



BATCH :
LESSON :
DATE :
SUBJECT :

TABLEAU 2024
Tableau ENG
June 01/2024
**Data Aggregation-
Calculations**

PLEASE USE **LMS** TO JOIN THE ZOOM
MEETINGS





Where we have left yesterday..



SORTING DATA



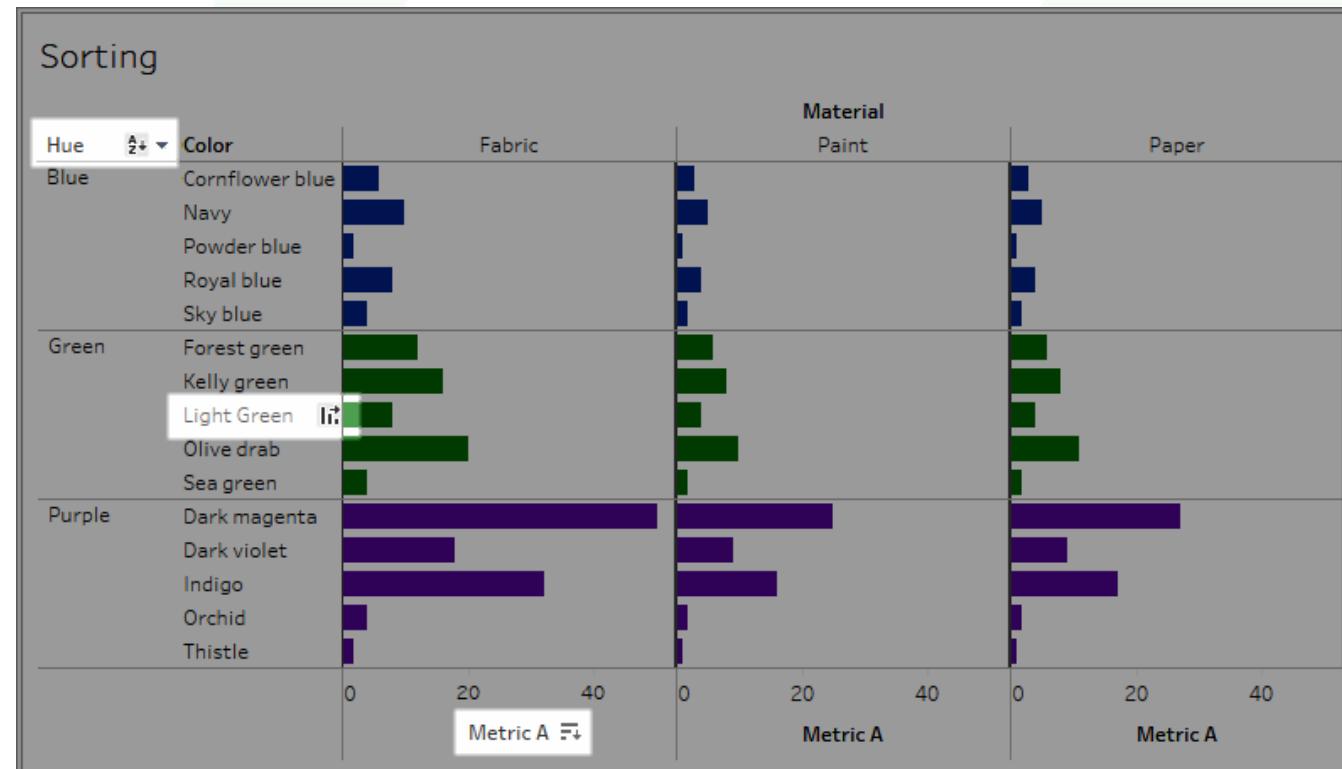


SORTING DATA



Ordering the data

- Sort numeric data in ascending order, in string data alphabetically
- Data can be sorted by data source such as ascending, descending order, or it can depend on any measured value.

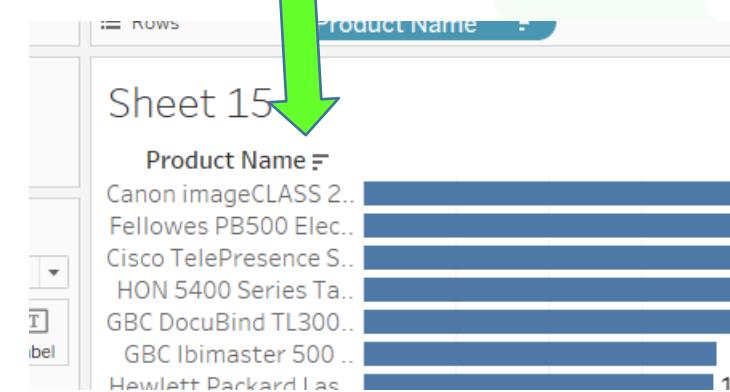
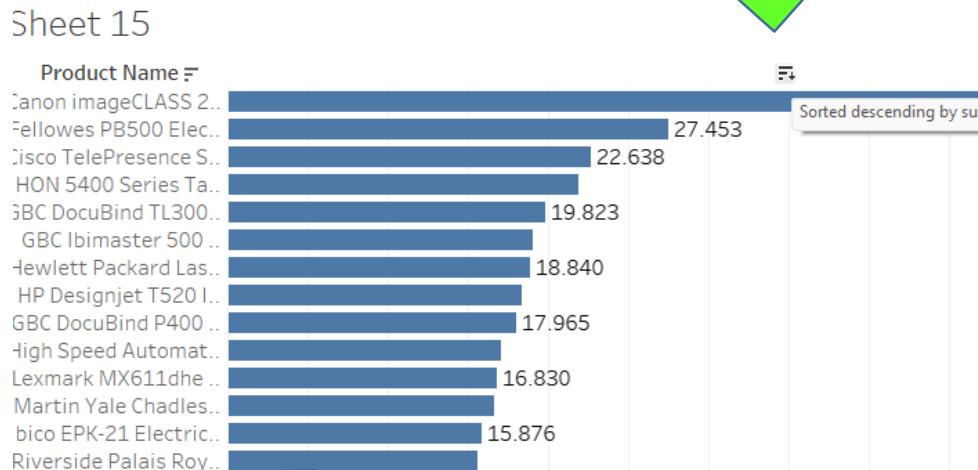
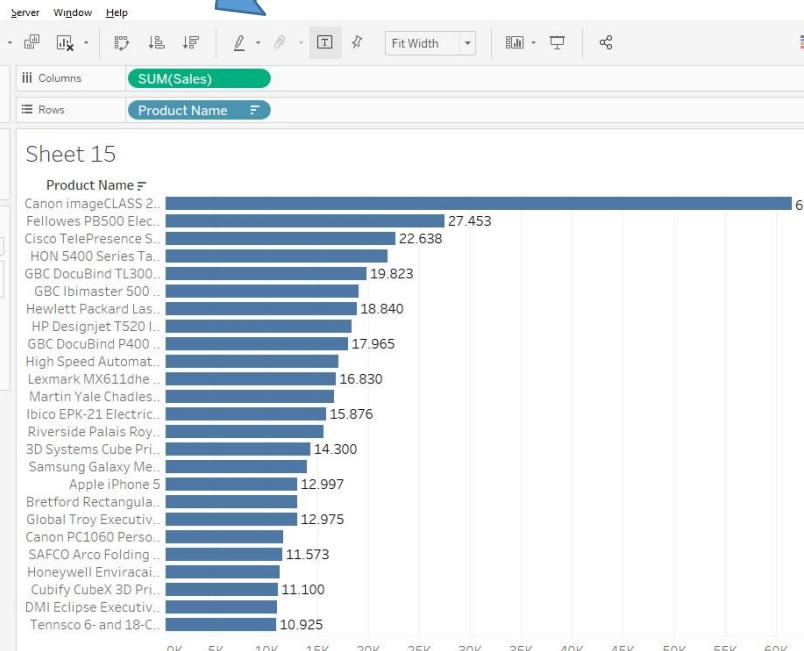




SORTING DATA



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SORTING DATA



Sheet 1

Category

Furniture

Office Supplies

Technology

\$0 \$200,000 \$600,000 \$800,000

Standard

Show Me

Data Analytics

Sample - Superstore

Dimensions

- State
- City
- Postal Code

Product

- Category
- Sub-Category
- Manufacturer
- Product Name
- Profit (bin)
- Region

Measures

- Quantity
- Sales
- Latitude (generated)

Sets

- Top Customers by Profit

Parameters

- Profit Bin Size
- Top Customers

Pages

iii Columns SUM(Sales)

Rows Category

Filter...

Show Filter

Show Highlighter

Sort...

Format...

Show Header

Include in Tooltip

Edit Aliases...

Dimension

Attribute

Measure

Edit in Shelf

Remove

Sort [Category]

Sort By Data source order

Sort Order

- Ascending
- Descending

Clear

Sort By Data source order

Alphabetic

Field

Manual

Nested

Clear

Data Source Sheet 1



SORTING DATA



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Tableau interface showing a bar chart of Sales by Category.

The chart displays sales data for three categories:

Category	Sales
Office Supplies	\$750,000
Furniture	\$780,000
Technology	\$850,000

The Sort dialog box is open, showing the sorting configuration:

- Field: Sales (circled in red)
- Sort Order: Ascending (radio button selected)
- Field Name: Sales (circled in red)
- Aggregation: Sum (circled in red)
- Clear button (circled in red)

Other interface elements include:

- Data Source: Sample - Superstore
- Dimensions: Ship Mode, Location (Country, State, City, Postal Code), Product (Category, Sub-Category, Manufacturer)
- Measures: Profit Ratio, Quantity, Sales
- Sets: Top Customers by Profit
- Parameters: Profit Bin Size, Top Customers

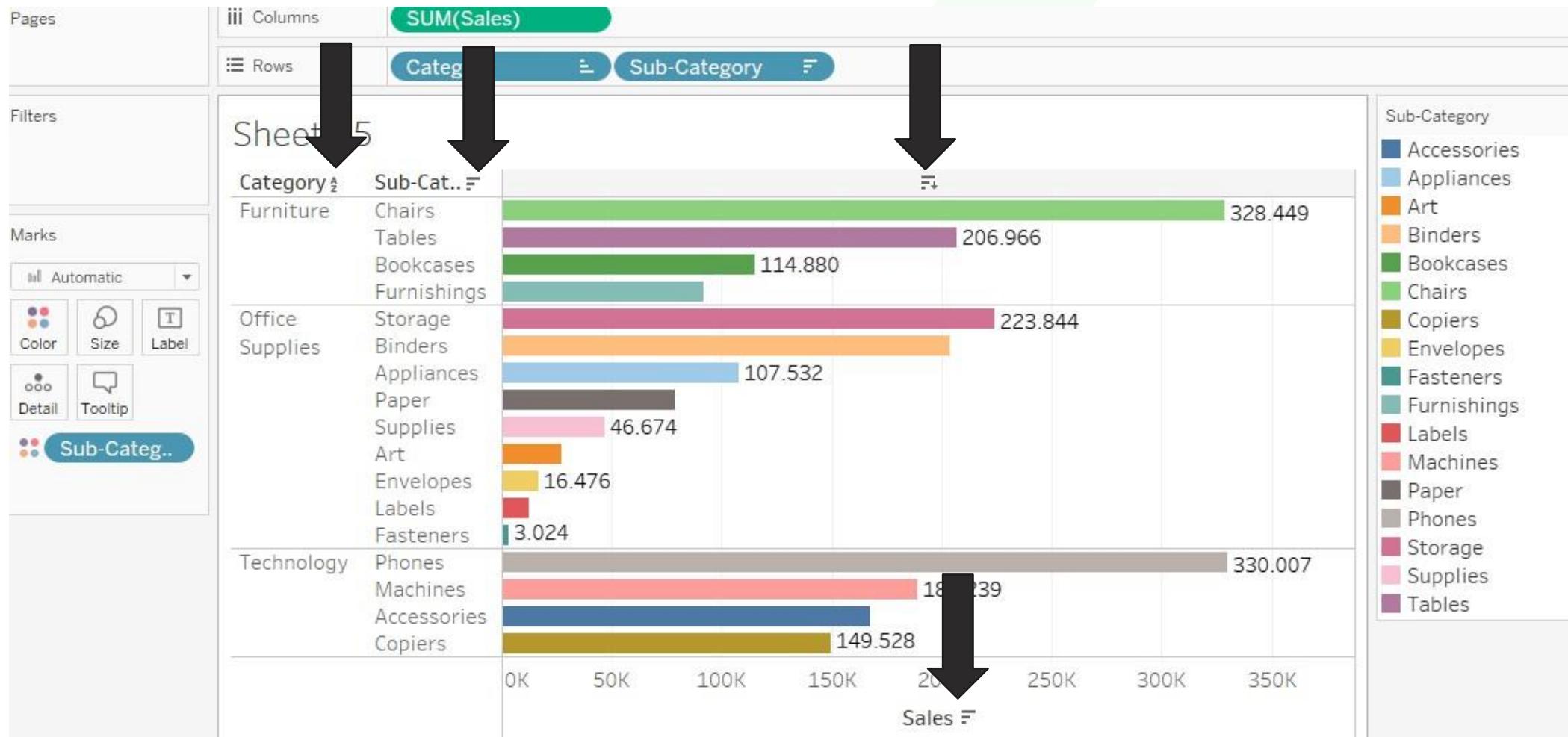


SORTING DATA



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Sort on the basis of an Axis:





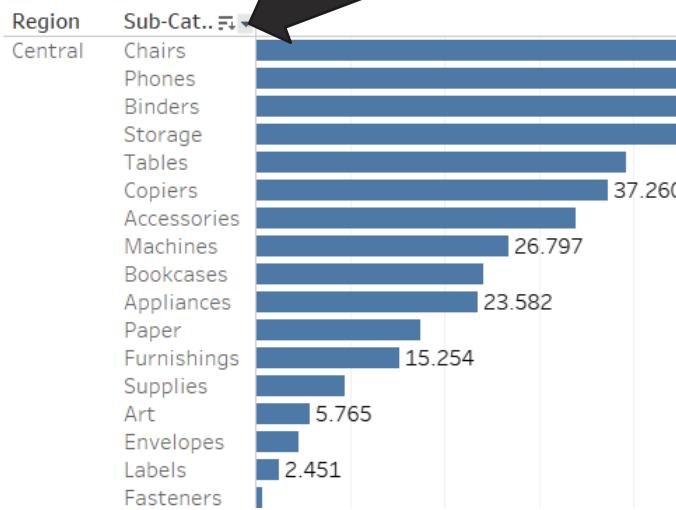
SORTING DATA



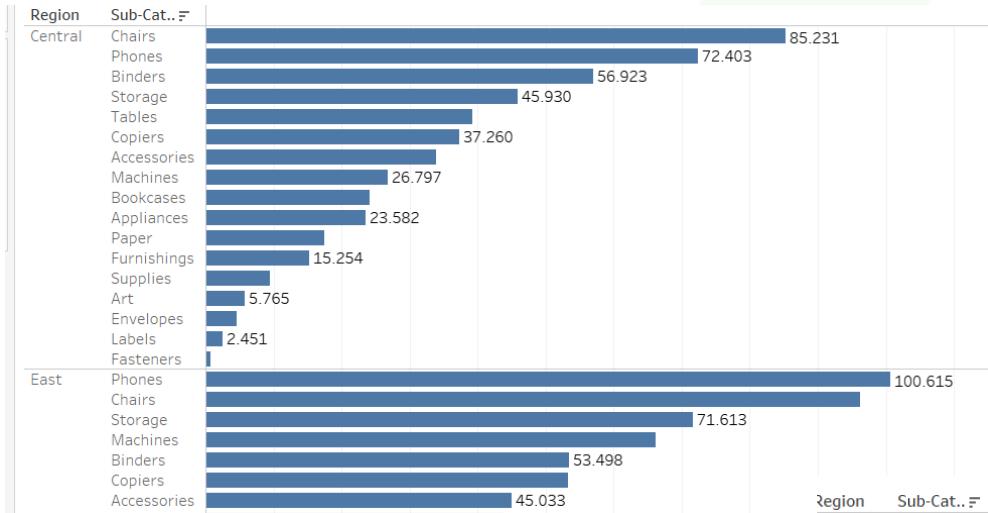
+ a b | e a u®

iii Columns	SUM(Sales)	
Rows	Region	Sub-Category

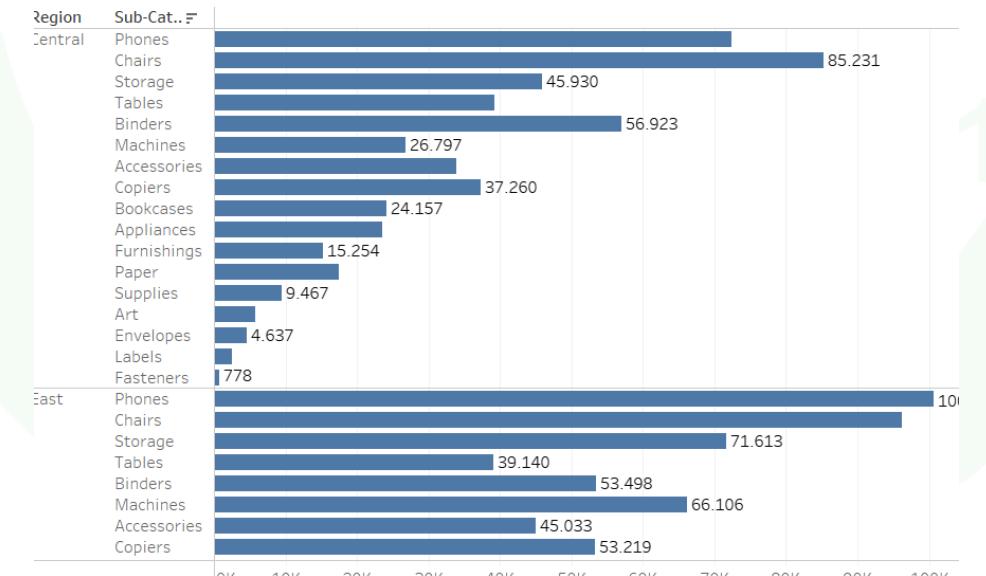
Sheet 15



Sub-Cat..	Data source order
Chairs	Alphabetic
Phones	Field
Binders	Nested
Storage	
Tables	
Copiers	



Nested



Field



GROUPING DATA

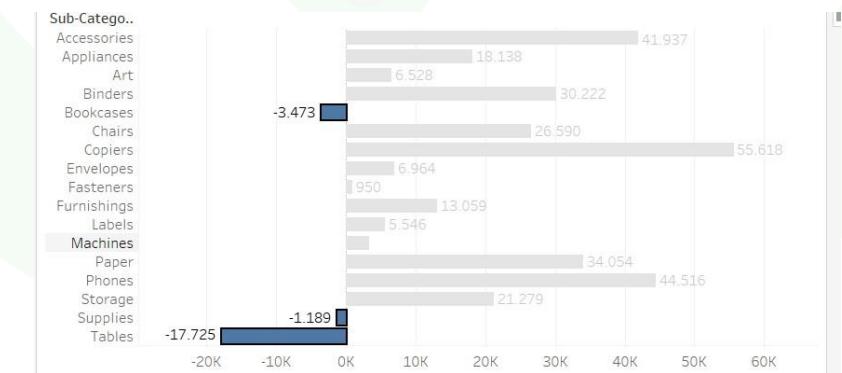
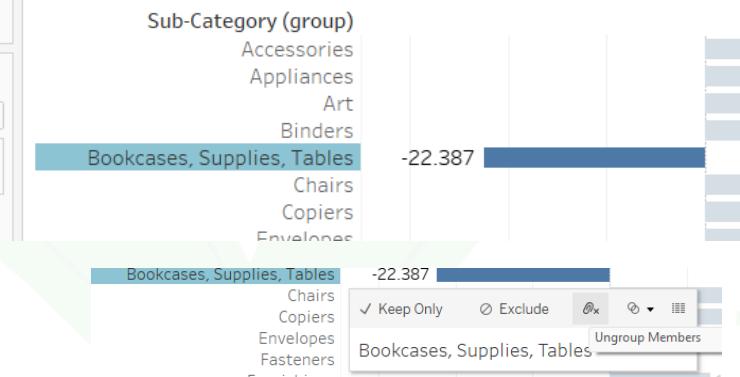
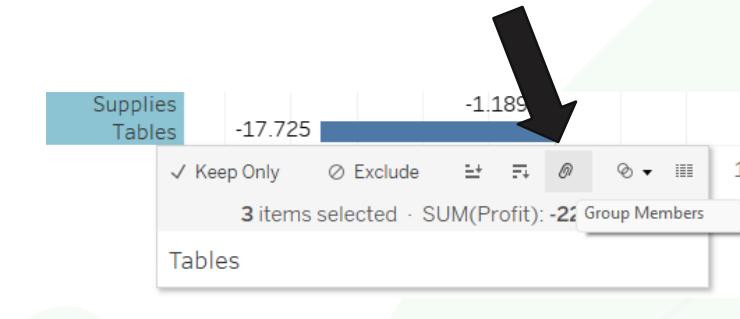
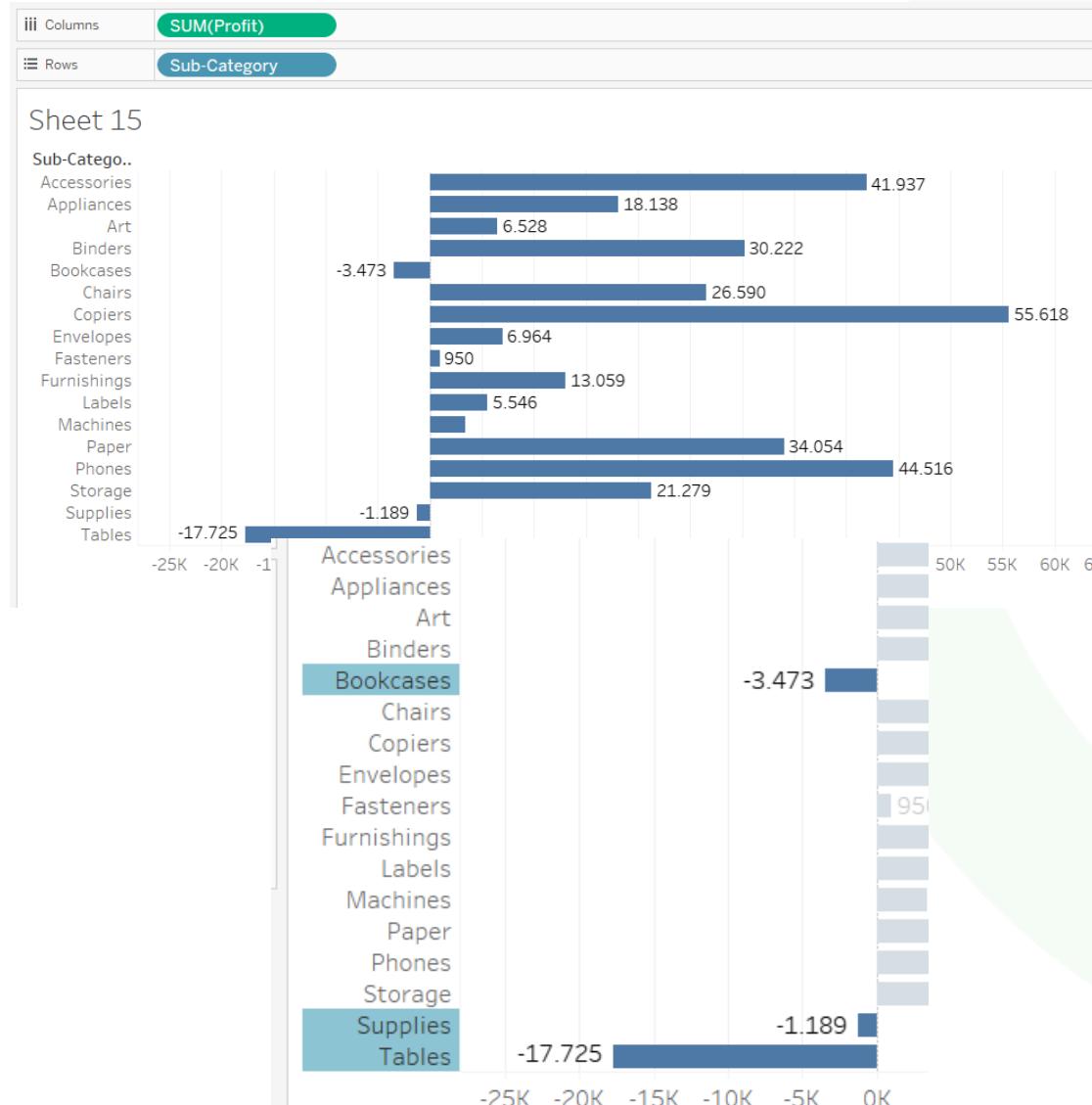




GROUP DATA



Groups are used to combine related members in a field.

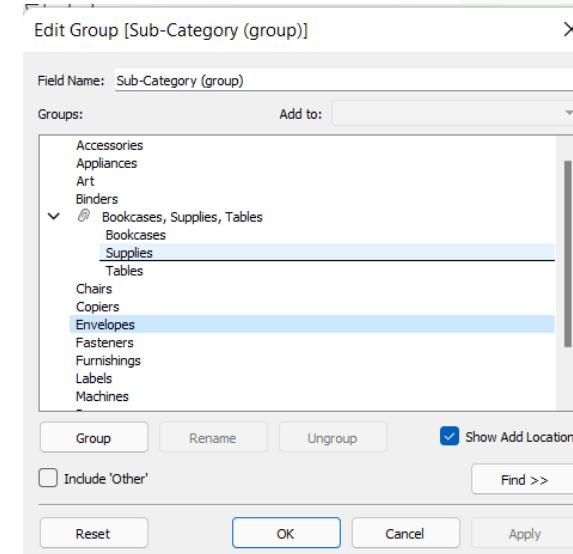




GROUP DATA



The screenshot shows the Tableau Data Editor interface. On the left, the 'Tables' pane lists various dimensions and measures. In the center, a calculated field named 'Sub-Category (group)' is being edited. The formula is 'SUM(Profit)'. The 'Rows' section shows a single row labeled 'Sub-Category (group)'. The 'Marks' card indicates 'Automatic' with 'Color' selected. A chart area displays a bar chart with one bar labeled '-22.387'. A large black arrow points upwards from the bottom of the screen towards the 'Edit Group' dialog.



The screenshot shows a map of the United States where states are colored either orange or blue. A context menu is open over the map, with 'Sub-Category' highlighted. The menu includes options like 'Add to Sheet', 'Duplicate', 'Rename', 'Hide', 'Aliases...', 'Create' (which is currently selected), 'Transform', 'Convert to Measure', 'Change Data Type', and 'Geographic Role'. Below the map, the 'Sales' sheet is active. A vertical list on the right shows items such as 'State', 'Sub-Category', 'Measure Names', 'Discount', 'Profit', 'Quantity', 'Sales', 'Latitude (generated)', 'Longitude (generated)', 'Orders (Count)', and 'Measure Values'. A large black arrow points downwards from the top of the screen towards the context menu.

The screenshot shows a context menu for the 'Sub-Category (group)' item in the list. The menu items are: 'Add to Sheet', 'Show Filter', 'Cut', 'Copy', 'Edit Group...' (which is selected and highlighted in blue), 'Duplicate', and 'Rename'. The background shows the same map of the United States as the previous screenshot.



Group Data



Create Group [Category]

Field Name: **Category (group)** 1

Groups: Add to:

Furniture
Office Supplies 2
Technology

3

Group Rename Ungroup Show Add Location

Include 'Other' Find >>

Reset OK Cancel Apply

Create Group [Category]

Field Name: **Category (group)**

Groups: Add to:

Furniture & Office Supplies 1
Furniture
Office Supplies
Technology

Group Rename Ungroup Show Add Location

Include 'Other' Find >>

Reset OK Cancel Apply

Sheet 1

Product Name	SUM(Sales)
1.7 Cubic Foot Compact "C...	
1/4 Fold Party Design Inv...	
3-ring staple pack	
3.6 Cubic Foot Counter He...	
3D Systems Cube Printer, ...	
3D Systems Cube Printer, ...	
3M Hangers With Comma...	
3M Office Air Cleaner	
3M Organizer Strips	
3D Systems Cube Printer, 2nd Generation, Magenta	
3D Systems Cube Printer, 2nd Generation, White	
3M Hangers With Command Adhesive	
3M Office Air Cleaner	
3M Organizer Strips	
3M Polarizing Light Filter Sleeves	
3M Polarizing Task Lamp with Clamp Arm, Light Gray	
3M Replacement Filter for Office Air Cleaner for 20' x 33' Room	
4009 Highlighters	
4000 Highlighters by Crawford	

Product ID Product Name Detail Tooltip

- Abc Product ID
- Abc Region
- # Row ID
- Abc Segment
- Ship Date
- Abc Ship Mode
- State
- Abc Sub-Category
- Abc Measure Names
- # Discount
- # Profit
- # Quantity

Add to Sheet

- Show Filter
- Duplicate
- Rename
- Hide
- Aliases...
- Create
- Transform
- Convert to Measure
- Change Data Type
- Calculated Field...
- Group...
- Set...
- Parameter...

3M ORGANIZERS

3M Polarizing Light Filter Sleeves
3M Polarizing Task Lamp with Clamp Arm, Light Gray
3M Replacement Filter for Office Air Cleaner for 20' x 33'
6" Cubicle Wall Cloths
9-3/4 Diameter Round Wall Clock
12 Colored Short Pencils
12-1/2 Diameter Round Wall Clock
14-7/8 x 11 Blue Bar Computer Printout Paper
2300 Heavy-Duty Transfer File Systems by Perma

3D Systems Cube Printer, 2nd Generation, White

- 3M Hangers With Command Adhesive
- 3M Office Air Cleaner
- 3M Organizer Strips
- 3M Polarizing Light Filter Sleeves
- 3M Polarizing Task Lamp with Clamp Arm, Light Gray
- 3M Replacement Filter for Office Air Cleaner for 20' x 33'

4000 Highlighters by Crawford

Create Group [Product Name]

Field Name:

Groups:

"While you Were Out" Message Book, One Form per Page
#10 Gummed Flap White Envelopes, 100/Box
#10 Self-Seal White Envelopes
#10 White Business Envelopes, 4 1/8 x 9 1/2
#10- 4 1/8" x 9 1/2" Recycled Envelopes
#10- 4 1/8" x 9 1/2" Security-Tint Envelopes
#10- 4 1/8" x 9 1/2" Premium Diagonal Seam Envelopes
#6 3/4 Gummed Flap White Envelopes
1.7 Cubic Foot Compact "Cube" Office Refrigerators
1/4 Fold Party Design Invitations & White Envelopes, 24 8-1/2" X 11" - 100/Box
12 Colored Short Pencils
12-1/2 Diameter Round Wall Clock
14-7/8 x 11 Blue Bar Computer Printout Paper
2300 Heavy-Duty Transfer File Systems by Perma

Include 'Other'

Find members

3M

Contains Range: (All)



CREATING HIERARCHIES





Creating Hierarchies



When you connect to a data source, Tableau automatically splits the date fields into organs so you can easily break down the image

Hierarchy in Tableau





Creating Hierarchies



Data Analytics <

Orders (Sample - Super...)

Search

Tables

- Category
- City
- Country/Region
- Customer ID
- Customer Name
- Order Date
- Order ID
- Postal Code
- Product ID
- Product Name
- Region
- Row ID
- Segment
- Ship Date
- Ship Mode
- State
- Sub-Category

Pages

Filters

Marks

Circle

Color

Size

Label

Detail

Tooltip

Segment

Segment

Category

Sub-Category

Columns

SUM(Sales)

Rows

SUM(Profit)

Sheet 1

A bubble chart titled "Sheet 1" visualizing data from the "Orders (Sample - Superstore)" dataset. The vertical axis represents Profit, ranging from -10K to 20K. The horizontal axis represents Sales, ranging from 0K to 100K. The bubbles are color-coded by Segment (red, orange, yellow, green, blue) and sized by Category. The position of each bubble corresponds to the Sales and Profit values for a specific combination of Segment, Category, and Sub-Category.



Creating Hierarchies



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Sheet 15

Category	Segment	
Furniture	Consumer	Abc
	Corporate	Abc
	Home Office	Abc
Office Supplies	Consumer	Abc
	Corporate	Abc
	Home Office	Abc
Technology	Consumer	Abc
	Corporate	Abc
	Home Office	Abc

Sheet 15

Category	Sub-Catego..	
Furniture	Bookcases	Abc
	Chairs	Abc
	Furnishings	Abc
	Tables	Abc
Office Supplies	Appliances	Abc
	Art	Abc
	Binders	Abc
	Envelopes	Abc
	Fasteners	Abc
	Labels	Abc
	Paper	Abc
	Storage	Abc
Technology	Supplies	Abc
	Accessories	Abc
	Copiers	Abc
	Machines	Abc
	Phones	Abc

Tables

- Abc Category
- Sub-Category
- Country
- Customer ID

Create Hierarchy

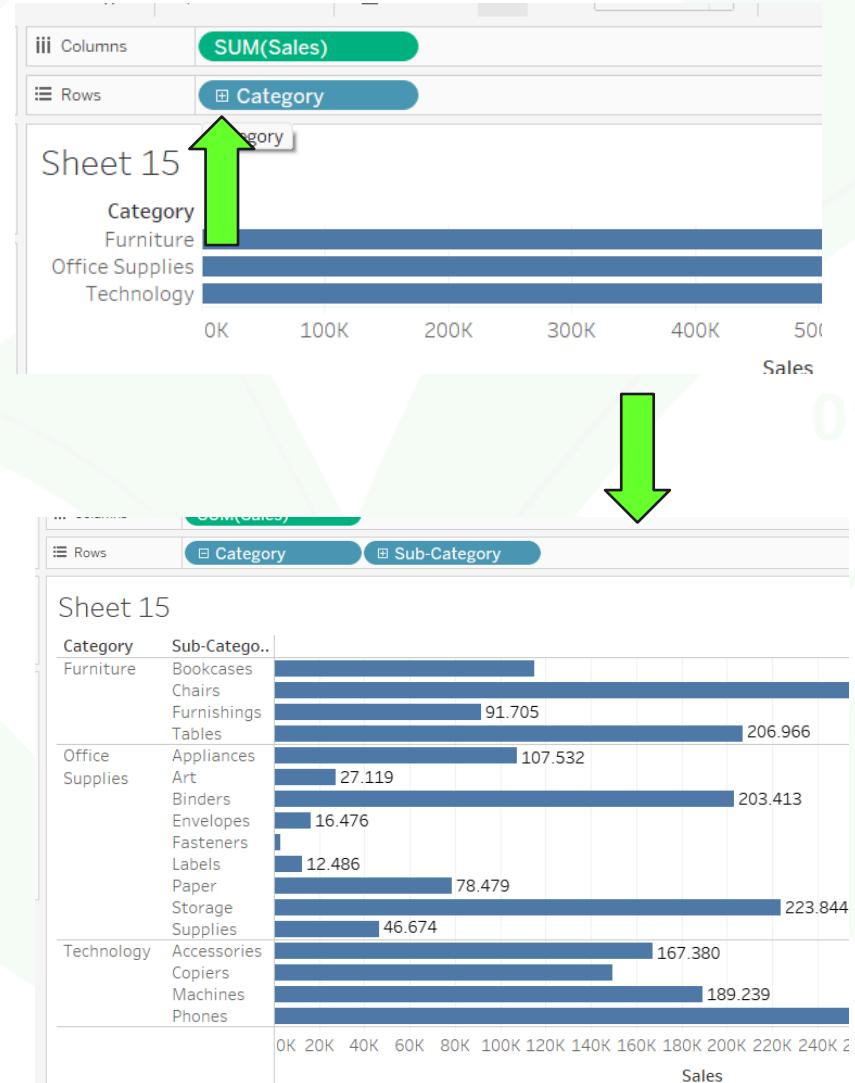
Name: Category, Sub-Category

OK Cancel

Categories

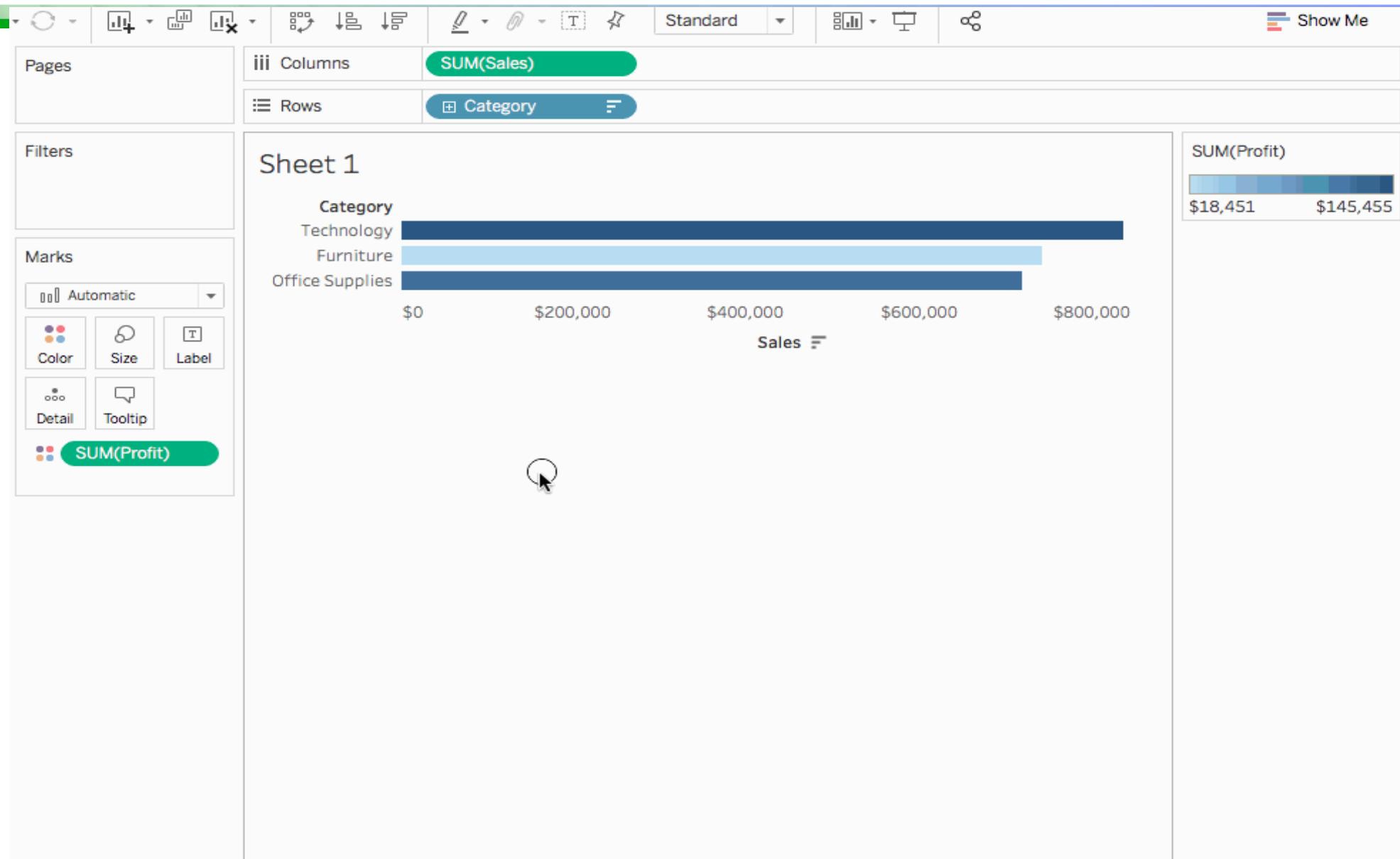
- Category
- Sub-Category

City





Creating Hierarchies

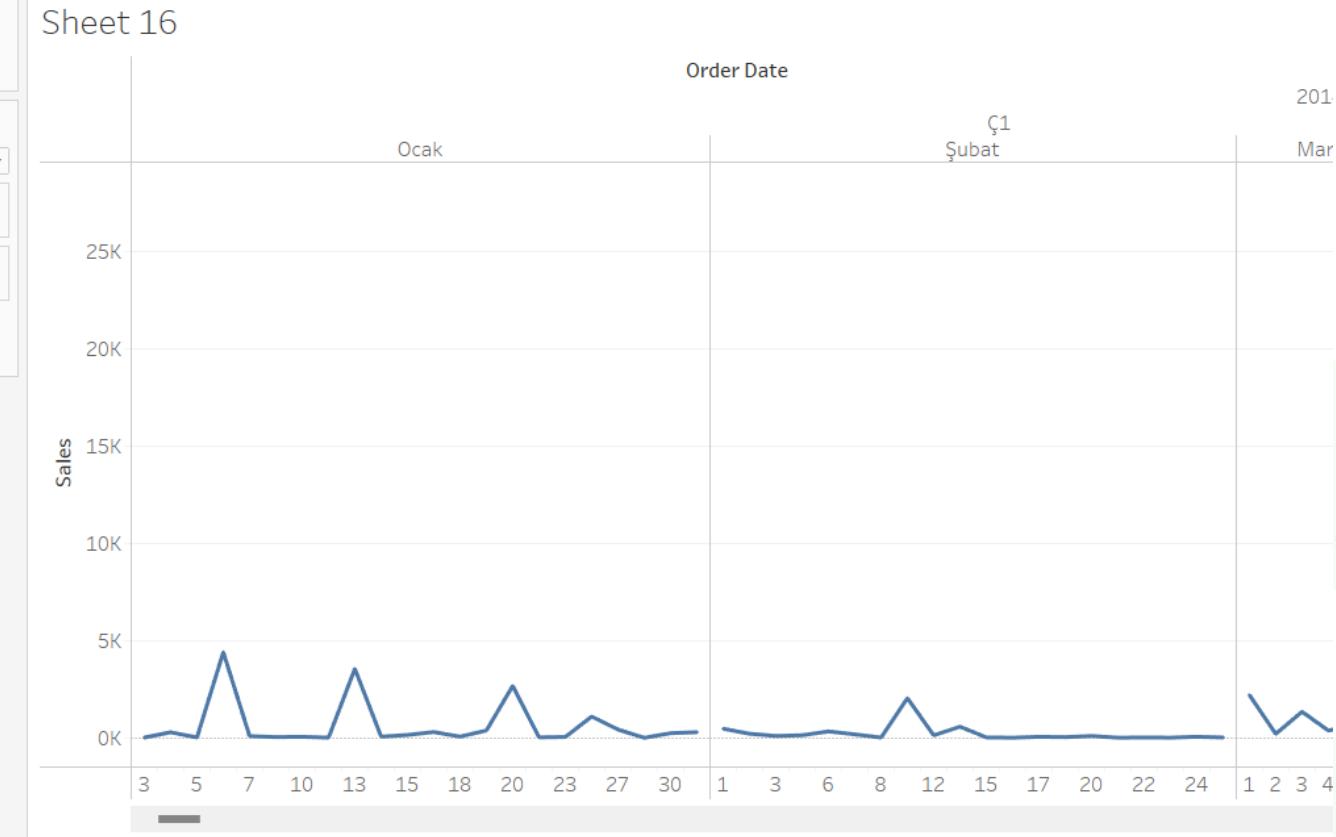
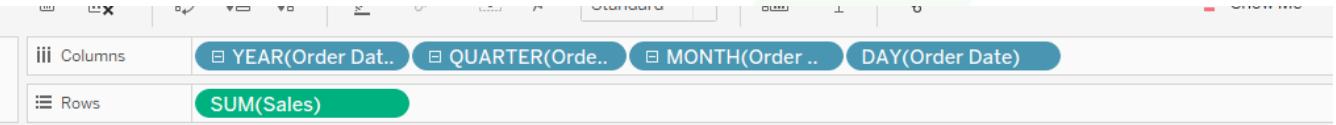
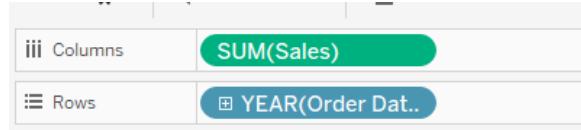




Creating Hierarchies



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YEAR(Order Date)

Filter...
Show Filter
Show Highlighter
Apply to Worksheets

Sort...
Format...
 Show Header
 Include in Tooltip
Show Missing Values

Standard Gregorian
ISO-8601 Week-Based

• Year 2015
Quarter Q2
Month May
Day 8
More ▾

Year 2015
Quarter Q2 2015
Month May 2015
Week Number Week 5, 2015
Day May 8, 2015
More ▾

Exact Date

Attribute

Measure ▾

• Discrete
Continuous

Edit in Shelf

Remove

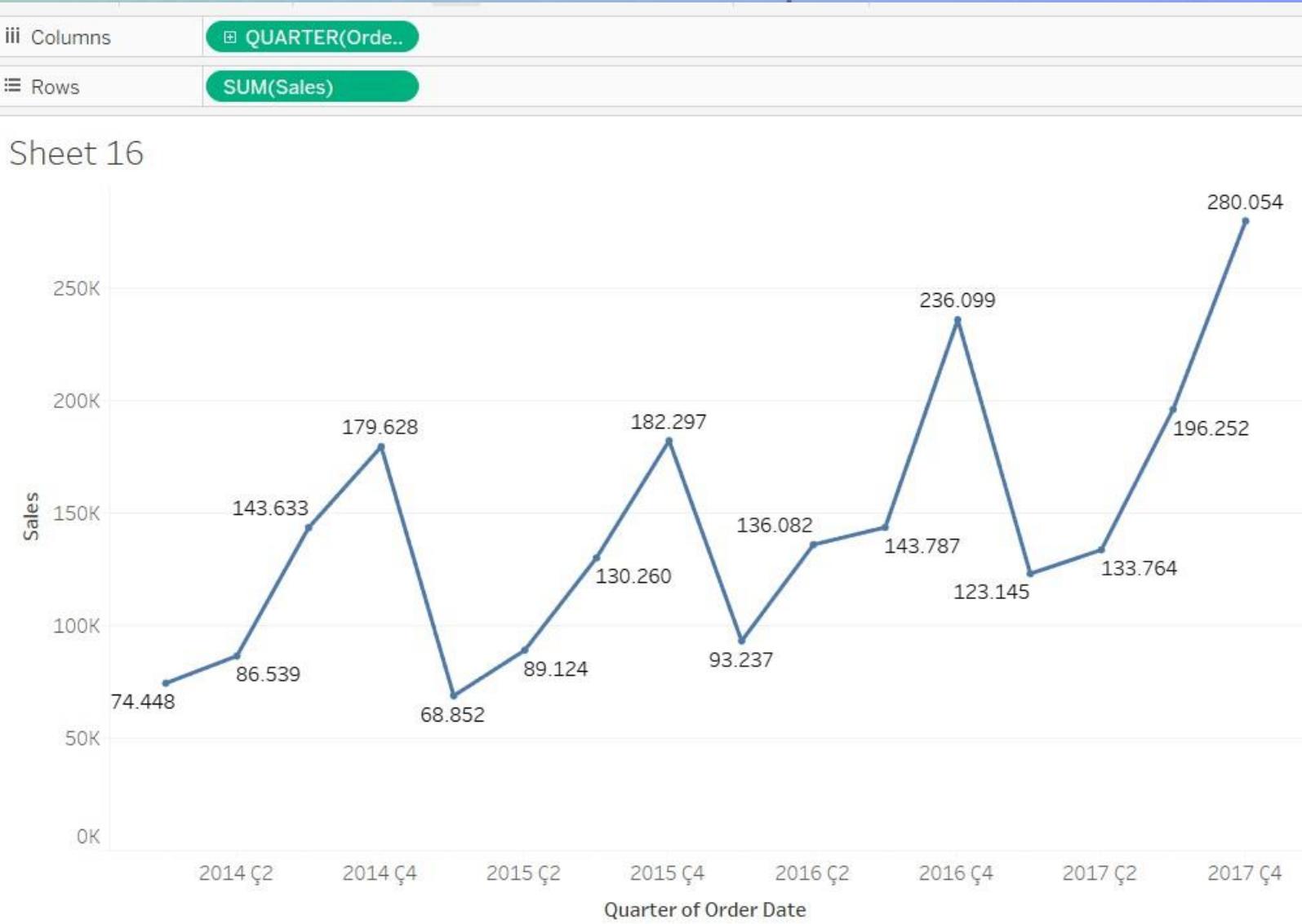
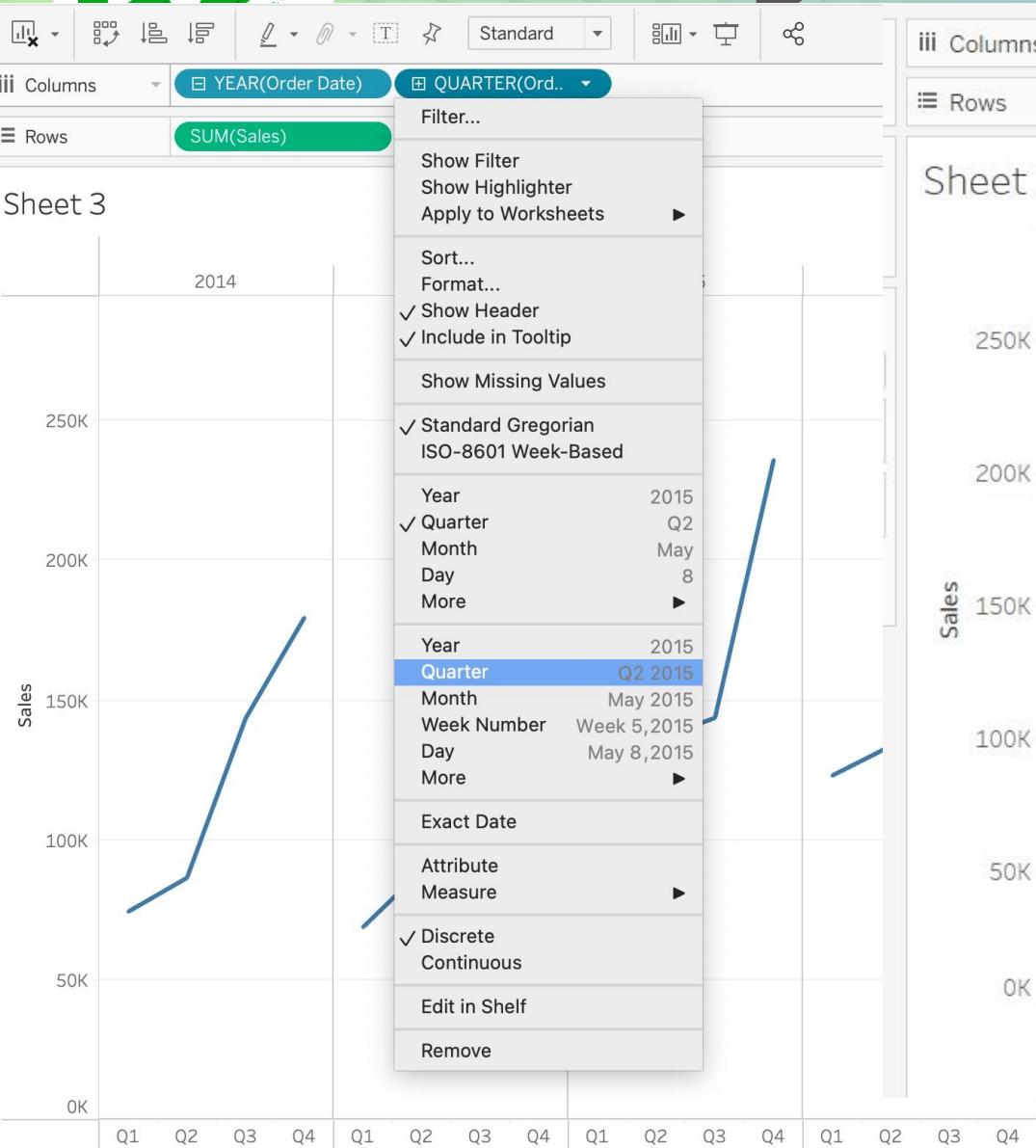
Subtract more levels of detail.



Creating Hierarchies



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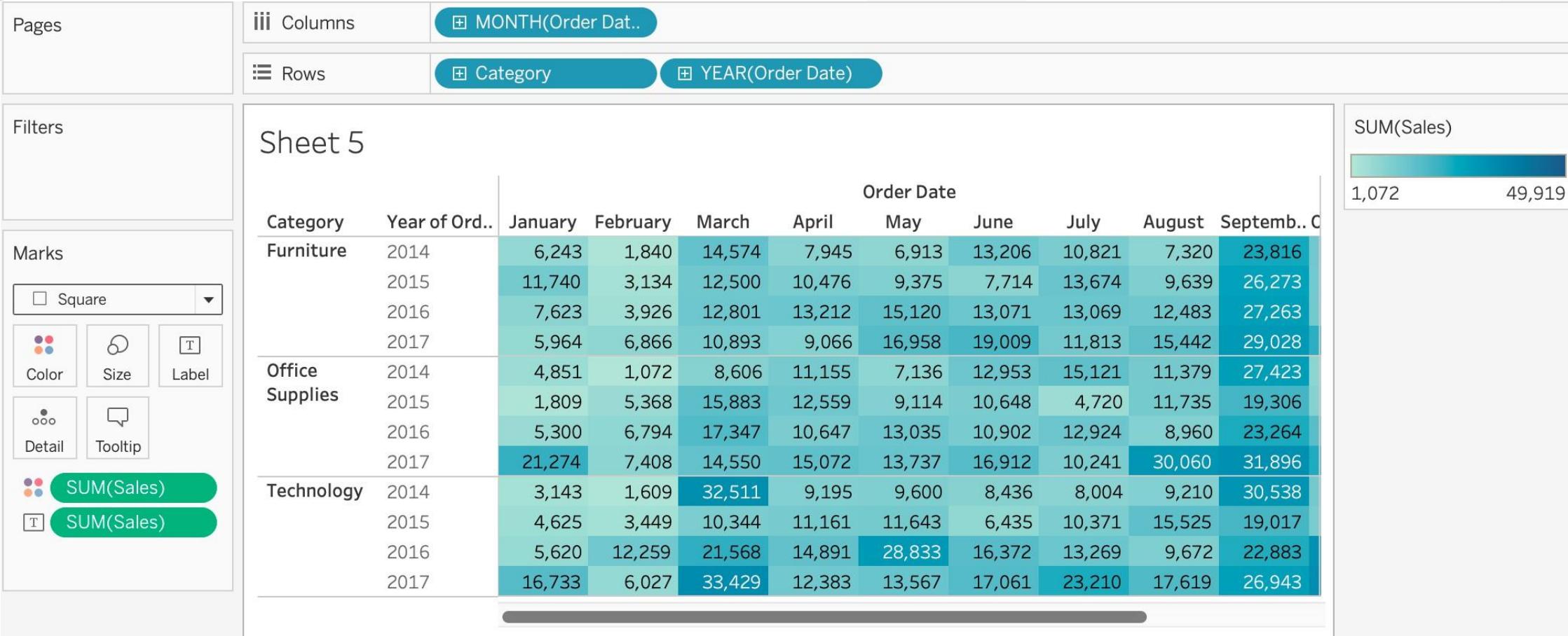


Creating Hierarchies



Sales by Product Category

	+	Jan	Feb	Mar	Apr
Furniture	2011	\$5,952	\$2,130	\$14,574	\$7,945
	2012	\$11,740	\$3,319	\$12,315	\$10,476
	2013	\$7,623	\$3,926	\$12,473	\$13,406
	2014	\$5,964	\$8,866	\$10,597	\$9,053
Office Supplies	2011	\$4,851	\$1,072	\$8,606	\$11,155
	2012	\$1,809	\$5,427	\$15,824	\$12,559
	2013	\$5,300	\$6,683	\$17,458	\$10,640
	2014	\$21,704	\$7,390	\$14,317	\$14,922
Technology	2011	\$3,143	\$1,609	\$32,511	\$9,195





Hierarchy Example

The image illustrates a hierarchy example in a data visualization tool, likely Tableau, showing geographical data for the United States.

Left Panel: A sidebar menu titled "Customer Name" with a tree structure under "MAP". The "Region" node is selected, highlighted in blue. Other nodes include "Country", "State", "City", and "Postal Code".

Middle Panel: A map of the United States with state boundaries. The "Region" node is mapped to the state level, where each state is shaded a different color (e.g., California is dark blue, Texas is light blue).

Right Panel: A context menu is open over the "Region" node in the sidebar. The "Geographic Role" option is selected, and a dropdown menu shows various roles: None, Airport, Area Code (U.S.), CBSA/MSA (U.S.), City, Congressional District (U.S.), County/Region, County, NUTS Europe, State/Province, ZIP Code/Postcode. The "Create from" dropdown is set to "State".

Bottom Panel: Two smaller maps show the hierarchy at different levels. The top one shows states, and the bottom one shows individual cities.

Data

Analytics

Pages

iii Columns

Longitude (genera..)

Rows

Latitude (generate..)

Orders (Sample - Superstore)

Search



Filters

Tables

3M

Abc Category

Abc Customer ID

Abc Customer Name

Map

Country

Region

State

City

Postal Code

Order Date

Abc Order ID

Abc Product ID

Abc Product Name

Region (group)

Region (group) 1

Row ID

Abc Segment

Ship Date

Abc Ship Mode

Abc Sub-Category

Abc Measure Names

Discount

Profit

Quantity

Sales

@ Latitude (generated)

@ Longitude (generated)

Orders (Count)

Measure Values

Marks

Map

Colour

Size

Label

Detail

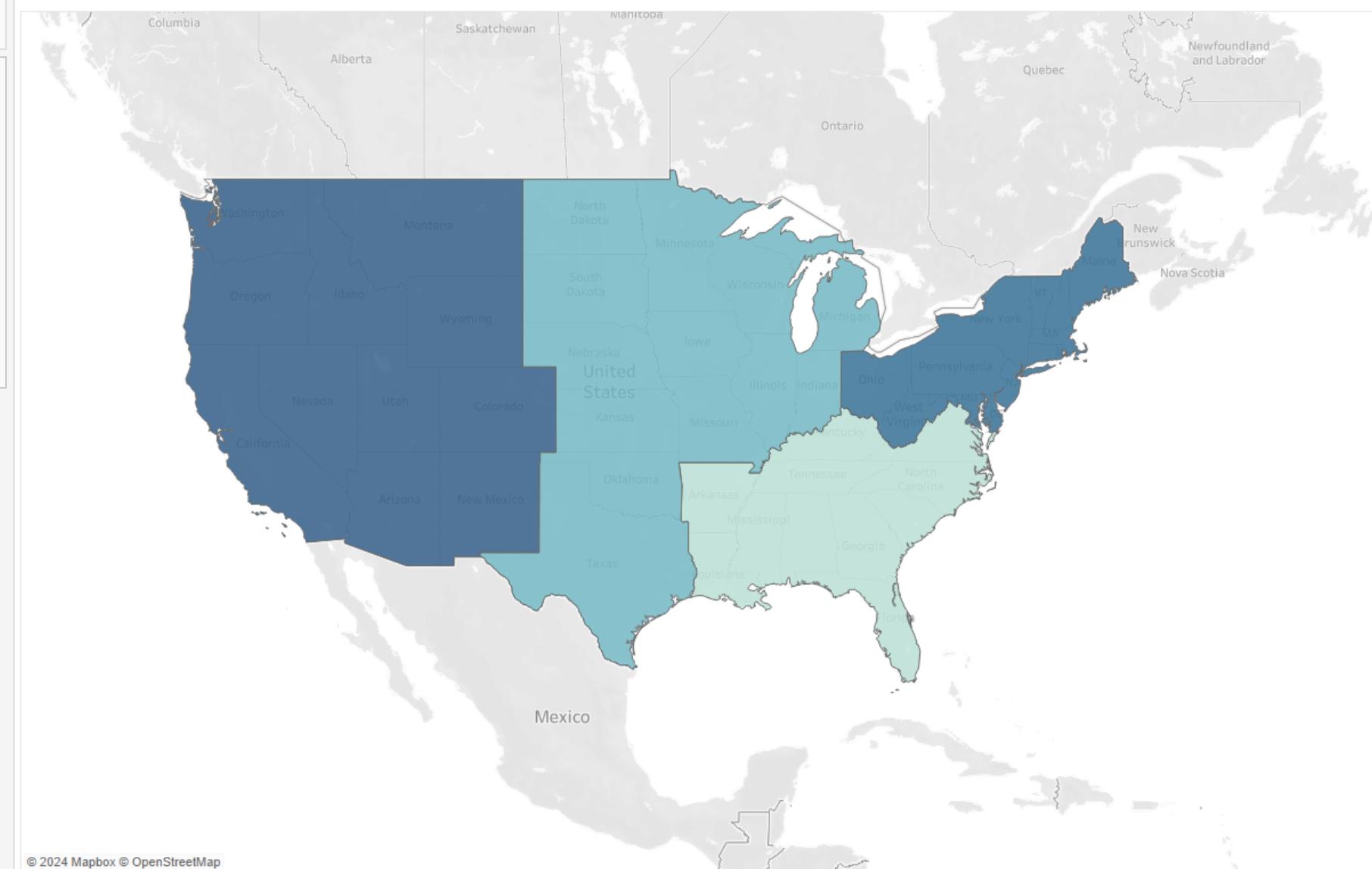
Tooltip

SUM(Sal..)

Country

Region

Sheet 18





DATA AGGREGATION





Data Aggregation



Data Sum

- When you add a calculation to the view, Tableau automatically collects its values. Sum, mean, and median are common aggregations.

The screenshot shows a context menu from Tableau. At the top is a green header bar with the text 'SUM(Budget Margin)'. Below it is a list of options:

- Filter...
- Show Filter
- Format...
- Show Header
- Include in Tooltip
- Dimension
- Attribute
- Measure (Sum) ▼
- Discrete
- Continuous
- Add Table Calculation...
- Quick Table Calculation ▼
- Remove

To the right of the main list is a vertical sidebar with aggregation options:

- Sum
- Average
- Median
- Count
- Count (Distinct)
- Minimum
- Maximum
- Percentile ▼
- Std. Dev
- Std. Dev (Pop.)
- Variance
- Variance (Pop.)



Data Aggregation



Aggregating Dimensions

- If it is a dimension, you can use
Minimum, Maximum, Count,
or **Count (Distinct)**

The screenshot shows a context menu for a dimension named 'Months'. The menu items are:

- Filter...
- Show Filter
- Sort...
- Format...
- Show Header
- Include in Tooltip
- Edit Aliases...
- Dimension** (radio button selected)
- Attribute**
- Measure** (radio button selected, highlighted with a cursor icon)
- Remove

To the right of the menu, there is a vertical list of aggregation options:

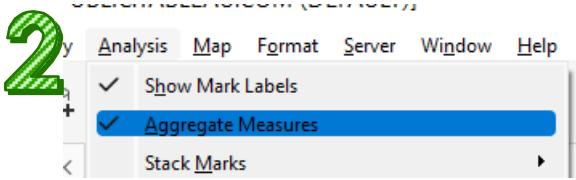
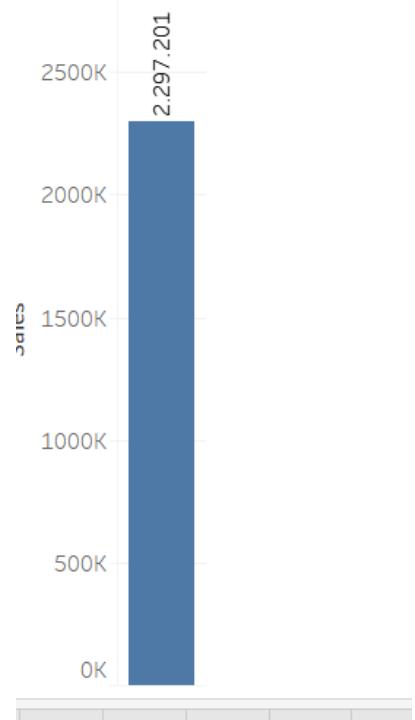
- Minimum
- Maximum
- Count
- Count (Distinct)



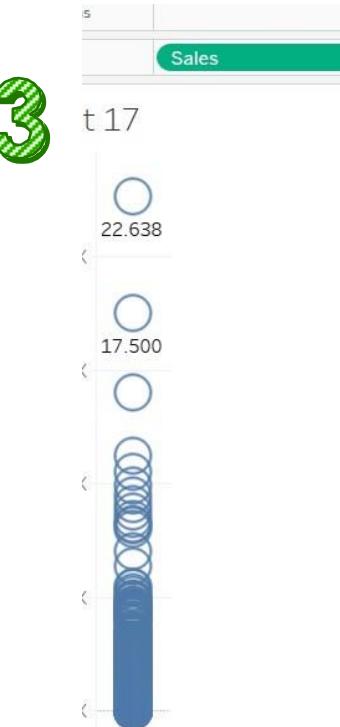
1

Columns
Rows

Sheet 17



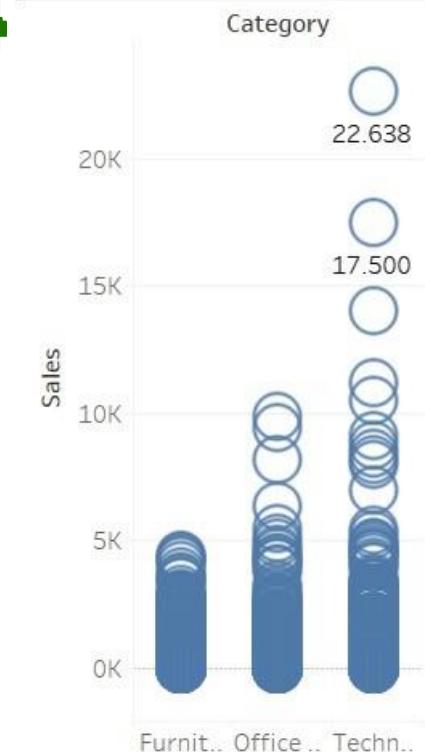
2



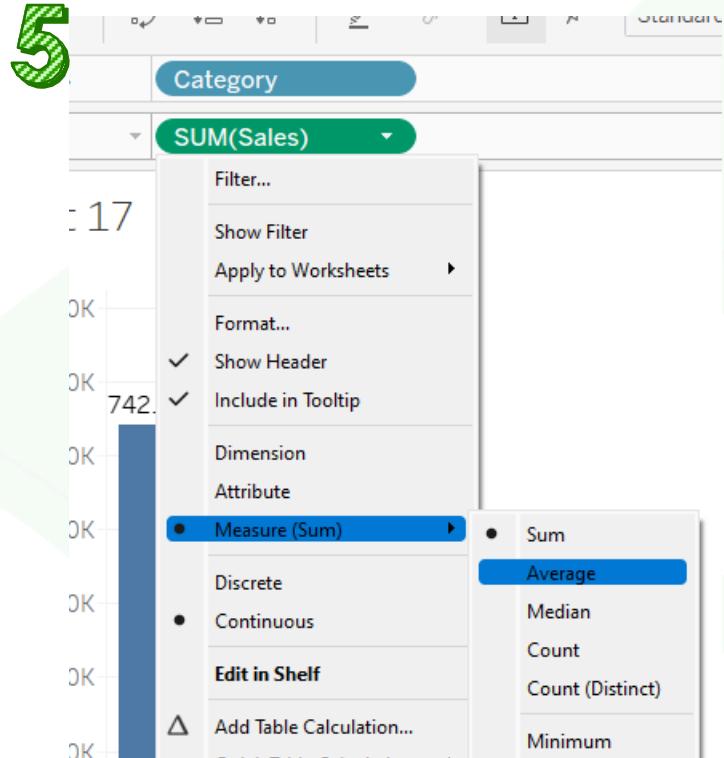
3

Columns	Category
Rows	Sales

Sheet 17



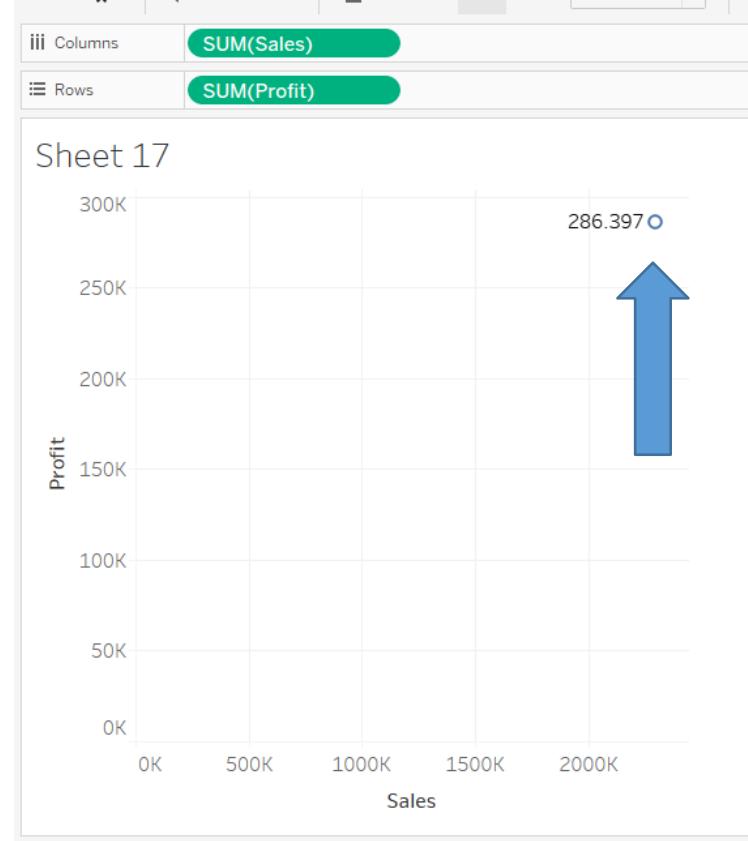
4



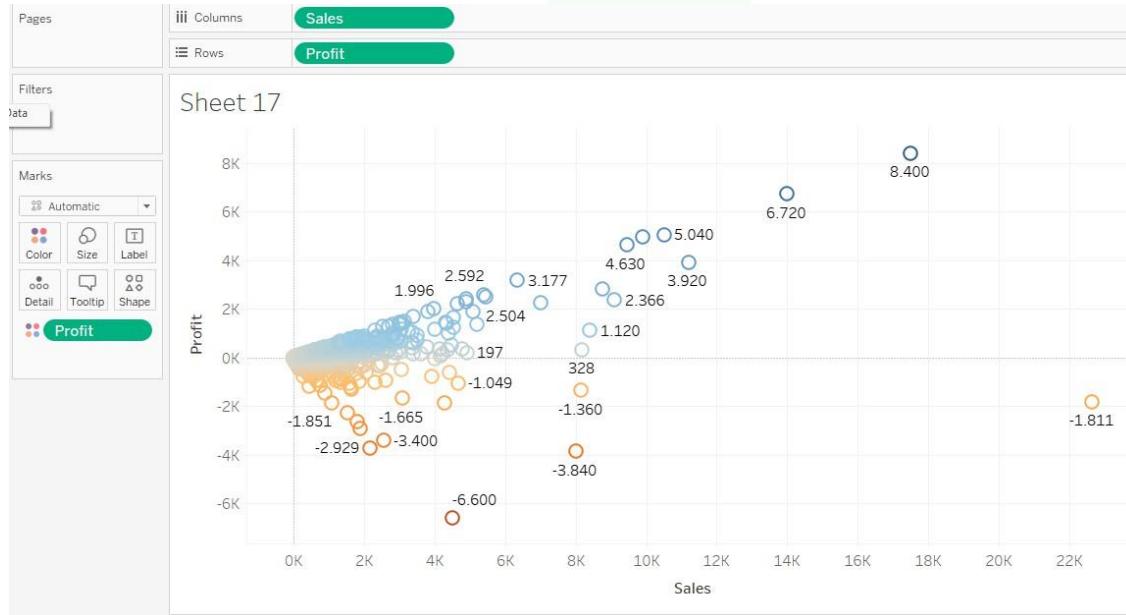
5



1



2



3

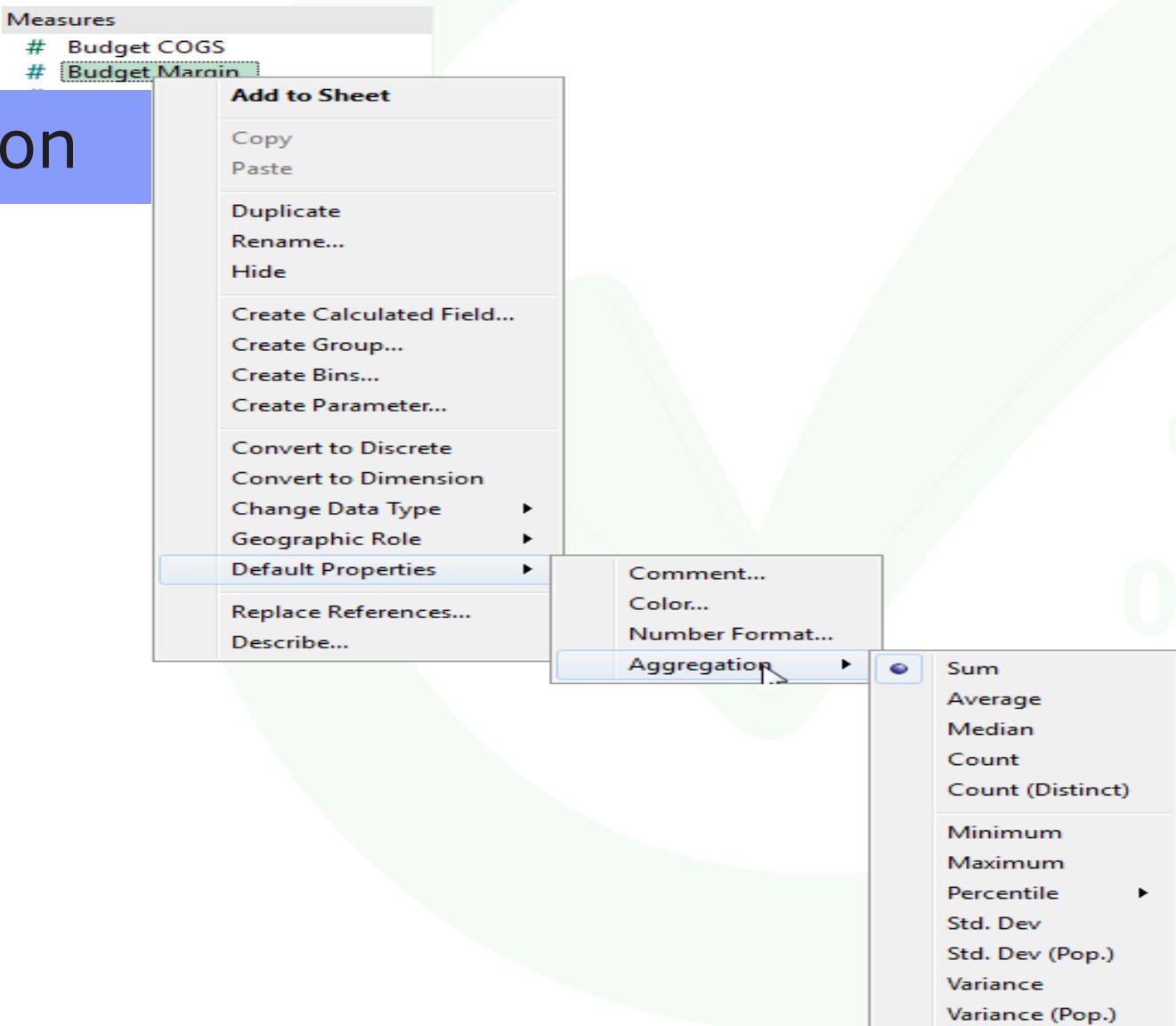


Data Aggregation



Change the default aggregation

- Right-click (control-click on Mac) a measure in the Data pane and select **Default Properties > Aggregation**, and then select one of the aggregation options.



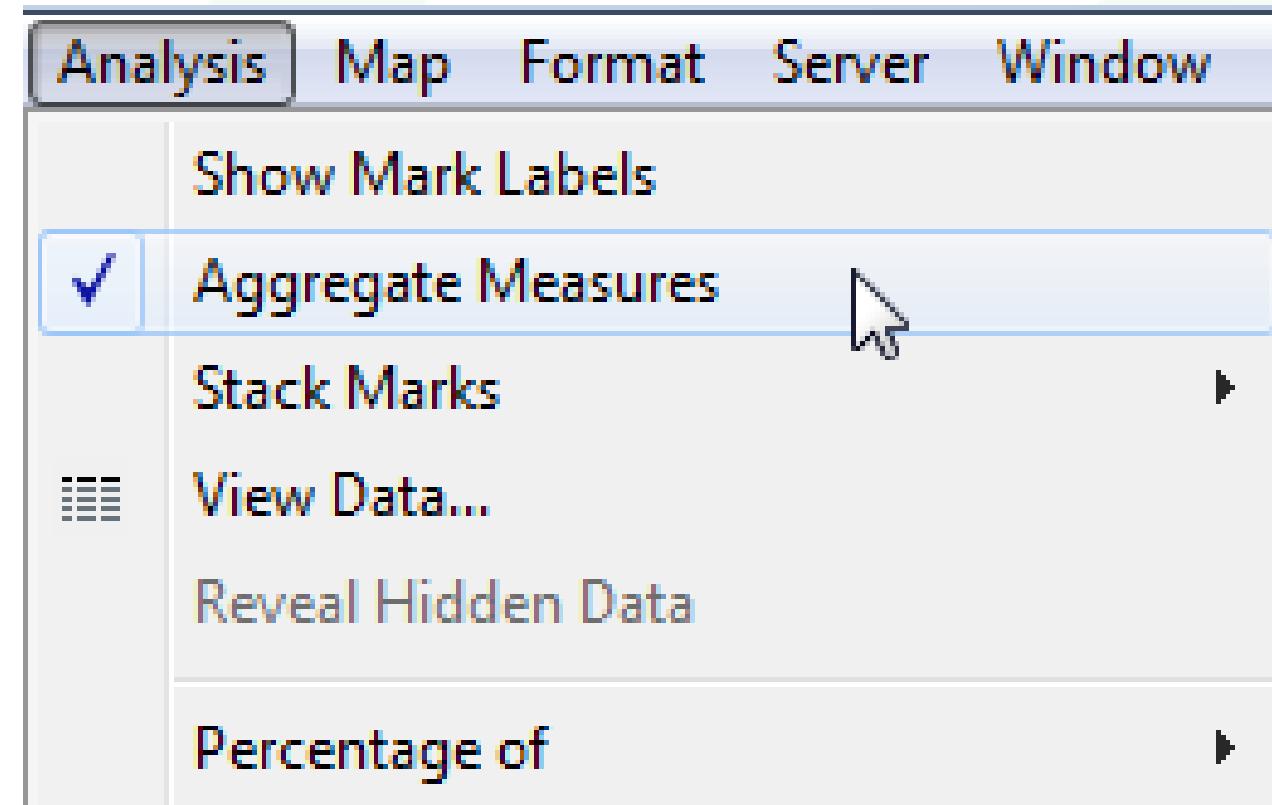


Data Aggregation



How to Disaggregate Data

- Parsing your data means that Tableau will display a separate flag for each data value in each row of your data source.





Data Aggregation



Sheet 1

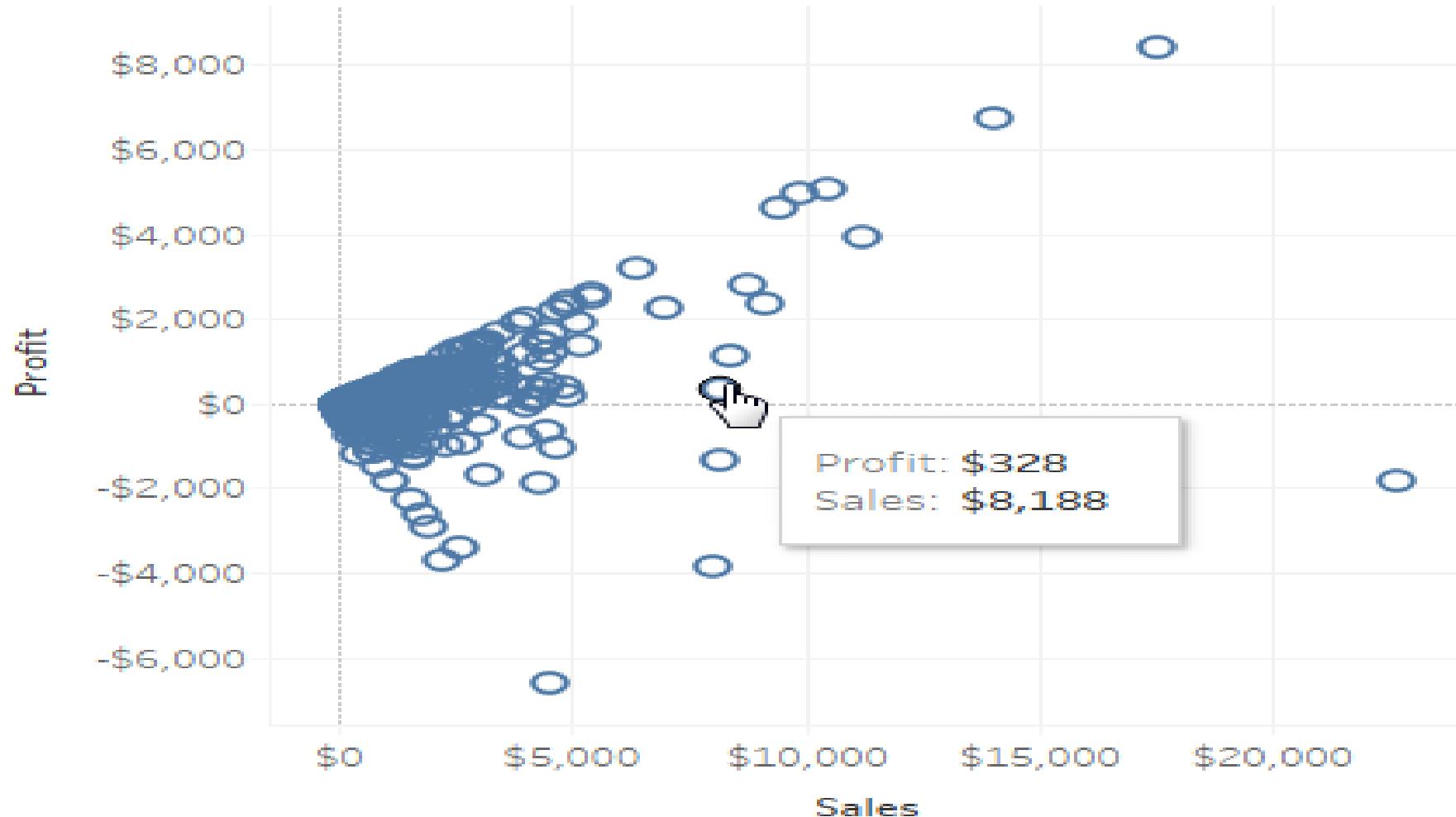




Tableau - 4



Data Aggregation ve Calculated Fields



Practiced previous lectures!



**Published my first visual on
Tableau Public!**



Color Psychology in Marketing

[Article on the impacts of Colors on Psychology](#)

[An Article from Tableau website](#)

[An Academic Article](#)

[Storytelling with Color](#)

[Sample Data](#)

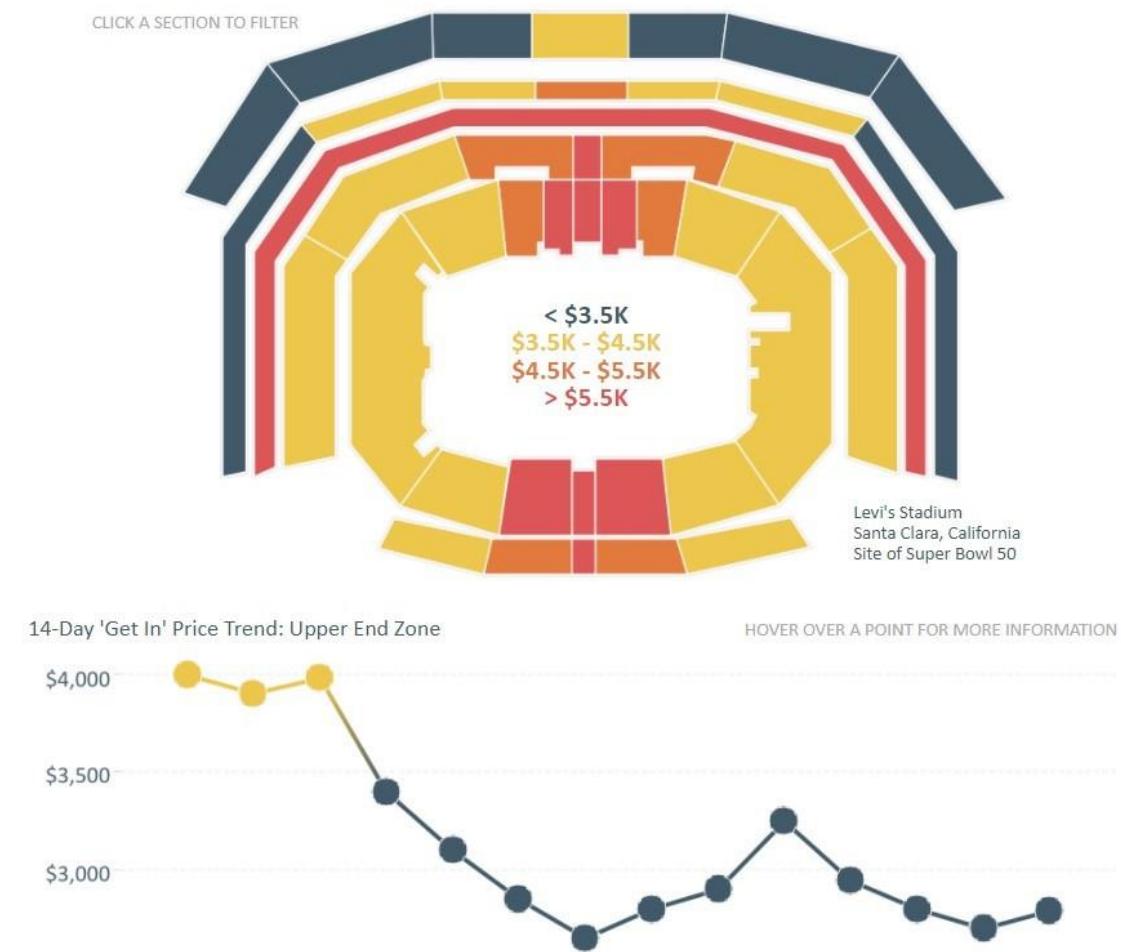
[Andy Kriebel](#)

[Data Sets - 1](#)

[Data Sets - 2](#)

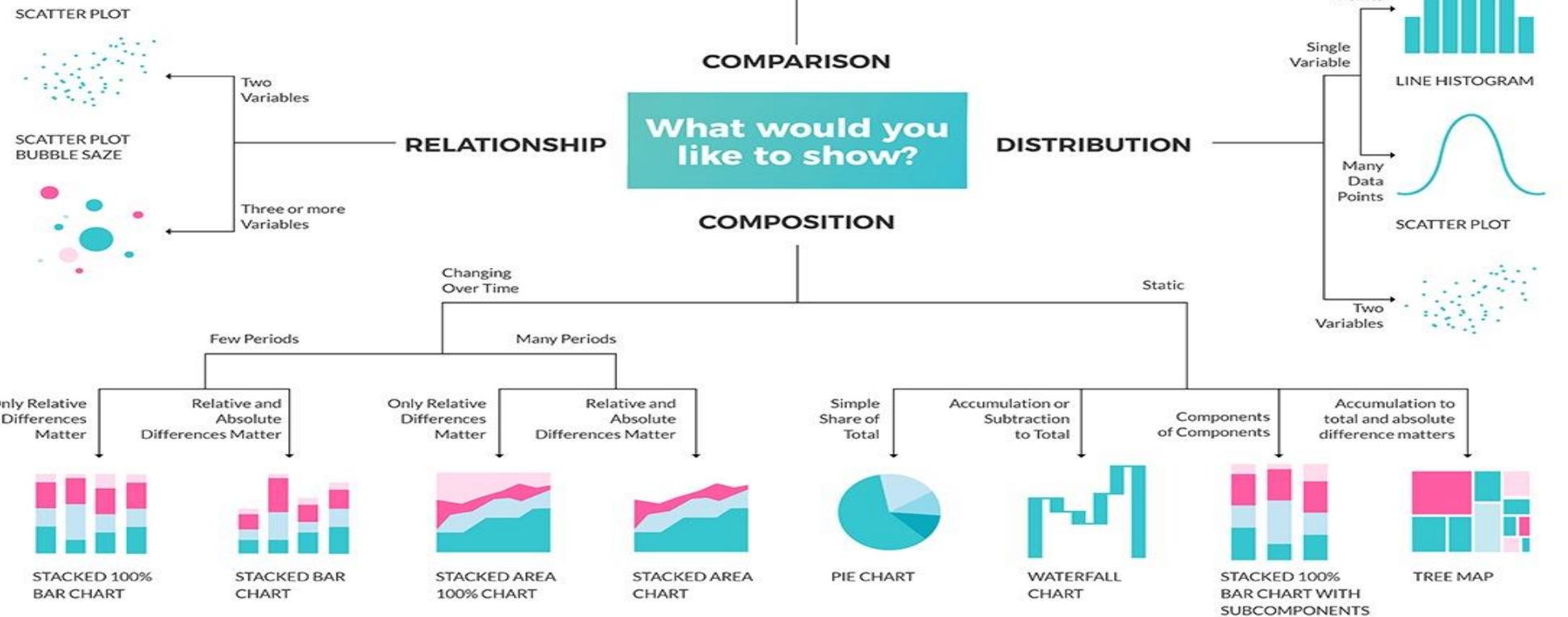
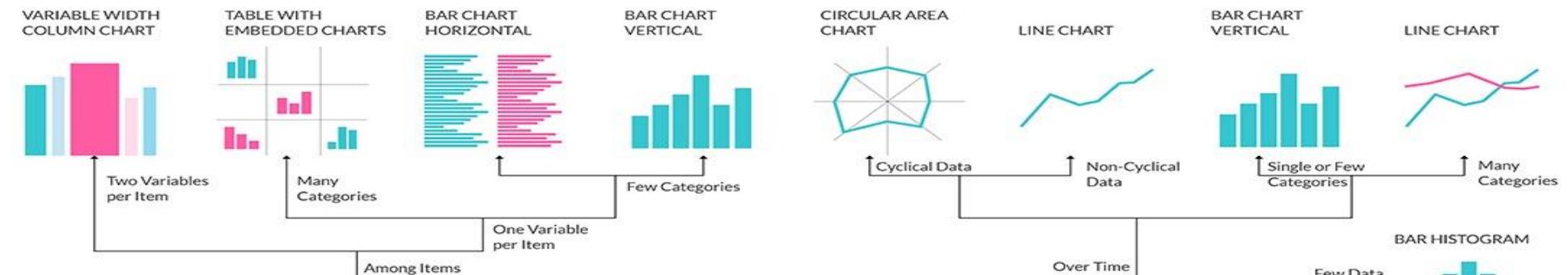
The Cost of Attending Super Bowl 50
A visualization of the lowest ticket price per section

Data Source: StubHub.com
Data Designer: RyanSleeper.com





Context Types





About MakeoverMonday..



- [Makeovermonday Website](#)
- [Twitter](#)
- [Welcome to Makeovermonday Video](#)

Data Sets • 2021

All the data sets for 2021. Join us every week for new exciting data challenges.

LINK

Week	Date	Data	Viz Review	Watch Me Viz	Source Article/Visualization
1	04.01.2021	LINK	LINK		The great bicycle boom of 2020 Data Source: Rail-to-Trails (Chart in spreadsheet)
2	11.01.2021	LINK	LINK	LINK	Viz5: Gender Inequality in HIV infections in Adolescents

2021/W39: MLB All-Time Wins Above Replacement

Overview Access Discussion Activity

1 file

MLB All-Time Wins Above Replacement.xlsx

Bryce Harper Had the "Most Valuable" Season of Any MLB Player Since 2002

And the Angels better be ready to give Mike Trout a record salary

WAR vs. Salary - Who are the outliers?

Who is the most underpaid?

Rank	Player	Season	Amount Underpaid
1	Bryce Harper	2015	\$72.9M
2	Mike Trout	2013	\$70.5M
3	Mike Trout	2012	\$66.4M
4	Mike Trout	2015	\$65.3M
5	Josh Donaldson	2015	\$63.7M
6	Jacoby Ellsbury	2011	\$63.5M
7	Paul Goldschmidt	2015	\$63.5M
8	A.J. Pollock	2014	\$57.3M
9	Andrew McCutchen	2013	\$54.1M
10	Josh Donaldson	2013	\$54.1M
11	Matt Kemp	2011	\$54.1M
12	A.J. Pollock	2015	\$54.1M
13	Manny Machado	2015	\$53.4M
14	Ben Zobrist	2009	\$53.3M
15	Carlos Gomez	2013	\$52.9M
16	Dustin Pedroia	2011	\$52.4M
17	Jose Bautista	2011	\$52.0M
18	Ryan Braun	2011	\$51.1M
19	Lorenzo Cain	2015	\$51.0M
20	Ben Zobrist	2011	\$50.7M
21	Josh Donaldson	2014	\$50.6M
22	Alex Gordon	2011	\$50.3M
23	Kevin Kiermaier	2015	\$49.4M
24	Evan Longoria	2011	\$48.9M
25	Kris Bryant	2015	\$47.8M
26	Matt Carpenter	2013	\$47.5M
27	Paul Goldschmidt	2013	\$47.3M
28	Ian Kinsler	2011	\$46.9M
29	Anthony Rendon	2014	\$46.8M
30	Josh Hamilton	2010	\$46.6M

How do Salaries & Market Value Compare?



Data Set Reorganizing

Microsoft Power BI Data Editor interface showing a data set named "Data (Data)".

Table Details view:

Abc	Data	Abc	Metric	# Data	# Data	# Data	# Data
Nintendo Switch Platform	Nintendo Switch hardware/J...	Metric	ten thousand units (hardware)	3/2017	3/2018	3/2019	3/2020
Nintendo Switch hardware/J...	ten thousand units (hardware)		60	378	385	521	
Nintendo Switch hardware/T...	ten thousand units (hardware)		120	594	688	811	
Nintendo Switch hardware/E...	ten thousand units (hardware)		76	379	455	534	
Nintendo Switch hardware/O...	ten thousand units (hardware)		18	154	169	237	
Nintendo Switch software/J...	ten thousand units (software)		89	1.226	2.148	3.256	
Nintendo Switch software/T...	ten thousand units (software)		286	2.752	5.394	7.428	
Nintendo Switch software/E...	ten thousand units (software)		142	1.917	3.516	5.017	
Nintendo Switch software/Ot...	ten thousand units (software)		29	456	797	1.171	

Table view showing the same data set.

Contextual menu for the first row (3/2017, 3/2018) is open:

- Rename
- Copy Values
- Hide
- Create Calculated Field...
- Pivot
- Merge Mismatched Fields

Table view showing the data set after pivoting.

Contextual menu for the first row (3/2017, 3/2018) is open:

- Rename
- Reset Name
- Copy Values
- Hide
- Aliases...
- Create Calculated Field...
- Create Group...
- Split
- Custom Split...
- Remove Pivot
- Describe...

A large black arrow points from the "Pivot" option in the menu to the "Date" column header in the table.

Custom Split dialog box for the first row (3/2017, 3/2018):

How should this data be split?

Use the separator: ;

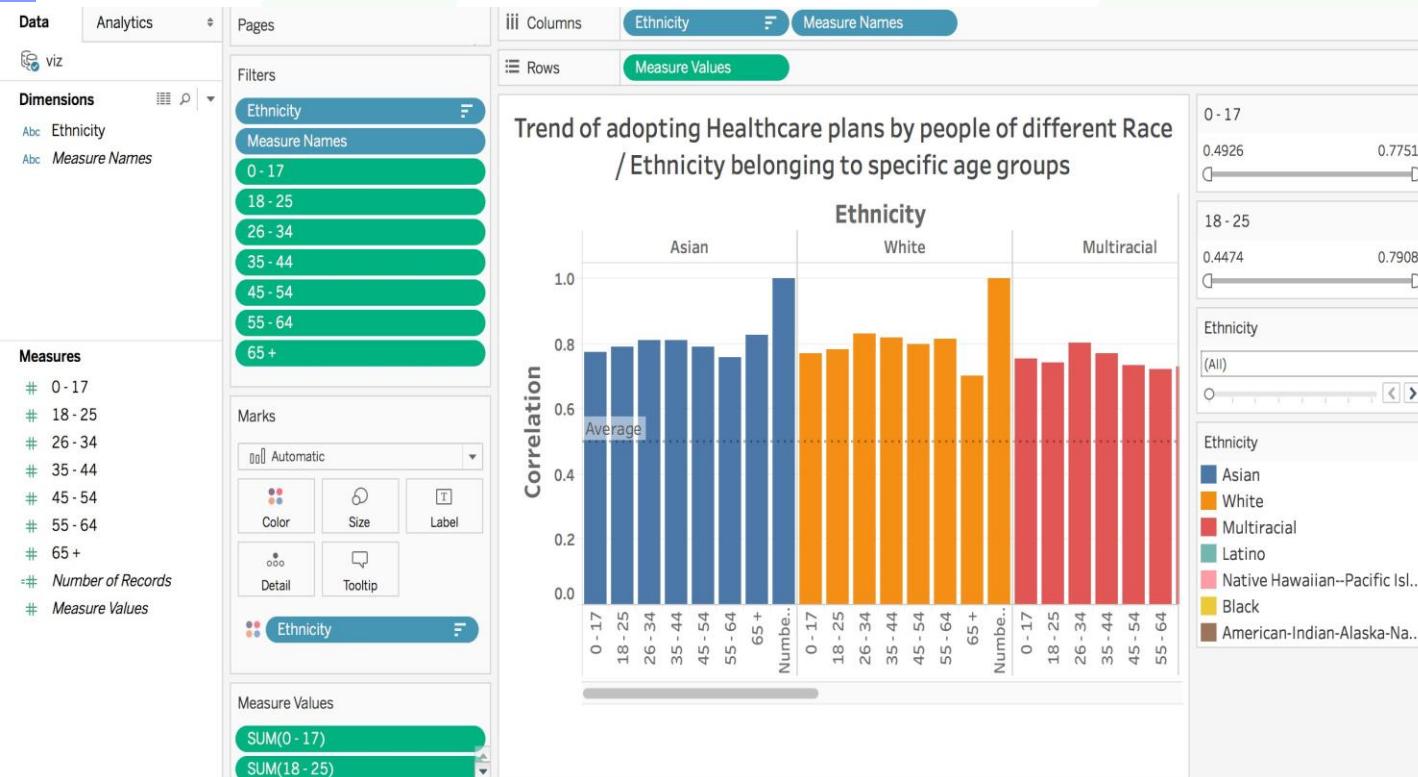
Split off: First 1 columns

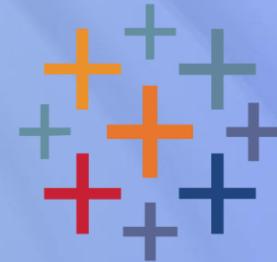
OK Cancel



Content

- Working with Dates
- Data Aggregation
- Calculated Fields
- Quick Table Calculations





+ a b | e a u



WORKING WITH DATES

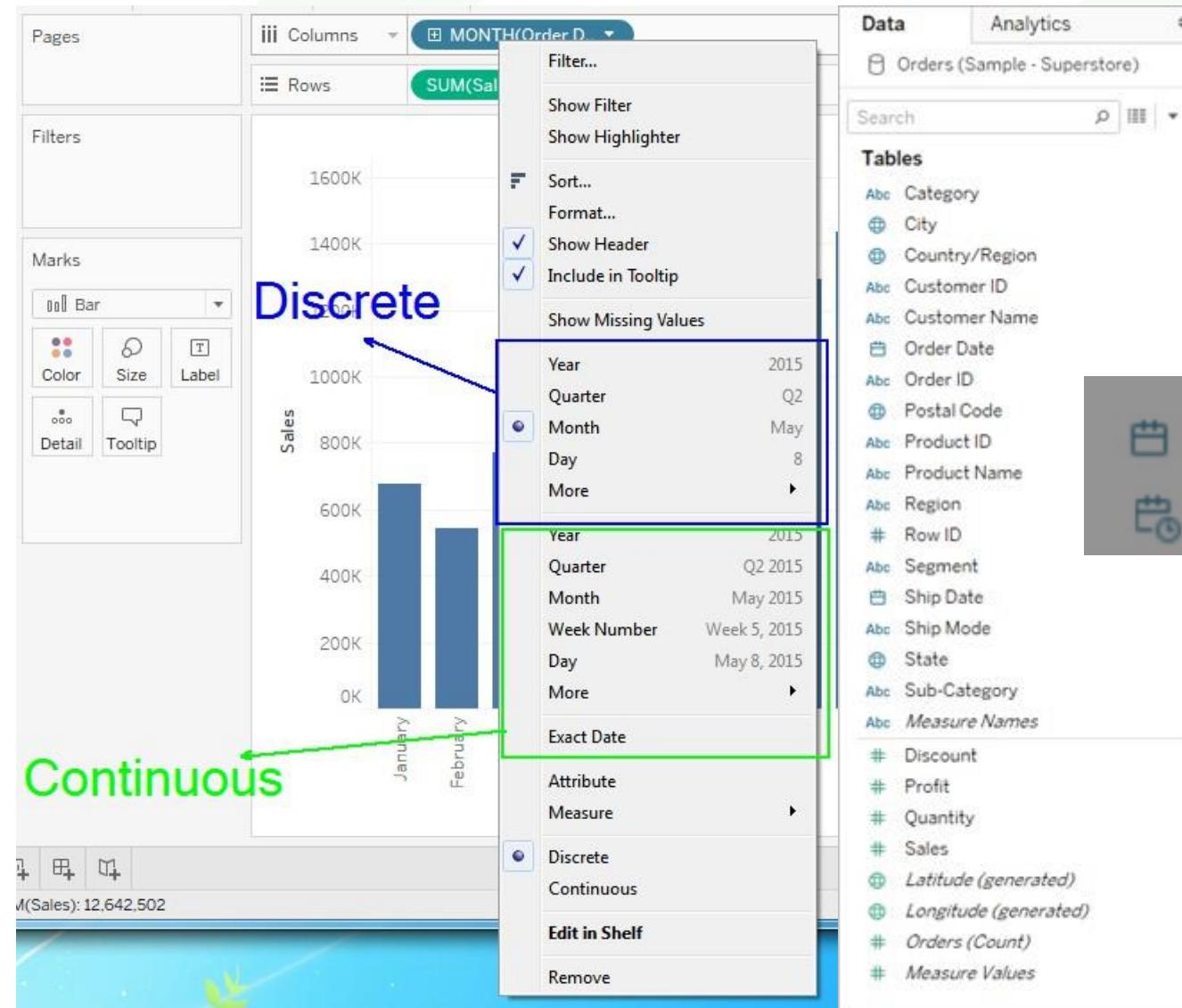


Working with Dates



Discrete vs. Continuous

- Date take place in Dimensions section.
- The fact that it takes place in dimensions does not mean that it has to be discrete.

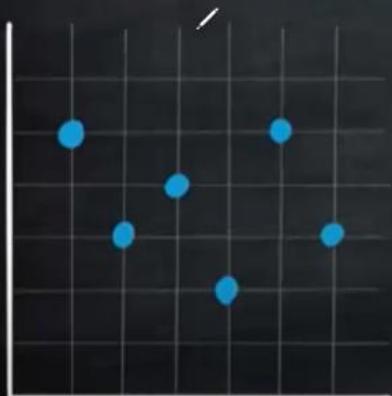




Discrete Continuous

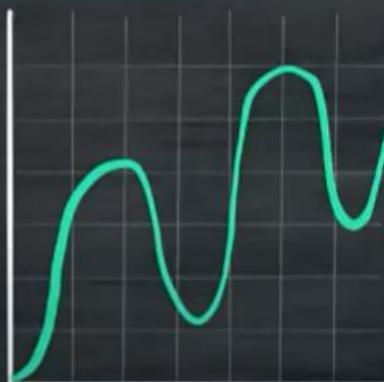
Discrete

Disconnected & Separated Values



Continuous

Connected & unbroken chain of Values



Discrete

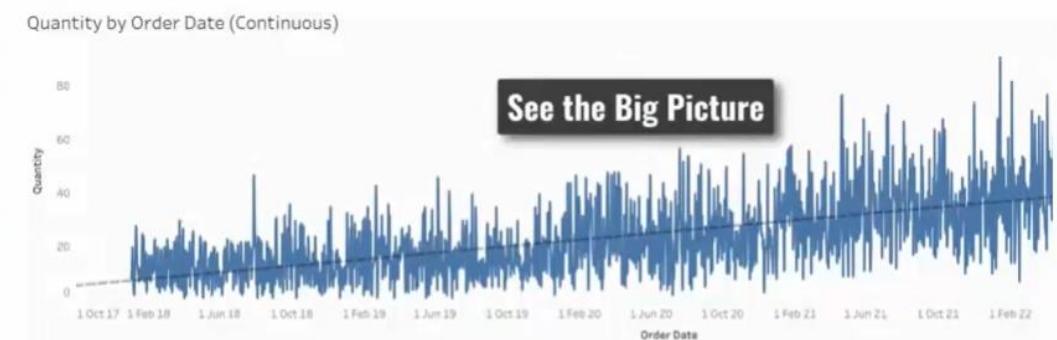
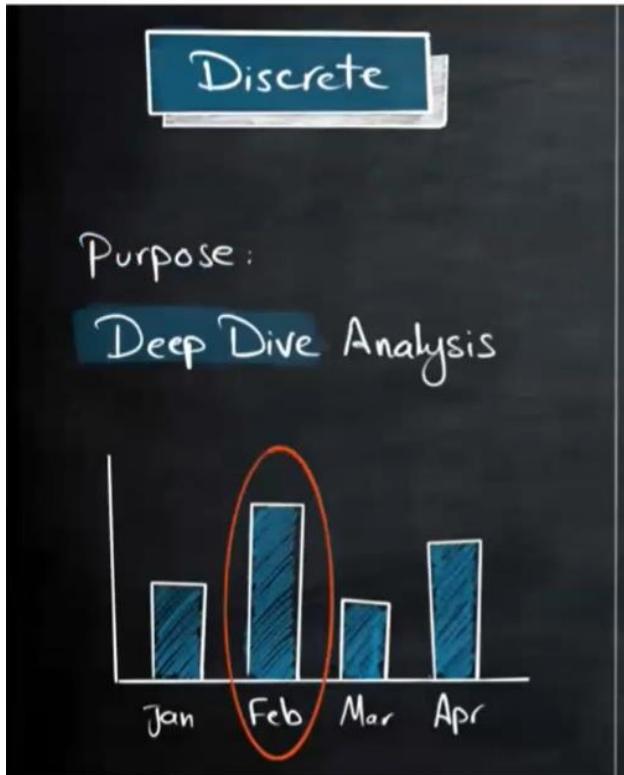
11 Values

{ 0
1
2
3
4
5
6
7
8
9
10 }

Continuous

∞ Values

{ 1
1.11
1.12
1.13
1.14
1.15
⋮
⋮
2 }





Tableau

Discrete

Definition

Disconnected Values



Continuous

Example

[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Connected values



Colors

Blue Pill



Green Pill



Filters

Distinct values



Range Value



Views

Header

Axis

Sorting

Many sorting options

Limited Sorting Options

Purpose

Specific Scenario | Deep Dive

Big Picture | Trends Analysis

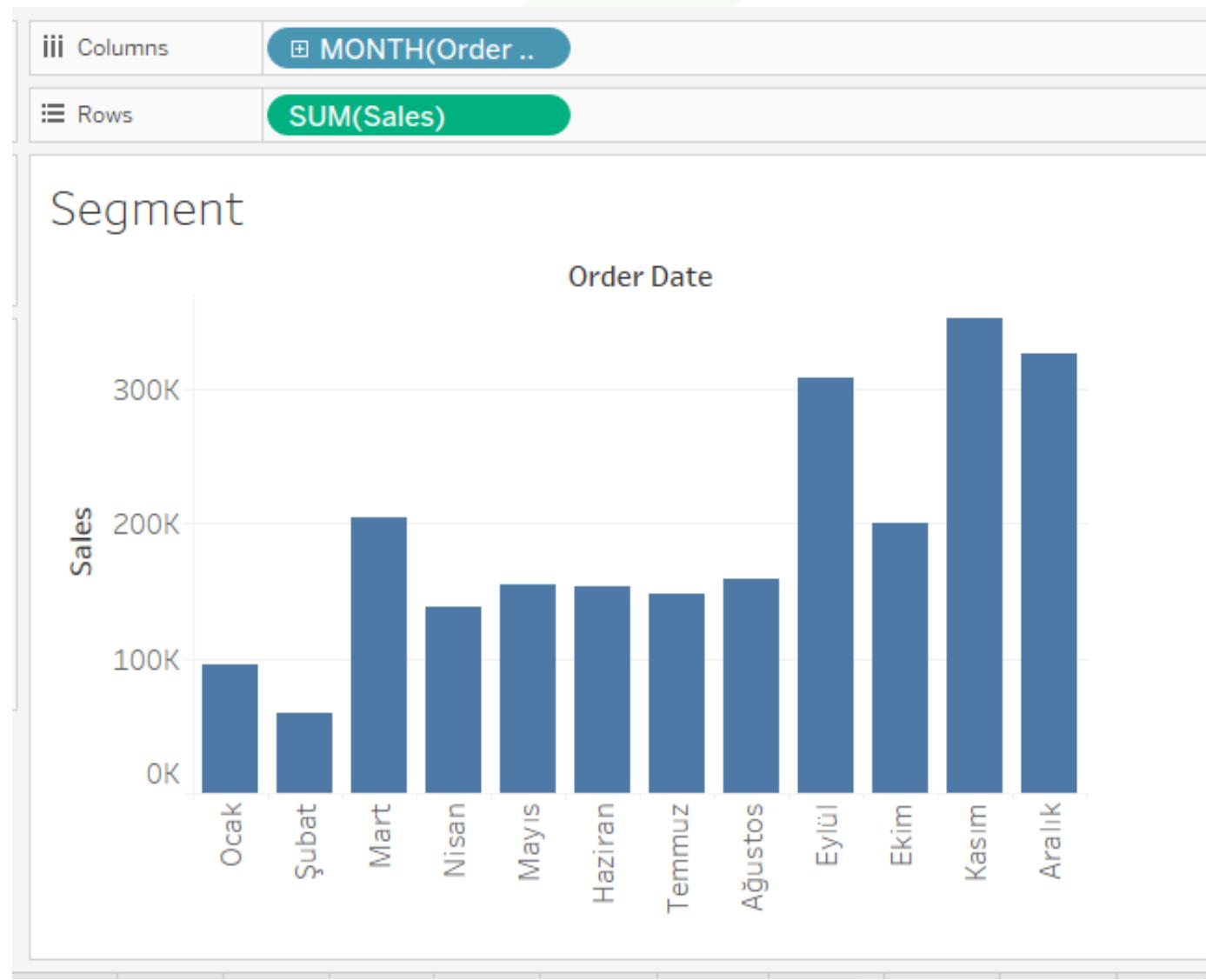


Working with Dates



Dimensions

- Customer
 - Customer Name
- Segment
- Order
 - Order Date
 - Order ID
 - Ship Date
 - Ship Mode
- Location
 - Country
 - Region
 - State
 - City
 - Postal Code
- Order Profitable?
- Product
 - Category
 - Sub-Category
 - Product Name





Working with Dates



nt

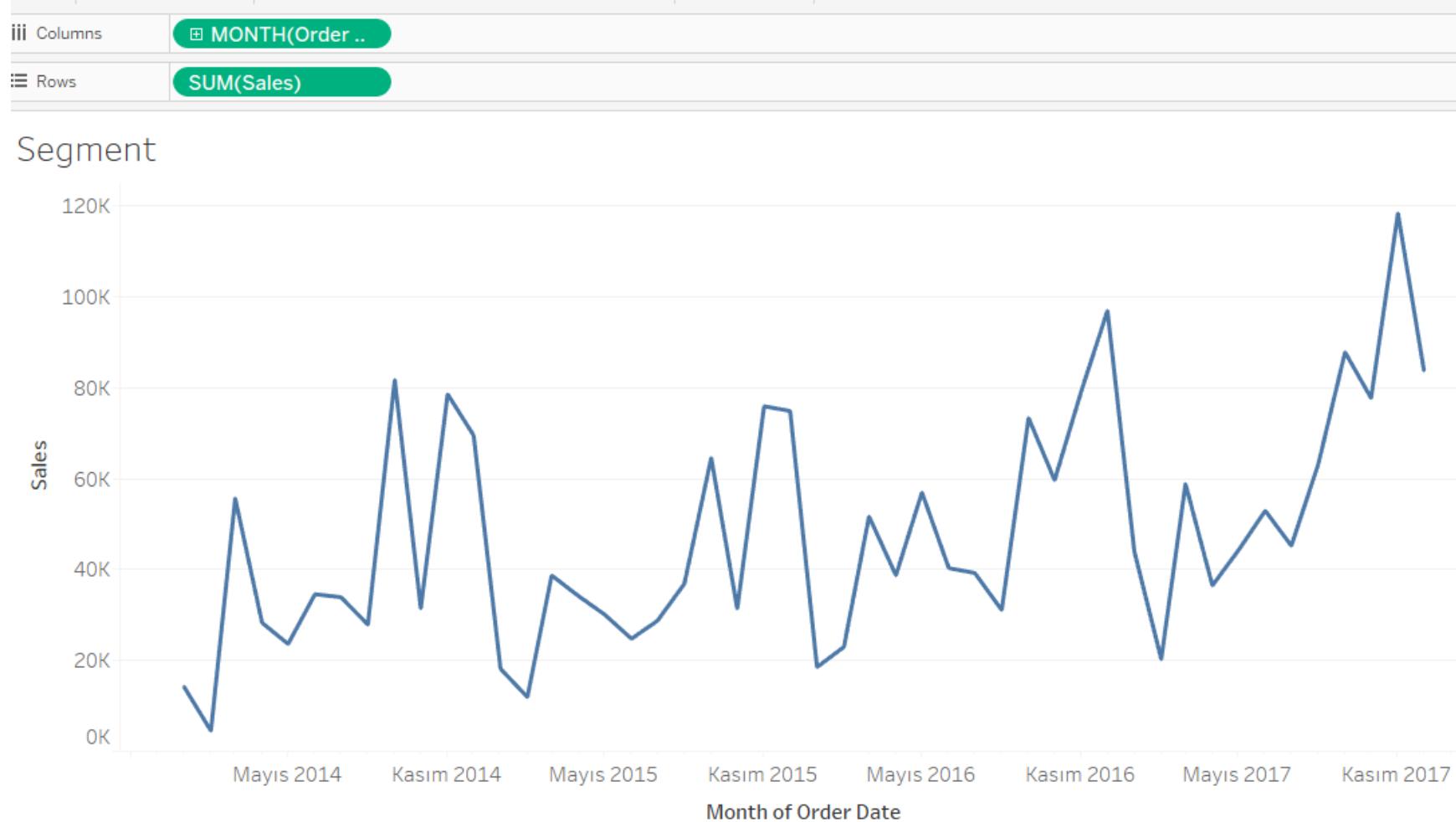
5 Sheets

4

1 / 1

MONTH(Order Date)

- Filter...
- Show Filter
- Apply to Worksheets >
- Format...
- ✓ Show Header
- ✓ Include in Tooltip
- Show Missing Values
- Extend Date Range >
- ✓ Standard Gregorian
- ISO-8601 Week-Based
- Year 2015
- Quarter Q2
- Month May
- Day 8
- More >
- Year 2015
- Quarter Q2 2015
- Month May 2015
- Week Number Week 5, 2015
- Day May 8, 2015
- More >
- Exact Date
- Attribute
- Measure >
- Discrete
- Continuous
- Edit in Shelf
- Remove

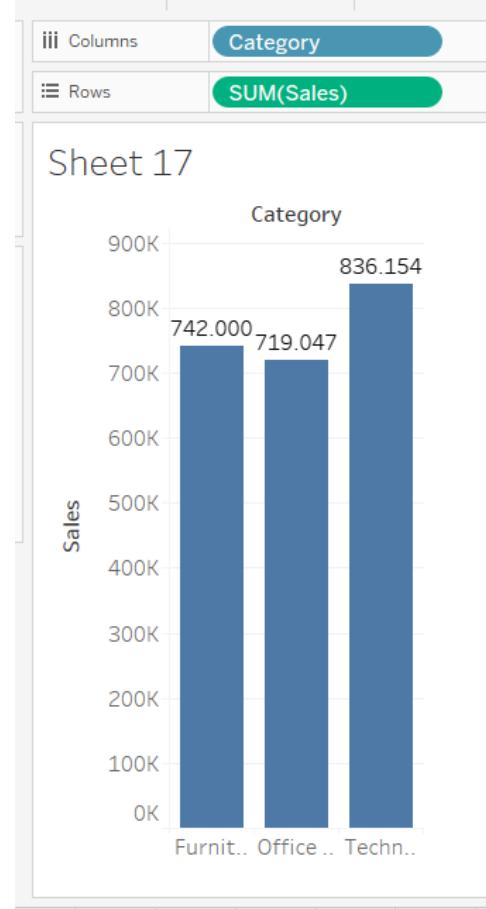




Working with Dates



1



2

The screenshot shows the Tableau interface with the 'Filters' pane open. The 'Order Date' filter is selected, highlighted with a blue bar. The 'Marks' and 'Rows' shelves are also visible.

4

The screenshot shows the context menu for the 'YEAR(Order Date)' filter. The 'Show Filter' option is selected, highlighted with a blue bar. Other options include 'Edit Filter...', 'Clear Filter', and 'Add to Context'.

6

The screenshot shows the context menu for the 'WEEKDAY(Order Date)' filter. The 'Edit Filter...' option is selected, highlighted with a blue bar. Other options include 'Show Filter', 'Clear Filter', and 'Add to Context'.

7

The screenshot shows the final bar chart with the 'Week Number' filter applied. The chart displays sales for different days of the week. The context menu for the 'Week Number' filter is open, showing options like 'Show Filter', 'Show Highlighter', and 'Apply to Worksheets'. The 'Week Number' filter is currently set to 'Weekday'.

3

The screenshot shows the 'Filter Field [Order Date]' dialog box. Under 'How do you want to filter on [Order Date]?', 'Range of Dates' is selected. Under 'Years', 'Years' is selected. The 'Count' section is also visible. At the bottom, there are 'Next >' and 'Cancel' buttons.

5

The screenshot shows the 'Filter [Weekday of Order Date]' dialog box. Under 'General', 'Select from list' is selected. The list includes 'Pazartesi', 'Salı', 'Çarşamba', 'Perşembe', 'Cuma', 'Cumartesi', and 'Pazar'. At the bottom, there are 'All', 'None', and 'Exclude' buttons.



CALCULATED FIELDS





Calculated Fields



What is calculated field?

- Calculated fields allow you to create new data from data that already exists in your data source. When you create a calculated field, you essentially create a new field (or column) in your data source whose values or members are determined by a calculation that you control.

The screenshot shows the Tableau interface with the 'Analysis' menu highlighted in red. A context menu is open over a dimension, with the 'Create Calculated Field...' option highlighted in blue. Other options in the menu include 'Create Parameter...', 'Group by Folder', 'Group by Data Source Table' (which is selected), 'Sort by Name', 'Sort by Data Source Order', 'Hide All Unused Fields', and 'Show Hidden Fields'. The main menu bar also has 'Analysis' underlined.

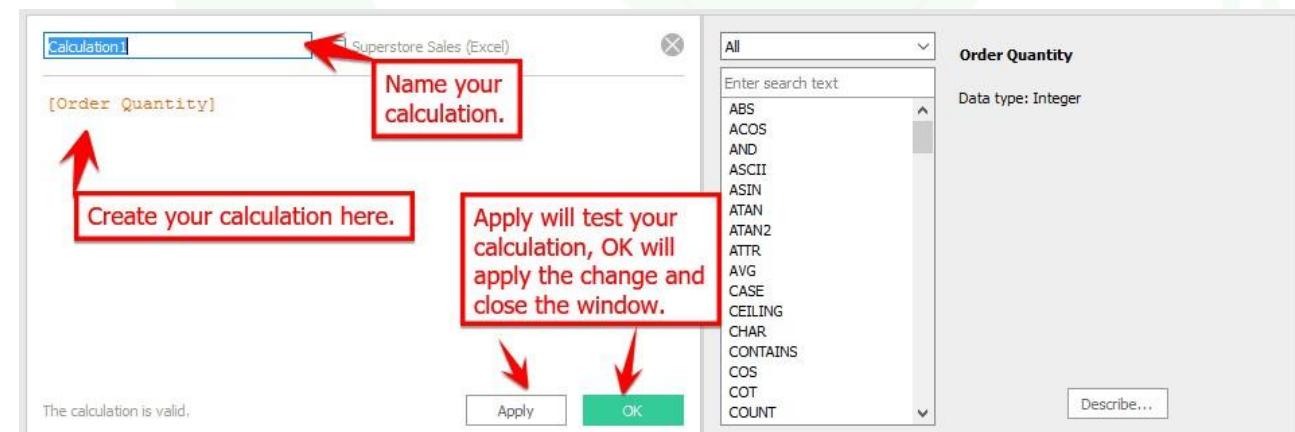
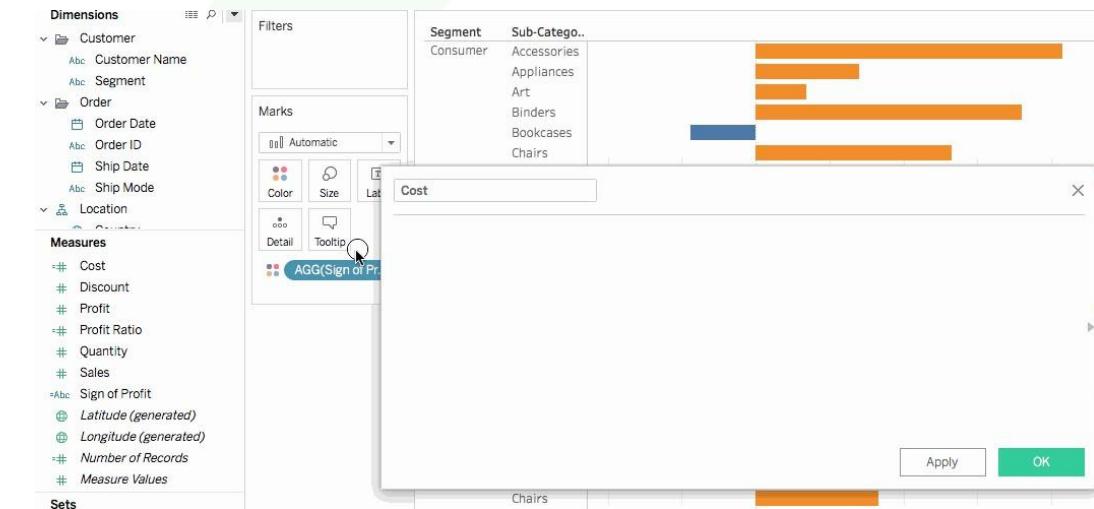


Calculated Fields



Purpose of usage

- To segment data
- To convert a field's data type, such as converting a string to a date
- To aggregate data
- To filter results
- To calculate the ratio





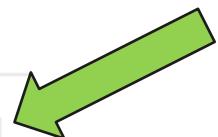
Calculated Fields

Data

Analytics

Orders (Sample - Superstore (3))

Search



Create Calculated Field...

Create Parameter...

Group by Folder

▪ Group by Data Source Table

▪ Sort by Name

Sort by Data Source Order

Hide All Unused Fields

Show Hidden Fields

Expand All

Collapse All

State

Calculation1

String

MAX(expression) or MAX(expr1, expr2)

Returns the maximum of a single expression across all records or the maximum of two expressions for each record.

Example: MAX([Sales])

ISDATE
LEFT
LEN
LOWER
LTRIM
MAX
MID
MIN
REGEXP_EXTRACT
REGEXP_EXTRACT_ALL
REGEXP_MATCH

Apply OK

Tables

Add to Sheet

Duplicate
Rename
Hide

Create ▾

Calculated Field...

Convert to Discrete
Convert to Dimension
Change Data Type ▾
Geographic Role ▾
Default Properties ▾
Group by ▾
Folders ▾
Replace References...
Describe...

Sheet

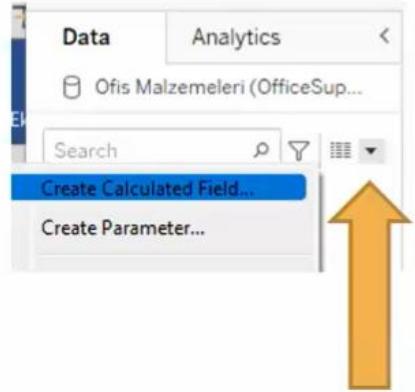
Drop field here

Postal Code
Product ID
Product Name
Region
Region (group)
Row ID
Segment
Ship Date
Ship Mode
State
Sub-Category
Sub-Category (group)
Measure Names
Discount
Profit
Quantity
Sales

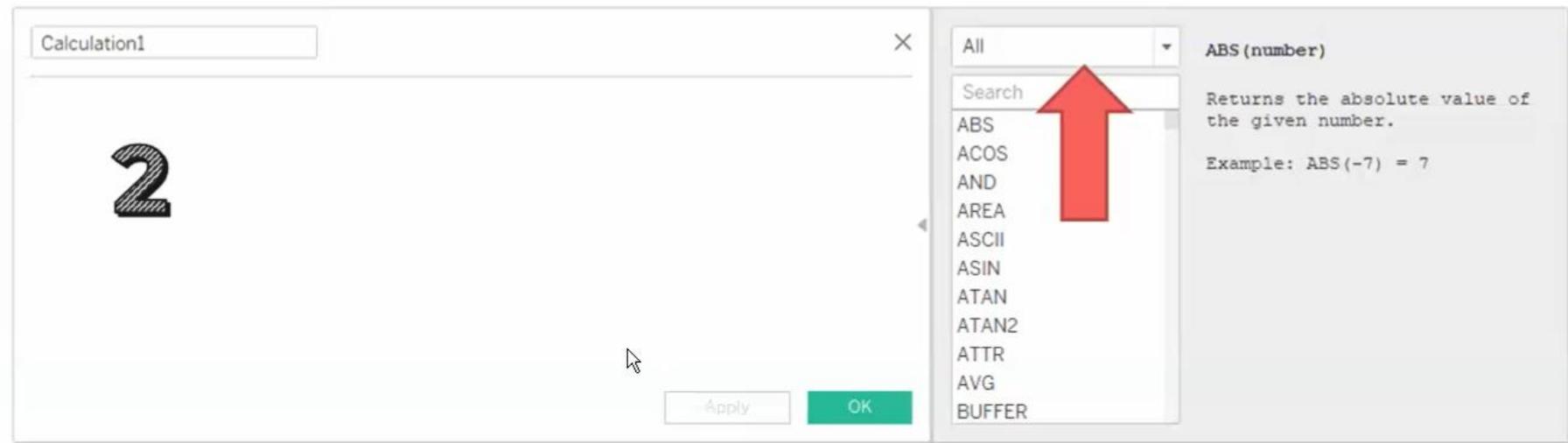
Example:

Go to Office Suppliers Data

1



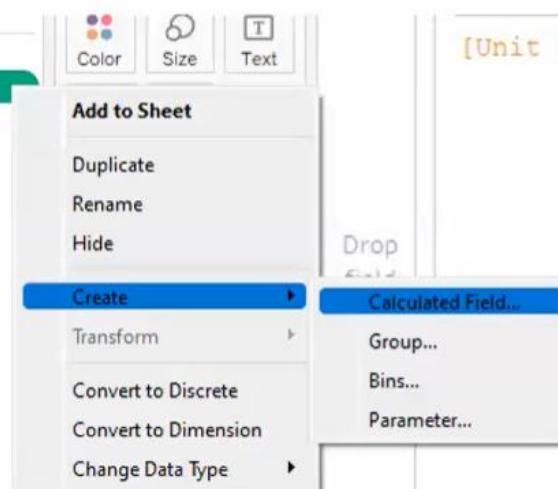
2



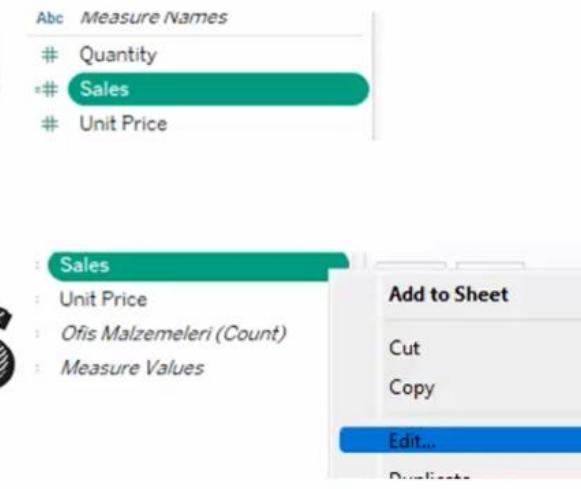
3



4



5



1

Offis Malzemeleri

17 rows | 43 columns

Order Date	Region	Rep	Item	Quantity	Unit Price	Sales
17.11.2016	Central	Alex	Binder	11	5.000	55,00
4.12.2016	Central	Alex	Binder	94	20.000	1.880,00
9.02.2017	Central	Alex	Pencil	36	5.000	180,00
24.03.2017	Central	Alex	Pen Set	50	5.000	250,00
5.05.2017	Central	Alex	Pencil	90	5.000	450,00
10.09.2016	Central	Bill	Pencil	7	1.300	9,10
15.01.2017	Central	Bill	Binder	46	9.000	414,00
26.02.2017	Central	Bill	Pen	27	20.000	540,00
14.05.2017	Central	Bill	Pencil	53	1.300	68,90

2

Pages

Columns

Rows: Region Rep

Filters

Marks

- Automatic
- Color
- Size
- Text
- Detail
- Tooltip

SUM(Sales)

Sheet 1

Region	Rep	Sales
Central	Alex	2.815
	Bill	1.752
	Matthew	3.113
	Morgan	1.390
	Rachel	440
	Smith	1.642
East	Nick	538
	Richard	2.367
	Susan	3.104
West	James	1.285
	Thomas	1.204

3

Roll | 1.752

Sales_v2

SUM([Unit Price])*SUM([Quantity])

4

Measure Values

SUM(Sales)

Filter...

Show Filter

Format...

Include in Tooltip

5

Axis

Pane

Default

Numbers: 123.456

6

Numbers: 123.456,00

Region	Central	Rep
Automatic	Number (Standard)	Number (Custom)
Decimal places:	2	2
Negative values:	-1234	-1234
Display Units:	None	None
Prefix / Suffix:		
<input checked="" type="checkbox"/> Include thousands separators		

EXAMPLE

Profit_margin

```
IF [Profit]/[Sales] >0.20 THEN "HIGH PROFIT"
ELSEIF [Profit]/[Sales] >0 THEN "LOW PROFIT"
ELSE "LOSS"
END
```

The calculation is valid.

Tables

- Abc Category
- ⊕ City
- ⊕ Country
- Abc Customer ID
- Abc Customer Name
- ⊕ Order Date
- Abc Order ID
- ⊕ Postal Code
- Abc Product ID
- Abc Product Name
- =Abc Profit_margin
- Abc Region
- # Row ID



Pages

iii Columns Measure Names

Rows Order ID Product ID Profit_margin

Filters

Measure Names

Marks

Automatic

Color Size Text

Detail Tooltip

Measure ..

Measure Values

SUM(Profit)

SUM(Sales)

Profit Margin

Order ID	Product ID	Profit_mar..	Profit	Sales
CA-2014-100006	TEC-PH-10002075	HIGH PROFIT	110	378
CA-2014-100090	FUR-TA-10003715	LOSS	-88	502
CA-2014-100293	OFF-BI-10001597	HIGH PROFIT	69	197
CA-2014-100328	OFF-BI-10000343	HIGH PROFIT	32	91
CA-2014-100363	OFF-FA-10000611	HIGH PROFIT	1	4
CA-2014-100391	OFF-PA-10004733	HIGH PROFIT	7	19
CA-2014-100678	FUR-CH-10002602	LOSS	-18	317
	OFF-AR-10001868	HIGH PROFIT	1	3
	OFF-EN-10000056	HIGH PROFIT	50	149
	TEC-AC-10000474	LOW PROFIT	28	228
CA-2014-100706	FUR-FU-10002268	HIGH PROFIT	10	29
	TEC-AC-10001314	LOW PROFIT	8	100
CA-2014-100762	OFF-AR-10000380	HIGH PROFIT	46	152
	OFF-LA-10003930	HIGH PROFIT	96	197
	OFF-PA-10001815	HIGH PROFIT	69	144
	OFF-PA-10004082	HIGH PROFIT	8	16
CA-2014-100860	OFF-LA-10001982	HIGH PROFIT	9	19
CA-2014-100867	TEC-PH-10004922	LOW PROFIT	20	322
CA-2014-100881	TEC-PH-10003273	LOW PROFIT	23	302
CA-2014-100895	OFF-AR-10004511	HIGH PROFIT	3	9
	OFF-ST-10001490	HIGH PROFIT	107	357
	TEC-PH-10001425	HIGH PROFIT	67	240
CA-2014-100916	FUR-TA-10004607	LOW PROFIT	112	591
	OFF-AR-10001022	HIGH PROFIT	1	3
	OFF-ST-10003479	LOW PROFIT	10	195
CA-2014-100972	OFF-PA-10000357	HIGH PROFIT	80	166
CA-2014-101147	OFF-AP-10004249	LOSS	-6	2
CA-2014-101175	OFF-ST-10004950	LOSS	-1	101
CA-2014-101266	OFF-PA-10002986	HIGH PROFIT	6	13



FINISH..

Do you have any question...?