Tableau I Exercises

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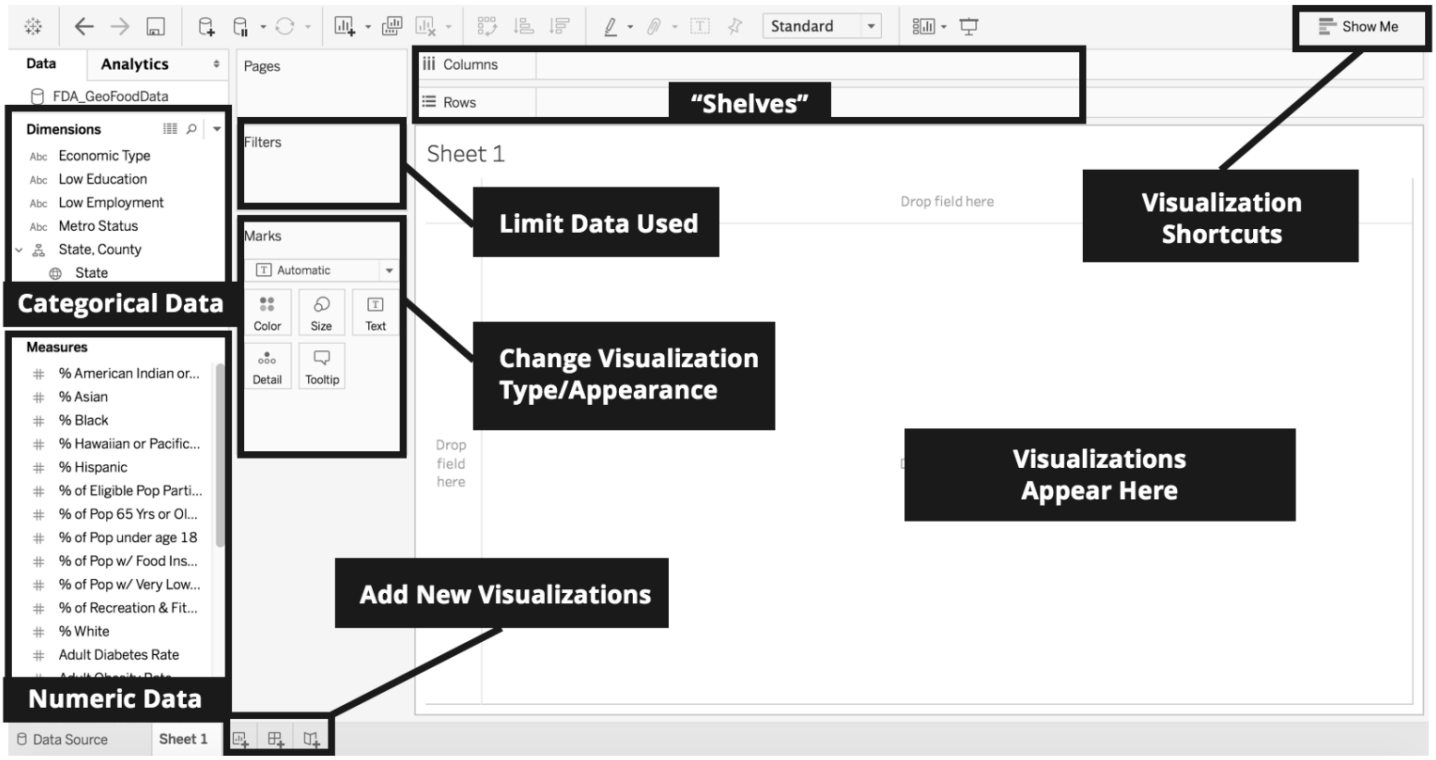
Exercise 1: Import Data

1. Click on **Connect > To a File > Text File**
2. Open **2016_WBIndicators.csv**
3. The **Data Source** tab now displays the contents of your spreadsheet.
4. Clicking on the **icon over a column** allows you to change the **data format**.
5. Clicking the **down arrow over a column** allows you to **rename the variable**.
6. Click on the **Sheet 1** tab at the bottom.

Tableau Interface



Exercise 2: Create a Bar Chart

1. Drag **Country Name** from the **Dimensions** pane to the **Columns** shelf.
2. Drag **Individuals using the Internet** from the **Measures** pane to the **Rows** shelf. A bar chart appears.
3. Roll over one of the bars. Do the numbers make sense? Something is off. Tableau is **ADDING** up the numbers for all of the different years in the dataset.
4. Right-click **SUM(Individuals using the Internet)** in the **Rows** shelf and select **Measure(SUM) > Average**.
5. Roll over a bar again. The numbers now represent the **average** across all years in the dataset.
6. The bar chart is difficult to read. Click the **Swap Rows and Columns icon** to make the bar chart **horizontal**.

7. Let's make it easier to see the countries with the **highest and lowest** internet use. Click the **Sort Descending** icon. 
8. You now have to scroll for a long time to find a specific country. Let's fix that by dragging **Region** to the Filters pane. For now, click the **All** button. Click **OK.**
9. **Right-click** the **Region pill** in the **Filters pane** and select **Show Filter**.
10. The filter now appears on the right side of the screen.
11. Click the **down arrow above the filter on the right** and select **Single Value (dropdown)**. Choose a region from the dropdown list. The counties are now filtered to only those in your chosen region.
12. Change your **Region filter** to **Americas**.
13. Now let's add some more information to the visualization. Drag **Subregion** from the **Dimensions** pane to the **Color** box in the **Marks** pane. A legend appears on the right.
14. Click on the **Color** box in the **Marks** pane.
15. Click **Edit Colors.**
16. Under **Select Color Palette,** use the dropdown menu to find a palette that you like.
17. Click on **Assign Palette** to automatically use the first colors in the palette.
18. To **select colors individually**, click one of the **Data Items** on the left, then click on the color you want it to use.
19. Click **OK**.
20. **Right click** on the **Sheet 1** tab at the bottom and select **Rename Sheet**. Change it to **Internet**.

Exercise 3: Create a Bubble Chart

1. Next to the **Internet** tab, click the **New Worksheet icon.** 
2. Click on **Life Expectancy at birth, total** in the **Measures** pane.
3. Find **Population: Ages 65 and above**, also in the **Measures** pane. Hold down the **CTRL key** and click on it. **Both pills** should now be highlighted.
4. Click on the **Show Me** tab in the upper right and select the **Scatterplots graph** which should be outlined with an orange box.
5. Our scatterplot only has one circle! How can we fix it?
6. Drag **Country Name** from the **Dimensions** pane to the **Details** box in the **Marks** pane. We now have a bubble for every country!
7. **Roll over** one of the bubbles. Does something seem off about those numbers? Tableau is **ADDING** up the numbers for all of the years in the dataset.
8. Right-click **SUM(Population: Ages 65 and above)** in the **Columns** shelf and select **Measure(SUM) > Average**.
9. Right-click **SUM(Life Expectancy at birth, total**)in the **Rows** shelf and select **Measure(SUM) > Average**.
10. Roll over a bubble again. The numbers now represent the **average** across all years.
11. Let's add some more information to the graph. Drag **Health expenditure per Capita** from the **Measures** pane to the **Size** box in the Marks pane. A **legend** appears on the right. If you can't see the legend, click on the **Show Me** tab.
12. Right-click **SUM (Health expenditure per Capita)** in the **Marks** pane and select **Measure(SUM) > Average**.
13. Click the **Size** box in the **Marks** pane and change the bubble sizes to your liking.
14. Click the **Shape** box and change the symbol to a **filled circle**.
15. Click the **Color** box and reduce the **Opacity** to 50%.
16. Drag **Country** from **Dimensions** to the **Label** box.

17. **Right click** on the **Sheet 2** tab at the bottom and select **Rename Sheet**. Change it to **Health**.

Exercise 4: Create a Map

1. Next to the **Health** tab, click the **New Worksheet** icon. 
2. Click on **Country Name** in **Dimensions**, then hold down the **CTRL key** and click on **Urban Population** in **Measures** so that both pills are highlighted.
3. Click on **Show Me > Symbol Maps** which should be outlined with an orange box.
4. Change the aggregation of **Urban Population** in the **Marks** pane from SUM to **Average.**
5. **Roll over the map** and click on the **Search icon**  in the upper left. Type in the name of a country and press Enter. The map should **zoom** to that country.
6. **Click and drag** on the map. Note that you are **selecting multiple data points** this way. Click on an **empty area** of the map to **deselect**.
7. Click the **Arrow icon**  in the **map controls** and select the **Pan icon**  . You can now **move the map around** by **clicking and dragging** on it.
8. In the top menu, select **Map > Map Layers**.
9. Use the various controls to change the appearance of the map to your liking. Click the **X** at the top right of the pane when you're done to close the map layers.
10. Click on **Show Me > Filled Maps** (located next to the symbol maps).
11. **Right click** on the **Sheet 3** tab at the bottom and select **Rename Sheet**. Change it to **Urban Population**.

Exercise 5: Create Two Charts in One Worksheet

1. Next to the **Urban Population** tab, click the **New Worksheet** icon. 
2. Drag **Date** from **Dimensions** to **Columns**.
3. Drag **Air Transport: Passengers Carried** from **Measures** to **Rows**. Since we're using dates, Tableau automatically gives us a line chart.
4. What if we want to compare car usage to railway usage? Drag **Railways, passengers carried** from **Measures** to **Rows** and drop it **to the right** of your pill for air transport. A **second line graph** appears below the first one.
5. Something else has changed. The **Marks** pane now has three different tabs inside of it. The **top tab** is labeled **All** and controls the marks for both graphs at the same time. Click on **Color** and change it to green. Both line graphs are now green.
6. Click on the **middle tab** in the **Marks** pane. This tab controls our graph for air transport. Click on **Color** and change it to brown. Now the top graph is brown and the bottom graph is green.
7. Click on the **bottom tab** in the Marks pane. This tab controls our graph for railways. There is a **dropdown menu** at the top of the pane which is currently set to **Automatic**. Click on it and select **Bar**. The bottom graph is now a bar chart.
8. **Right click** on the **Sheet 4** tab at the bottom and select **Rename Sheet**. Change it to **Transport**.

Exercise 6: Create a Dashboard

1. Near the tabs at the bottom, click the **New Dashboard icon.** 
2. On the left is a menu for **Size**. Click on it to get a pop-up box.
3. At the very top of the pop-up box is a **dropdown menu**. Click on it and select **Automatic**.

4. Drag **Urban Population** from the **Sheets** pane on the left into the **blank area** at the center.
5. Drag your **Internet** sheet over the bar chart, but **don't release the mouse button**. Watch the **highlighted areas** on the dashboard. **Position the sheet below** your map.
6. Drag the **Health** sheet over and position it **to the right** of your **Internet** sheet. Do the same with **all the other sheets**, so that you have all of the other charts you created appearing **below your map**.
7. Click on each of the charts that are now in your dashboard. Notice that a **grey border** appears around them. Notice there are **icons** attached to the grey border.
8. Notice that your **legends and filters** appear on the dashboard with your charts. They are located in the **column on the right**.
9. Click on your **region filter**. The **grey border** appears around it. Click on the **tab** in the **top center** of the **grey border** and **drag** your region filter to the **top** of the dashboard.
10. Click on the **down arrow icon**  for the **region filter**. A menu appears. Select **Apply to Worksheets > All Using This Data Source**. Now the filter controls the data in all of your charts on the dashboard.
11. Let's add another filter. Select your map and click on the **use as filter icon**  .
12. Click on one of the countries in the map. **All data** in the dashboard is now **filtered** based on the country you selected on the map.

Exercise 7: Uploading to Tableau Public

If you are using *Tableau Public*

1. Go to **File > Save to Tableau Public As...**
2. Type in your **email and password**.
3. Click on **Sign In**.
4. Under **Workbook Title**, give your workbook a name and click **save**.

If you are using *Tableau Desktop*

1. Click on the **Data Source** tab in the lower left.
2. In the upper right, under **Connection**, select **Extract**.
3. Click the **Edit** link next to **Extract**.
4. Make **no changes** in the window that pops up. Just click the **OK** button.
5. Return to your **dashboard tab**.
6. Another window will pop up, allowing you to **select the location of your extract**. It's best to **save it in the same location as your other project files** so you can find it later if you need to.
7. Go to **Server > Tableau Public > Save to Tableau Public As...**
8. Type in your **email and password**.
9. Click on **Sign In**.
10. Under **Workbook Title**, give your workbook a name and click **save**.