Michael Alexander

TECH 4981

4/8/2020

**Project 2 Write Up 1**

For the first library I have chosen to explore, it is matplotlib. Matplotlib is a library for Python where you can plot points on a chart to make it easier to view rather than looking at numbers. It also provides an object oriented API for embedding plots into toolkits, such as Tkinter, Qt, and GTK+.

Matplotlib is very useful as a library for many different reasons. One of the primary reasons it’s used is because it brings numerical data to life. It places the numerical data in a wide range of charts, to not only make it easier to read, but to give users an object-oriented display to quickly determine any similarities or differences between the given data. One example of this reasoning is plotting costs per item for a distributor to a store. Information could be plotted regarding the various prices per unit being sold to the store, which the store could then use to determine how much they would need to sell that particular item for in order to turn profit. Another example would be using a scatter plot to display a person’s weight and height correlation. This is common in the medical field when someone is growing up. A doctor would plot their patients’ weight and height and compare it to expected values, then take measures according to the recorded information.

There are many functions available for matplotlib, ranging from creating charts to even coloring those charts. Some of the main functions used are bar, boxplot, autoscale, and pie. The bar function creates a bar plot, the boxplot function creates a box and whisker plot, the autoscale function automatically scales the axis view to the data, and the pie function creates a pie chart. A full list of functions can be found at: <https://matplotlib.org/3.2.1/api/pyplot_summary.html>.