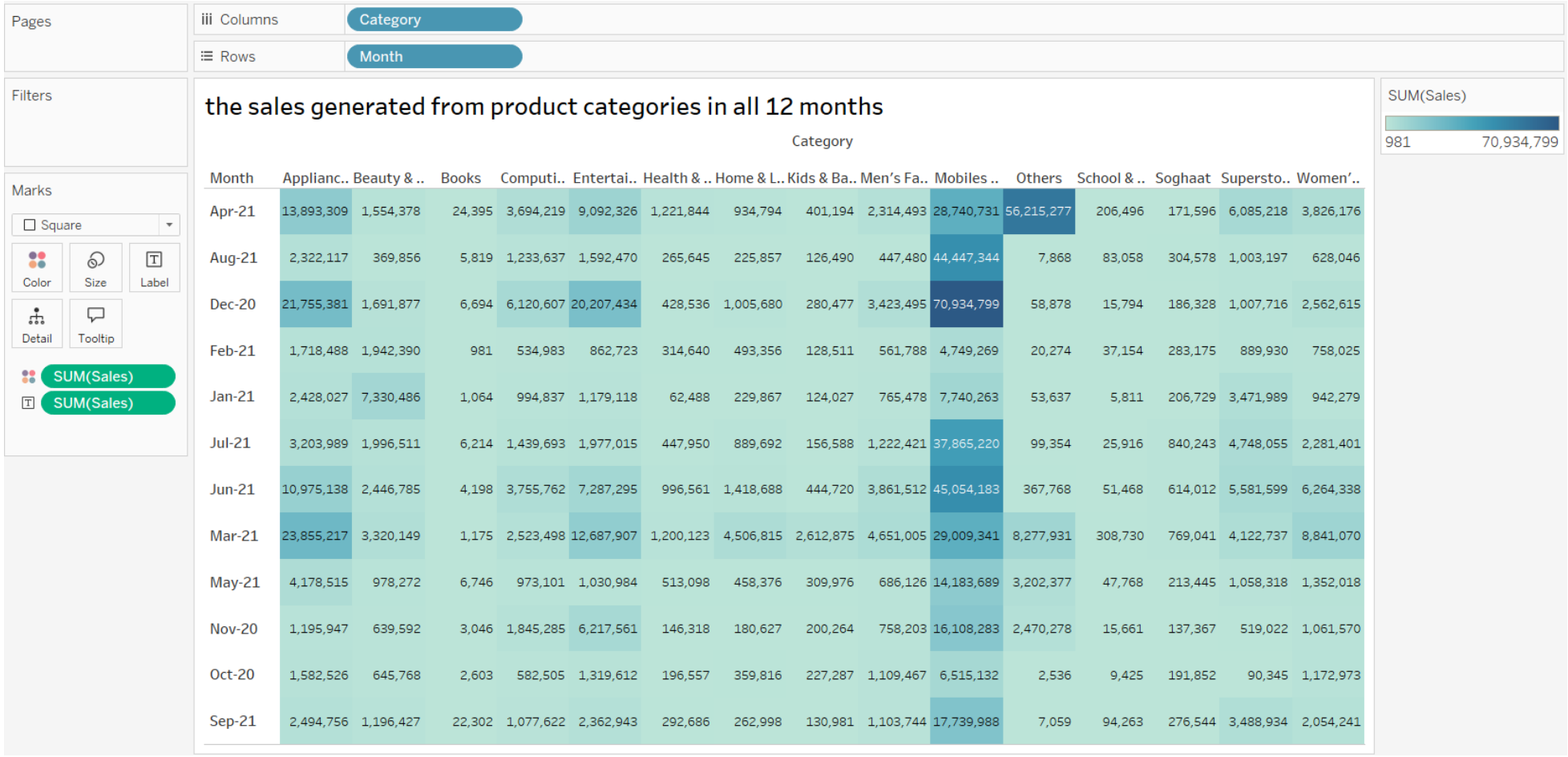
KPI

Task 8

Visualize the sales generated from product categories in all 12 months.

Find out the product category which is generating highest sales in a month.

Heatmap



Month	Applianc..	Beauty & ..	Books	Computi..	Entertai..	Health & ..	Home & L..	Kids & Ba..	Men's Fa..	Mobiles ..	Others	School & ..	Soghaat	Supersto..	Women'..
Apr-21	13,893,309	1,554,378	24,395	3,694,219	9,092,326	1,221,844	934,794	401,194	2,314,493	28,740,731	56,215,277	206,496	171,596	6,085,218	3,826,176
Aug-21	2,322,117	369,856	5,819	1,233,637	1,592,470	265,645	225,857	126,490	447,480	44,447,344	7,868	83,058	304,578	1,003,197	628,046
Dec-20	21,755,381	1,691,877	6,694	6,120,607	20,207,434	428,536	1,005,680	280,477	3,423,495	70,934,799	58,878	15,794	186,328	1,007,716	2,562,615
Feb-21	1,718,488	1,942,390	981	534,983	862,723	314,640	493,356	128,511	561,788	4,749,269	20,274	37,154	283,175	889,930	758,025
Jan-21	2,428,027	7,330,486	1,064	994,837	1,179,118	62,488	229,867	124,027	765,478	7,740,263	53,637	5,811	206,729	3,471,989	942,279
Jul-21	3,203,989	1,996,511	6,214	1,439,693	1,977,015	447,950	889,692	156,588	1,222,421	37,865,220	99,354	25,916	840,243	4,748,055	2,281,401
Jun-21	10,975,138	2,446,785	4,198	3,755,762	7,287,295	996,561	1,418,688	444,720	3,861,512	45,054,183	367,768	51,468	614,012	5,581,599	6,264,338
Mar-21	23,855,217	3,320,149	1,175	2,523,498	12,687,907	1,200,123	4,506,815	2,612,875	4,651,005	29,009,341	8,277,931	308,730	769,041	4,122,737	8,841,070
May-21	4,178,515	978,272	6,746	973,101	1,030,984	513,098	458,376	309,976	686,126	14,183,689	3,202,377	47,768	213,445	1,058,318	1,352,018
Nov-20	1,195,947	639,592	3,046	1,845,285	6,217,561	146,318	180,627	200,264	758,203	16,108,283	2,470,278	15,661	137,367	519,022	1,061,570
Oct-20	1,582,526	645,768	2,603	582,505	1,319,612	196,557	359,816	227,287	1,109,467	6,515,132	2,536	9,425	191,852	90,345	1,172,973
Sep-21	2,494,756	1,196,427	22,302	1,077,622	2,362,943	292,686	262,998	130,981	1,103,744	17,739,988	7,059	94,263	276,544	3,488,934	2,054,241

Task 9

Find the top 5 product categories generating highest sales.

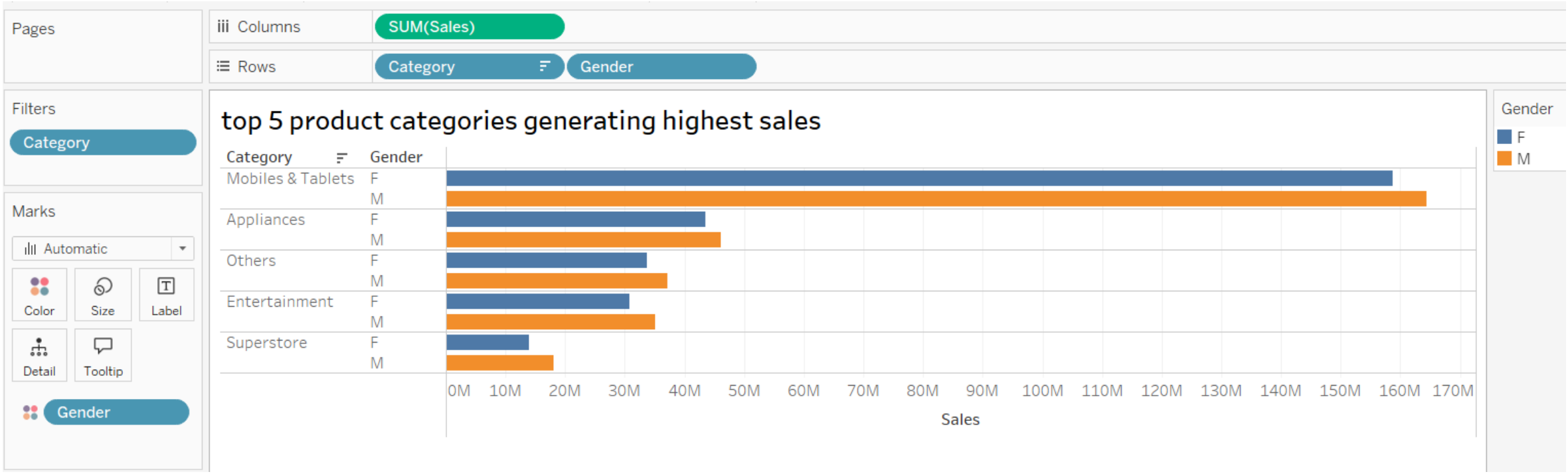
Also, visualize the gender wise contribution to the sales.

FILTERS

Filters:
Filters in Tableau are used to refine and control the data displayed in visualizations, allowing for focused analysis and better insights.

1. Selection filter
2. Wildcard filter
3. Condition filter
4. Top ‘N’ filter

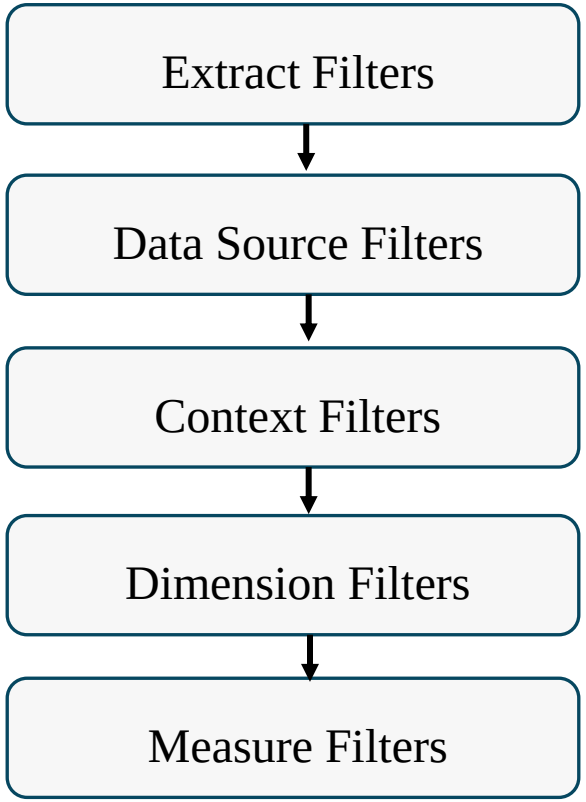
Dimension Filter



Task 10

Find top 5 product categories which are generating highest sales from southern region.

Order of Filter Execution

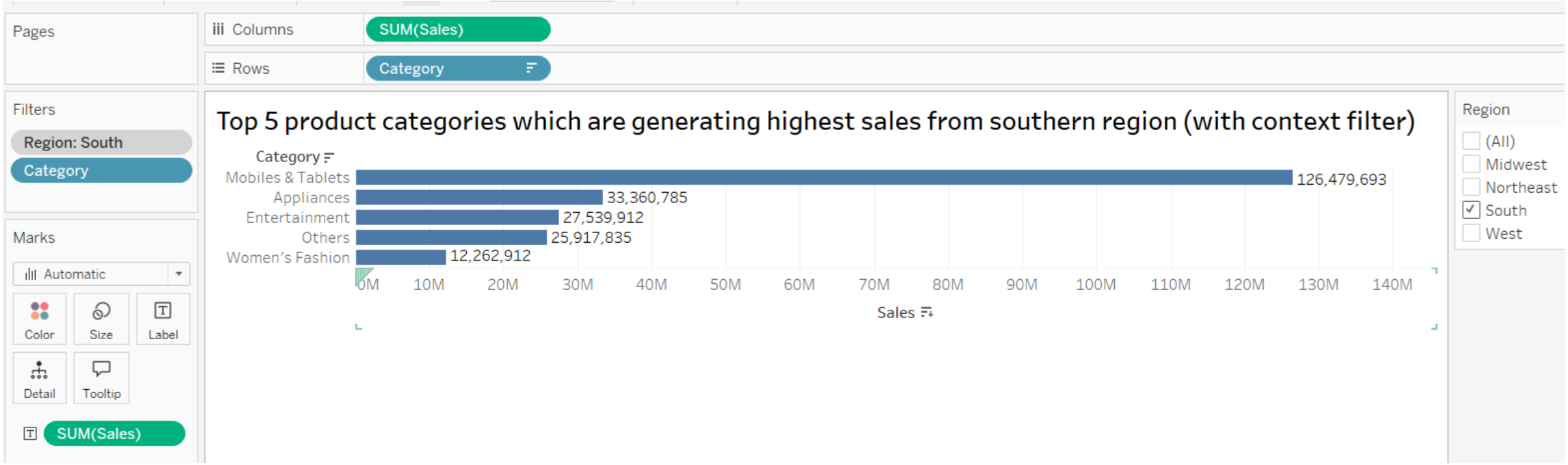


Filters

Context Filter:
Creates a **context** or **subset of data** that other filters will be applied to. It essentially sets a "context" for the remaining filters, ensuring that subsequent filters only affect the data within this subset.

Regular Filter:
Applies directly to the data, without setting a context for other filters. It works independently of other filters.

Find top 5 product categories which are generating highest revenue from southern region.



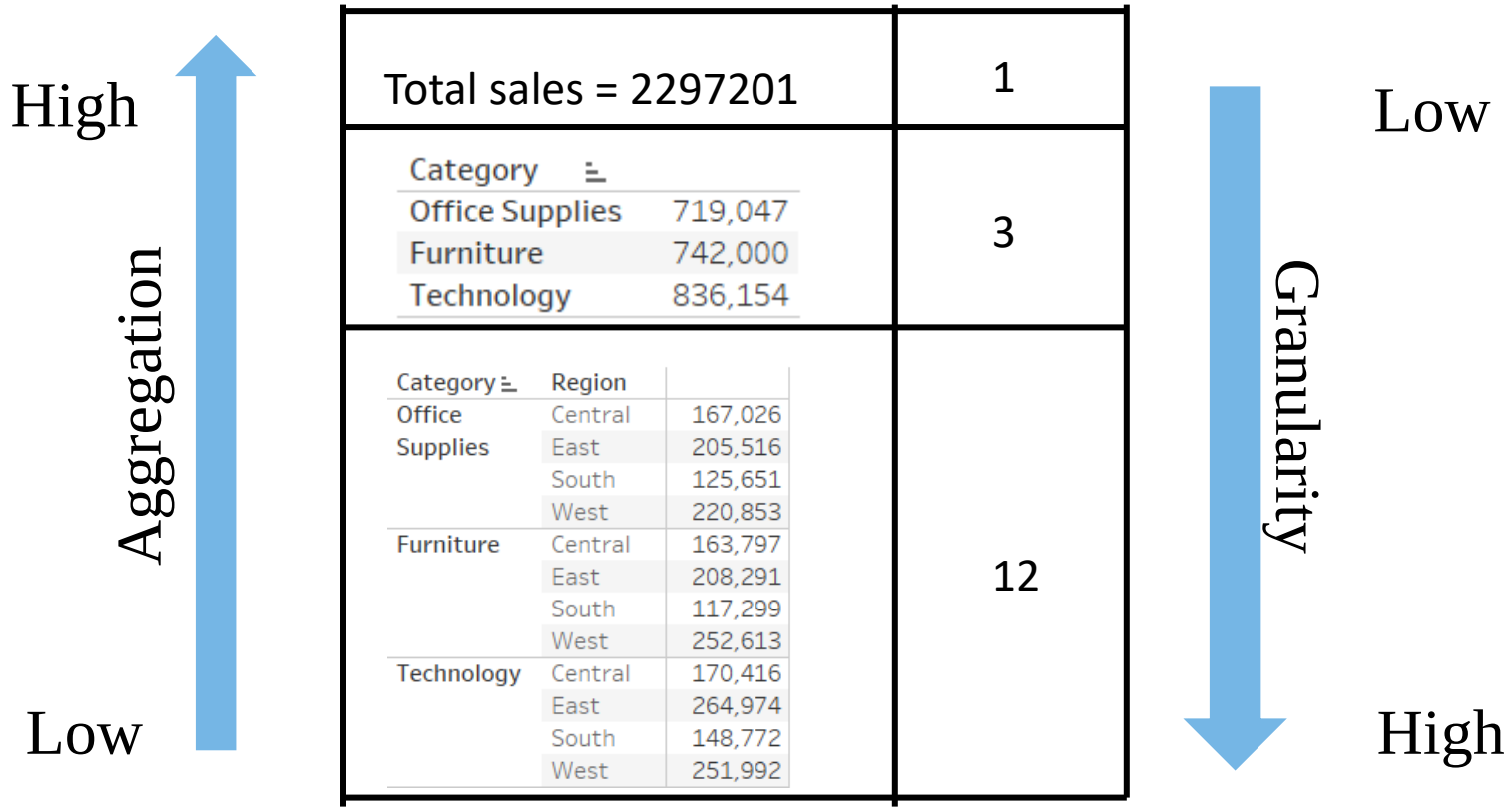
Task 11

Using geographical map, visualize the sales generated from states.

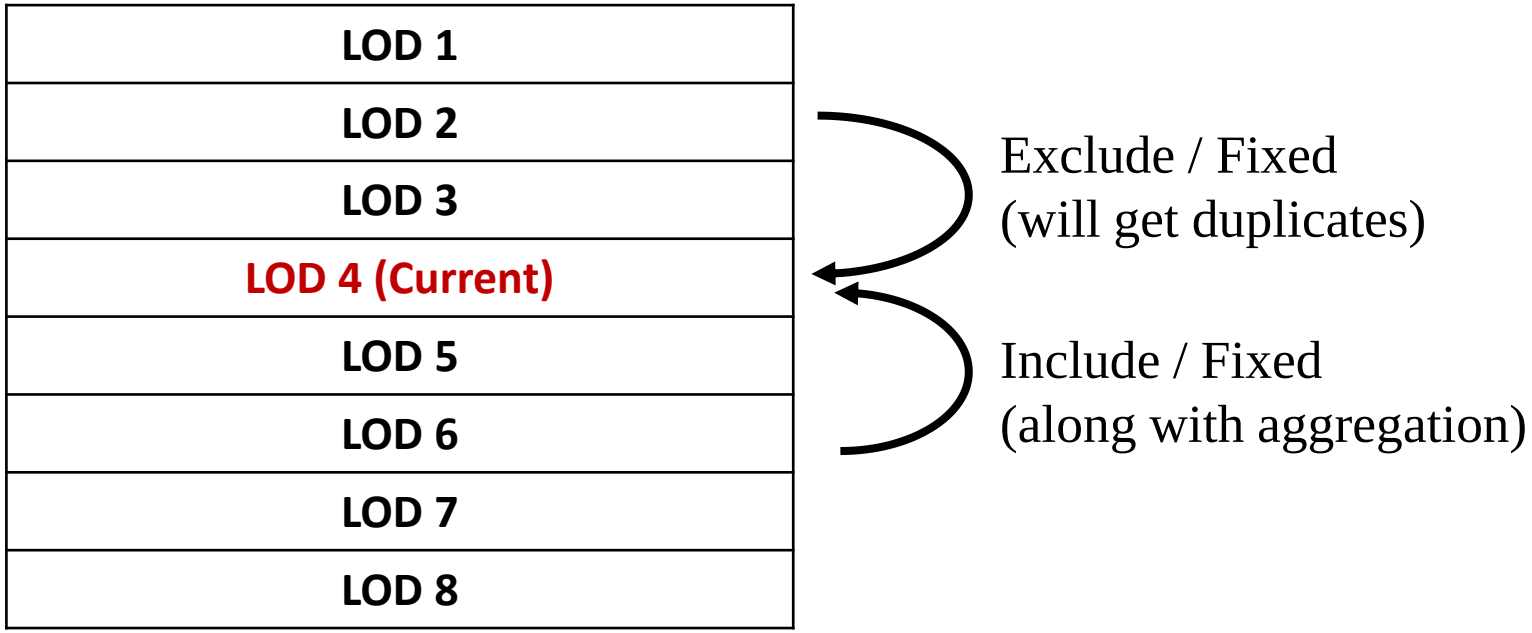
Include the sales generated per region in tooltip.

Level of Details

Refers to the granularity at which data is analyzed or aggregated in a visualization.



Changing the Level of Details



TYPES OF LOD

Fixed

- Calculates values at a fixed level of detail
- **Independent** of the dimensions in the view
- Not affected by dimension filter

{FIXED <list of dimensions> : Aggregations}

TYPES OF LOD

Exclude

- Removes a dimension from the level of detail in the view, calculating more aggregated values.
- Affected by dimension filter

{EXCLUDE <list of dimensions> : Aggregations}

TYPES OF LOD

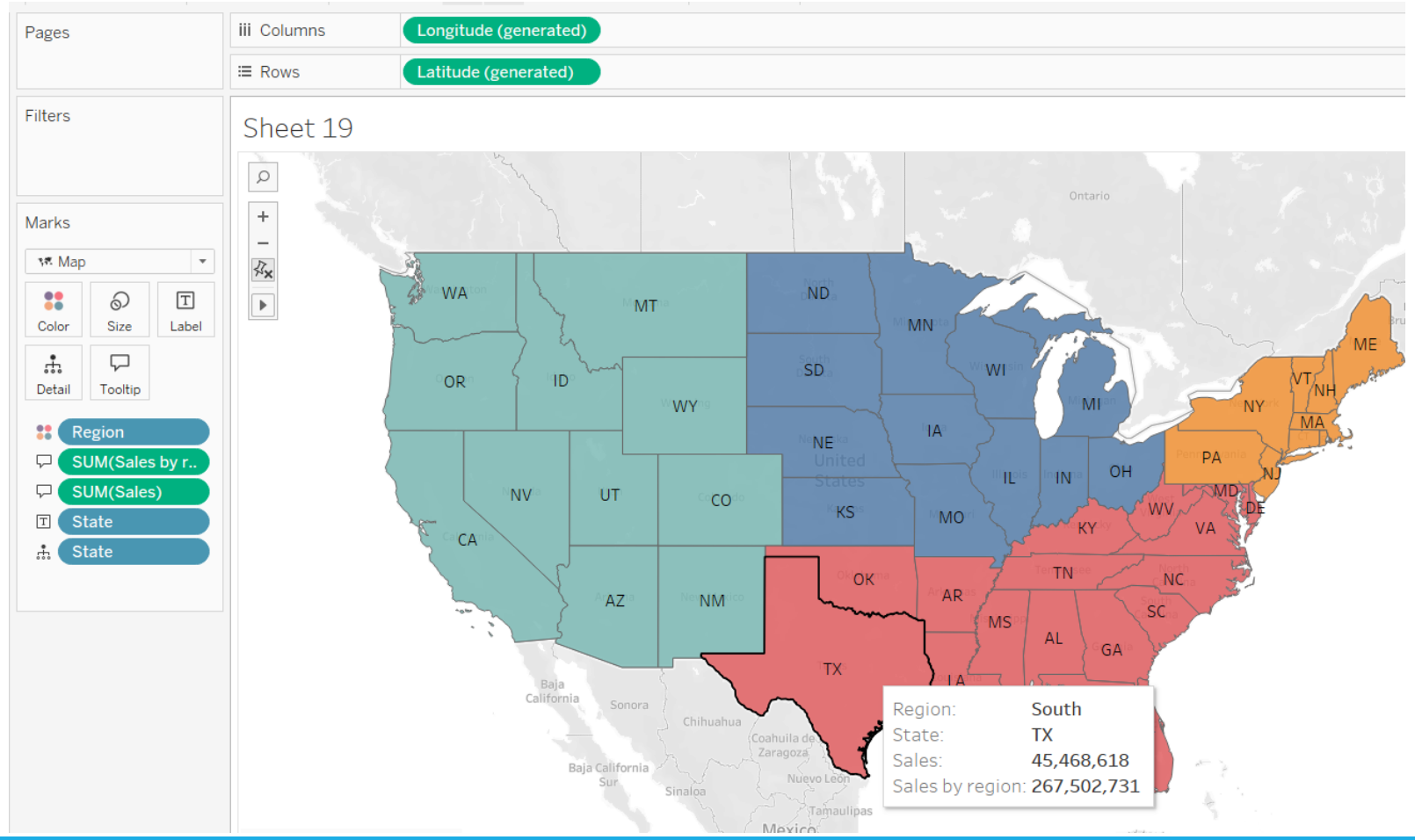
Include

- Adds a calculated expression to the existing level of detail in the view
- Affected by dimension filter

{INCLUDE <list of dimensions> : Aggregations}

Using geographical map, visualize the sales generated from states.

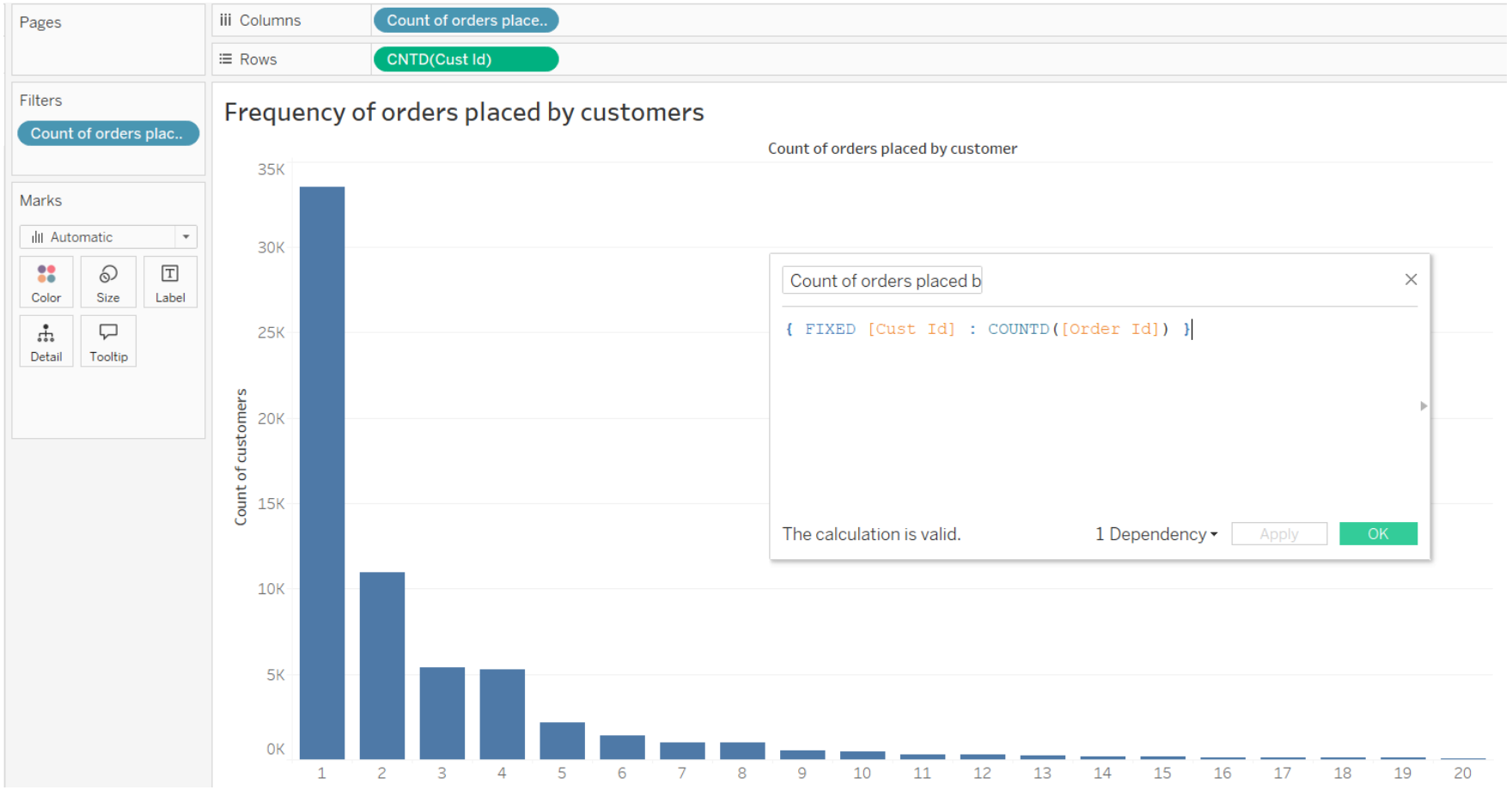
Include the revenue generated per region in tooltip.



Task 12

Find the frequency of orders placed by customers.

Find the frequency of orders placed by customers.

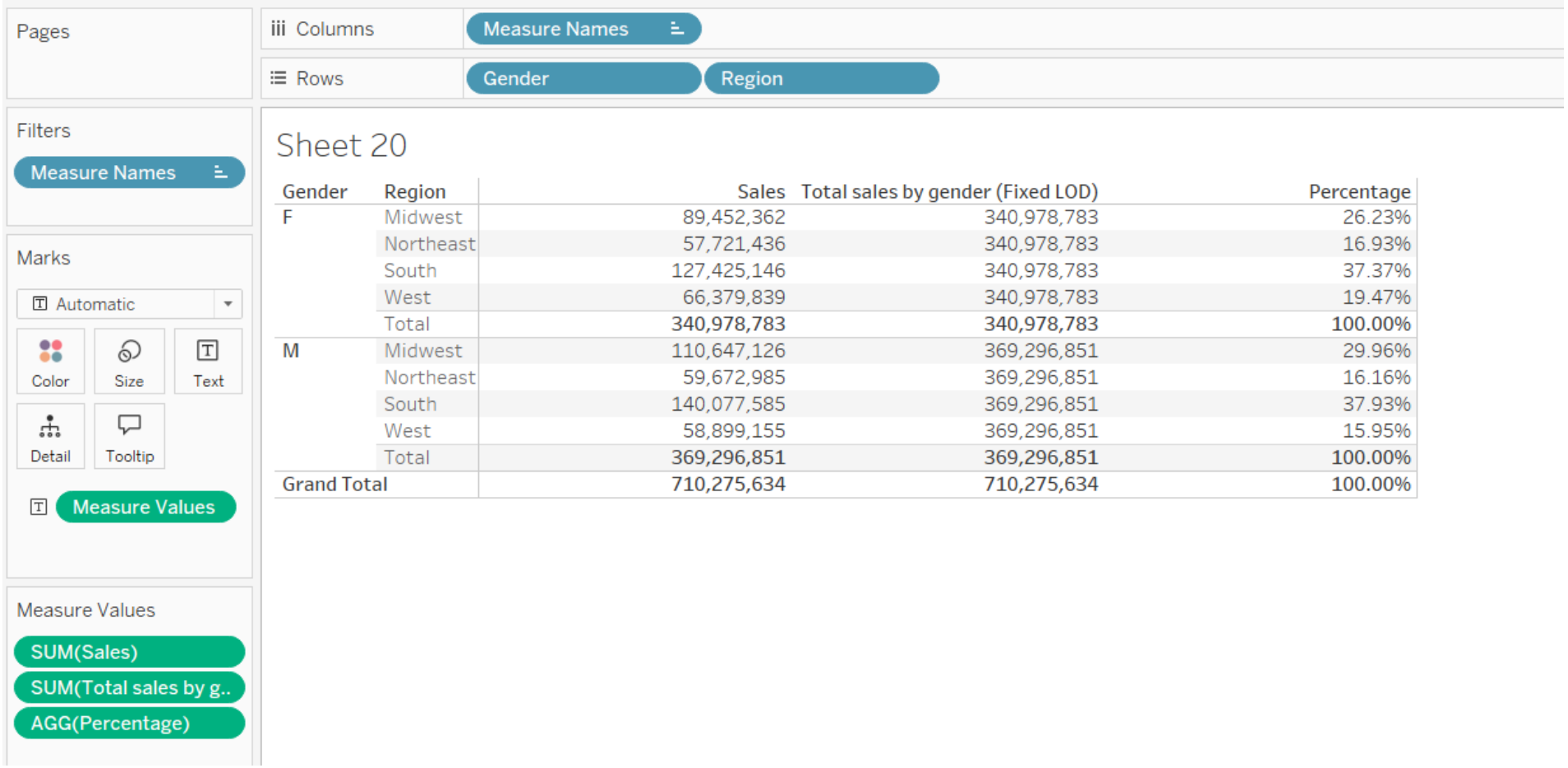


Task 13

Visualize sales contribution (in percentage) by region, categorized by gender.

(Hint: Use exclude LOD)

Visualize revenue contribution (in percentage) by region, categorized by gender.



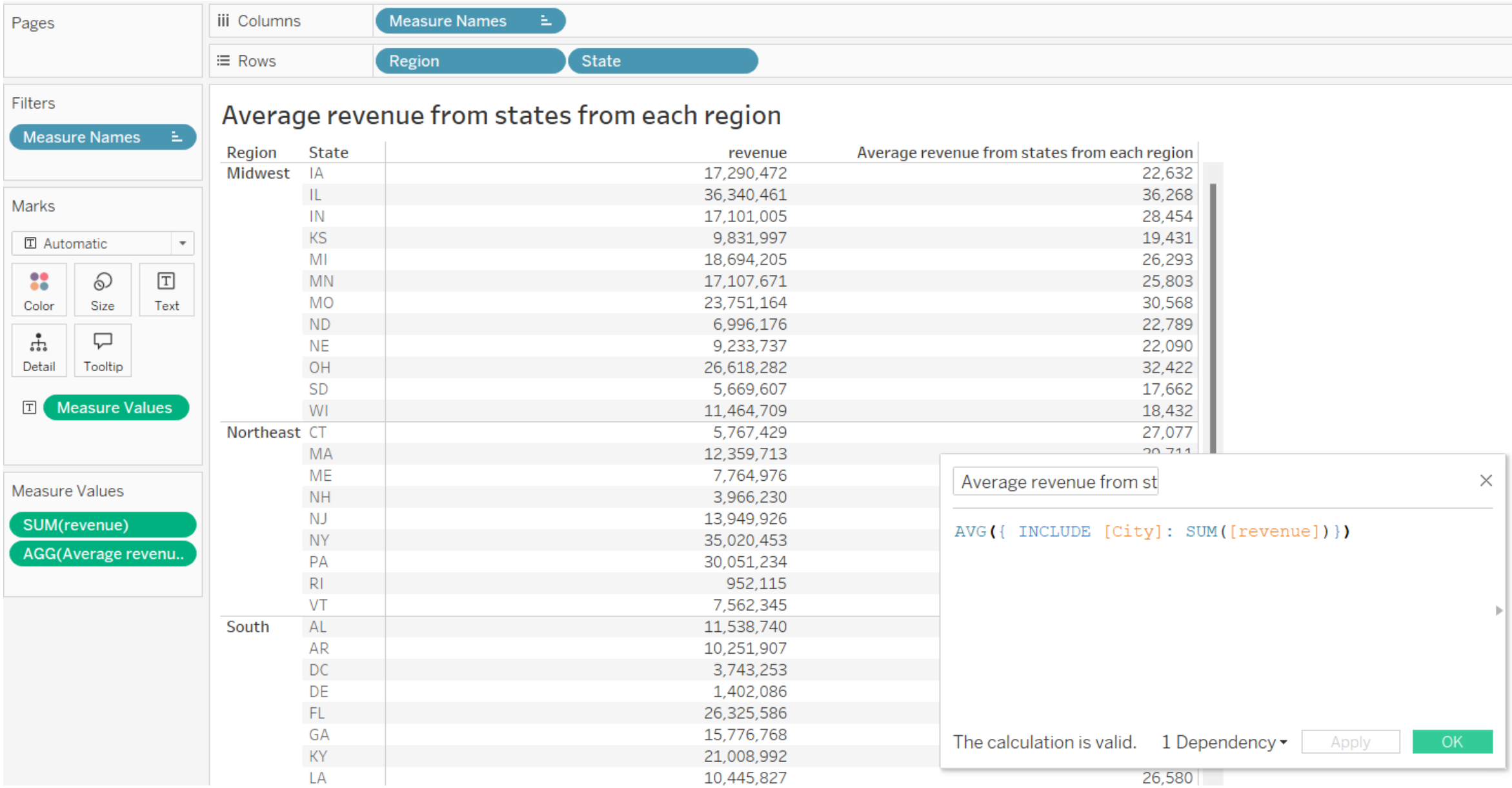
Sheet 20

Gender	Region	Sales	Total sales by gender (Fixed LOD)	Percentage
F	Midwest	89,452,362	340,978,783	26.23%
	Northeast	57,721,436	340,978,783	16.93%
	South	127,425,146	340,978,783	37.37%
	West	66,379,839	340,978,783	19.47%
	Total	340,978,783	340,978,783	100.00%
M	Midwest	110,647,126	369,296,851	29.96%
	Northeast	59,672,985	369,296,851	16.16%
	South	140,077,585	369,296,851	37.93%
	West	58,899,155	369,296,851	15.95%
	Total	369,296,851	369,296,851	100.00%
Grand Total		710,275,634	710,275,634	100.00%

Task 14

Compute average sales from states from each region.

(Note: Compute the average by considering sales from cities in the respective states.)


Pages
Columns
Measure Names
Rows
Region
State
Filters
Measure Names
Marks
Automatic
Color
Size
Text
Detail
Tooltip
Measure Values
Measure Values
SUM(revenue)
AGG(Average revenu..
Average revenue from states from each region
Region
State
revenue
Average revenue from states from each region
Midwest
IA
17,290,472
22,632
IL
36,340,461
36,268
IN
17,101,005
28,454
KS
9,831,997
19,431
MI
18,694,205
26,293
MN
17,107,671
25,803
MO
23,751,164
30,568
ND
6,996,176
22,789
NE
9,233,737
22,090
OH
26,618,282
32,422
SD
5,669,607
17,662
WI
11,464,709
18,432
Northeast
CT
5,767,429
27,077
MA
12,359,713
ME
7,764,976
NH
3,966,230
NJ
13,949,926
NY
35,020,453
PA
30,051,234
RI
952,115
VT
7,562,345
South
AL
11,538,740
AR
10,251,907
DC
3,743,253
DE
1,402,086
FL
26,325,586
GA
15,776,768
KY
21,008,992
LA
10,445,827
26,580
Average revenue from st
AVG({ INCLUDE [City]: SUM([revenue])})
The calculation is valid.
1 Dependency
Apply
OK

GitHub Link

https://github.com/Skillarbitrage/TB