

Data Analysis and Visualization Homework 2

This analysis is regarding the Olympics data from the year 1976 to 2008. It contains all the sports, medals won, athlete participated, gender, etc.

1. Line chart –

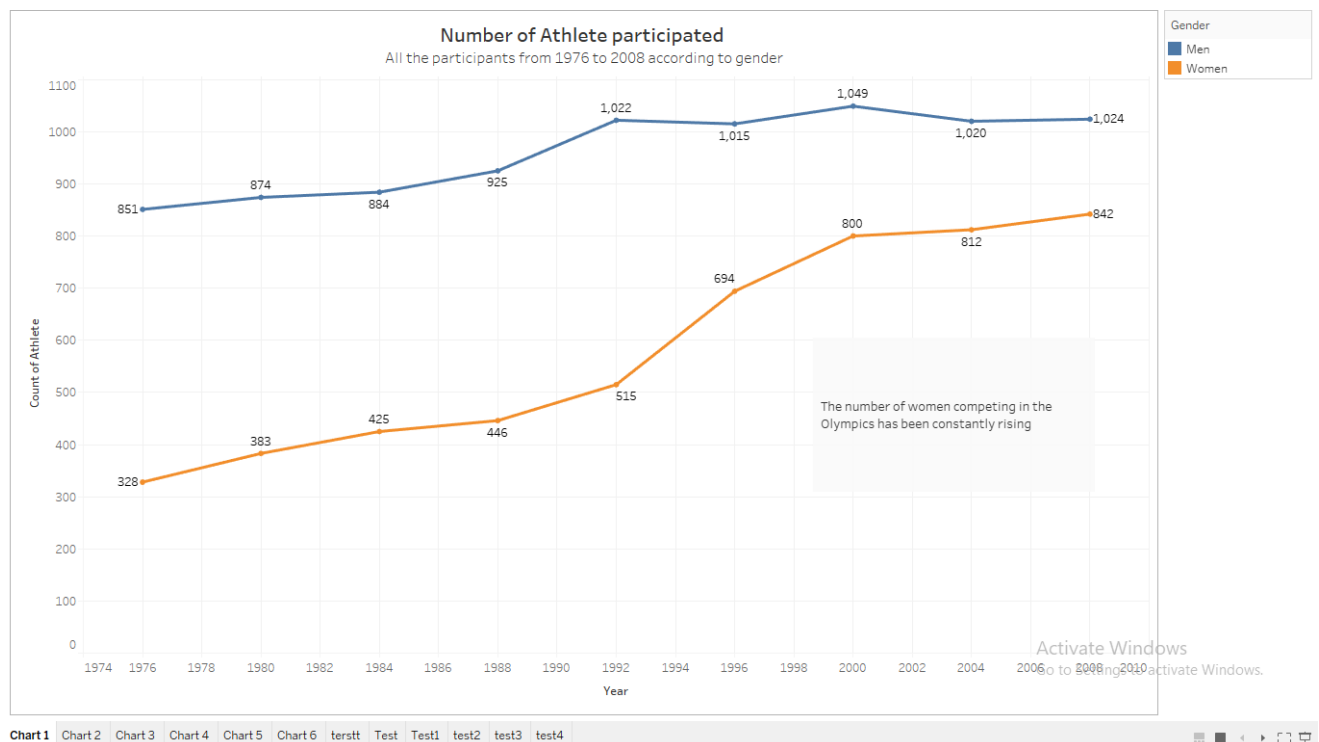


Figure 1 Line Chart

The above Line chart depicts the Number of Male participants vs the number of female participants over the years. The line chart is straightforward and visualizes the data in a way that makes it easy to grasp what it is showing. The color year are simple as well where blue is for men and orange is for women participants. As we can see that the number of male participants are greater than the number of female participants but there's also a constant increase in the number of female participants every year. This chart is created by the year being in columns and the number of athletes being in rows, also the gender data is in the color mark to specify the genders in different colors. If the year were in rows and the number of athletes were in columns, the chart would appear strange because it would have almost vertical lines.

2. Tree Map –

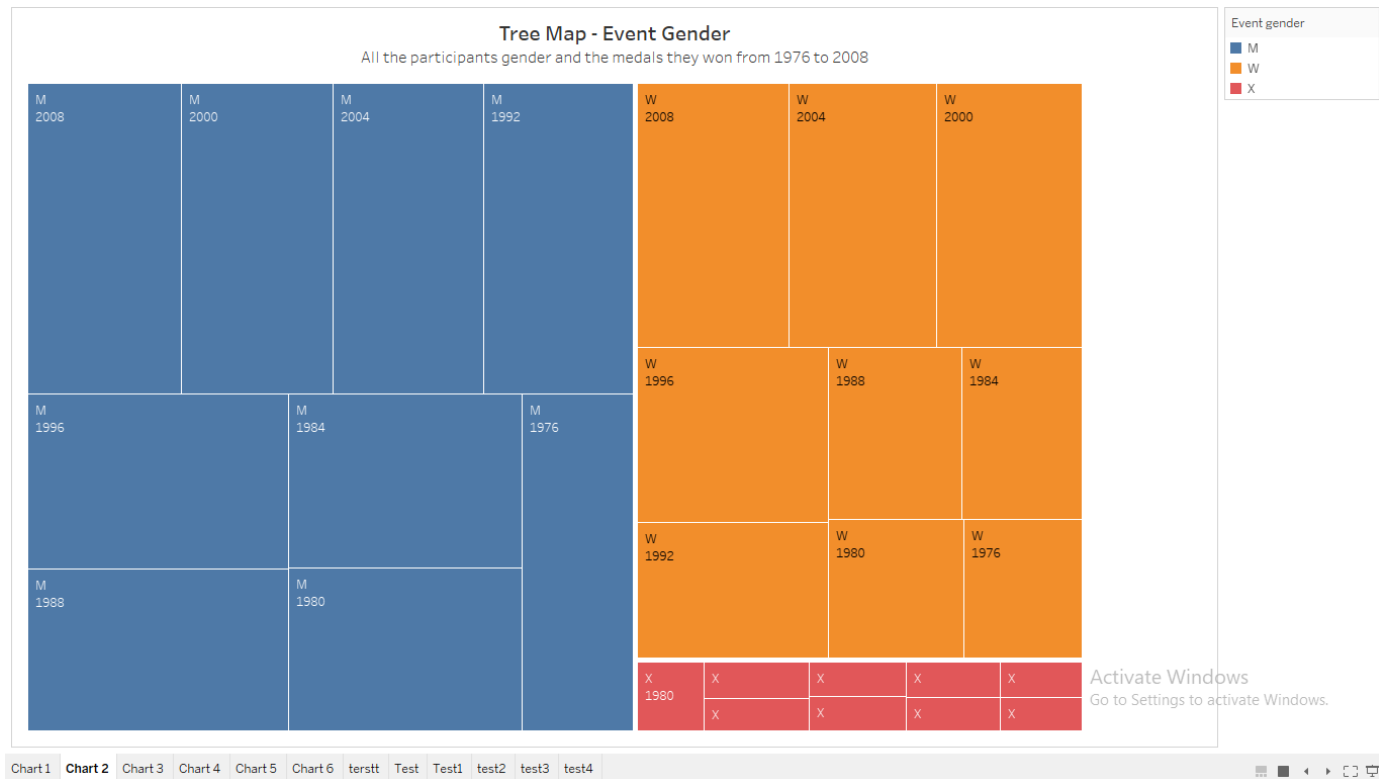


Figure 2 Tree Map

The Tree map is one of the best way to show such data where all events according to gender and the event/sport which can be played commonly regardless of the gender. The Tree map illustrates the number of medals won in all these years by male which is in blue color and female in orange as shown in earlier chart as well to avoid confusion. This chart also includes events which was common that is in red color (x). Here the colors are according to the event gender, the visual also has the label of the event gender and year.

3. Bar Chart –

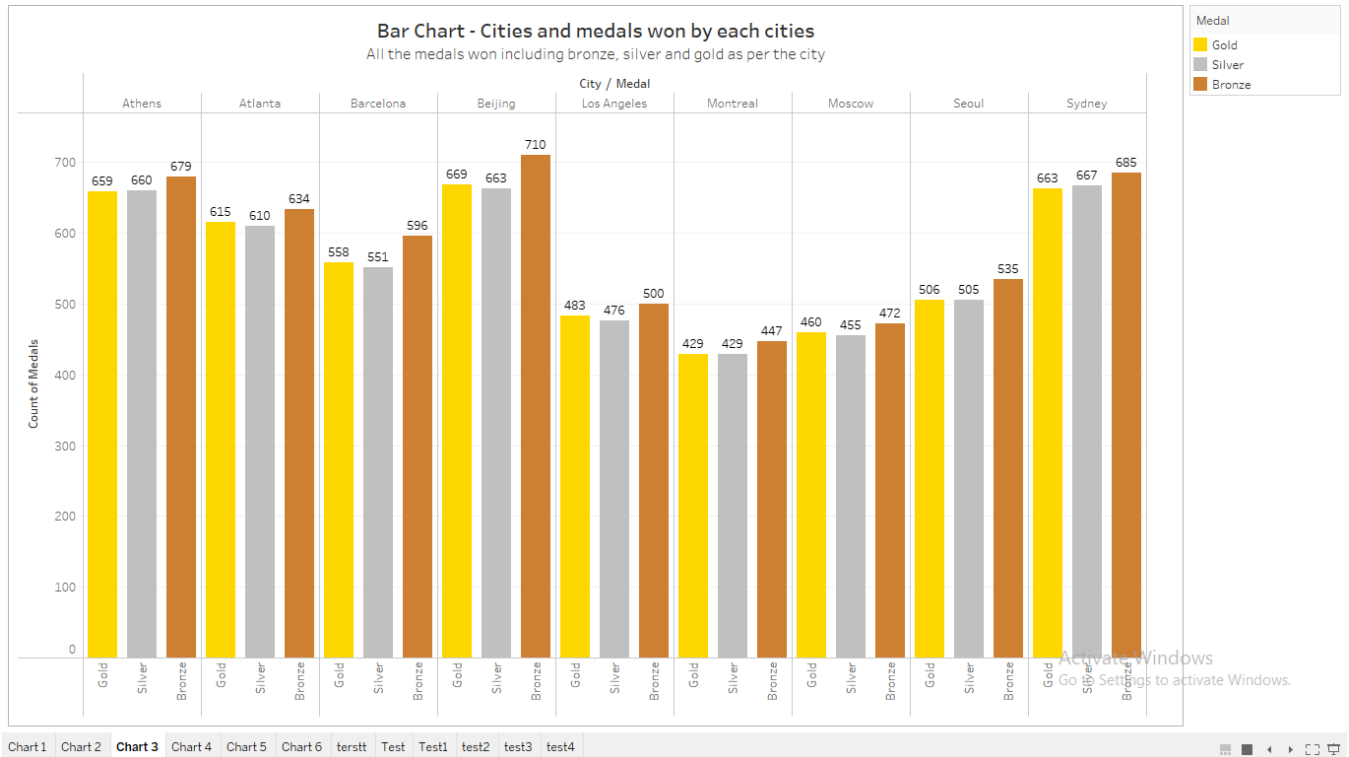


Figure 3 Bar Chart

The bar graph displays every medal earned, broken down by city into gold, silver, and bronze. Here, the color scheme for each medal is extremely straightforward: yellow stands for gold, grey for silver, and brown for bronze. This makes it simpler for the viewer to comprehend the information. The city and medals dimensions are in column whereas the medals count measure is in the rows. If we put medals count in column and city and medals dimension in rows the visual would be reversed or we can say that the x and y axis would swap. The visual will still depict the same thing but it would be horizontal visual, also if the city and medal dimension are swapped (medals first then city in column) then the visual would be according to the medals that is all the gold would be in one frame and similarly with the other medals instead of city.

4. Layered Donut chart –

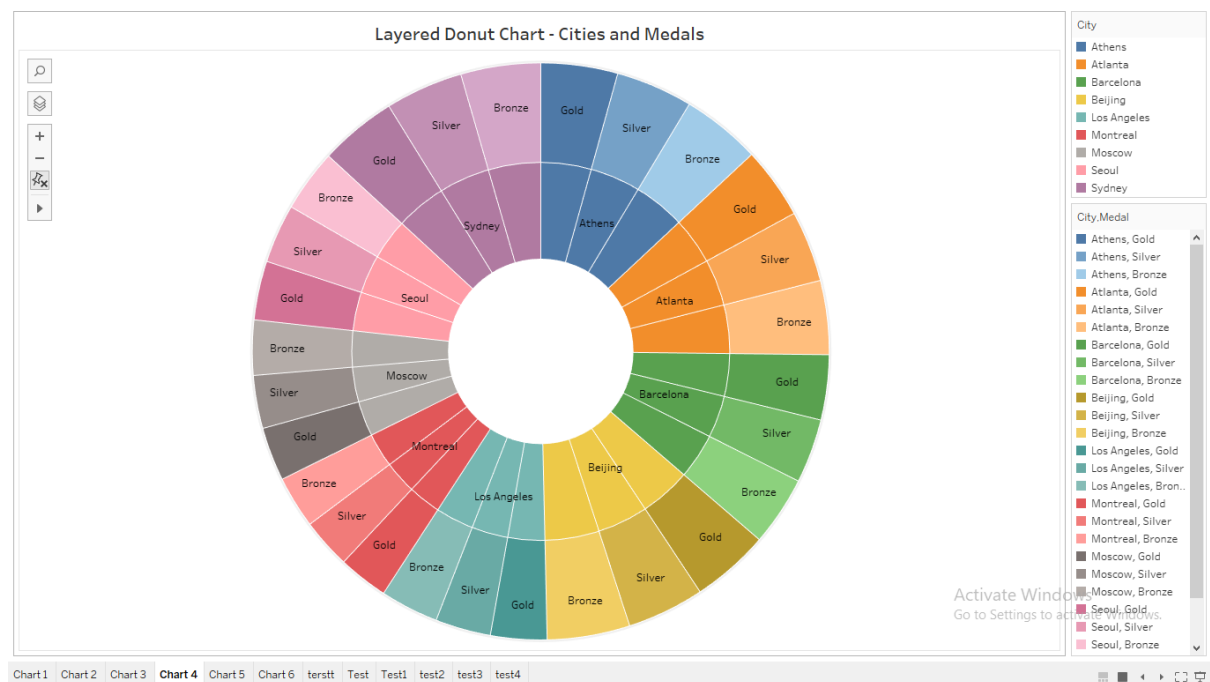


Figure 4 Layered Donut chart

The layered donut chart displays the medals won according to the cities; the colour scheme is quite important in this chart since it relates the colours of the inner and outer category layers. The differences between gold, silver, and bronze medals are seen in the tones of the outer layer's colours. This is one of the instances where additional colours are utilized, yet the information is still properly conveyed and the viewer is still able to understand what the image is trying to convey.

This chart is made using the geo chart, It's more easier to make the layered pie chart as the new update in the tableau made it easier to add a new geo layer and then convert it in to pie chart. The dimensions used here are long and lat but there are many layers on top of each other with different labels and colours.

5. Geo Chart –

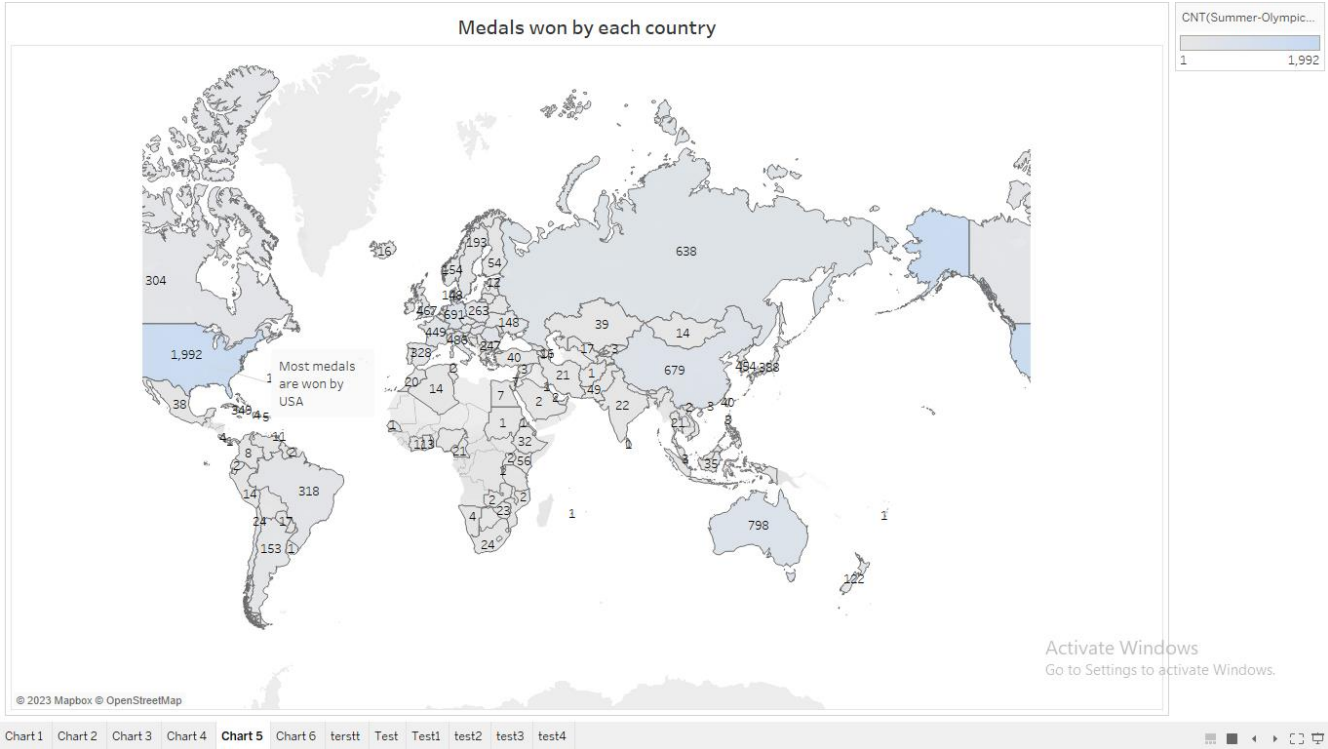


Figure 5 Geo location chart

The map of the world's nations is displayed, along with the amount of medals each one has won. United States has received 1,992 medals, which is the most. The chart's color scheme is very basic—blue and light—while the darker shade indicates that the highlighted nation won a disproportionately large number of medals.

6. Bar Chart –

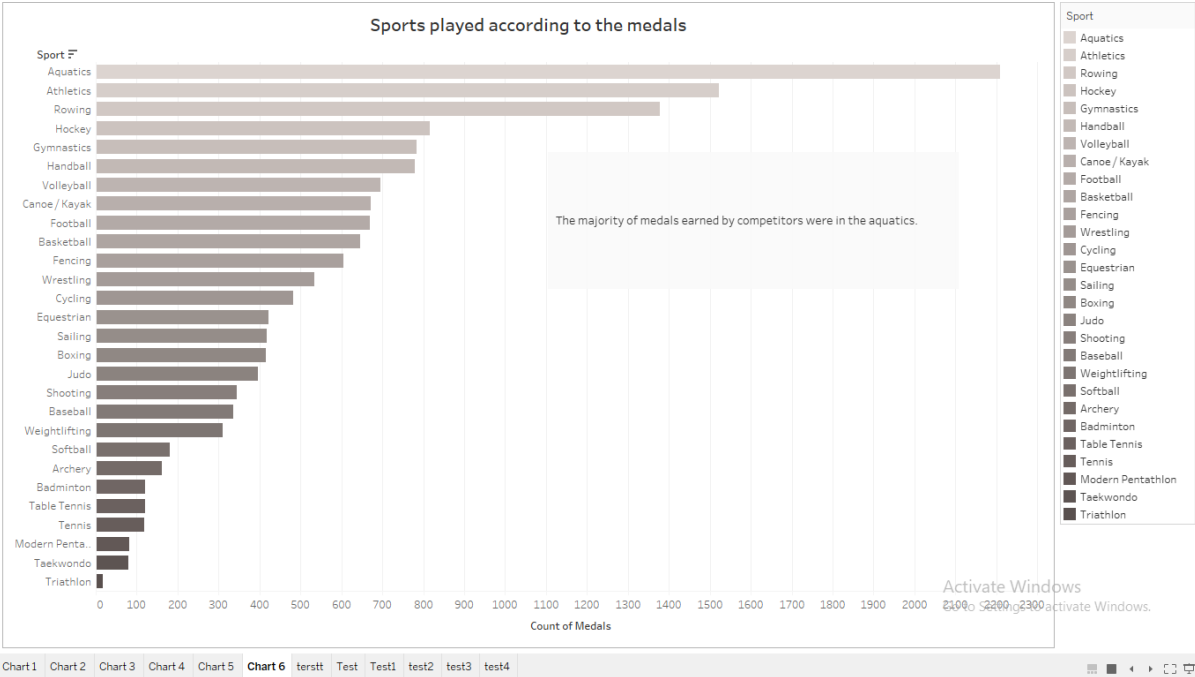


Figure 6 bar chart

The sports that were performed and the medals won in each sport are displayed in the bar graph. The sport in which the most medals have been won is aquatics, while triathlon has earned the fewest. When compared to athletics, which is the second-highest activity, aquatics consistently outperforms it in terms of medals. This chart's colour scheme is excellent, with the light tone indicating the most medals and the bar's tone becoming darker as the number of medals declines.

This chart has count of medals measure in columns and sport dimensions in rows, if we change the dimension from rows to column the graph will be vertical and the cities names would not be visible properly for the viewer to understand.