**Numpy**

Tutorial:

*https://www.numpy.org/devdocs/user/quickstart.html#*

On completion of the tutorial mentioned above, complete the exercise given at the following location:

*https://www.machinelearningplus.com/python/101-numpy-exercises-python/*

**Pandas**

Tutorial:

*https://pythonprogramming.net/data-analysis-python-pandas-tutorial-introduction/*

*https://www.tutorialspoint.com/python\_pandas/*

On completion of the tutorial mentioned above, complete the exercise given at the following location:

*https://www.machinelearningplus.com/python/101-pandas-exercises-python/*

Download the following file and then solve the questions that follow:

*https://www.kaggle.com/kaggle/sf-salaries#Salaries.csv*

Questions:

1. Load the file Salaries.csv and get data into DataFrame. Get all the columns.
2. Get the count of number of rows and number of columns.
3. Get the Average *BasePay*.
4. What is the highest *BasePay*?
5. Display the all unique values of *JobTitle*.
6. Display the *EmployeeName*, *JobTitle*, and *BasePay* of the 5 highest paid employees (based upon *BasePay*).
7. What is the *BasePay* of "DAVID SULLIVAN"?
8. Display the *EmployeeName*, *JobTitle*, and *BasePay* of those people whose *JobTitle* is "CAPTAIN, FIRE SUPPRESSION".
9. Display the *EmployeeName*, *JobTitle*, and *BasePay* of those people whose *JobTitle* contains the word "CHIEF".
10. Display the *EmployeeName* of the person who is getting the lowest salary (based upon *TotalPay*).
11. Get the *EmployeeName* of those people who are getting *TotalPay* of zero (0) or less.
12. Get the Average salary (*TotalPay*) of the people by year.
13. Get the count of Employees by *JobTitle* and display the top 5.
14. Get the Employees whose name starts with "R" and ends with "n".
15. Create a pivot table, and experiment with it.

**MatPlot**

Reference link:

*https://matplotlib.org/3.1.0/tutorials/introductory/pyplot.html*

**Seaborn**

Reference link:

*https://seaborn.pydata.org/tutorial.html*

**Scikit**

Reference link:

*https://scikit-learn.org/stable/*

**Machine Learning Algorithms**

Reference link:

*https://www.tutorialspoint.com/machine\_learning\_with\_python/machine\_learning\_with\_python\_algorithms.htm*

Learn the following algorithms:

1. Linear Regression
2. Logistic Regression
3. K Nearest Neighbors
4. Decision Trees and Random Forest
5. Support Vector Machines (SVM)