Links to Useful Python Functions

Pandas (pd), **Numpy** (np), and **Matplotlib** (plt) are all Python based packages that have been installed in the Binder environment you are working in that have a lot of useful functions for data analysis and graphing. The first block of code in the Jupyter notebook imports these packages so that the notebook recognizes them and they are available for you to use for any work you do in the notebook. Many other packages exist for Python that have a variety of capabilities.

```
pd.read_csv('data.csv')
```

- This function is used to import data from csv files. It is within Pandas.
- Additional arguments can be added within the parentheses to specify which rows and/or columns to exclude, the datatype of certain rows (e.g. dates), etc.
- For more information about the inputs to this function go to: https://pandas.pydata.org/docs/reference/api/pandas.read_csv.html

```
df.head()
```

- This Pandas function is used to view the top few lines of a data frame (5 lines by default)
- df is the name of the data frame you want to view
- A number can be added within the parentheses to specific the first how many lines to display of the data frame
- For more information about the inputs to this function go to: https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.head.html

```
plt.plot(xpoints, ypoints)
plt.show()
```

- These Matplotlib functions are used to plot data
- Default is a line plot
- Additional characteristics of the plot can be altered by adding additional arguments in the parentheses (e.g. line color, line style, etc)
- plt.show() is a subfunction that displays the plot
- More info at: https://matplotlib.org/stable/api/_as_gen/matplotlib.pyplot.plot.html
- Additional subfunctions include plt.xlabel('X Axis Title'), plt.ylabel('Y Axis Title'), plt.xlim([x min, x max]), plt.ylim([y min, y max]) and plt.legend() which display the axes labels, axes limits and legend

** If there is ever a Python function you do not know or understand, Google it! Someone has had your question before and there are tons of online Python resources.**