Telegram Group: https://t.me/+VQgeExQT-oI5NWZl

Assignment 1:
https://drive.google.com/file/d/1O6OfjByKqR3_N1VapR99ZJqlPNRGrURS/view?usp=sharing

Assignment 2:
https://drive.google.com/file/d/1LY7y9K311f8dPZE44dyyGf9Onp8RV1lS/view?usp=sharing

Assignment 3:
https://drive.google.com/file/d/1edMnTq9pgSf9e3K50cjjzYz4XGbd6MaM/view?usp=drive_link

Selfpaced badge Submission Link: https://forms.gle/avBToFKaUN4vWF188

IIC Portal link: https://iic.apsche.ap.gov.in/

Refr Link:
https://drive.google.com/file/d/1liJ62rTlkDc2KaasHIxawWOzVtJe9tXp/view?usp=sharing

Drive Link:
https://drive.google.com/drive/folders/1NTTdBCAYyq1o-vfYUokKsAgCzFxXQlLx?usp=sharing

Project Development templates link:

1. **Ideation Phase:**
   https://drive.google.com/drive/folders/1CZ_CtfUre8y-WqXwKN3BpqAuj-iE3AiE?usp=drive_link
2. **Requirement Analysis**
   https://drive.google.com/drive/folders/13gc-Qwhj8tieBixj4P-r7-KZylmh8Wbg?usp=drive_link

Note: *For customer journey Map visit https://www.mural.co/ and search Customer Experience Journey Map (https://www.mural.co/templates/customer-journey-map)*

Self Paced Course:
https://skills.yourlearning.ibm.com/activity/PLAN-14F2691E3A32?ngo-id=0302&utm_campaign=aca-smartbridge-T30M-APSCHE-event#1
Go to above Link
SignUp with Registered Email
Click on enrol button for the Corse Getting started with Data

Recordings: https://www.youtube.com/playlist?list=PL3BTeoo2lf67xYPdqOpH9n_5mjL25b4nr

DATASET LINKS

S.No	Project Title
1	Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights with Tableau
2	Visualization Tool for Electric Vehicle Charge and Range Analysis Using Tableau
3	ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data
4	Measuring the Pulse of Prosperity: An Index of Economic Freedom Analysis
5	Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau
6	Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau
7	Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study
8	Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau
9	Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau Visualization
10	iRevolution: A Data-driven Exploration of Apple's iPhone Impact in India using Tableau

1. Cosmetic Insights _ Navigating Cosmetics Trends and Consumer Insights with Tableau
   https://www.kaggle.com/datasets/kingabzpro/cosmetics-datasets

2. Visualization Tool for Electric Vehicle Charge and Range Analysis-Updated
   https://drive.google.com/drive/folders/1Rkzdks6Us1Uq2SRB4nxMAb83jN5bpHll

3. ToyCraft Tales _ Tableau's Vision into Toy Manufacturer Data
   https://www.kaggle.com/datasets/thedevastator/toy-manufacturers-in-us-states?select=Week+39+-+US+Toy+Manufacturers+-+2005+to+2016.hyper

4. Measuring the pulse of prosperity: An Index of economic freedom analysis

   https://drive.google.com/file/d/1EBIa1LtM3Ni2Uh3nekLB6wt3263Q3NeX/view?usp=share_link

5. Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau

   https://www.kaggle.com/datasets/ujwalkandi/unesco-world-heritage-sites/data?select=whc-sites-2019.csv

6. Visualizing Housing Market Trends An Analysis of Sale Prices and Features using Tableau

   https://www.kaggle.com/datasets/rituparnaghosh18/transformed-housing-data-2

7. Comprehensive Analysis and Dietary Strategies with Tableau_ A College Food Choices Case Study

   https://www.kaggle.com/datasets/borapajo/food-choices?select=food_coded.csv

8. Plugging into the Future_ An Exploration of Electricity Consumption Patterns

https://drive.google.com/file/d/1JxIkHNwXxjFztKq7ad0_KtkukCqTckNy/view?usp=sharing

9. Strategic Product Placement Analysis

   https://drive.google.com/file/d/1vHDNGw130kbYUPj-wl4640x-cz5349GM/view?usp=sharing

10. iRevolution_ A Data-driven Exploration of Apple's iPhone Impact in India

    https://docs.google.com/spreadsheets/d/1p1ZWaYcEuFl5UNFcmNvpkXi3JnoHamut/edit?gid=1877446487#gid=1877446487

Project Development Phases

1. Ideation Phase
    a. Brainstorming files
    b. Empathy Map
    c. Problem Statement
2. Requirement Analysis
    a. Customer Journey Map
    b. Data Flow Diagram
    c. Solution Requirement
    d. Technology Stack
3. Project Design Phase
    a. Problem Solution Fit
    b. Proposed Solution
    c. Solution Architecture
4. Project Planing Phase
    a. Project Planning Template
5. Functional and Performance Testing
    a. Performance Testing

Files to submit

1. Dataset
2. Tableau file
3. Screeshot of Dashboard
4. Screenshot of Story
5. Public links of Dashboard and Story
6. Final Report
7. Video Demonstration

My SQL Workbench

Link: https://dev.mysql.com/downloads/workbench/
Link: https://www.youtube.com/watch?v=Rxp3T5GKlR4

Customer Needs,

- Quality of Product
- Excellent Customer Service
- Value for Money
- Transparency and Honesty

Decision making Process

1. Identify the Problem
2. Gather Information
3. Generate the Options
4. Evaluate the Option
5. Select the Best Option
6. Implement the Decision

Need of Data Visualization

- Simplifies Complexity
- Identifies Patterns
- Supports Decision
- Enhances Communication

Data Analytics- Use of tools, techniques to understand data for better decision making
DA Application

- HealthCare
- Retail
- Finance
- Sports
- Education

Data Analytics Process

1. Define Problem- Set clear objectives and goals
2. Data Collection- Gather relevant data from appropriate sources
3. Data Cleaning- Prepare and ensure data quality
4. Data Preprocessing- Transform and organise data for analysis
5. Data Analysis-Apply techniques to derive insights
6. Interpretation- Make sense of result and draw conclusion
7. Communication- Present insights in clear actionable manner

Types of Analytics

1. Descriptive Analytics- What happened
2. Diagnostic Analytics- Why did it happen
3. Predictive Analytics- What is likely to happen
4. Prescriptive Analytics- What should we do

Supermarket
1hr-20 transaction
10 hr- 200 transaction
30 days-6000 transaction

Small data
Large data

Business Intelligence: Business Intelligence helps to turn raw data into useful information that business can act on.

Difference between BI tools and Excel

1. Scalability
2. Data Integration
3. Advanced Analytics
4. Visualization and Dashboard

Tableau- It was started in 2003 but was acquired by Salesforce in 2019

1. Data Connectivity
2. Drag and Drop Interface
3. Wide range of visualizations
4. Dashboard and storytellings
5. Sharing and collaboration

Products of Tableau

1. Tableau Desktop
2. Tableau Public
3. Tableau Server
4. Tableau Online

For Students– Tableau for Student till 1st Feb 2025
1 year free Tableau Desktop and Tableau Prep

Tableau Desktop Professional Edition(14 days free trail)
Tableau Prep (14 days free trail)
Tableau Desktop- Public Edition (free of Cost)

Visit : https://www.tableau.com/academic/students
Click on get Tableau for Free
Fill the form
Click on Download the app

Mysql
DataBase: Databases are used to store large amount of data in structured format.

Types of Databases:

- Relational Databases
- Operational Database
- Distributed Database
- Cloud Database
- End User Database

MySQL: Open Source RDBMS by Oracle Corporation

Open Source
Relational Database
Cross Platform
Security
Performance
Community and Support

SQL- Structured Query Language

MySQL Workbench is IDE

MYSQL Edition

- MySQL Community Edition
- MySQl Standard Edition
- MySQL Enterprise Edition

Basic SQl Components

1. DDL- Data Definition Language- CREATE, ALTER and DROP
2. DML- Data Manipulation Language- INSERT, UPDATE and DELETE
3. DQL- Data Query Language- SELECT
4. DCL- Data Control Language- GRANT and REVOKE
5. TCL- Transaction Control Language

Basic SQL Commands

- SELECT- Used to retrieve the data from tables in the database.
- INSERT-Used to add new records to a table
- UPDATE- Used to modify existing record in table
- DELETE- Used to remove record from table

- CREATE- Used to create new database objects
- ALTER- Used to modify the structure of existing database object.
- DROP-Used to delete database objects
- GRANT- Used to grant specific privileges to database user
- REVOKE- Used to revoke previously granted privileges.

Create database studentdb;
use studentdb;

Comments are of two types
1 Single line Comment -- single line comment
2. Multiline Line Comment
/*----------
----------*/

Primary Key- Uniquely identifying each row in a table
Foreign Key- referencing another column in another table

CRUD Operation
- Create (C)
- Read (R)
- Update (U)
- Delete (D)

Student table
Student_Id, Name, age and grade

Create Table:

```
create Table Students(
student_id int Primary Key auto_increment,
name varchar(50) not null,
age int,
grade varchar(5)
)
```

Insert Data

```
Insert into students(name, age, grade) values
('John',20, 'A'),
('Smith',21,'B'),
('Johny',23, 'A'),
```

('Sam',22,'B'),
('Bob',19,'C');

Read Data

Select * from Students;

Update Data

Update students Set age=21 where name='john';

Delete data
Delete from students where name='Bob';

truncate table students;

alter table students rename column age to years;
SQL Operations
select ABS(-5) as absolute_value;
select round(3.14159) as rounded_value;
select round(3.14159,3) as rounded_value;

Ceil() and floor()
Select Ceil(4.25) as ceil_value;
select floor(4.75) as floor_value;

Power()
select power(4,2);
select power(10,3) as cubes;

Square root()
select sqrt(144);

Exponential()
select exp(1) as exponential_value;

Rand()
select rand() as random_value;

Mod()
select mod(14,3) as remainder;
select greatest(2,5,18,6,12);
select least(2,5,18,6,12);
select truncate(22.89734235,2);

```
select upper('Indra Prakash') as Upper_case;
select lower('INDRA PRAKASH') as lower_case;

select character_length('India is My Country') as total_length;
select length('India is My Country') as length_of_string;

CONCAT()
select concat('India' ' is' ' in Asia') as merged;

TRIM()
select trim('     Hello    ') as Trimmed_String;

Replace()
select replace('Hello World', 'World','Universe') as replaced_string;


Current Date
select current_date as today;
select current_time as time;
select current_timestamp as current_timstamp;

Format()
select date_format(Now(),'%d-%m-%y')as formatted_date;

DateDiff()
select DateDiff('2025-01-01','2024-01-01') as date_difference;

Joins:
Inner Join: Return all matching values in both table
Left Join: Return all records from left table and matching values from right table
Right Join: return all records from right table and matching values from left table
Cross Join:Return all reforms from both table


create database joins;
use joins;

create table cricket_students(
student_id int primary key,
student_name varchar(50)
);

create table football_students(
```

```
student_id int primary key,
student_name varchar(50)
);

Insert into cricket_students(student_id, student_name) values
(1,'Raju'),
(2,'Suraj'),
(3,'Mohan'),
(4,'Karan'),
(5,'Virat');

select * from cricket_students;

Insert into football_students(student_id, student_name) values
(2,'Suraj'),
(3,'Mohan'),
(5,'Virat'),
(6,'Alex'),
(7,'Taylor');

select * from football_students;


-- Inner Join
Select * from cricket_students
Inner join football_students
on cricket_students.student_id=football_students.student_id;

-- Inner Join using Alias
Select * from cricket_students as c
Inner join football_students as f
on c.student_id=f.student_id;

-- Left Join
select * from cricket_students as c
Left join football_students as f
on
c.student_id=f.student_id;


-- Right Join
select * from cricket_students as c
Right join football_students as f
on
```

c.student_id=f.student_id;

Cross Join-

```
select *
from cricket_students
cross join football_students;
```

26/5/2025

Dataset link:
https://drive.google.com/file/d/1i1IghiLngW2qF_vSxQASB9DuJQDyE-q3/view?usp=sharing

Segment- Consumer, Corporate and Home Office
Category- Furniture, Office Supply and Technology

Order Date, Segment, Category, Sub - Category

```
create database superstore;
use superstore;
select * from superstore;
select * from superstore Limit 5 ;

Select `Order Date`,Segment,Category,`Sub-Category`, sales from superstore limit 5;

Count()
select count(*) as `No of records` from superstore;

Sum()
select sum(sales) as Total_sales from superstore;
select round(sum(sales),2) as Total_sales from superstore;

Average()
Select  avg(discount) as `Average Discount` from superstore;
Select  round(avg(sales),2) as `Average Sales` from superstore;

Min()
select min(sales) as lowest_sales from superstore;

Max()
select max(sales) as Max_sales from superstore;
```

Rename a Column

```
alter table superstore
change column `Customer Name` Customer_name varchar(255);
```

27/5/2025

Where: Filters the rows based on condition before grouping or aggregation

```
select * from superstore where Category='Furniture';
select * from superstore where Category="furniture" and region="south";
select * from superstore where state="New York" or state="texas";
select * from superstore where not country='United States';
```

Group By: Group rows that have same values in specified column, often used with aggregate function.

```
-- No of Customers in United States
select country,count(*)  from superstore
Group By Country;
```

- No of Order by State

```
select  State, count(`Row ID`) as total_customer from superstore
group by State;
```

- No of Orders By region

```
select region,count(*) from superstore group by region;

Select Count( Distinct `Customer ID`) as Unique_customer
from superstore ;

Select Category , Count(Distinct `Customer ID`) as Unique_Customer
from superstore
group by Category;
```

– Having: filters group based on aggregate condition (Used after Group By)

```
List of States with orders  more than 500
Select State, Count(*) as Total_Orders
from superstore group by State
having count(*)>1000;

List of States with sales>100000
select state, round(sum(sales))  as total_sales from superstore
```

```
group by state
having total_sales > 100000 ;

List of Customer with Total Sales> 15000
select Customer_Name,round(sum(sales)) as Total_sales
from superstore
group by Customer_Name
having Total_sales>15000;

List of Sub-Category with Average Profit more than $50
select `Sub-category`,round(avg(profit)) as Avg_profit
from superstore
group by(`Sub-Category`)
having Avg_profit > 50;

Order By-  Sort the result in ascending of descending order
Select * from superstore order by Sales;
Select * from superstore order by Sales Desc;
Select * from superstore order by `Category`;


Select * from superstore order by Region, Customer_name;

Select `Sub-Category`, round(Sum(sales)) as total_sales
from superstore
group by `Sub-Category`
Order by total_Sales Desc limit 5;


Adding New Columns
Alter table superstore add Revenue int;
update Superstore set Revenue= Sales * Quantity;

Describe Superstore;
Update superstore
set `Order Date`=str_to_date(`Order Date`, '%d-%m-%Y');

alter table superstore
Modify `Order Date` Date;

-- Total Sales and Total Profit for each region in year 2015
select Region,
round(sum(sales)) as Total_sales,
round(sum(profit)) as total_profit
```

from superstore
where year(`Order Date`)=2015
group by region;

Bottom Sales

- Select * from superstore order by Sales limit 5;

Top 5 State and their Sales
Select State, Sales from Superstore
order by Sales Desc limit 5;

To delete a column
alter table superstore
drop column Revenue;
Tableau Prep Builder: It was created for Data Preparation
Tableau Prep was introduced in 2018
Rebranded to Tableau Prep builder in 2019

Operations in Tableau Prep

1. Connection: You can take data from multiple sources
2. Clean Data:
    a. Data type Conversion
    b. Normalization: Standardise formats
    c. Data Renaming:
    d. Remove Unwanted Columns
3. Transform Data:
    a. Splitting Columns- US-2002-113456 -> Country Code, Year, Ser No
    b. Joining Data-
    c. Unioning Data
    d. Aggregation
    e. Pivoting
    f. Calculating New Fields
    g. Sorting and Filtering
4. Handling Null Values

Tableau Prep: https://www.tableau.com/products/prep/download

Dataset Link: https://help.tableau.com/current/prep/en-us/prep_get_started.htm

Order Central- Separate Columns for Year, month and day, Region field is missing

Orders west- State in abbreviations

Orders east- USD with Sales values

Central:

Calculation Field1:
Name- Region
Expression- ‘Central’

Calculation Field 2
Name- Order Date
Expression- MAKEDATE([Order Year],[Order Month],[Order Day])

Calculation filed 3
Name- Ship Date
Expression-MAKEDATE([Ship Year],[Ship Month], [Ship Day])

Remove fields: Order Year, Order Month, Order Day, Ship Year, Ship Month. Ship Day

In Discount we have replace None with 0 and Changed datatype to Number Decimal

West:

Az- Arizona
CA- California
CO- Colorado
ID- Idaho
MT-Montana
NV- Nevada
NM- New Mexico
OR-Oregon
UT-Utah
WA-Washington
WY- Wyoming

East- Click on Sales> Clean> Remove Letters
Change type to decimal

In Return Reason:

Remove - Row_ID, Order Date,Sub- Category, Manufacturer and Product Name

Notes>Clean> Trim Spaces
Notes> Split Values> Automatic Split

Click on Notes-Split2> Group> Common Characters

Remove the Notes

Rename Note Split1- Customer Notes
Rename Notes Split 2 - Approver Name

Join- Inner Join, Left Join, Right Join

Orders Table (Left Table)
Return Table(Right Table)

Join Return table with orders table and perform left join between them as we want all orders and only return data

Click on + to add clean step

Remove Order ID1
Remove Product ID1

Calculation field
Returned
If ISNULL([Return Reason]) then 'No'
else 'Yes' End

Calculation Field
Days to Ship
DATEDIFF('day',[Order Date],[Ship Date])

3/6/2025

Tableau Desktop Public Edition

Connect with Data- Sample Superstore

Dataset Link:
https://docs.google.com/spreadsheets/d/11GbKkYwJOg7Im0OpbP2VsBFWWcZn78gQ/edit?usp=sharing&ouid=113247709954189786236&rtpof=true&sd=true

Calculation Field
Revenue
[Sales]*[Quantity]-[Discount]

When a user connects data to tableau, data fields are automatically assigned **a role** and **a type**

Qualitative Data vs Quantitative Data

Qualitative Data-
- Describes or categories the data
- Cannot Perform Calculations like Sum, Average, Mean

Quantitative Data
- Numerical Data
- Can be used for Calculations

Field **Data type is a type**, example- String, Integer, Date

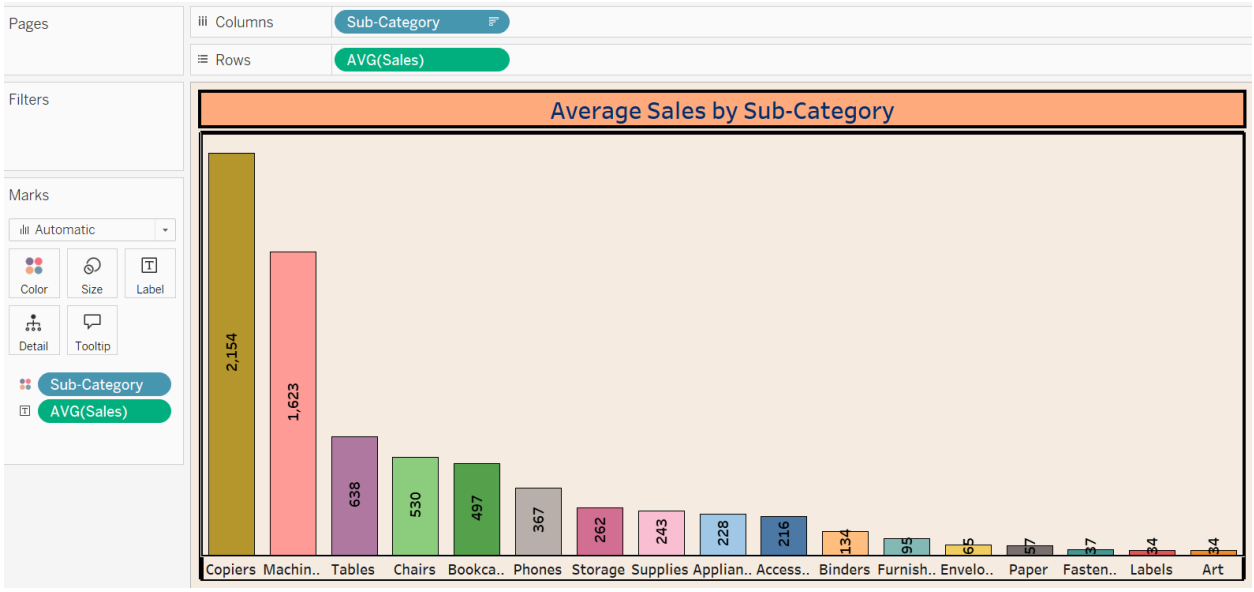
Fields are assigned 2 kinds of role
1. Dimension
2. Measure

Tableau **Autogenerates 1 Dimension**(Measure Names) and **4 Measures**(Latitude, Longitude, No of Records and Measure Values)

Tableau File Types:
https://help.tableau.com/current/pro/desktop/en-us/environ_filesandfolders.htm

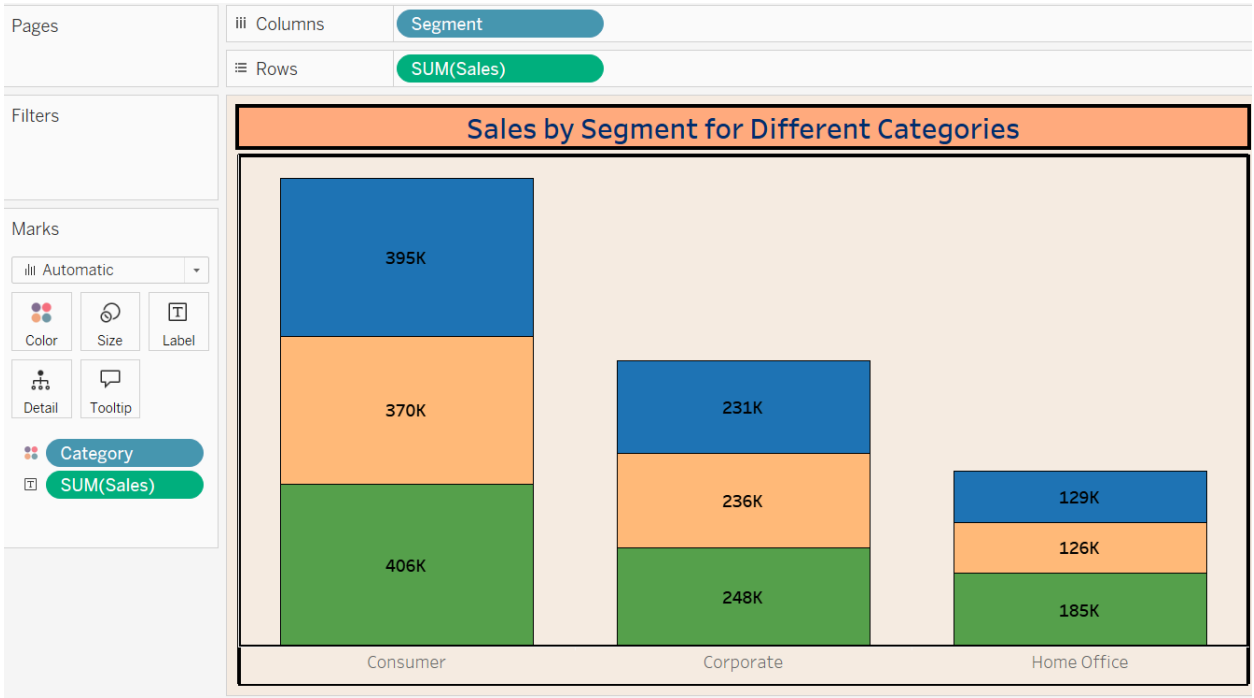
4/6/2025

Bar Chart:
Average Sales for Different Sub-Category
C- Sub Category
R- Avg(Sales)
Col- Sub- Category



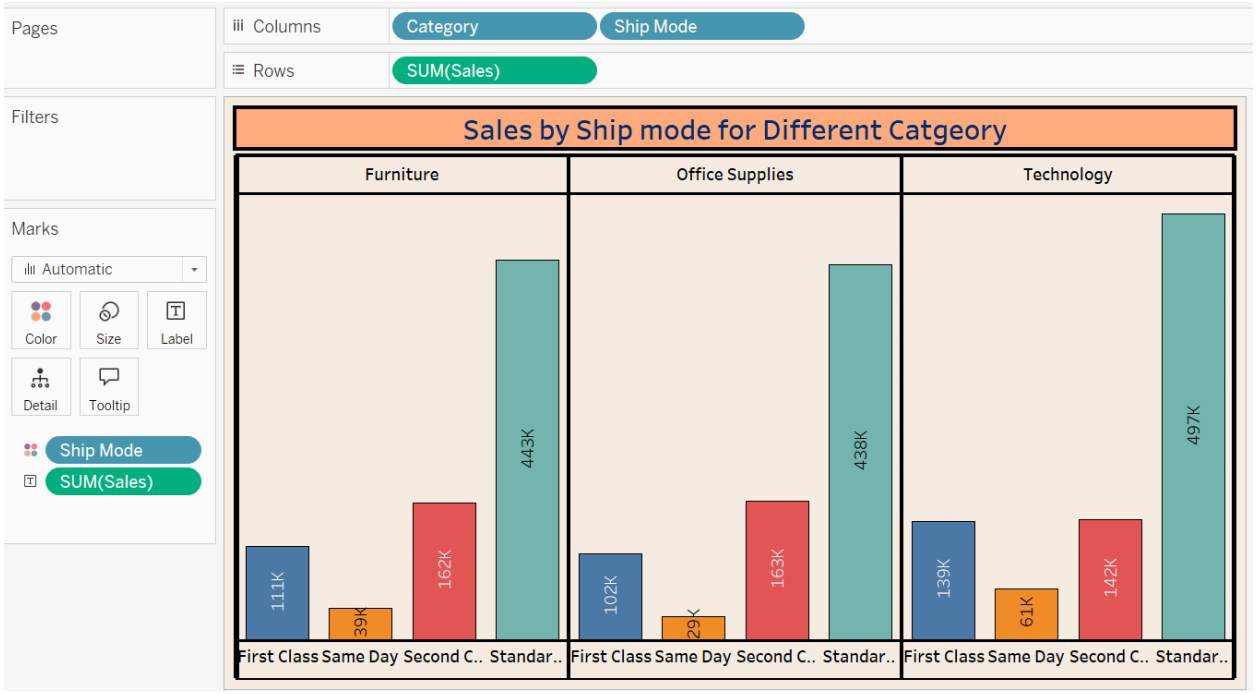
Stack Bar Chart

Segment- Consumer, Corporate and Home Office
Category→ Sub-Category→ Product
C- Segment
R- Sales
Col- Category

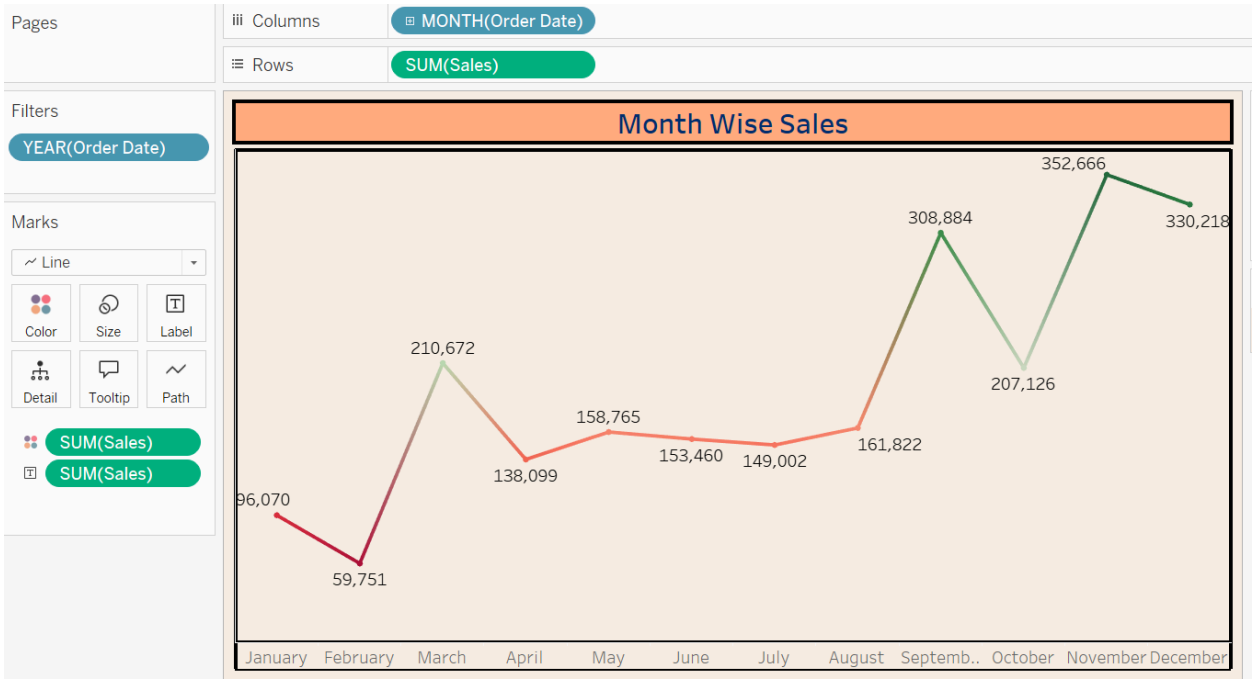


Side By Side Bar Chart

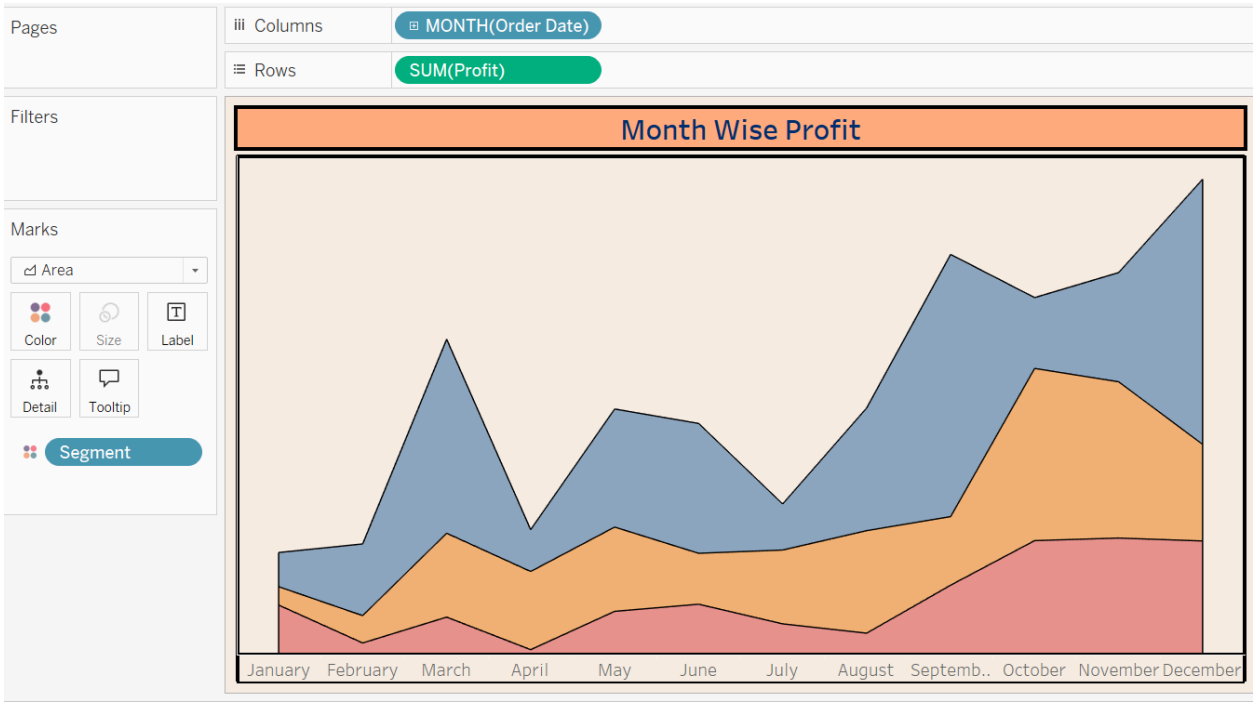
C- Category, Category
R- Sales
Col- Category



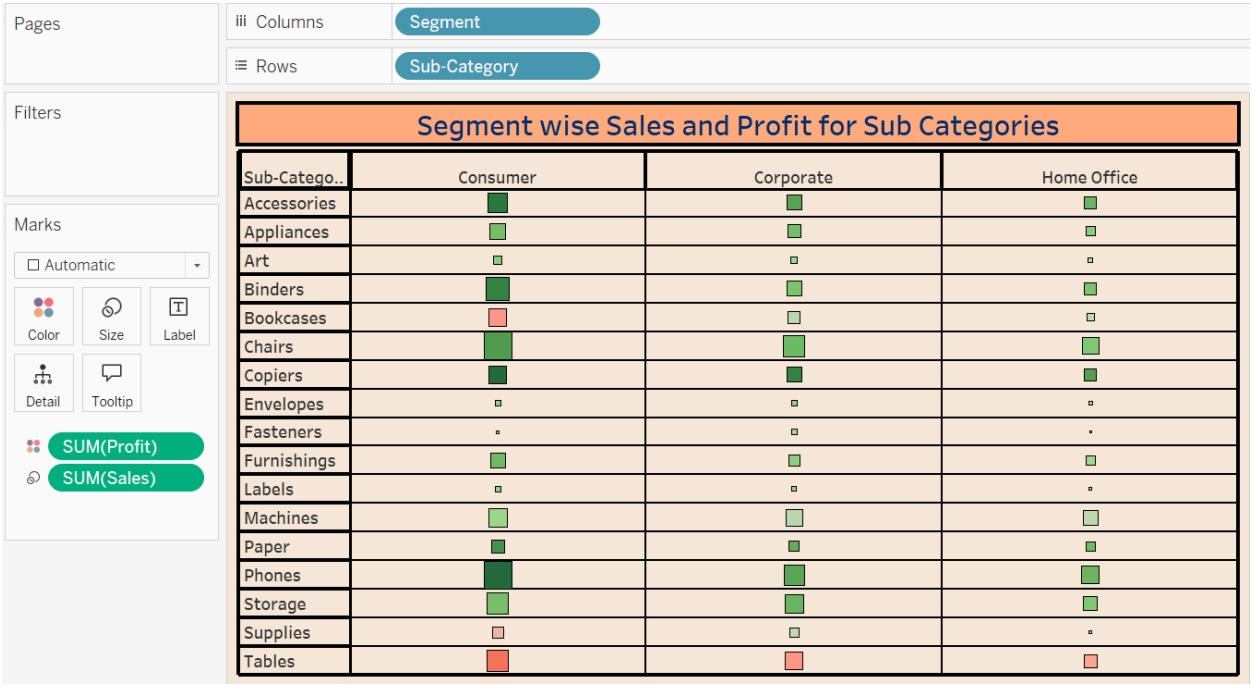
Line Chart
C- Month
R- Sales
Col- Sales (Red-Green Diverging)
Label- Sales



Area Chart
C- Month
R- Profit
Col- Segment



Heat Map
C- Segment
R- Sub Category
Col- Profit
Size- Sales



Bubble Chart

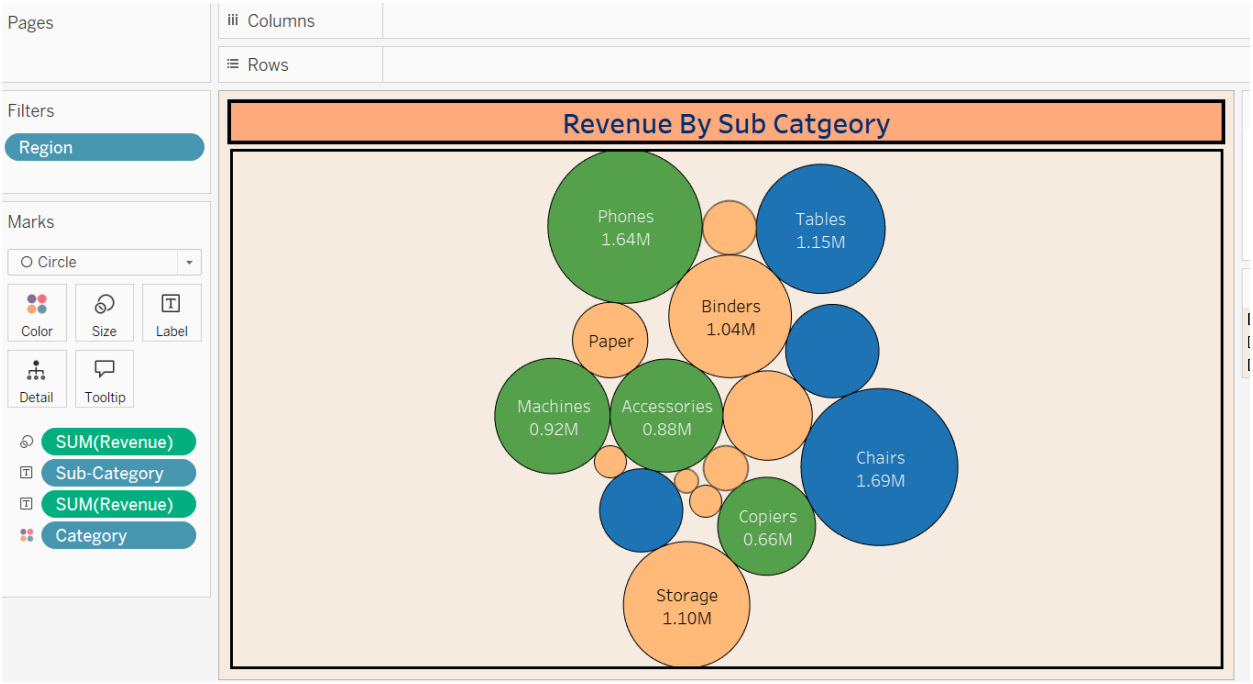
C- Sub - Category

R- Revenue

Click on Show Me and Select Packed Bubbles

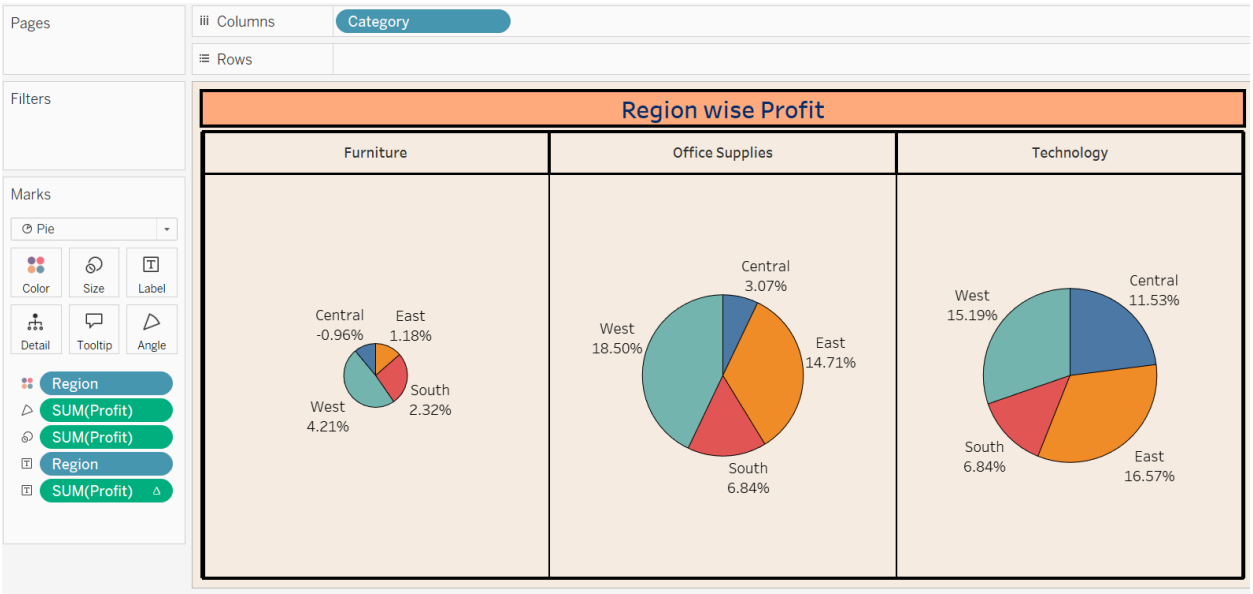
Col- Category

In filter → Region→ Select a Region randomly> Click Ok→ Rt click on Region Filter and Select Show Filter



Pie Chart

C- Region
R- Profit
Click on Show me and Select Pie Chart
Drag and Drop Region on labels
Drag and Drop Profit on Labels

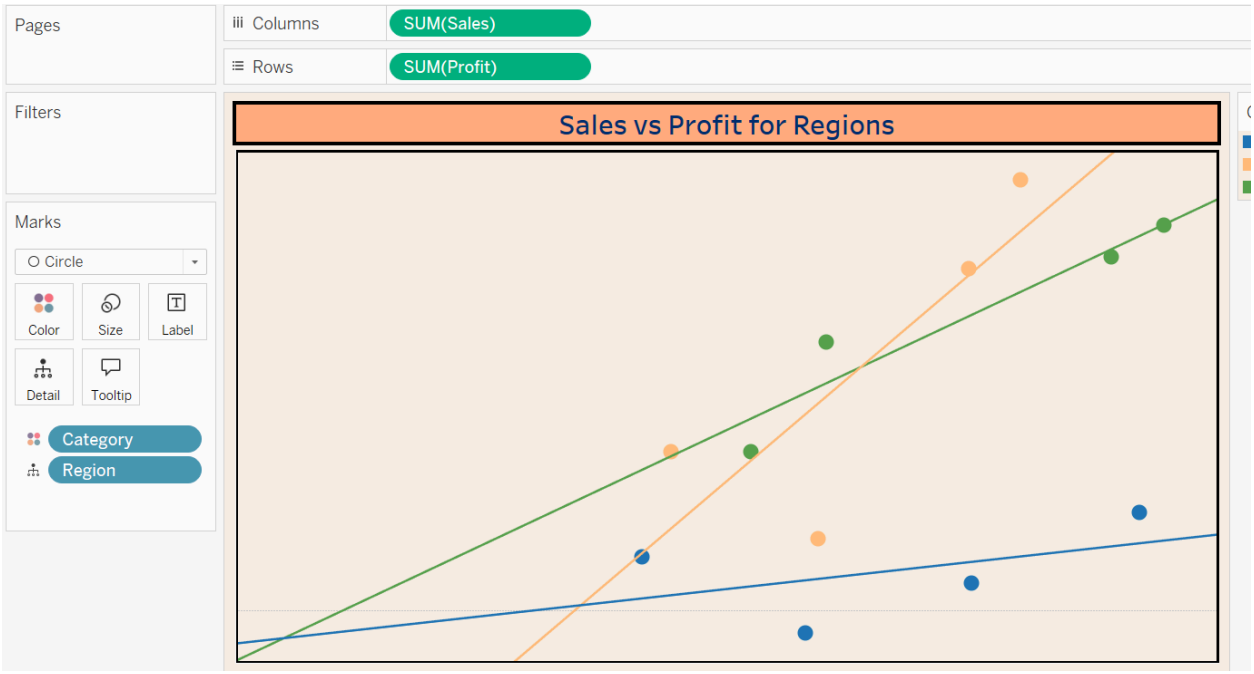


Rt click on Profit label and Select Quick table calculation → Percentage of total
Column- Category

Box Plot
Ref Link: https://help.tableau.com/current/pro/desktop/en-us/buildexamples_boxplot.htm

Scatter Plot

Ref Link : https://help.tableau.com/current/pro/desktop/en-us/buildexamples_scatter.htm



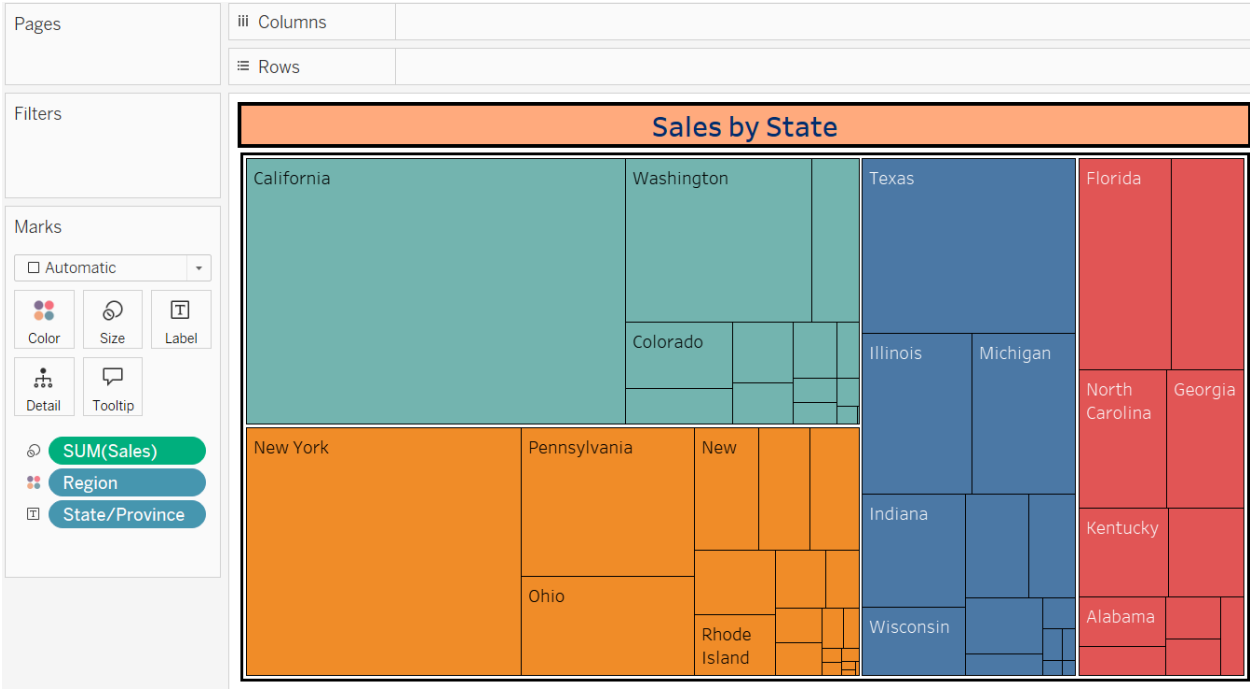
Tree Map

C- State

R- Sales

Click on Show me and Select Tree Map

Col- Region



Bullet Chart

Create Calculation Field

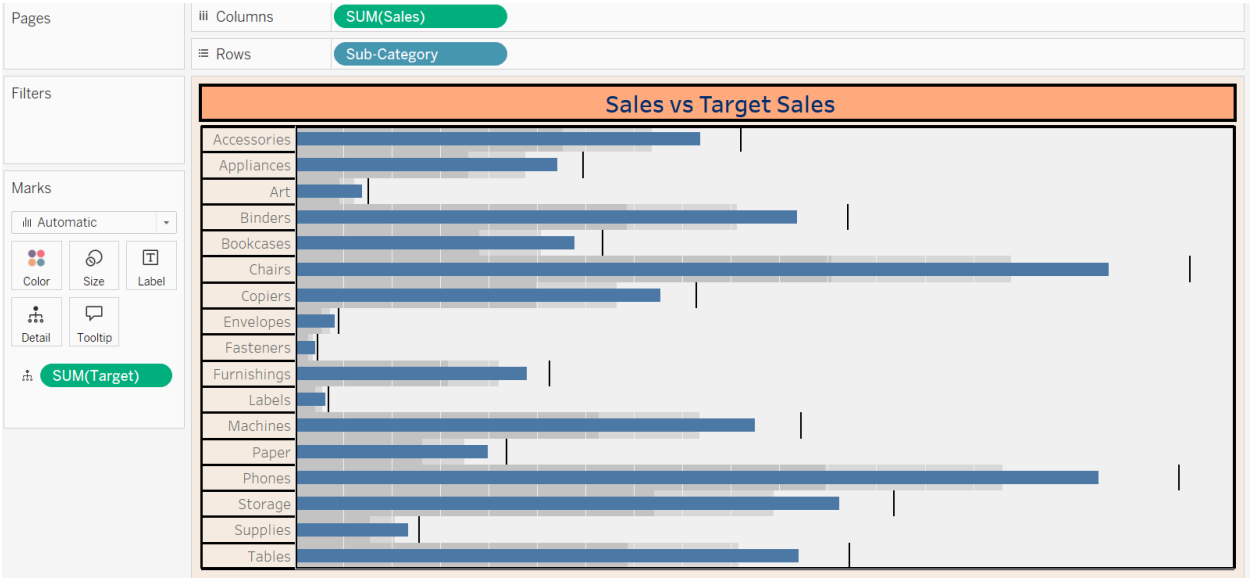
Target= Sales *1.1

C- Sales

R-Sub Category

Select Target and select Bullet Chart in Show me

Rt Click on Axis and Select swap reference line

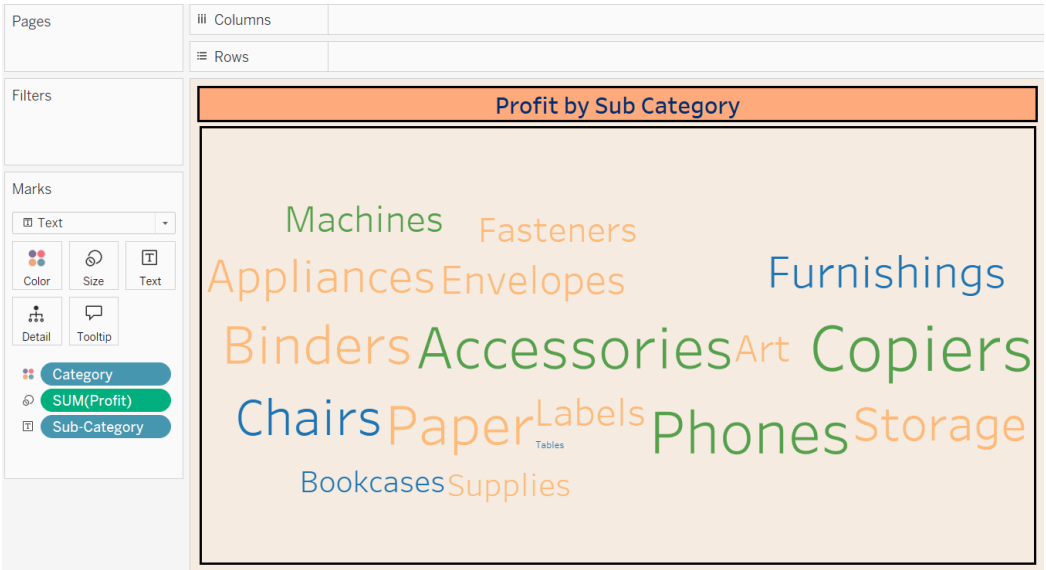


Word Cloud

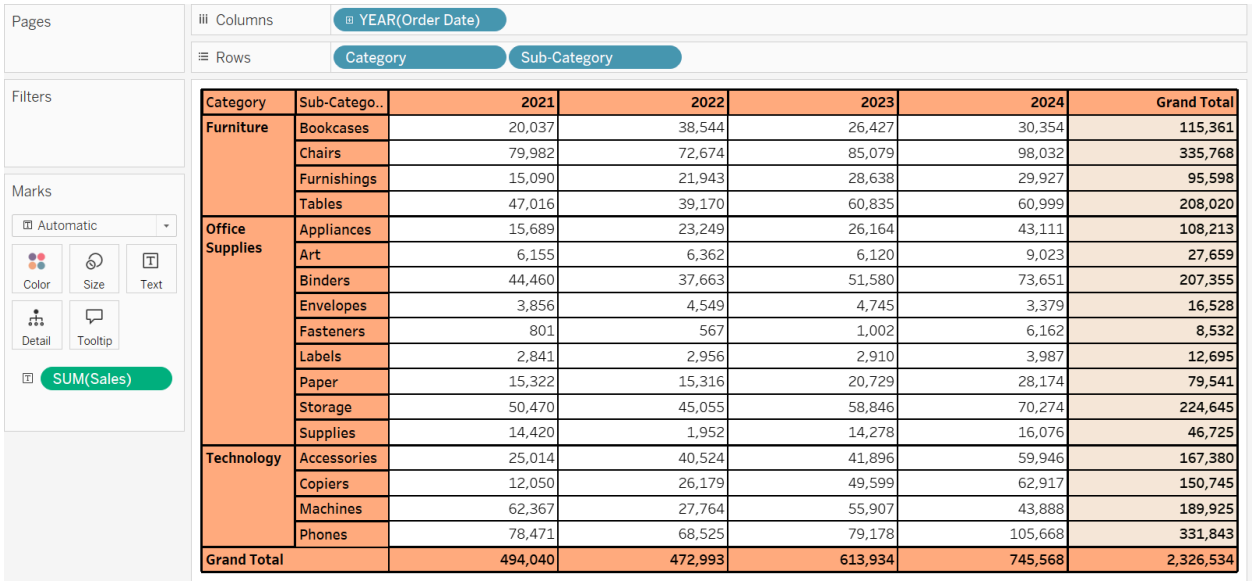
Drag and Drop Sub Category to text

Drag and drop profit to size

Select the Text in the Mark Card Dropdown

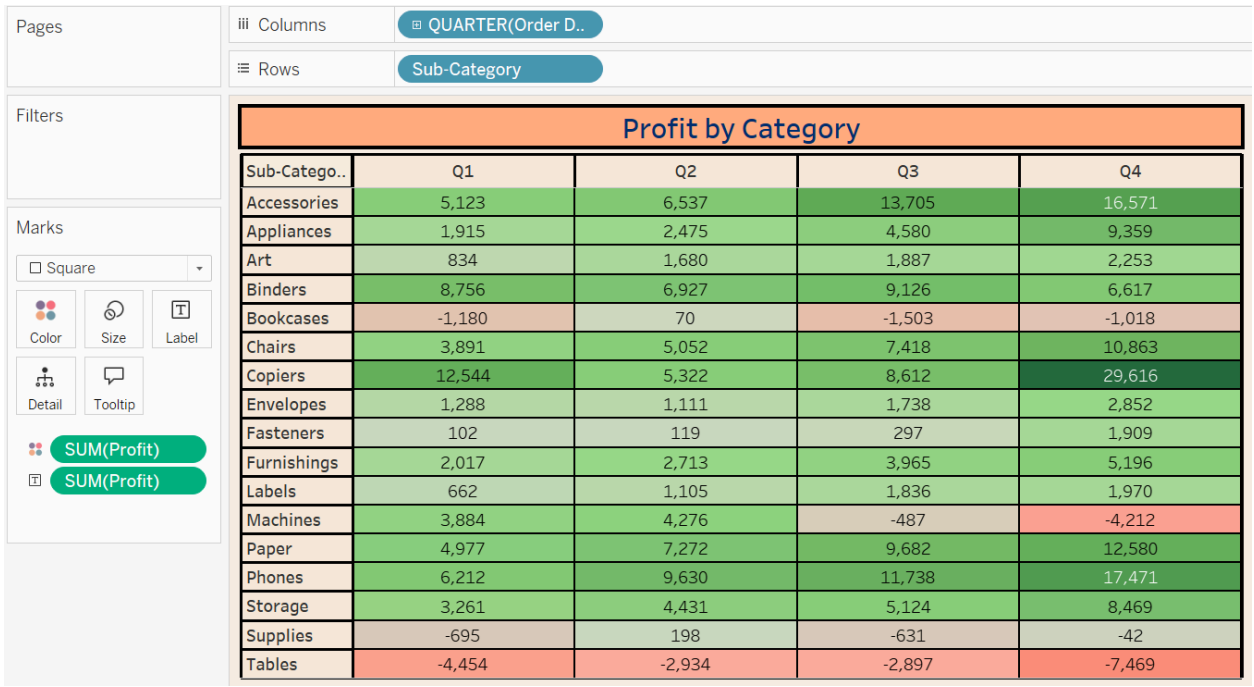


Text table



Category	Sub-Catego..	2021	2022	2023	2024	Grand Total
Furniture	Bookcases	20,037	38,544	26,427	30,354	115,361
	Chairs	79,982	72,674	85,079	98,032	335,768
	Furnishings	15,090	21,943	28,638	29,927	95,598
	Tables	47,016	39,170	60,835	60,999	208,020
Office Supplies	Appliances	15,689	23,249	26,164	43,111	108,213
	Art	6,155	6,362	6,120	9,023	27,659
	Binders	44,460	37,663	51,580	73,651	207,355
	Envelopes	3,856	4,549	4,745	3,379	16,528
	Fasteners	801	567	1,002	6,162	8,532
	Labels	2,841	2,956	2,910	3,987	12,695
	Paper	15,322	15,316	20,729	28,174	79,541
	Storage	50,470	45,055	58,846	70,274	224,645
	Supplies	14,420	1,952	14,278	16,076	46,725
Technology	Accessories	25,014	40,524	41,896	59,946	167,380
	Copiers	12,050	26,179	49,599	62,917	150,745
	Machines	62,367	27,764	55,907	43,888	189,925
	Phones	78,471	68,525	79,178	105,668	331,843
Grand Total		494,040	472,993	613,934	745,568	2,326,534

Highlight Table
C- Quarters
R- Sub Category
Label- Profit



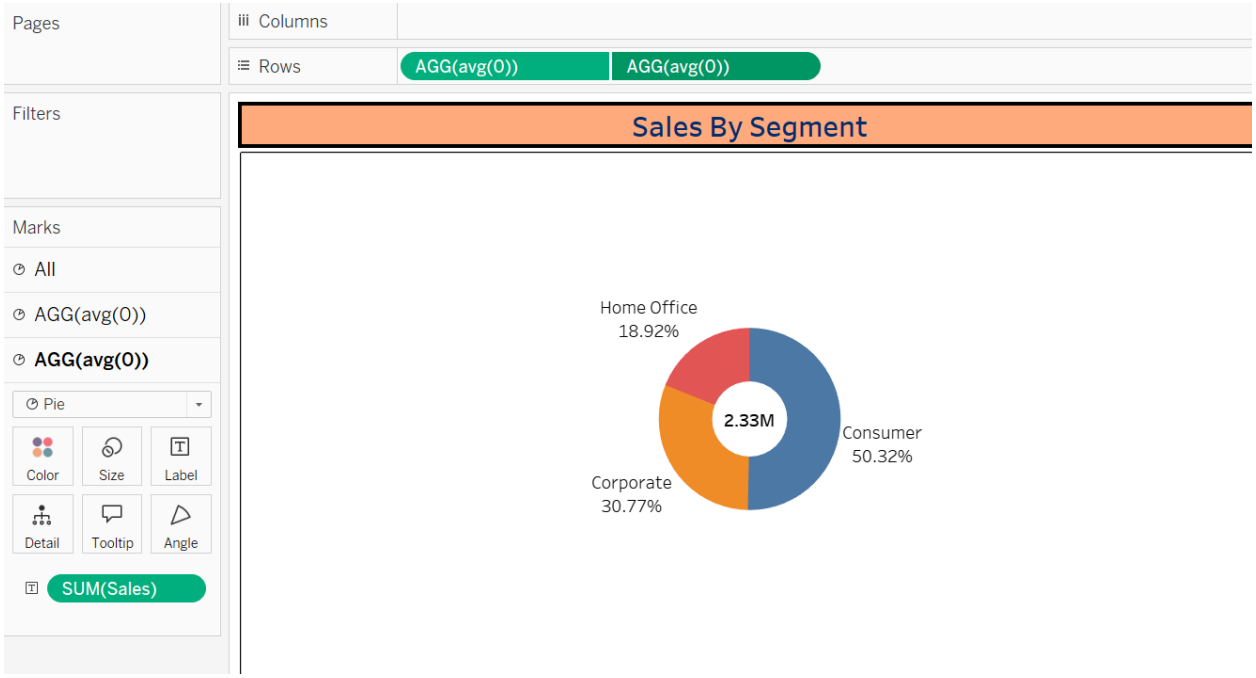
Profit by Category

Sub-Catego..	Q1	Q2	Q3	Q4
Accessories	5,123	6,537	13,705	16,571
Appliances	1,915	2,475	4,580	9,359
Art	834	1,680	1,887	2,253
Binders	8,756	6,927	9,126	6,617
Bookcases	-1,180	70	-1,503	-1,018
Chairs	3,891	5,052	7,418	10,863
Copiers	12,544	5,322	8,612	29,616
Envelopes	1,288	1,111	1,738	2,852
Fasteners	102	119	297	1,909
Furnishings	2,017	2,713	3,965	5,196
Labels	662	1,105	1,836	1,970
Machines	3,884	4,276	-487	-4,212
Paper	4,977	7,272	9,682	12,580
Phones	6,212	9,630	11,738	17,471
Storage	3,261	4,431	5,124	8,469
Supplies	-695	198	-631	-42
Tables	-4,454	-2,934	-2,897	-7,469

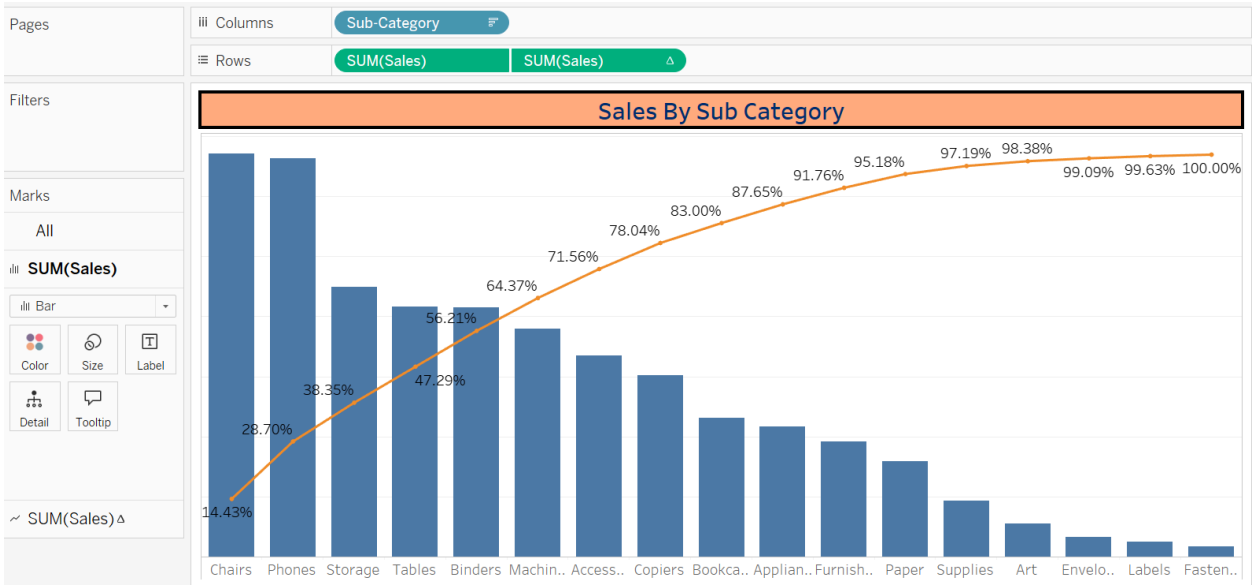
Donut Chart

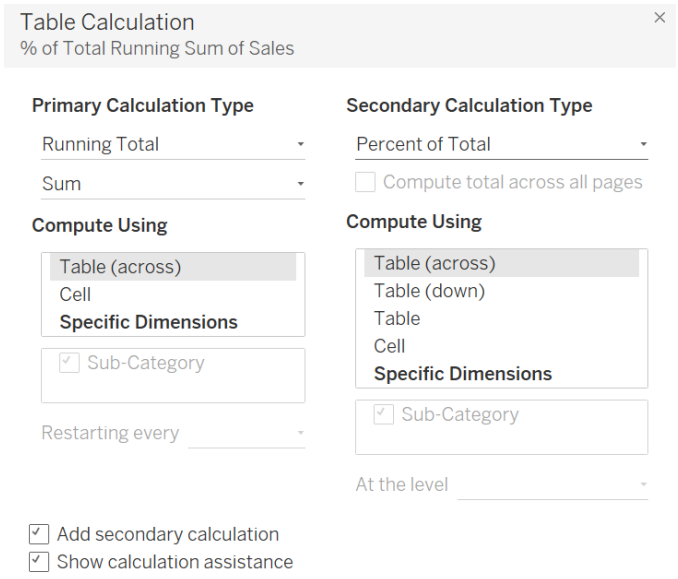
Create a pie chart with Column as Segment and Rows with Sales
In Rows pill type avg(0) and hit Enter, Repeat it One more time

Remove all the pills from 2nd Agg Avg(0) in Marks section
Go to Second Agg Avg(0) in rows > Click on drop down and select dual axis
Add white color in 2nd Agg avg(0) in marks section



Pareto Chart





Sets

Sets can be either In Set or Out Set

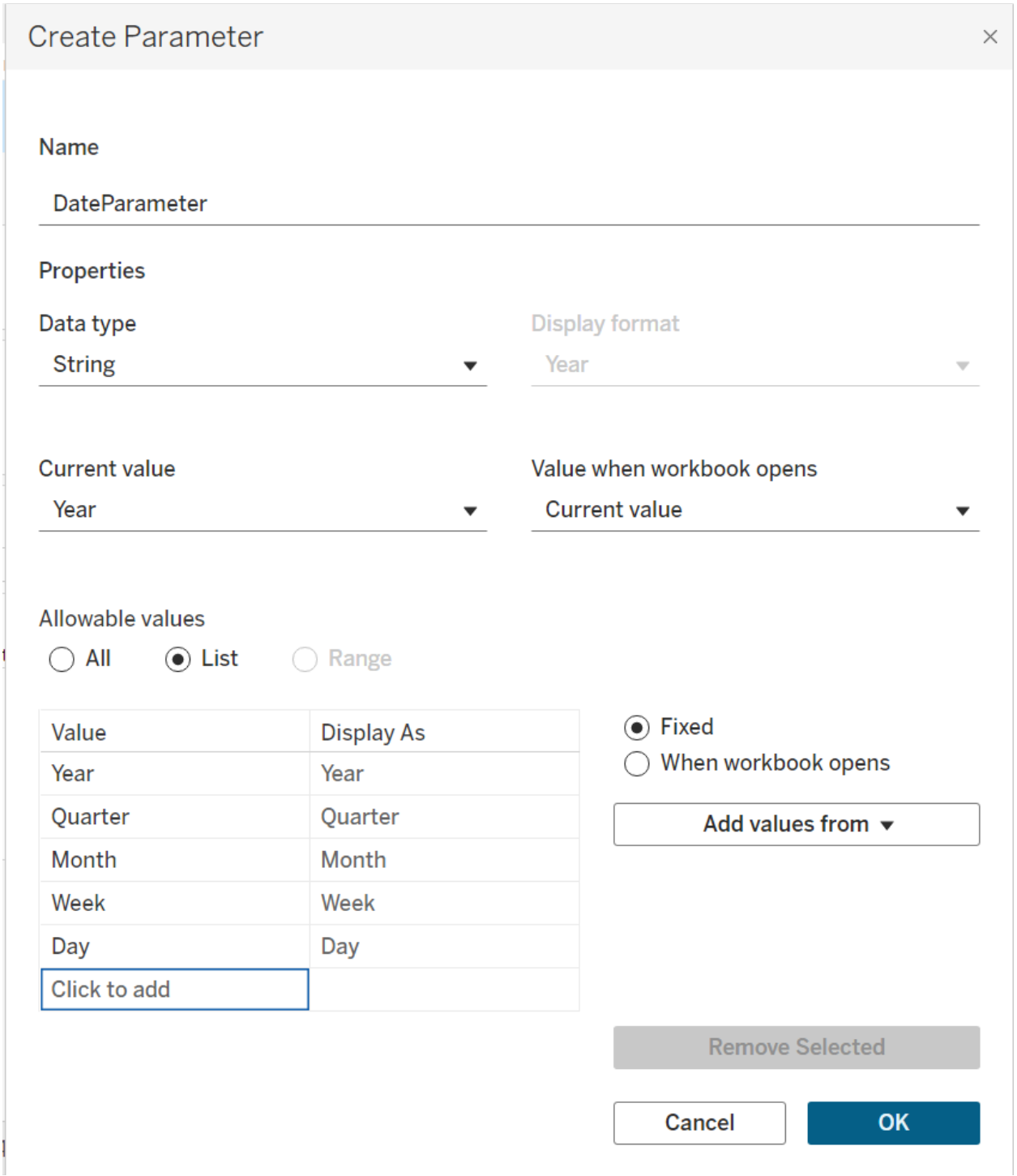
- Static Set
- Dynamic Set
- Combined Set

Filters

1. **Extract Filter**
2. **Data Source Filter**
3. **Context Filter**
4. **Dimension Filter**
5. **Measure Filter**

Parameters in Tableau

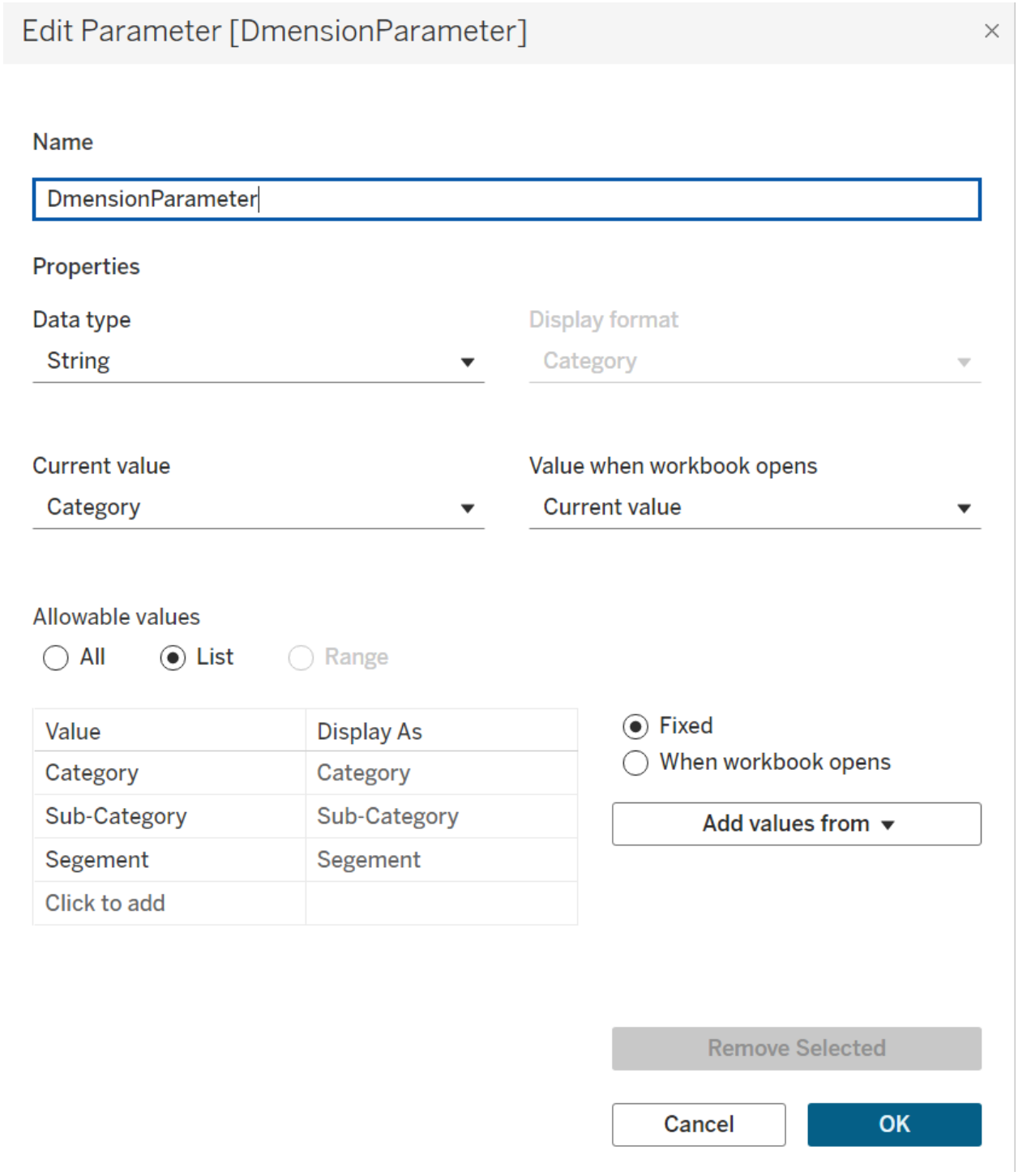
1. **Top N and Bottom N Parameter**
2. **Date Field Parameter**




```
CASE [DateParameter]
WHEN 'Year' THEN STR(YEAR([Order Date]))
WHEN 'Quarter' THEN 'Q' + STR(DATEPART('quarter', [Order Date]))
WHEN 'Month' THEN DATENAME('month', [Order Date])
WHEN 'Week' THEN STR(DATEPART('week', [Order Date]))
WHEN 'Day' THEN STR(DATEPART('day', [Order Date]))
```

END

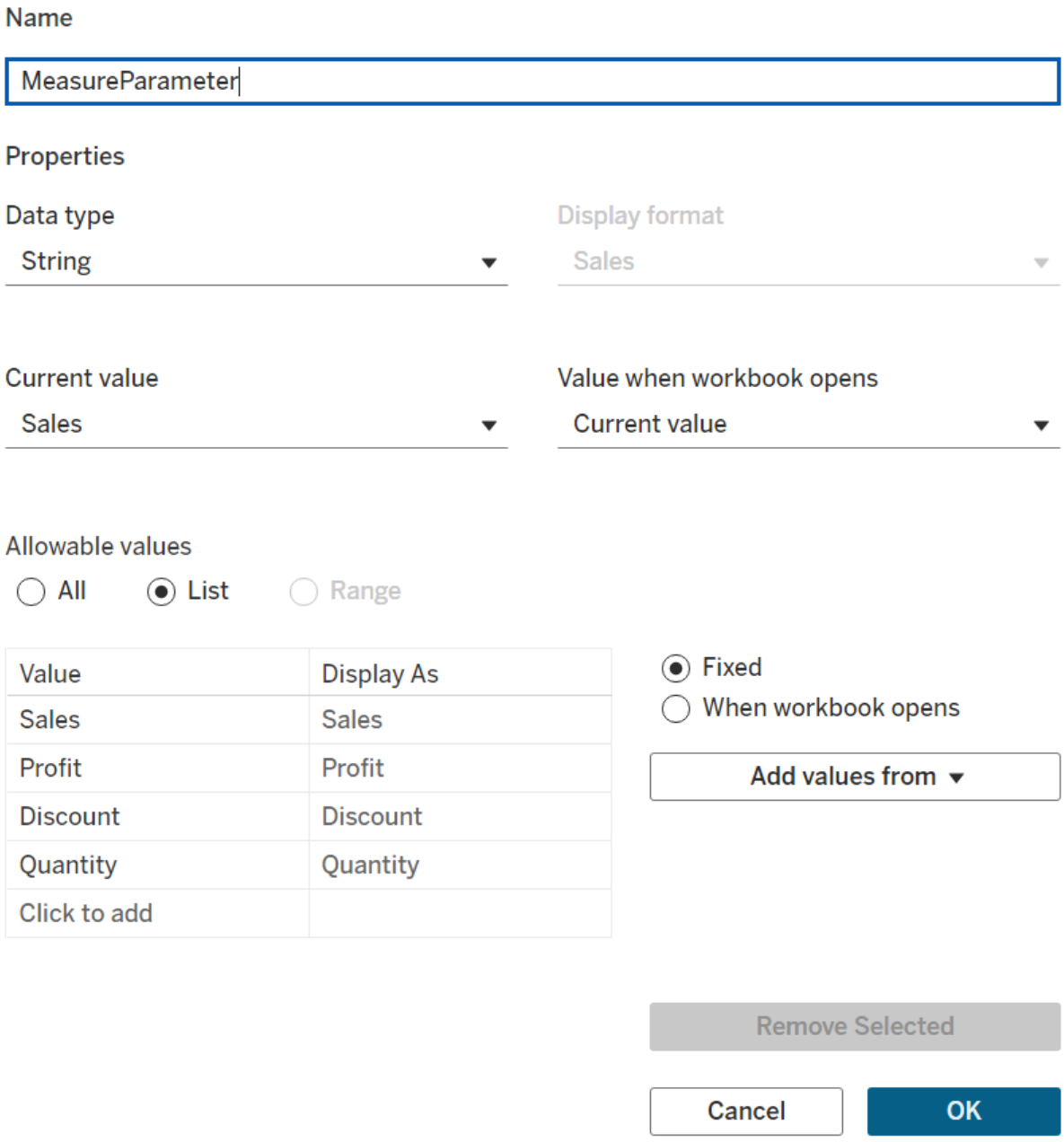
3. **Dynamic Dimension**



CASE[DmensionParameter]
when "Category" Then [Category]
when "Sub-Category" THEN [Sub-Category]

WHEN "Segment" THEN[Segment]
END

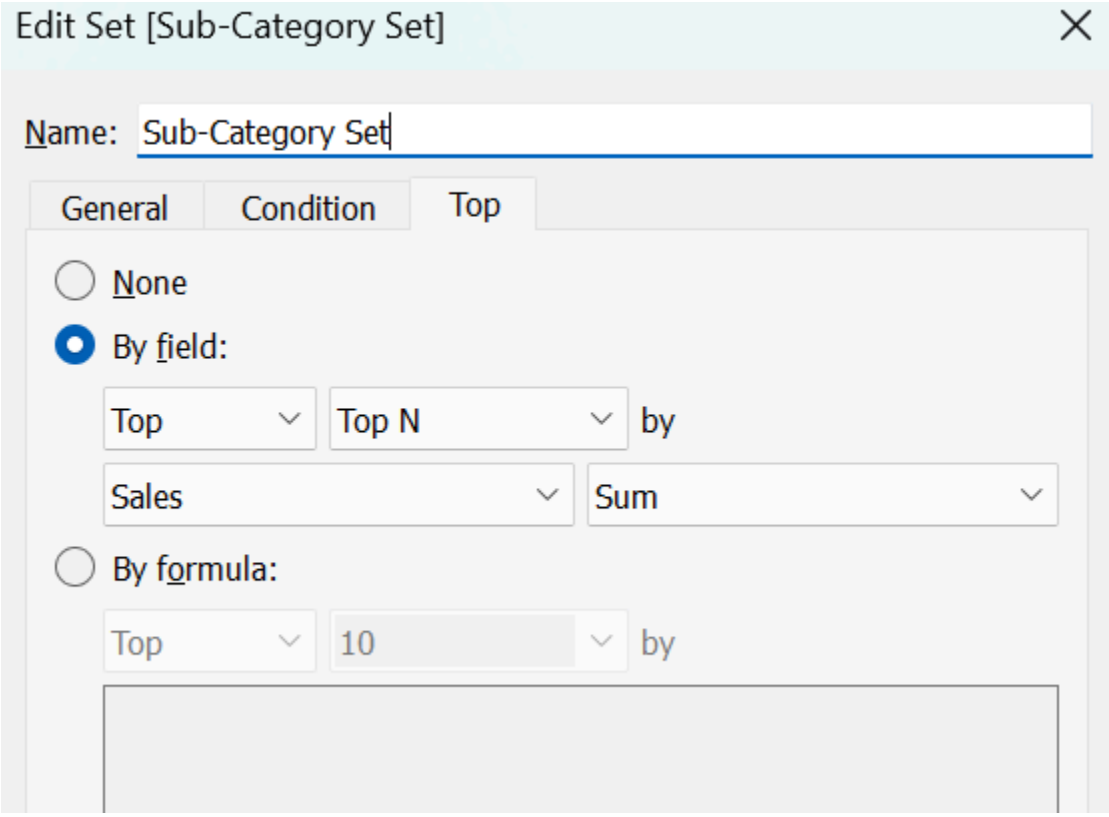
4. **Dynamic Measure**

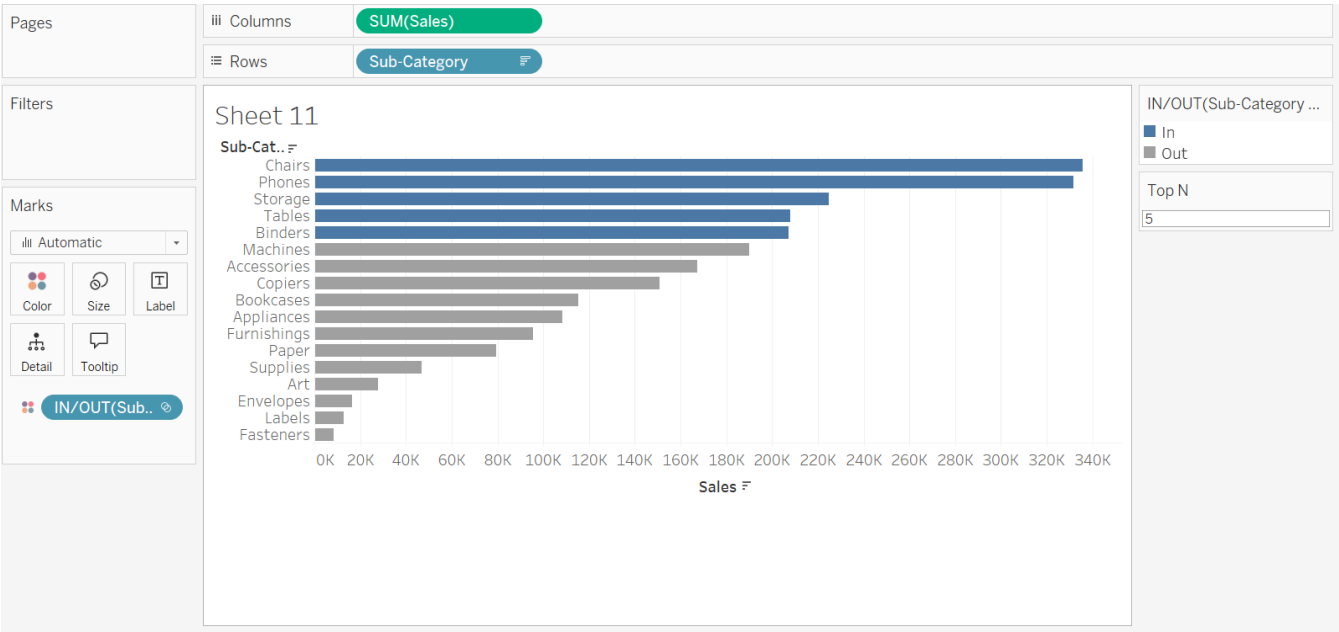


CASE [MeasureParameter]
When "Sales" then [Sales]
when "Profit" then [Profit]

when "Discount" then [Discount]
When "Quantity" then [Quantity]
end

5. **Dynamic Dimension and Measure**
6. **Reference Line Parameter**
7. **Sets**





Hierarchies
Hide/UnHIde
Joins
Cross DataBase Joins
Data Blending
Folders
Groups

Quick Table Calculation

1. **Running Total: Computes the cumulative sum of measure over the dimension**
2. **Percent of Total:Calculates the percentage contribution of each datapoint to the total**
3. **Difference: Calculate the difference between two consecutive data point**
4. **Percent Difference: Calculate the percentage difference between two consecutive data points**
5. **Moving Average: Computes average of measure over moving window of datapoints**
6. **Percentile: It allows to calculate the value of specified percentile for a given measure**
7. **Rank: It gives rank to each datapoint within the partition based on measure value**
8. **YTD (Year to Date): Computes the cumulative sum of measure from beginning of the year upto current data point**
9. **YTD Growth:Calculates the percentage change in measure from the beginning of the year upto current data point**
10. **YOY (Year over Year)- Percentage change in measure compared to the same period in previous year**

11. **CAGR- Measure annual growth rate over specified period of time**

Analytics Pane

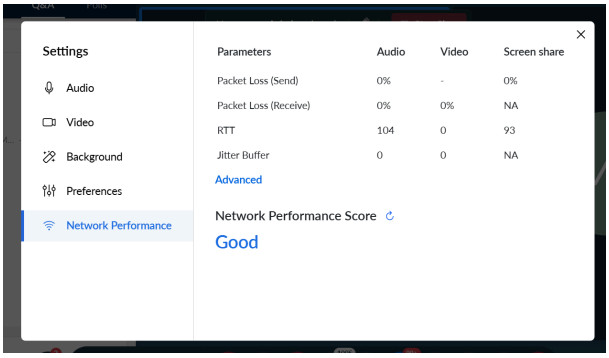
1. **Constant Line**
2. **Average**
3. **Total**
4. **Cluster**
5. **Forecast**
6. **Trend Line**
7. **Reference line**

LOD Expressions- Level of Detail
Lets you control the granularity (detail level) at which the calculation happens, independent of what's shown in the visualization

Granularity??

Country> States>District>Cities

1. **What is level you need**
2. **What is aggregation?**



Type:
1.Fixed LOD
2. Exclude LOD
3. Include LOD

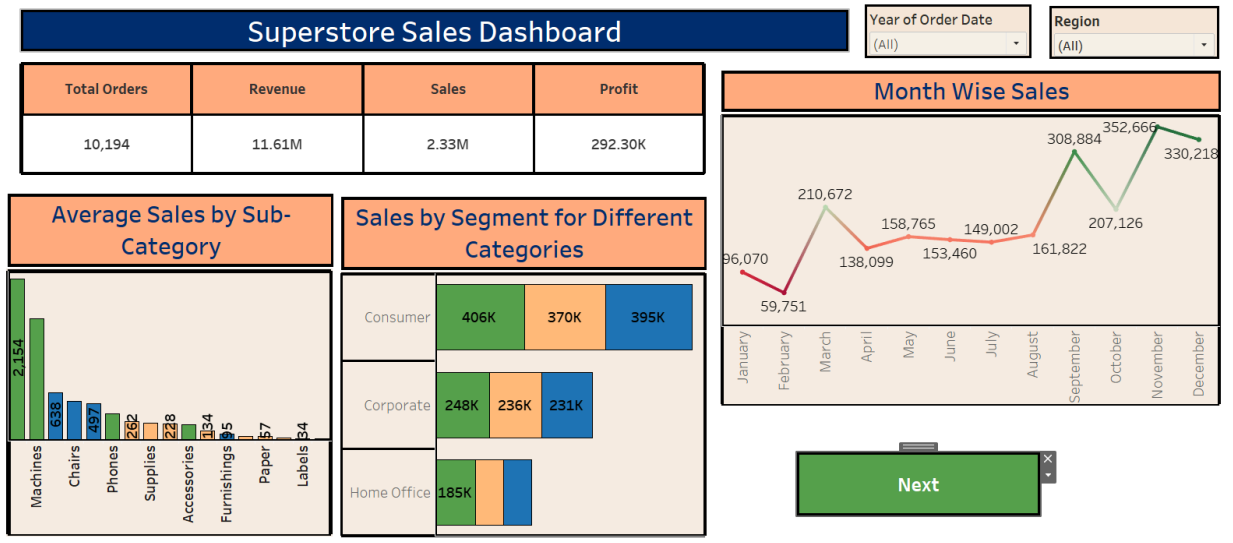
Syntax:
{type[Dim] : Aggregate }

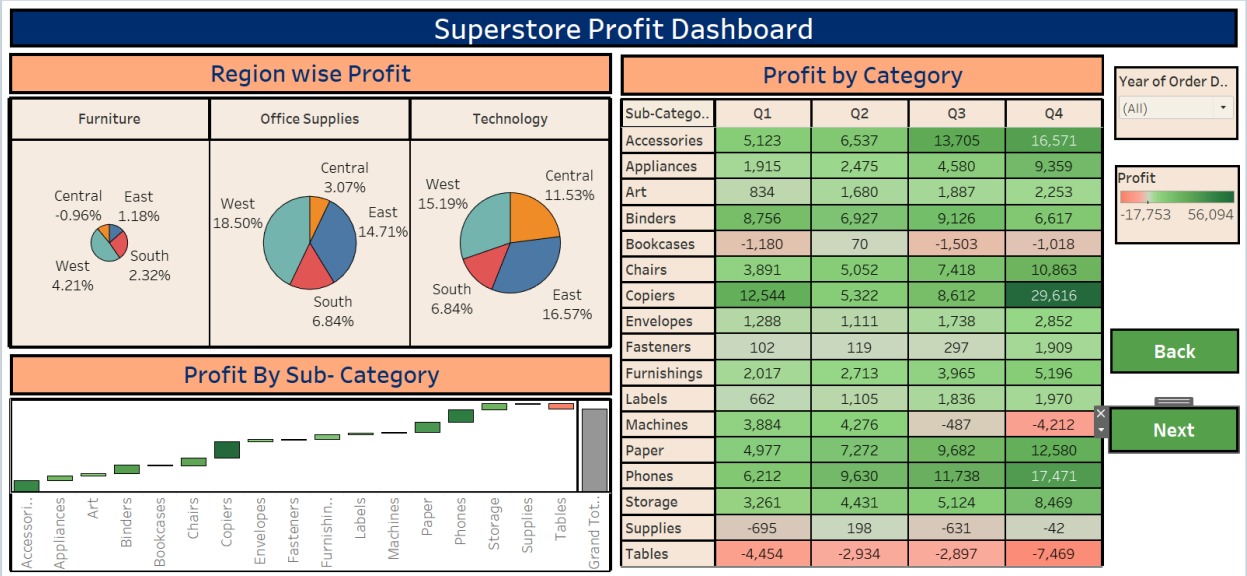
1. **Fixed LOD:Calculates the values at specific level of detail ignoring the view of dimension**
   { fixed[Dimention]: Aggregation}

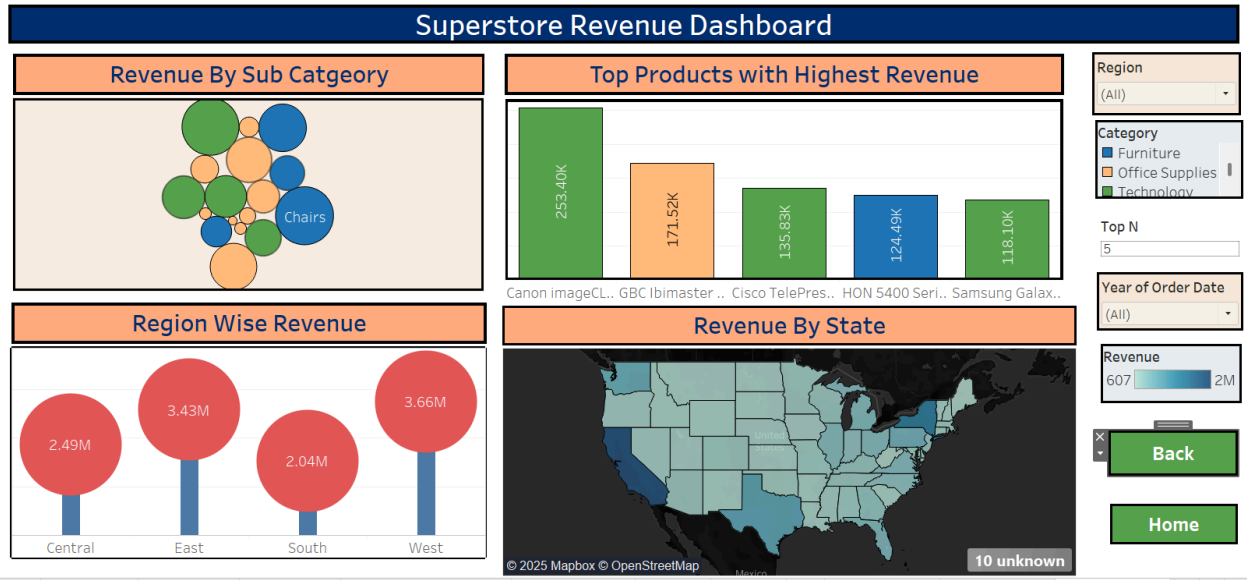
2. **Exclude LOD : Removes the specific dimension from the calculation, aggregating at higher level**
   {Exclude[Dim]: Aggregation}

3. **Include LOD: Adds more detail in the existing view, considering addition dimension.**
   {Include[Dim]: Aggregation}

1. **Total Sales- {Fixed:SUM([Sales])}**
2. **Regional Sales: { EXCLUDE [State/Province]: SUM([Sales])}**
3. **Average Sales by Customer : AVG({INCLUDE[Customer ID]: SUM([Sales])})**







You need to create account on https://www.tableau.com/tableau-login-hub
Remember your Username and Password

Go to specific Dashboard> Files> Save to Tableau public as> Provide your Tableau Public Credentials> Give a Name

Share the Tableau Public link for Both Dashboard and Story.