**Matplotlib Glossary**

import numpy as np

import matplotlib.pyplot as plt

%matplotlib notebook *(makes the graph interactive)*

CREATE DATA:

* *Axis with a range:* **variable = np.arange(#, #, #)** *(first number = start of range; second number = end of range + 1; last number = incrementing interval)*
* *Axis with data:* **variable = [“”, “”, “”, “”]**
* *Axis from a CSV/dataframe:* **variable = df[“column”]**

PLOT GRAPH:

* *Line:* **plt.plot(x\_axis\_variable, y\_axis\_variable)**
* *Bar:* **plt.bar(x\_axis\_variable, y\_axis\_variable)**
* *Pie:* **plt.pie(x\_axis\_variable, y\_axis\_variable)**
* *Scatter:* **plt.scatter(x\_axis\_variable, y\_axis\_variable)**
* *Show graph:* **plt.show()**
* *Set x-axis limits:* **plt.xlim(#, #)** *(first number: lowest number; second number: highest number)*
* *Set y-axis limits:* **plt.ylim(#, #)** *(first number: lowest number; second number: highest number)*
* *Change physical size of graph:* **plt.figure(figsize(#, #))** *(just guess numbers)*

LINE GRAPHS:

* *Add horizontal line:* **plt.hlines(#, #, #, alpha=#)** *(first number: y position; second number: start x position; third number: end x position; alpha #: line transparency 0-1)*
* *Add gridlines:* **plt.grid()**

BAR GRAPHS:

* *Align bars to tickmarks:* **algin=””** *(options: “center” or “edge”)*

PIE CHARTS:

* *Elements to plot:*
  + *Labels for each wedge:* **labels = [“name”, “name”, “name”]**
  + *Amount of each wedge:* **size = [#, #, #]**
  + *Wedge colors:* **colors = [“”, “”, “”]***(*[*options*](https://matplotlib.org/2.0.0/examples/color/named_colors.html)*)*
  + *Separate wedges from the pie:* **explode = (#, #, #, #)** *(each # corresponds to the wedge; 0 means the wedge stays connected to the others)*
  + *Plot:* **plt.pie(size, explode=variable, labels=variable, colors=variable, autopct=”%1.1f%%, shadow=True, startangle=140)**
  + *Make circle perfect:* **plt.axis=(“equal”)**

SCATTER PLOTS:

* *Color of center of dots:* **facecolors=”color”** *(*[*options*](https://matplotlib.org/2.0.0/examples/color/named_colors.html)*)*
* *Color of edge of dots:* **edgecolors=”color”** *(*[*options*](https://matplotlib.org/2.0.0/examples/color/named_colors.html)*)*
* *Set dot size:* **s=** *(s=x\_axis makes dots larger as you move down the x-axis; s=# makes them all the same size)*

ADDING TEXT:

* *Title:* **plt.title(“Your Title”)**
* *X-axis label:* **plt.xlabel(“Label Name”)**
* *Y-axis label:* **plt.ylabel(“Label Name”)**
* *Legend:* **plt.legend(loc=””)** *(*[*options*](https://matplotlib.org/3.1.0/api/_as_gen/matplotlib.pyplot.legend.html)*)*
* *Give x-axis non-numeric ticks:*
  + **tick\_locations = [value for value in x\_axis\_variable]** *(or y\_axis\_variable)*
  + **plt.xticks(tick\_locations, [“first label”, “second label”, “third label”]** *(or plt.yticks; list can be a variable if the list had already been specified)*
* *Change text direction:* **rotation=””** *(“vertical”, “horizontal”, or angle #)*

FORMATTING:

* *General:* **axisvariable\_format = plt.plot(x\_axis\_variable, y\_axis\_variable, \_\_\_\_)** *(fill in the formatting items you need after the axis variables, separated by commas)*
* *Markers:* **marker = “”** *(*[*options*](https://matplotlib.org/3.1.0/api/markers_api.html)*)*
* *Color:* **color = “”** *(*[*options*](https://matplotlib.org/2.0.0/examples/color/named_colors.html)*)*
* *Label:* **label = “your label”** *(this is used in the legend; not in axis labels)*
* *Line width:* **linewidth=”#”**
* *Transparency:* **alpha=#** *(0-1)*

EXPORT:

* *As image:* **plt.savefig(“name.png”)**