Do a search for **each** of the following chart/graph types, and choose 1-2 examples to save (screenshot or download an image of the visualization) and include in the Google Doc you create. Below each image, for **each chart type** answer the following questions:

1. What is the definition of the chart? If it’s similar to other chart types, how do you differentiate this type from others?
2. What is the key takeaway for this visualization? What is the central message it is communicating?
3. What are the visual elements that make this visualization effective? Why does it stand out to you as a good example of this chart? (Color? Shapes? Size? Scale? Labels? Smart filtering choices? Something else?)

**Research:**

* Histogram:
  1. A histogram is a display of statistical information that uses rectangles to show the frequency of data items in successive numerical intervals of equal size.
  2. Ease of comparison
  3. Equal size intervals make for easy/clean comparison of heights. Color coding is another helpful touch.

Chart, histogram

Description automatically generated

* Line:
  1. A graph that uses lines to connect individual data points. A line graph displays quantitative values over a specified time interval.
  2. Helps to visualize trends/changes over time.
  3. Clean labels help with visualization, and labeling key events on the graph.

Chart, line chart

Description automatically generated

* Bar (non-histogram):
  1. A bar graph is a graphical representation of information. It uses bars that extend to different heights to depict value.
  2. A bar graph can be of great use when you have to explain the meaning of complex data. It allows you to compare different sets of data among different groups easily. It instantly demonstrates this relationship using two axes, where the categories are on one axis and the various values are on the other. A bar graph can also illustrate important changes in data throughout a period of time.
  3. Allows for clean comparison of complex data. Colors help to differentiate different categories over the same time period.

Chart, bar chart

Description automatically generated

* Stacked Bar:
  1. A stacked bar chart is a type of bar graph that represents the proportional contribution of individual data points in comparison to a total. The height or length of each bar represents how much each group contributes to the total.
  2. Stacked Bar Graphs are used to show how a larger category is divided into smaller categories and what the relationship of each part has on the total amount.
  3. The graduation of color is a nice touch for comparison.

Chart, bar chart

Description automatically generated

* Gantt:
  1. A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time.
  2. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the activity.
  3. Quickly see start/stop dates, lengths, activities, where items may overlap etc..

A picture containing chart

Description automatically generated

* Pie:
  1. A pie chart (or a circle chart) is a circular [statistical graphic](https://en.wikipedia.org/wiki/Statistical_graphics), which is divided into slices to illustrate numerical proportion
  2. The entire “pie” represents 100 percent of a whole, while the pie “slices” represent portions of the whole.
  3. The slices being proportionate against the whole is a nice touch for easy comparison.

Chart, pie chart

Description automatically generated

* Box plot:
  1. A boxplot, also called a box and whisker plot, is a way to show the [spread](https://www.statisticshowto.com/measures-of-spread/)and [centers](https://www.statisticshowto.com/center-of-a-distribution/)of a data set. [Measures of spread](https://www.statisticshowto.com/measures-of-spread/) include the [interquartile range](https://www.statisticshowto.com/probability-and-statistics/interquartile-range/) and the [mean](https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/mean-median-mode/#mean)of the data set. Measures of center include the mean or [average](https://www.statisticshowto.com/arithmetic-mean/)and [median](https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/mean-median-mode/#median)(the middle of a data set).
  2. Best for overall data comparison and to identify outliers in comparison to the average data points.
  3. Being able to quickly see where the min/max live compared to the averages is so helpful.

Chart

Description automatically generated with medium confidence

* Bubble chart:
  1. bubble charts are used to determine if at least three numerical variables are related or share some kind of pattern.
  2. The story is narrated from the shape that these data points generate as well as from the differences in the relative sizes of the bubbles or discs. There must be appropriate legends for the dissimilar categories represented by the colors and some type of scale that allows us to infer the numerical value indicated by the size of the bubble.
  3. Easy to see outliers, gaps, & clusters.

Chart, bubble chart

Description automatically generated

* Bubble map:
  1. Bubble Map (or Proportional Symbol Map) is a map chart type that uses the visual variable of size to display differences in the magnitude of a certain discrete, abruptly changing phenomenon such as counts of people, accidents, and so on.  
       
     Bubble Maps are very similar to [Bubble Chart](https://www.anychart.com/chartopedia/chart-type/bubble-chart)s that are built on a coordinate grid instead of a geographic map.
  2. Similar to bubble map – except it seems to show more of the relationships between data points.
  3. Bubble Maps are good for comparing proportions over geographic regions without the issues caused by regional area size

Chart, bubble chart

Description automatically generated

* Heatmap (non-geographical):
  1. Heatmaps are a method of representing data graphically where values are depicted by color, making it easy to visualize complex data and understand it at a glance.
  2. Generally speaking, warmer colors—reds and oranges—represent “more used” or “more popular” sections, while cooler colors—blues and purples—represent less frequently used sections of your map.
  3. Darker colors seem to work best too!

Chart

Description automatically generated