# Introduction To Tableau Public

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# Tableau Public Workshop Handout

This handout was developed with Tableau 2020.1 by Jane Zhao,
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## Objectives

Participants will be able to

1) tell the limitations of Tableau Public
2) connect to Excel files
3) understand how Tableau manipulates data and how Tableau works
4) be able to create a basic chart such as a line chart, bar chart, and text table.
5) create a worksheet, a dashboard, and a story
6) know how to create group, hierarchy, and filter
7) save work to Tableau Public website
8) share the created charts

## Outline

1. Workshop objectives
2. Introduction
3. Using Tableau Public
   - I.     Connect to your data
   - II.    Create a chart (i.e. a basic view)
   - III.   Use the Marks card to add depth to your chart
   - IV.    Explore data with data hierarchies
   - V.     Filter data from your view
   - VI.    Map the geographic data
   - VII.   Use Dashboard to view and compare more data
   - VIII.  Use Story to present your analysis
   - IX.    Save and publish your work

## Introduction

- Tableau is a data visualization tool that can help you understand data and discover insights of data.  With Tableau, you can create beautiful charts, graphs, dashboards and share them with other people conveniently.

- Tableau products
  - Tableau Desktop
    - The full version of Tableau.
    - It can connect to a wide array of data sources.
    - It has very strong security for data.

- Tableau Prep Builder
  - A brand-new data preparation product designed to empower people to quickly and confidently combine, shape, and clean their data. When it was first released in April 2018, it was named Tableau Prep.
  - Then Tableau Prep version 2019.1. 2 had changed its name to **Tableau Prep Builder**.
  - Tableau public doesn't include Tableau Prep Builder.
- Tableau Server
  It is for an organization analytical use, available to those who can support a server that is dedicated to Tableau. There's a very large financial investment for an organization having this version.
- Tableau Online
  It is the cloud solution for an organization. It doesn't require a large investment of money into a server. It needs accounts setup.
- Tableau Public
  Tableau Public is a free solution/service from Tableau Software Company. It involves two products.
  - Tableau Public (Desktop) – the free version of Tableau Desktop with limitations.
    - The work can't be saved locally. The work can only be saved to the Tableau Public website (i.e. Tableau Public Server). ***Data privacy caution: Make sure you remove any confidential data such as SSN and ID or private data such as personal financial information before you save and publish a workbook.***
    - It works with data from Microsoft Excel, Microsoft Access, multiple text file formats, statistical files, Google sheets and web data connectors.
    - A free Tableau Public account is limited to 10GB online storage and 15,000,000 rows of data per workbook.
  - Tableau Public (Server): It is the free version of Tableau Server hosted by Tableau Software company. It requires all workbooks are feely accessible to everybody. You have the option to prevent people from seeing the underlying data (i.e. your original data) though.
  - To use Tableau Public,

- Create an account on Tableau Public at
  https://public.tableau.com/s/

- Download Tableau Public (Desktop) at
  https://public.tableau.com/s/download

o Tableau Academic Programs
  **Tableau Desktop** and **Tableau Prep Builder** are free for students and instructors around the world.

  ▪ Tableau for Students
    Students (K12 and postsecondary) at accredited academic institutions worldwide are eligible for a free one-year license to activate Tableau Desktop and Tableau Prep Builder. Fill out a form at https://www.tableau.com/academic/students - form

  ▪ See Tableau Academic Programs for more information at
    https://www.tableau.com/academic
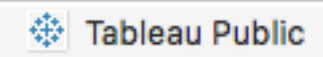
Preparing data can be very time consuming and intimidating! Your data needs to be correctly prepared. If the data is not prepared correctly, it will be hard for Tableau to recognize and utilize for analyses. For this workshop, we will use Sample Superstore data prepared by Tableau.

## The Tableau Workflow

### I. Connect to your data

1) Connect to a data file
   The first step is to connect to the data you want to explore or visualize. Launch Tableau

   Public ❀ Tableau Public . We will use Sample Superstore.xls excel file provided by Tableau

   a. On the left hand side blue navigation area, **Connect**
      1) *To a File*
      2) **Excel** -> , locate the Sample Superstore.xls file
   b. Once connected, drag *Orders* sheet to *Drag tables here* area, you will see Tableau load the first 1000 records for preview.

2) Verify data type
   After the data is connected, the column headers from your Excel file are shown as fields. Tableau automatically assigns each field a data type (i.e. default data type). The data type reflects the kind of information stored in that field, for example, dates (9/18/2017) and strings ("Rice University"). The default data type might not be correct. For instance, *Row ID* should have a data type of string instead of number. Click the pound sign to change it to string.

The table below shows the Data Types in Tableau.

| Icon | Data type |
|------|-----------|
| Abc | Text (string) values |
| 🗓 | Date values |
| 🗓 | Date & Time values |
| # | Numerical values |
| T\|F | Boolean values (relational only) |
| 🌐 | Geographic values (used with maps) |

Note: Tableau is only referencing the source data. When you work the data within Tableau, your underlying data won't be affected. Your original source data remains intact.

# II. Create a Chart

## Activity 2.1   Understanding the Data Pane

1) Click **Sheet 1** at the left bottom next to **Data Source**.
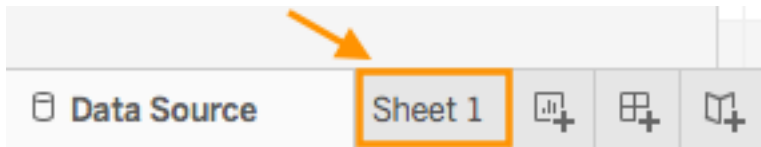


2) After the data is loaded, the column headers from your data source are shown as fields on the left side in the **Data** pane.

3) Tableau puts each field into **Dimensions** or **Measures**.
    a. Dimensions are displayed above the gray line, and measures below the gray line. We build charts/visualizations by adding fields from the Data pane to the view.
    b. **Dimensions** typically hold categorical data that can't be aggregated such as Customer Name and State. **Dimensions set the granularity, or the level of detail in the view. We typically want to group our data by some combination of categories. What dimensions we use to build the view will determine how many marks we have**.
    c. **Measures** hold numeric data that can be measured and aggregated such as profit and sales. **They're aggregated up to the granularity set by the dimensions in the view. The value of a measure therefore depends on the context of the dimensions.**
    d. **Dimensions come out onto the view as themselves, measures come out onto the view as aggregates, discrete pills are BLUE, continuous pills are GREEN. When the field is continuous, Tableau draws an axis for the chart. When the field is discrete, it draws a label, or a header, instead of an axis.**

    e.   Dimension fields are generally used for row or column headings. Measures are generally used for plotting or giving values to the sizes of markers.

4) Italic fields are automatically generated by Tableau.


## Activity 2.2.01   Understand how Tableau manipulates data

**Question: How to break down the total profit by year by product category?**


**Tableau workspace**
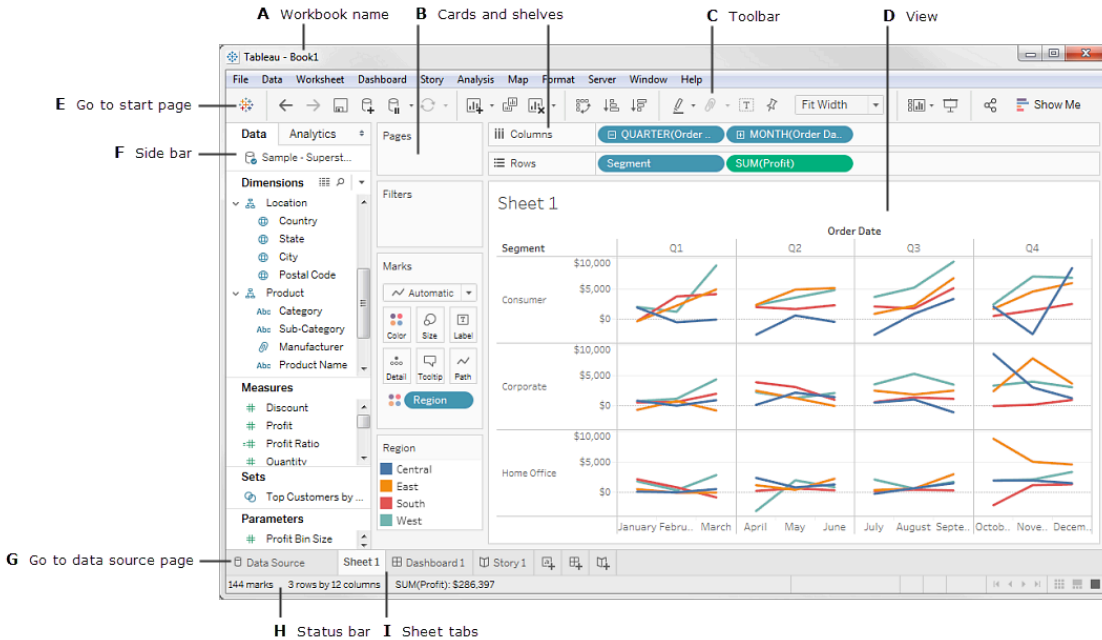
1) Drag *Profit* to the view area, you will see a number **286,397** in the view. When we drop a field on the **Drop field here** grid, we are creating a view from a tabular perspective.
2) What Tableau does here is to add the values in the Profit column in the table. The default aggregation applied is Sum.
3) If we want to see the year in this view, drag **Order Date** to **Columns** shelf. Now we have broken down our single number into four numbers. Basically we have sliced the aggregated number by year. When we add a dimension to the view, members of that dimension will be added as column or row headers.
4) If we would rather have row headers, we can drag the YEAR(Order Date) pill to Rows. Drag YEAR(Order Date)  pill back to the Columns shelf.
5) If we would like to put **Category**, we drag it to the Rows shelf. Now we see we have further broken down the four numbers. We got a table of 3 rows and 4 columns, 12

marks.
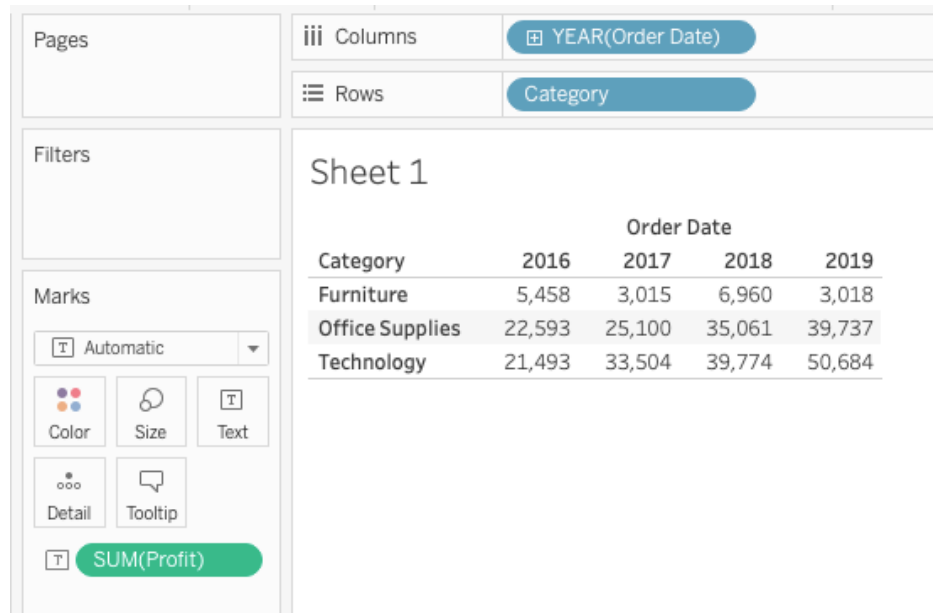


6) At any time, you can right click over a number and choose ***View Data…*** to view the underlying sliced data.
7) You can drag both YEAR(Order Date) pill and Category to either Columns shelf or Rows shelf. However, this probably will generate either too long or too high table that you have to scroll to view. That's what you want to avoid.

## <mark>Activity 2.2.02   Understand Show Me menu</mark>

1) Consider ***Show Me*** to be your expert helper. Show Me tells you what chart to use and why.
2) ***Show Me*** menu lists 24 common chart types. Some of them will be available. Some of them will be greyed out depending on the context.
   Note: It's possible to build an enormous variety of charts in Tableau, Show Me is one-click options, not a comprehensive list of possibilities.
3) ***Show Me*** creates a view based on the fields already used in the view and any fields you've selected in the Data pane.
4) Tableau automatically evaluates the selected fields and gives you the option of several types of views that would be appropriate for those fields. ***Show Me*** also highlights the visualization type with orange color that best matches the data.
5) Chart types that are not applicable to your worksheet as it is currently constructed will be grayed out and not selectable until you have the appropriate combination of measures and/or dimensions.
6) Any view type that is not greyed out will generate a view of your data. As you hover over each view type, the description at the bottom shows the minimum requirements.
7) In this example, because a date dimension and a measure are selected, Tableau suggests you build a line view. A line is often the optimal way to look at how measure values change over time.
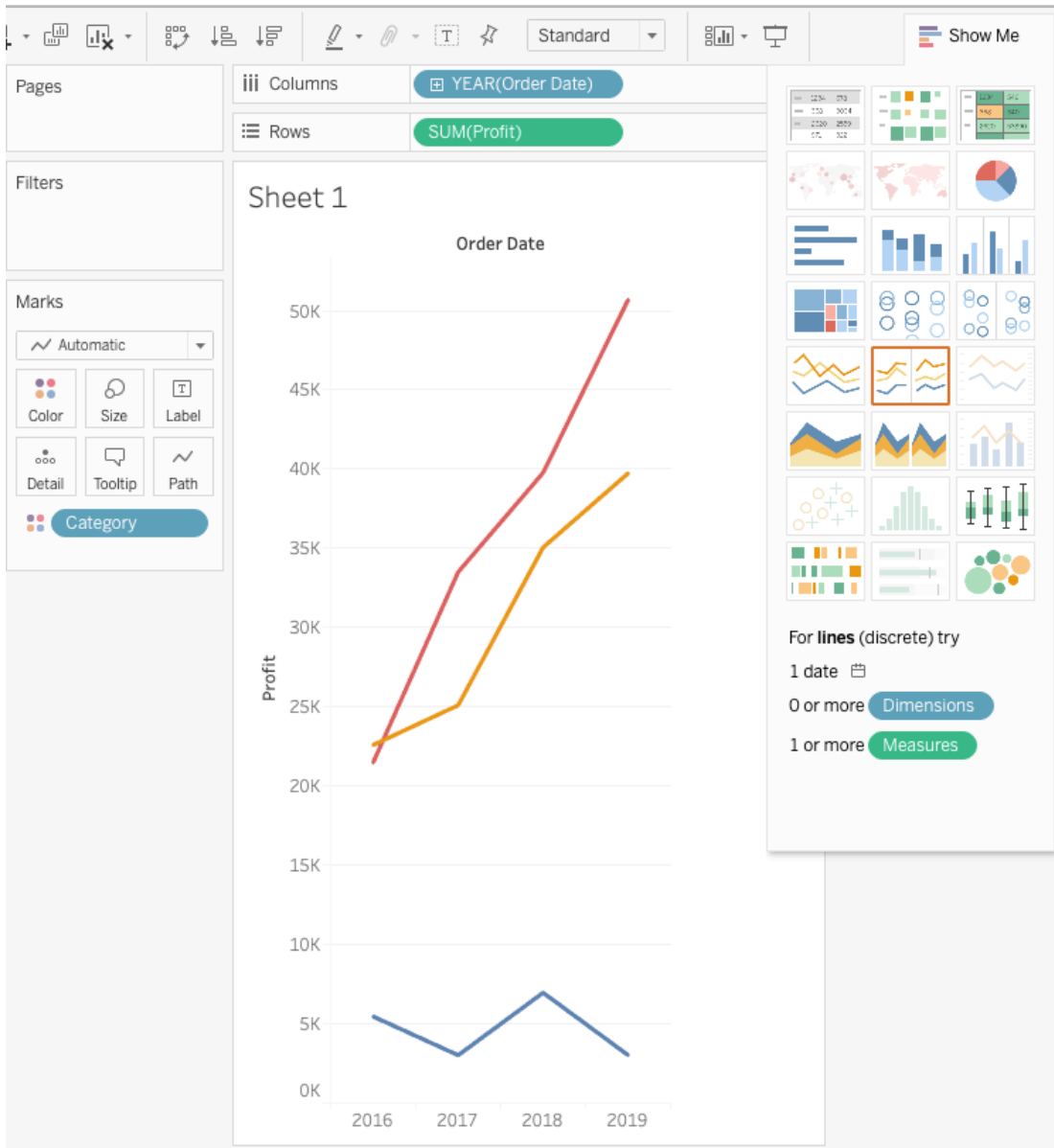
**Question: what are Profits over years?**
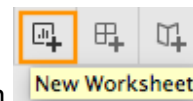
1) Create a new worksheet by clicking on New Worksheet button .
2) Drag **Profit** from **Measures** to the **Rows** shelf
   a. When we bring a field into the view from the data pane, Tableau creates a pill.
   b. The **Profit** field is colored green on the **Rows** shelf, indicating that it is continuous.

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c. The field name changes to **SUM(Profit)**. That's because measures are automatically aggregated when you add them to the view, and the default aggregation for this measure is SUM.

d. If you right-click over ***SUM(Profit)***, select ***Measure (Sum)***, you will see all the Aggregate functions available for this measure.

    i. **SUM** - Returns the sum of all values in the expression.

    ii. **AVG** - Returns the average of all the values in the expression (i.e. the sum of a collection of numbers divided by the number of numbers in the collection.).

    iii. **COUNT** - Returns the number of items in a group.

    iv. **COUNTD** - Returns the number of distinct items in a group

    v. Read more at [Aggregate Functions in Tableau](#) .

3) Drag ***Order Date*** from ***Dimensions*** to the ***Columns*** shelf, and change the Marks from ***Automatic*** to ***Bar***.

a. When you drag a field over a shelf, a plus sign indicates that the shelf can accept the field.

b. Notice that the field is colored blue, which indicates that it is *discrete*.

c. Dimensions set the granularity, or the level of detail in the view. What dimensions we use to build the view will determine how many marks we have. Here we have 4 years of data, 2016-2019 – and we have 4 marks.

d. The default date level is determined by the highest level that contains more than one distinct value (for example, multiple years and multiple months). That means that if **[Order Date]** contained data for only one year but had multiple months, the default level would be month.
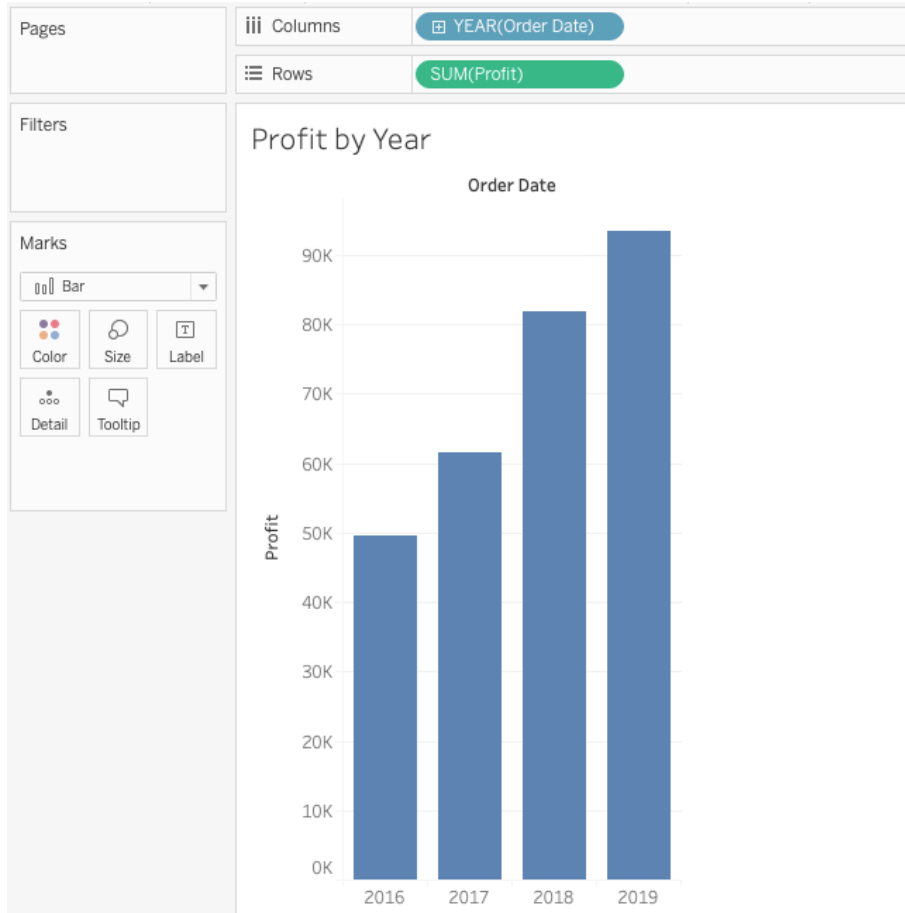
4) Right click over the sheet and rename it to ***Profit by Year***.
5) *Optional steps*
   a. *Right click over the sheet name, choose **Duplicate as Crosstab**, you will get a text table(Crosstab) just like the one created in the previous activity. The text table shows the numbers visualized in the view. Right click over the sheet name, choose Delete to delete the sheet.*
   b. *Or click on **Show Me**, choose text tables, you will get the same text table as the action of Duplicate as Crosstab.*

## Activity 2.2.2 Visualizing the total profit by month across years via bar chart (one dimension and one measure)

**Question: What is the total profit each month across years?**

1) Click [icon] to create a new worksheet.
2) Drag ***Profit*** from ***Measures*** to the ***Rows*** shelf and ***Order Date*** from ***Dimensions*** to the ***Columns*** shelf, and make sure ***Bar*** is selected in the ***Marks Pull-down menu***.
3) Click the ***Down*** arrow in the ***YEAR(Order Date)*** pill on the ***Columns*** shelf and select ***Month*** (the first one, the Discrete one).

4) You will get checkout numbers by month across all the years (2016 - 2019)
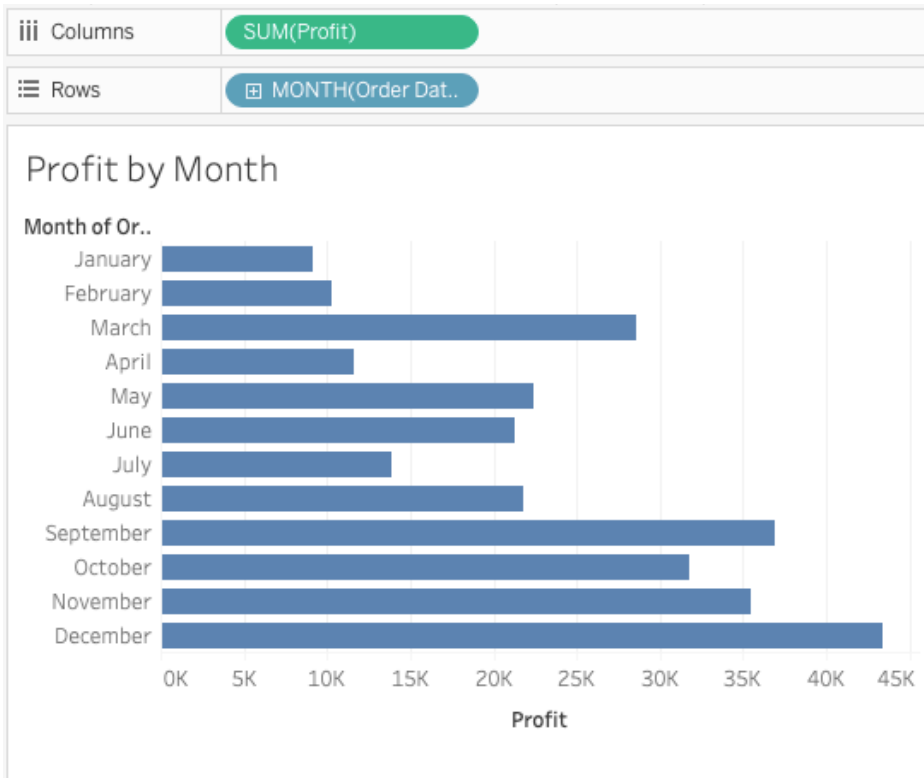


5) Rename the sheet to **Profit by Month**.

**DIY Activity:  Visualizing the total profit by weekday across years via bar chart**

1) Click  to create a new worksheet.
2) Drag *Profit* from *Measures* to the *Rows* shelf and *Order Date* from *Dimensions* to the *Columns* shelf, and make sure *Bar* is selected in the *Marks Pull-down menu*.
3) Choose *Weekday* from the Time Charge pill drop down menu this time.
4) You will get profit by Weekday across all the years (2016 -2019).
5) Rename the sheet to **Profit by Weekday**.

Note: On the *Order Date* field drop down menu, the first set is for discrete date levels and the second list is for continuous date levels. **Discrete means data is individually separate and distinct. Continuous means data can take any value in a range, forming an unbroken whole, without interruption.** Dates can be brought into the view as either continuous or

discrete.
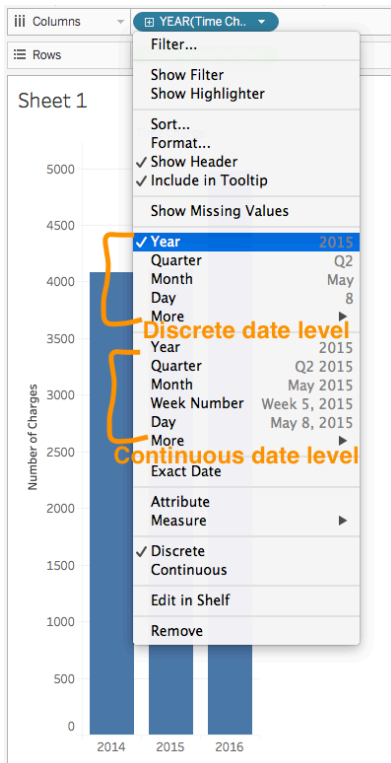


## Activity 2.2.5 Sorting data

- In the Profit by Month, click  Swap Rows and Columns button on the toolbar to make the bars horizontal.
- Hover over the mouse over the sort icon on the Profit axis. **One** click sorts the data in ascending order. **Two** clicks sorts it in descending order. **Three** clicks clear the custom sort, setting it back to the default sort method.

- Or on the toolbar, click the Descending sort icon  to sort data from highest/most to lowest/least, or the Ascending icon  to do the other way around.
- Or select a month in a header and drag it up or down, the viz updates with the new sort.

  In any way, Tableau provides a visual indication that a customized sort is applied. A sort icon appears on the Month(Order Date) (on rows).

## III.  Use Marks card to add depth to your chart

**Question: What is the total profit each year and what is the total profit for each product category each year?**

1) Click [icon] to create a new worksheet.
2) Drag **Profit** from **Measures** to the **Rows** shelf and **Order Date** from **Dimensions** to the **Columns** shelf, and make sure **Bar** is selected in the **Marks Pull-down menu**.
3) Drag and drop **Category** from **Dimensions** on to the **Color** card in the **Marks pane.**
   *Note: The Marks card is where you drag fields to control mark properties such as type, color, size, shape, and so on.*
4) You can get the following screen.  The Color legend is on the right side.
5) Placing a dimension on **Color** separates the marks according to the members in the dimension, and assigns a unique color to each member. The color legend displays each member name and its associated color.
6) Click on Color to edit it.
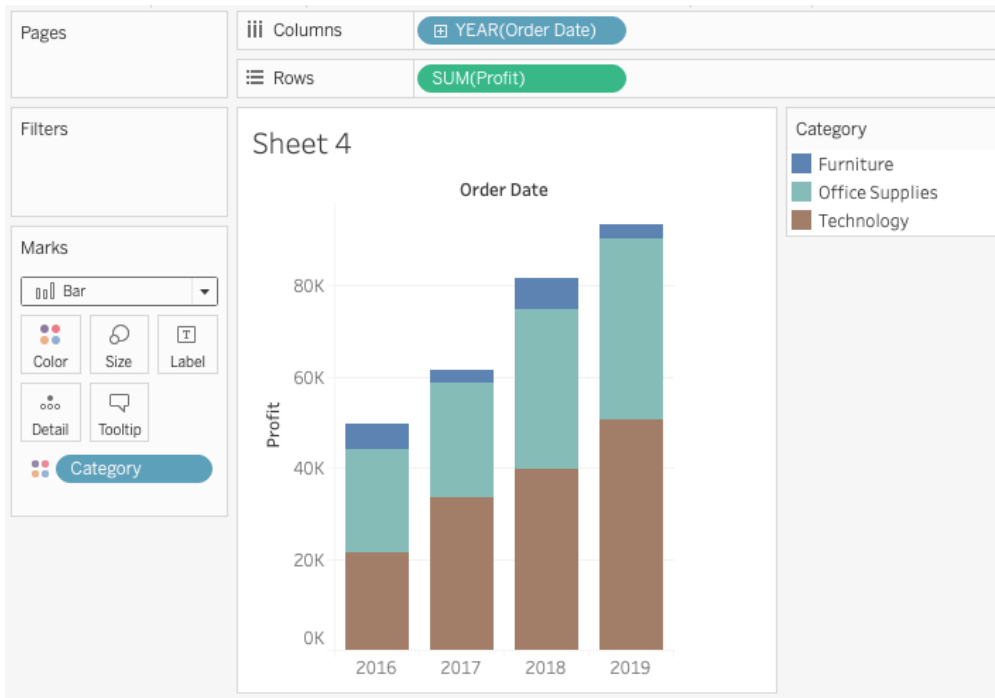


7) Rename the sheet to **Profit by Year by Category.** This chart is good to see in a given year, how profit is split among different categories.
8) Duplicate the sheet, click on Show Me, choose side-by-side bars.

9) Click on Color -> Edit Colors… -> Choose Gray, assign a gradient gray to different years. This chart is good to show year over year profit for a given product category.
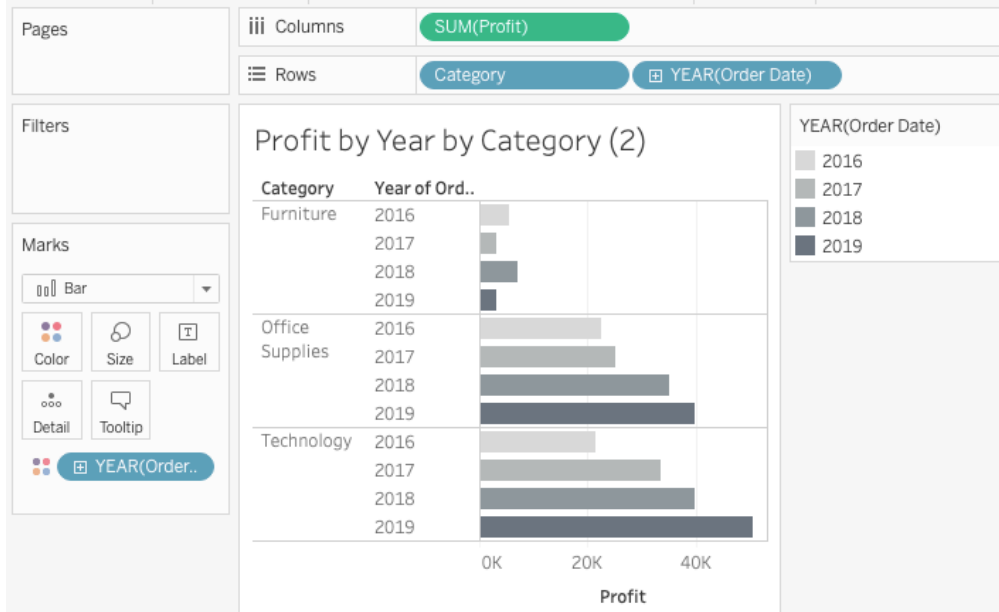


10) Duplicate the sheet, drag YEAR(Order Date) pill to Columns, remove YEAR(Order Date) from the Color mark card. Drag Category to Color mark card. This panel chart is good to compare profit for different product category in a given year.
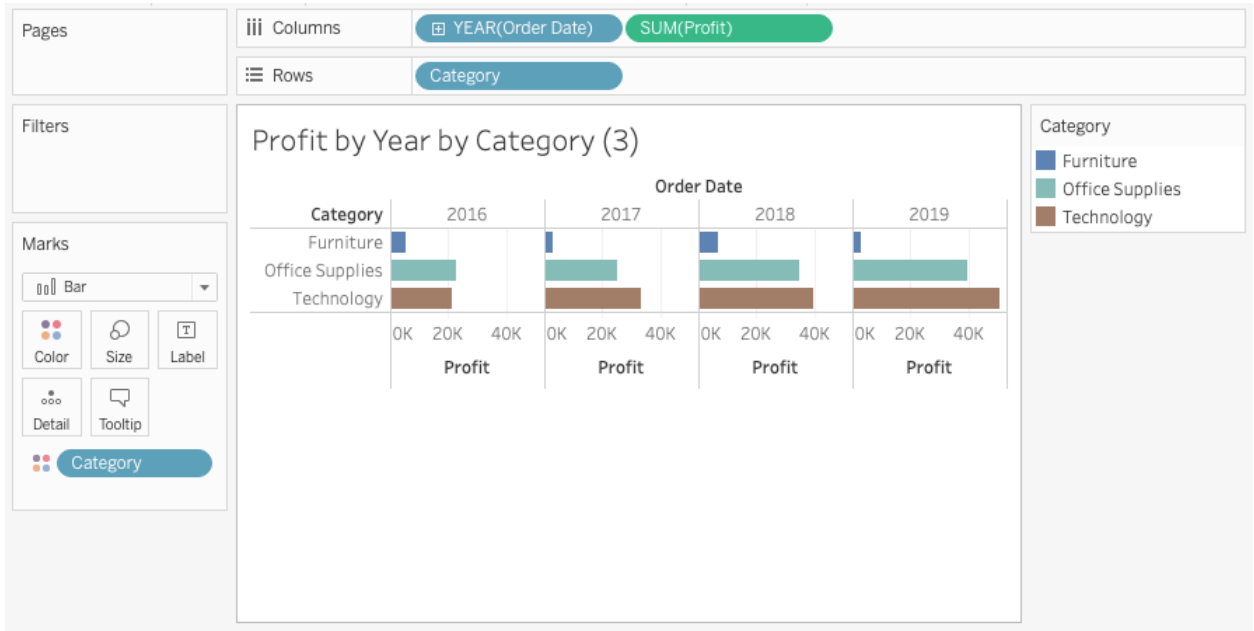
**Question: What is the total profit each year and what is the total profit for each segment each year?**

1) Click [icon] to create a new worksheet.
2) Drag **Profit** from **Measures** to the **Rows** shelf and **Order Date** from **Dimensions** to the **Columns** shelf.
3) Select **Circle** in the **Marks Pull-down menu**.
4) Drag **Segment** on to the **Color** card. Then drag **Profit** on to the **Size** card. If you see the following dialog window, please click **Add all members**.
5) You can also click the **Size** card to adjust the size of circle via the popped up Size selection slider. This chart gives you an overview of profit of different segments over years.
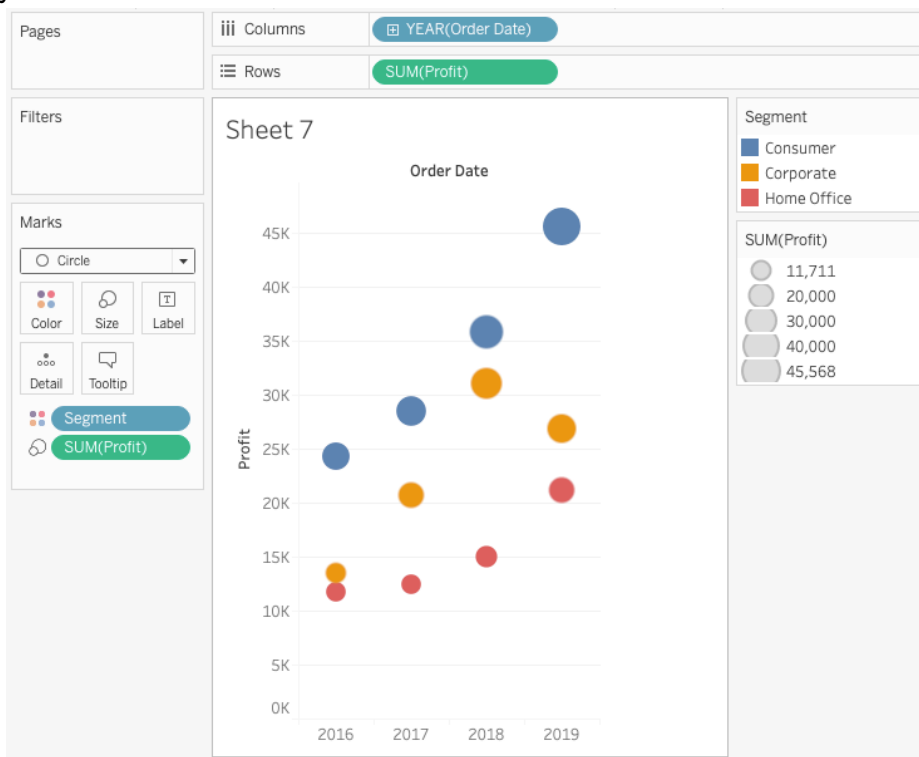


6) Rename the sheet to **Profit by Year by Segment**.

7) Duplicate the sheet, from Show Me, choose horizontal bars. This panel chart is good to compare profit of different segment in a given year.
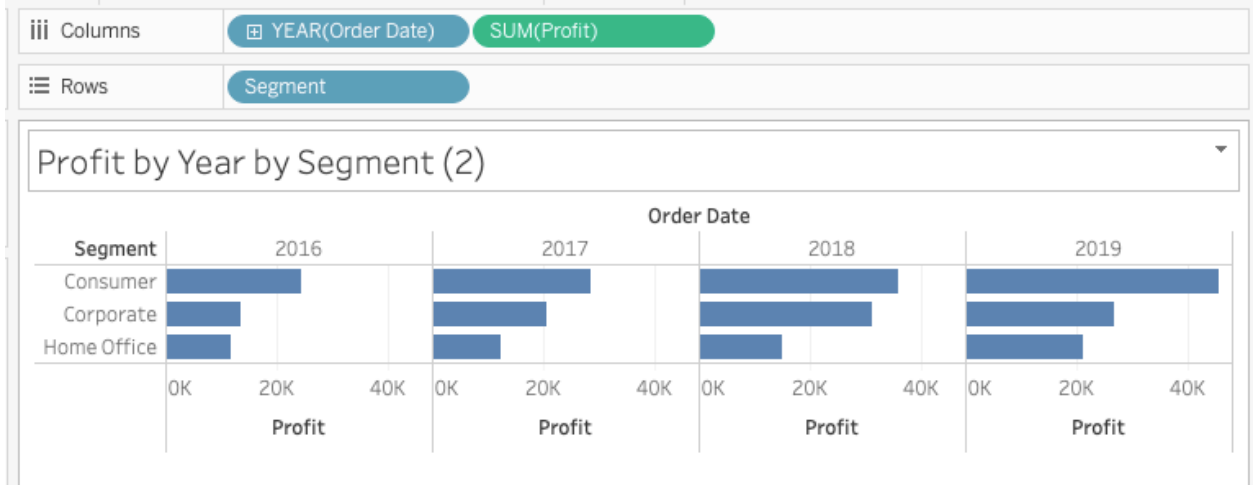
1) Click [icon] to create a new worksheet.
2) Drag **Profit** from **Measures** to the **Rows** shelf and **Order Date** from **Dimensions** to the **Columns** shelf.
3) Click the **text tables** button on the **Show Me** Tool Bar
4) Drag **Category** and **Segment** one after each other on to the Rows shelf.

Profit Text Table

|  |  | Order Date | | | |
|---|---|---|---|---|---|
| Category | Segment | 2016 | 2017 | 2018 | 2019 |
| Furniture | Consumer | $1,635.82 | $-1,322.12 | $4,605.06 | $2,072.32 |
|  | Corporate | $361.30 | $2,966.31 | $3,169.60 | $1,087.60 |
|  | Home Office | $3,460.61 | $1,371.01 | $-814.71 | $-141.53 |
| Office Supplies | Consumer | $9,594.51 | $12,792.51 | $16,349.86 | $17,593.45 |
|  | Corporate | $9,018.09 | $6,564.45 | $8,737.19 | $15,907.59 |
|  | Home Office | $3,980.82 | $5,742.58 | $9,974.18 | $6,235.58 |
| Technology | Consumer | $13,089.52 | $16,989.78 | $14,816.04 | $25,902.47 |
|  | Corporate | $4,133.88 | $11,157.57 | $19,088.37 | $9,787.17 |
|  | Home Office | $4,269.42 | $5,356.52 | $5,869.58 | $14,994.62 |

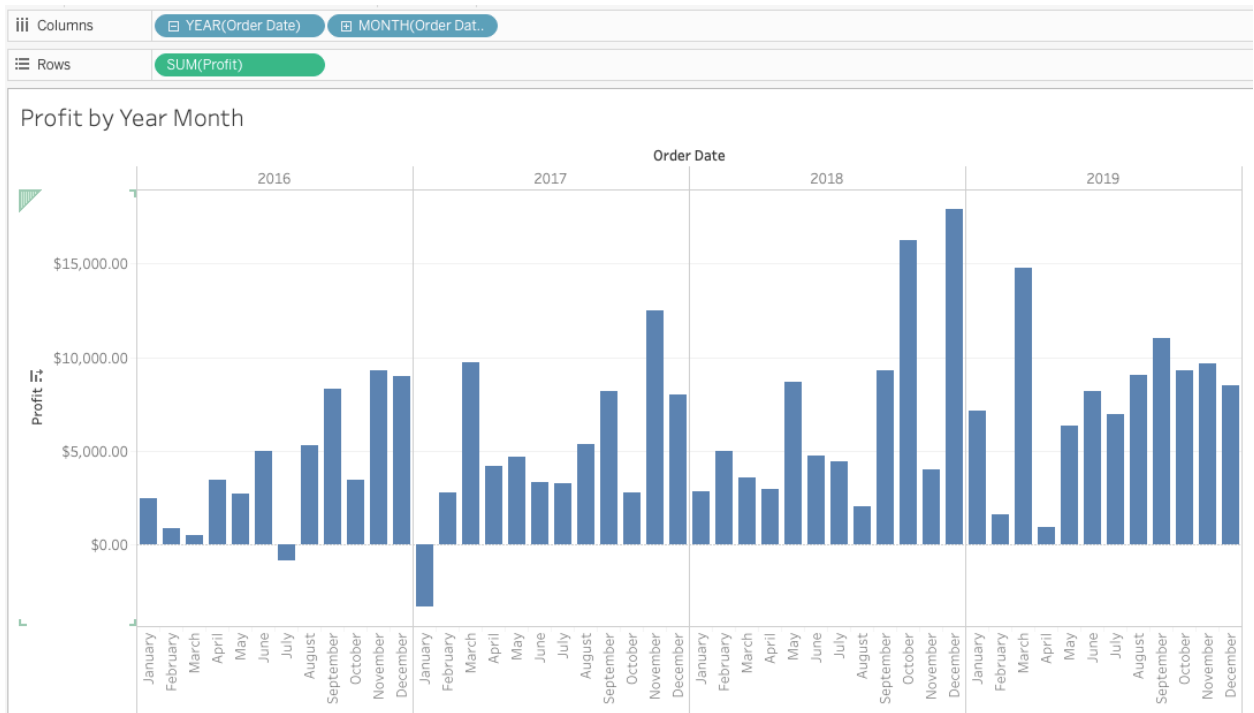5)  Rename the sheet to *Profit Text Table.*

# IV. Explore data with data hierarchies

Hierarchies give end users the option to look at data at a high level or drill down into more detailed levels. When you connect to a data source, Tableau automatically separates date fields into hierarchies so you can easily break down the viz. You can conveniently traverse (drill down and scroll up) along Tableau generated Date and Time Hierarchy and watch change on numbers.

Drilling down usually means expanding out a hierarchy, getting to the next level of detail. You can modify the view to show quarters, month, etc. in addition to years. As you drill down into the hierarchy, the view changes to become a nested table.

1)  Right click over the sheet of *Profit by Year.*
2)  Select *Duplicate.*
3)  Click the plus button on the left side of the YEAR(Order Date)  pill on Columns.
4)  The new expanded dimension divides the view into separate panes for each year.
5)  You can further drill into months. And delete QUARTER(Time Charges) from the Columns shelf.



6)  Rename the sheet to *Profit by Year Month*
7)  Switch YEAR(Order Date) and MONTH(Order Date) in Rows by dragging MONTH(Order Date) to the front of YEAR(Order Date), you will see the nested table is changed to the view below. Tableau generates a view based on where and in what order you drag and
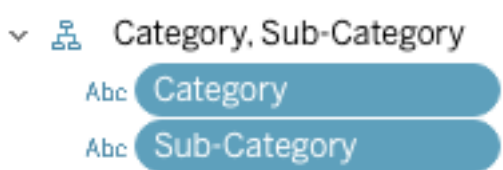
drop fields into the shelf.
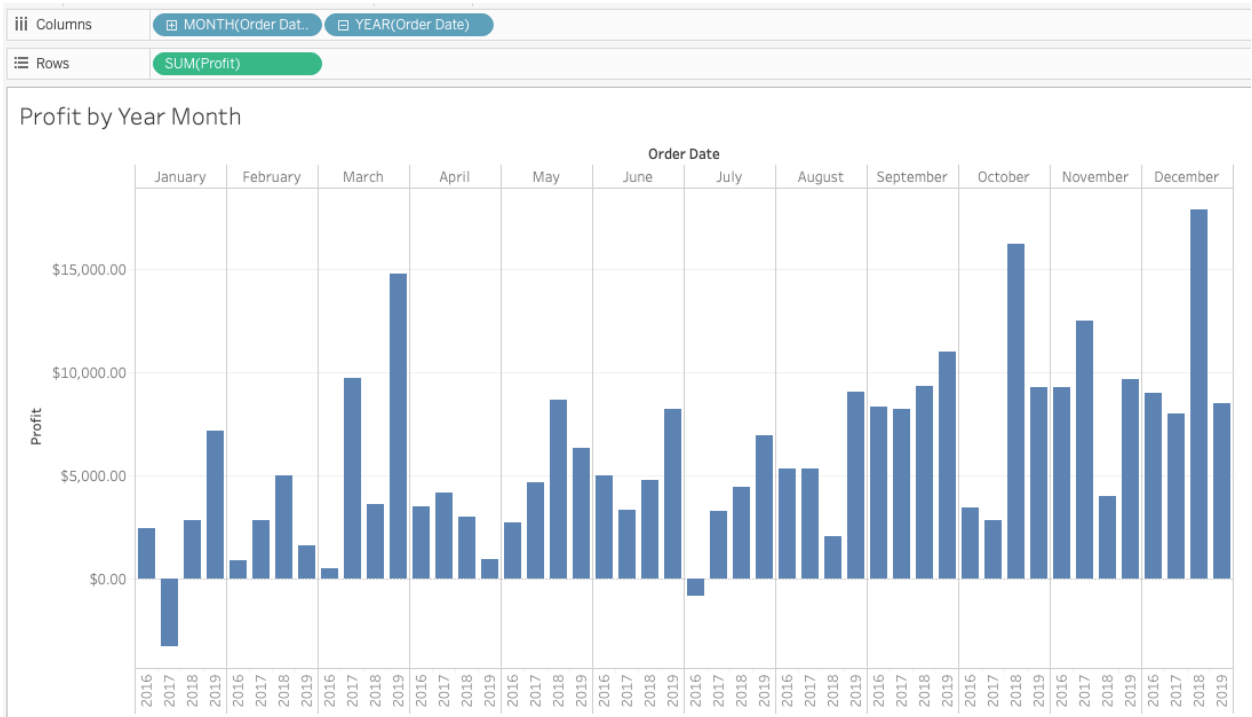


8) Click Undo button  on the toolbar to undo the change.

You can also create your own custom hierarchies. For example, if you have a set of fields named Region, State, and County, you can create a hierarchy from these fields so that you can quickly drill down between levels in the viz.

1) Drag Sub-Category on top of Category to form a hierarchy



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2) Drag Category to Rows and Profit to Columns. You will see a plus sign in front of Category pill. You can click on the plus sign to expand it.
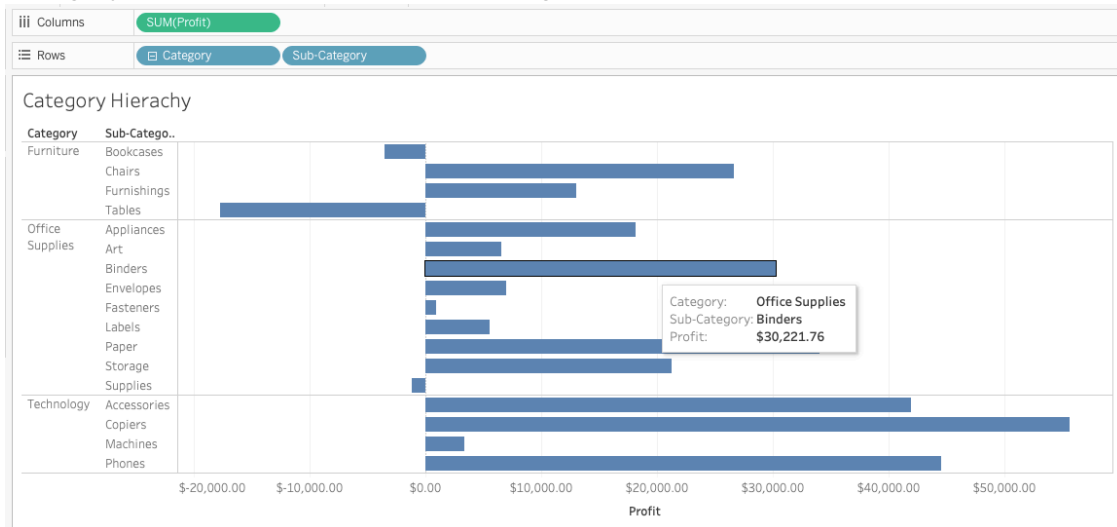


# V. Filter data from your view

Filter allows you to show a subset of the data so that you can focus your analysis.

1) Create a new worksheet.
2) Drag *Profit* to the Columns shelf, *Category* to the Columns shelf.
3) Drag *Category* to Filters shelf.
4) Right click over the *Category* in the Filters shelf, choose *Show Filter*.
5) Play with the settings and see how the filter changes the view.
6) Rename the sheet Profit by Category Filtered.
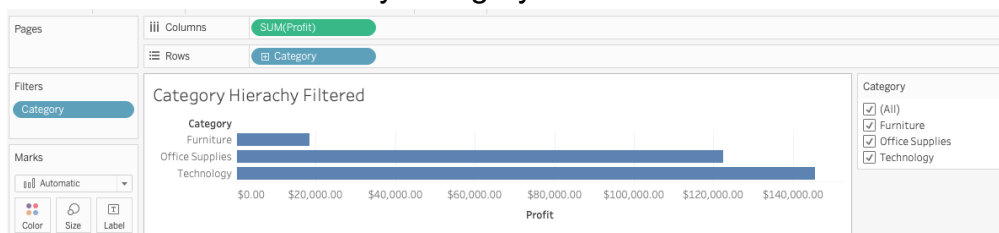


7) You can also select to keep or exclude data points in the view or select headers to filter data.

Every chart/view that you create in Tableau should start with a question. What do you want to know? Every time you drag a field from the Data pane onto the cards and shelves, you are asking a question about the data and you are forming a Visual Query Language (VizQL) that Tableau generates based on where and in what order you drag and drop fields into the view. Then Tableau translates the VizQL into SQL/MDX/RQL (Structured Query Language/

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MultiDimensional eXpressions/Resource Query Language) and issues it as a query to the data, gets back the results, and renders the visualization.

An example of SQL syntax: SUM function when grouping the results by one or more columns is:

*SELECT expression1, expression2, ... expression_n,*
      *SUM(aggregate_expression)*
*FROM tables*
*[WHERE conditions]*
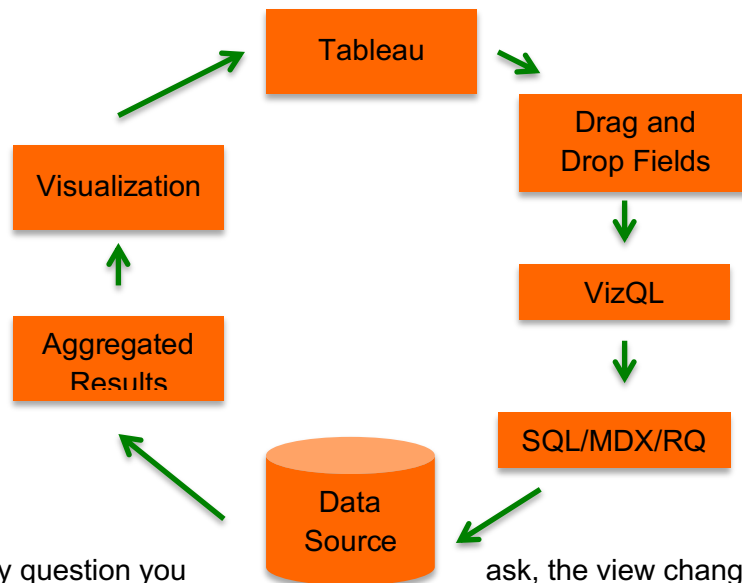*GROUP BY expression1, expression2, ... expression_n;*



Figure: How Tableau Works

For every question you ask, the view changes to represent the answer visually - with marks (shapes, text, hierarchies, table structures, axes, color).

## VI. Map the geographic data

If your data contains geographic data such as state and zip code, you can plot it on the map to visualize it.

After you set up your data source, you might need to prepare your geographic data for use in Tableau. Depending on the type of map you want to create, you must assign certain data types, data roles, and geographic roles to your fields (or columns). For example, in most cases, your latitude and longitude fields should have a *data type* of **number (decimal)**, a *data role* of **measure**, and be assigned the **Latitude** and **Longitude** *geographic roles*, state field should have a *data type* of **string**, a *data role* of **dimension**, and be assigned the **state** *geographic roles.*

In Tableau, a *geographic role* associates each value in a field with a latitude and longitude value. When you assign the correct geographic role to a field, Tableau assigns latitude and longitude values to each location in that field by finding a match that is already built into the installed geocoding database. This is how Tableau knows where to plot your locations on the map.

1) Connect to Sample_Superstore Excel file.
2) Double click State field.
3) Drag Profit to Color mark card
4) Edit colors to your choice
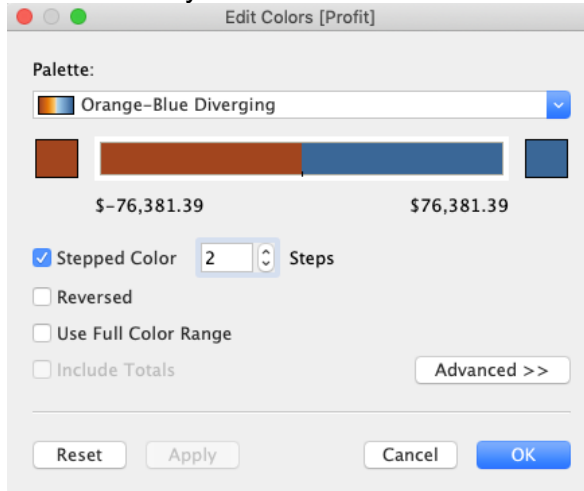


5) Add Region to Filters shelf. Your finished worksheet will look something like below. The map doesn't give you a precise comparison though.
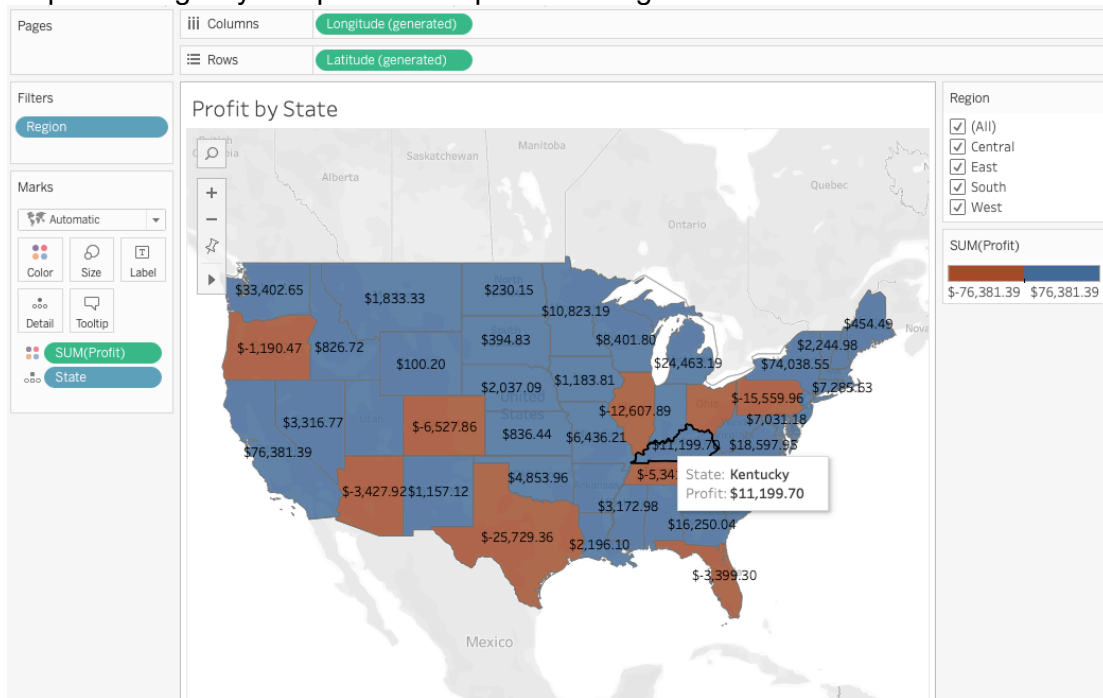


6) Duplicate the sheet, from Show Me, choose horizontal bars, sort it in descending order
7) Select the negative profit states, right click the selection, from the drop-down menu, choose Group, change its color to orange.

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8) Your finished bar chart should look something like below. This chart gives you precise comparison of profit by state.
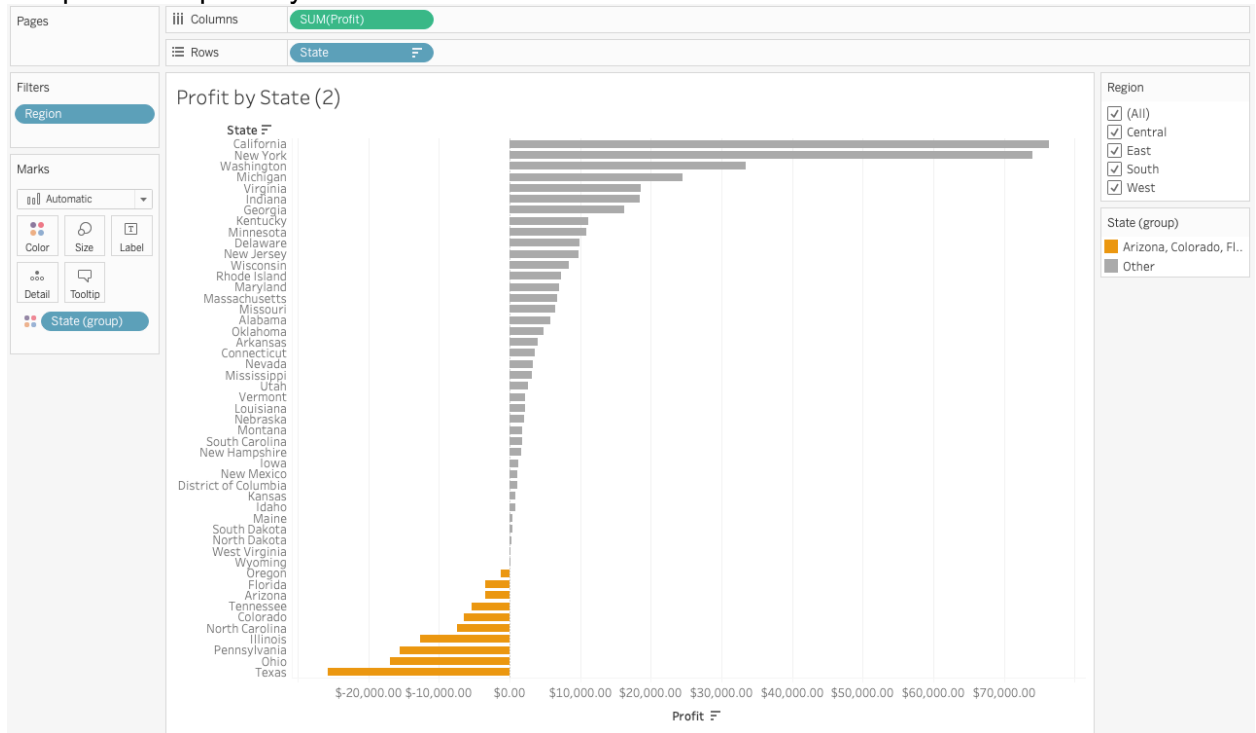


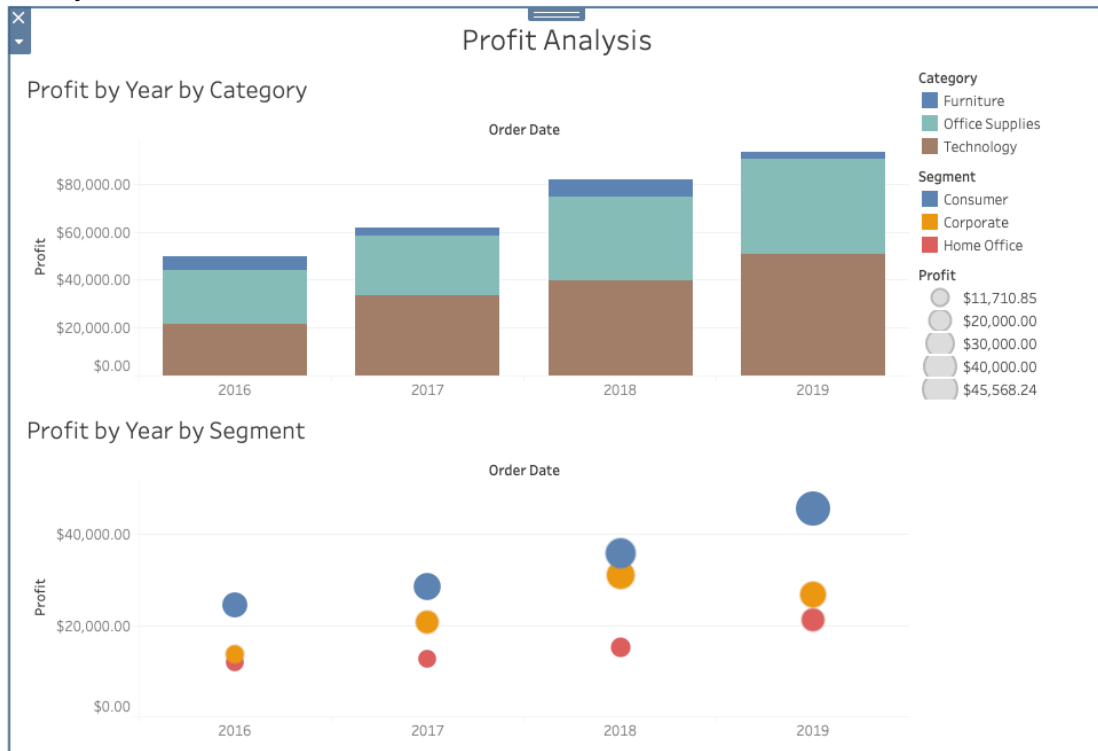## VII.  Use Dashboard to compare and view more data

A **dashboard** is a collection of several worksheets in a single place so that you can compare, monitor, and view a variety of data simultaneously. Dashboard is all about interactivity among worksheets.

Activity 7.1 Create a Dashboard

1) Click [icon] to create a dashboard.
2) Click on Size, from the drop down menu, choose Automatic, the dashboard will resize for any screen it is displayed on.
3) Drag Sheet **Profit by Year by Category** and **Profit by Year by Segment** from the Sheets section and drop them one by one onto the blank dashboard canvas.
4) Click **Show dashboard title** in the **Objects** section at the lower left corner.
5) Double click the default and change the default title text to **Profit Analysis** and center the new title in the popped up **Edit Title** rich text editor.

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6) Now your dashboard looks like below.

1) Click to select the top sheet. Click on **the Funnel icon**  on the upper right corner of

the top chart, **the Funnel icon** turns into white  . This enables the top chart to filter all the worksheets in the dashboard.

2) Click 2018 in the first chart, the second chart will only display 2018 statistics by ***Segment.*** Click 2018 again will cancel out the selection and return to the previous view.
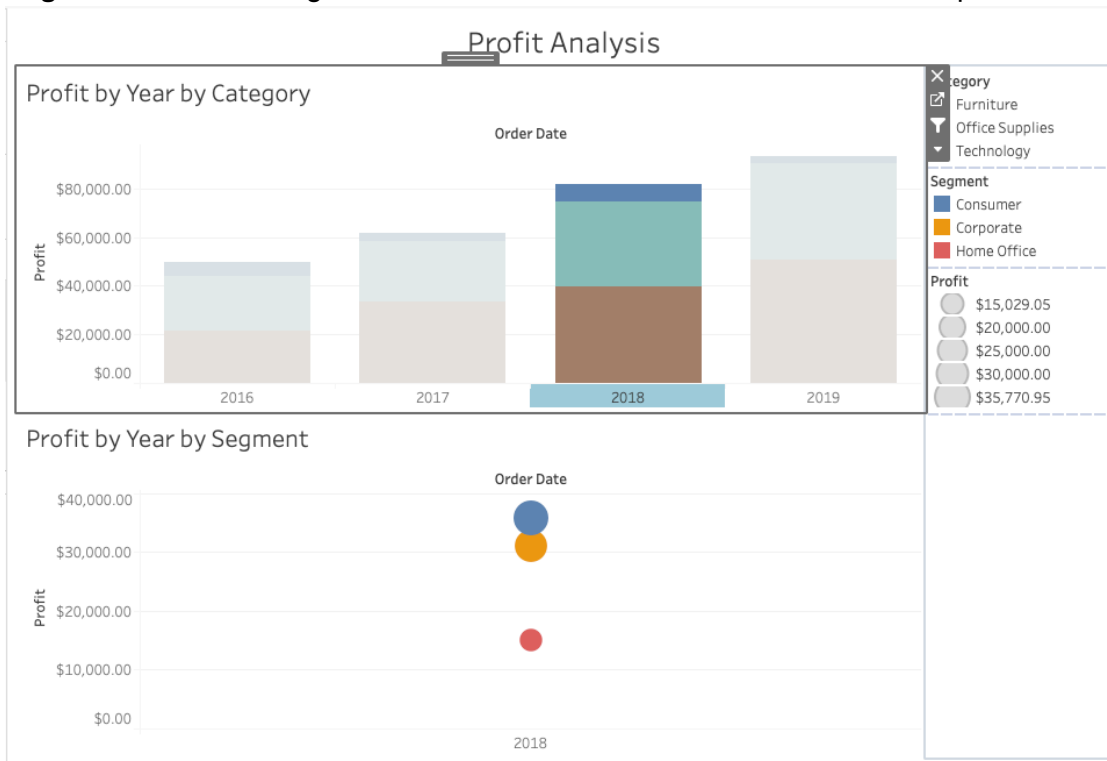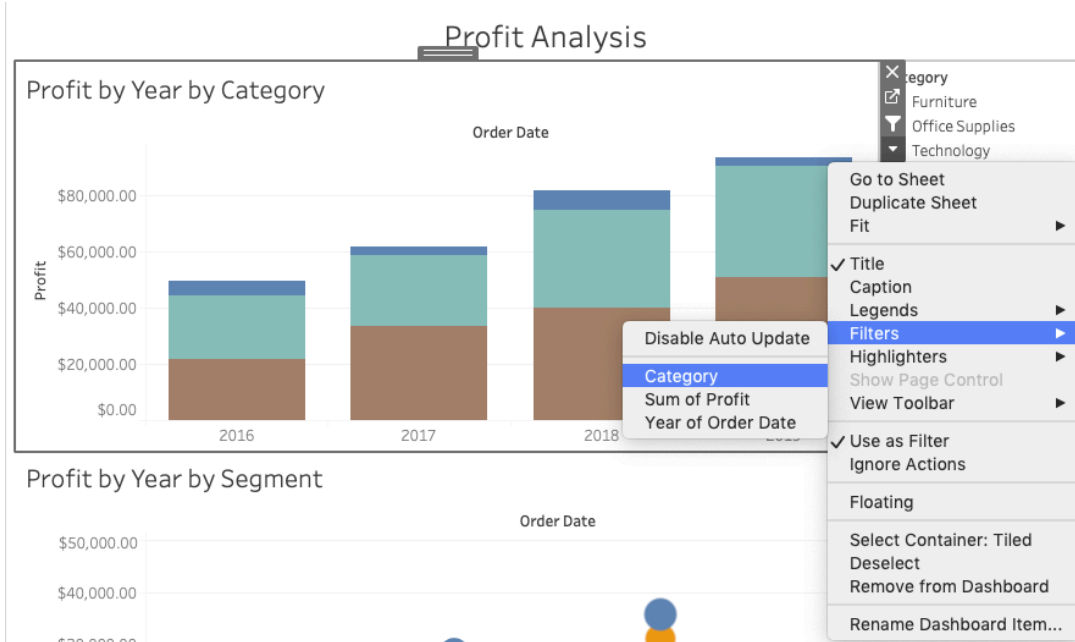


Now think about the DIY Activity: Do you think the Dashboard we created provides us an elegant way to viewing more data?

Goal: We want our end-users to be able to select a value in *Category*.

1) Click on **the Down Arrow button** next to the Funnel icon on the top worksheet and select filters and then the *Category*.



2) Now you will see a new checkbox list for *Category*. Click **the Down arrow** on the top border of the checkbox list and select **Single Value** (dropdown) or **Multiple Values**(dropdown).

3) Click the same down arrow again and select **Floating** and drag the filter drop box to the place you like.

4) Click the same down arrow again, select **Apply to Worksheets->All Using This Data Source.**

5) Change the filter title to **Select a Product Category** by double clicking the filter pane and making the change.
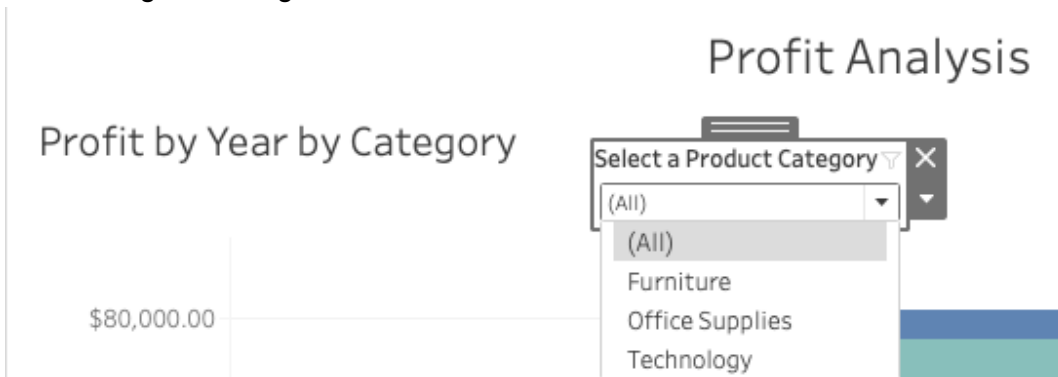


You can use the Objects in the lower left corner pane to customize your dashboard.

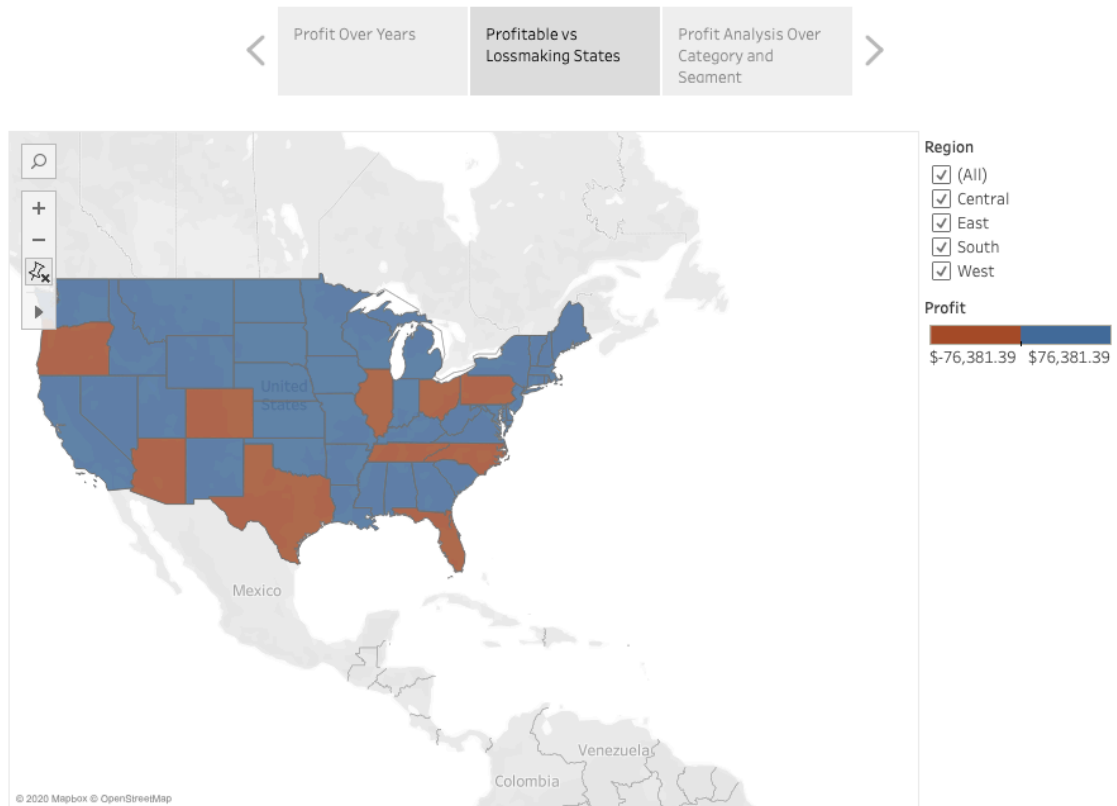## VIII. Use Story to present your analysis

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You can tell stories with your data using dashboards or using Story function. A **story** is a sheet that contains a sequence of worksheets or dashboards that work together to convey information.

Activity 8.1 Create a Story

1) Click the new Story button ⬚ or *Story -> New Story*
2) Click on Size, change it to Automatic.
3) You open a new story pane. You may drag your any worksheet or dashboard created earlier into this pane.
4) Drag *Profit by Year* into the pane.
5) Double click *Add a caption* and add a caption title
6) Double click the default Story title *Story 1* and change it to *Exploration of Superstore Data.* You can add descriptive text to this story pane by clicking the *A Drag to add text* from the left hand side pane and entering your paragraph.
7) Now we can add a new blank story point by clicking **Blank** button on the left pane.
8) Drag the *Profit by State* sheet onto this 2nd story pane
9) Following the similar steps, we can add the 3rd and fourth story point pages. Now you click on ⬚ Presentation Mode button on the toolbar to play the story. User can browse the story page by clicking through the navigation bar.
10) You can change Story formats like Font, Color and etc. by clicking *Format* in the Top menu bar and then choosing Story…

11) Your story may look something like below.



## IX. Save and publish your work

Now, so far all the work you have completed in your Tableau desktop is not saved and you need to do it now. You can't save your work locally. With a free account on Tableau Public, you have 10GB storage.

1) ***File -> Save to Tableau Public***
2) Enter Tableau Public account and password
   a. DMC Tableau Public training account: erc@rice.edu
   b. Password:
3) Type a name for the workbook and click Save
4) Follow the on-screen prompts to save your Tableau Workbook and publish it. This will take a minute or so depending on your project size.

5) Now you should be taken to the confirmation page in your ***Tableau Public user profile*** in an opened browser.
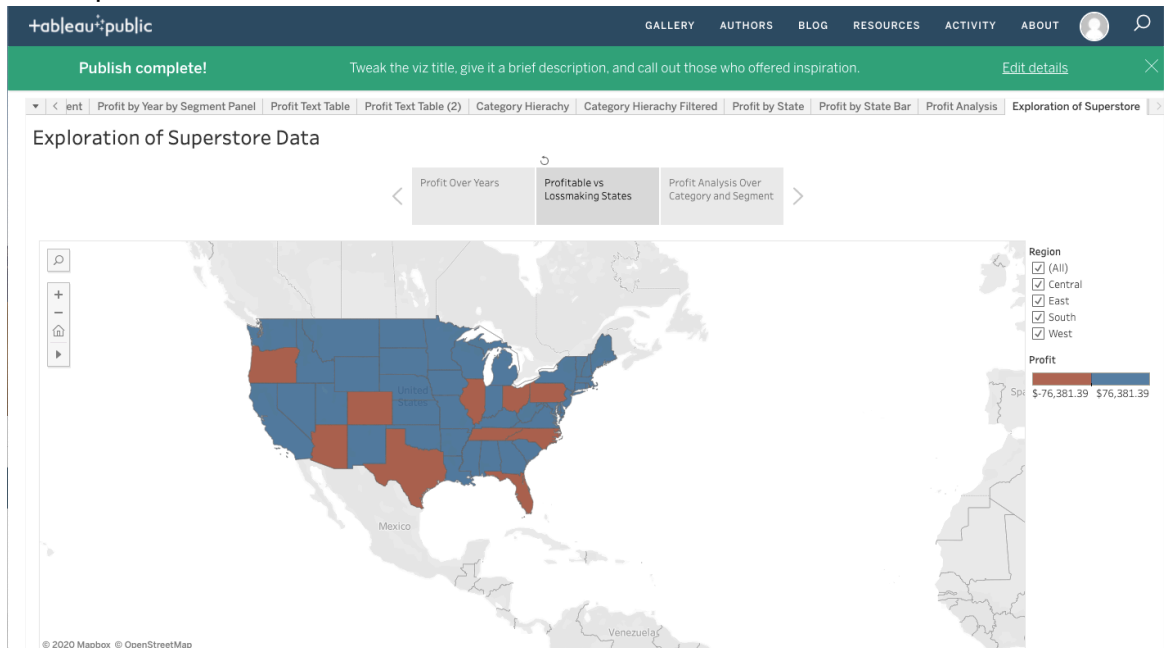


6) You can click the Edit Details link shown in the above dialog to change metadata settings for your published Viz.



7) Permalink
   a. By putting a link here, when the viz is shared, it will open the viz as a lightbox over your website. Closing the viz leads to the web page or blog post explaining more.

   b. If you leave the permalink blank, when the viz is shared, it stays on the default Tableau page.

8) Show workbook sheets as tabs: If you have multiple worksheets, dashboards, and stories in your viz that you'd like the viewer to be able to flip through, you can check this box to display them as tabs.

9) Note that under Toolbar Settings,

   a. if you checked "*Allow workbook and its data to be downloaded by others*", when users view worksheet, they will be able to download Data, Crosstab and Tableau Workbook. When users view dashboard and story, they will be able to download Crosstab and Tableau Workbook.

| Download |
| --- |
| **Select your file format.** |
| Image |
| Data |
| Crosstab |
| PDF |
| Tableau Workbook |
| Get the App |
| Cancel |
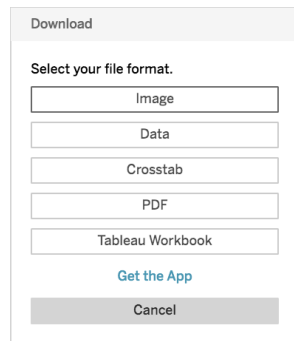
   b. If you uncheck "*Allow workbook and its data to be downloaded by others*", then they won't be able to download Data, Crosstab and Tableau Workbook. The user who created the workbook will always be able to download the workbook; only other users are prevented.

10) When you save to Tableau Public server, the publishing process saves both your data and your workbook. When a Tableau Workbook is downloaded from the Tableau Public server, it is a packaged workbook that contains the workbook and the data. These workbooks are saved with a .twbx file extension. They are no longer linked to the original data sources. Other users can open the packaged workbook using Tableau Desktop or Tableau Reader, and do not need access to the original data sources.

11) As soon as a Tableau workbook is published to Tableau Public, **the worksheets, dashboards, and stories are accessible by anyone on the internet**, so make sure what you will publish is not confidential. If you uncheck *"Allow workbook and its data to be downloaded by others",* the underlying data (i.e. the original data) will be prevented from others. In other words, the original data can be protected. The viz (i.e. the worksheets, dashboards, and stories) can't be protected once it is published.

12) You can also edit your workbook right on the Tableau Public server, which is very convenient. Or you can download the workbook and edit it locally, then save it to the Tableau Public Server.

13) Customize your profile

a. Click My Profile
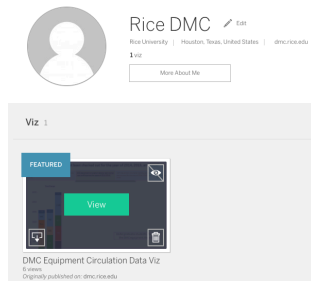


b. Mouse over a Viz. You can **feature** it, **hide** it, **download** it, or **trash** it.
c. Select **View** to open the Viz.
   i. Then you can select Edit Details to customize metadata such as workbook name and description, etc.
   ii. Or click Share button at the lower right corner to get a link to share with others or code to embed in a web page
   iii. Download Workbook button at the upper right corner to download the workbook.
   iv. Download at the lower right corner to download the workbook, data, PDF, or image.

Resources
1) Tableau Public How-to-videos
   https://public.tableau.com/en-us/s/resources
2) Get Started with Tableau Desktop
   http://onlinehelp.tableau.com/current/guides/get-started-tutorial/en-us/get-started-tutorial-home.html
3) Knowledge base
   https://www.tableau.com/support/knowledgebase
4) Tableau online help documentation
   http://onlinehelp.tableau.com/current/pro/desktop/en-us/help.html
5) Tableau Sample Data Sets - A changing sample of datasets for use in teaching and learning.  https://public.tableau.com/s/resources?qt-overview_resources=1 - qt-overview_resources
6) Datasets in public domain at Inside Airbnb http://insideairbnb.com/get-the-data.html
7) Datasets for Teaching and Learning
   http://libguides.rice.edu/data_resources/samples
8) Tableau Essentials: Chart Types – Introduction
   https://interworks.com/blog/ccapitula/2014/08/04/tableau-essentials-chart-types-introduction/