Python Topics

*Note: This list of topics and functions is non-exhaustive, but should serve as a good guide

Native Python

- Importing a library
- Basic data types
- Collections (lists, tuples, dictionaries, sets)
- Basic list operations
- Basic string operations
- Basic dictionary operations
- For loops
- List comprehension
- Casting
- Working with files in python
- The different RegEx methods & basic RegEx
- Aliasing
- APIs (what they are, the different request methods, how to make a request, authentication methods, ...)
- Basic OOP in python (classes, methods, “magic methods”/dunder methods
- Build a function to accomplish a task

Numpy

- Why use NumPy
- NumPy arrays & their properties
- Understanding dimensions
- Data types
- Copy v. View v. Alias
- Array Operations
- Axis = 0 versus axis = 1
- Filtering an array

Pandas

- How it relates to NumPy
- Series & Dataframe properties
- Series (column) Operations :: adding a column, removing a column, updating a column
- How to access specific elements in a dataframe
- Pd.DataFrame[‘Column’] v. Pd.DataFrame.Column
- How to handle null values
- How to handle common file read errors
- How to filter in a dataframe
- Understanding a pandas merge (SQL joins)

[Some] Important Functions

- help()
- range()
- Np.array()
- Np.arange()
- Np.concatenate()
- Np.array.copy() // np.array.view()
- Np.array.base
- Np.array.reshape()
- Np.nditer()
- Hstack(), vstack(), dstack()
- Np.array_split()
- Np.where()
- Np.searchsorted()
- Np.sort()
- Pd.DataFrame()
- Pd.DataFrame.head()
- Pd.DataFrame.tail()
- Pd.read_csv() **Be comfortable with this and the parameters we covered
- Pd.DataFrame.info()
- Pd.DataFrame.describe()
- Pd.DataFrame.iloc[]
- Pd.DataFrame.loc[]
- Pd.DataFrame.sort_values()
- Pd.DataFrame.reset_index()
- Pd.DataFrame.drop()
- Pd.concat()
- Pd.DataFrame.columns
- Inplace *param, not function
- Pd.DataFrame.set_index()
- Pd.Series.unique()
- Pd.Series.nunique()
- Pd.Series.nlargest()
- Pd.Series.nsmallest()
- Pd.Series.value_counts()
- Pd.Series.replace()
- Pd.DataFrame.groupby()
- Pd.DataFrame.groupby().agg()
- Pd.Series.apply()
- Pd.merge()