Angaza Center Week 1

Welcome!

Course Description: Applied Digital Literacy

Week 1: Introduction to Data Analytics and the Project

Week 2: Exploring Data with Pandas

Week 3: Data Integrity and Preliminary Statistics

Week 4: Foundations of Data Visualization with Seaborn

Week 5: Advanced Exploration via Heatmaps and Correlations

Week 6: Analyzing Distributions with Seaborn

Week 7: Gender-Based Segmentation Visualization

Week 8: Trend Analysis via Line Plots

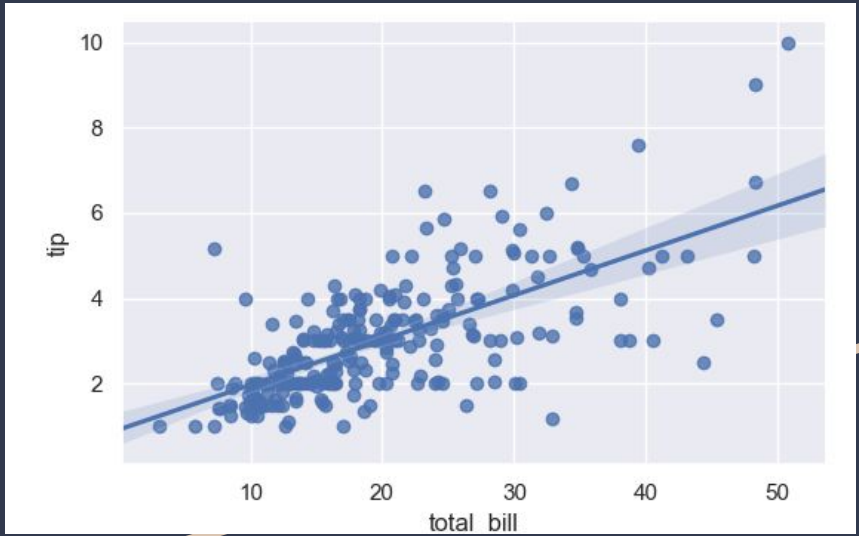
Week 9: Introduction to KMeans Clustering

Week 10: Segmenting with KMeans Clustering

Week 11: Refining Insights and Optimizing Clusters

Week 12: Conclusion and Business Implications

Goals of the Course



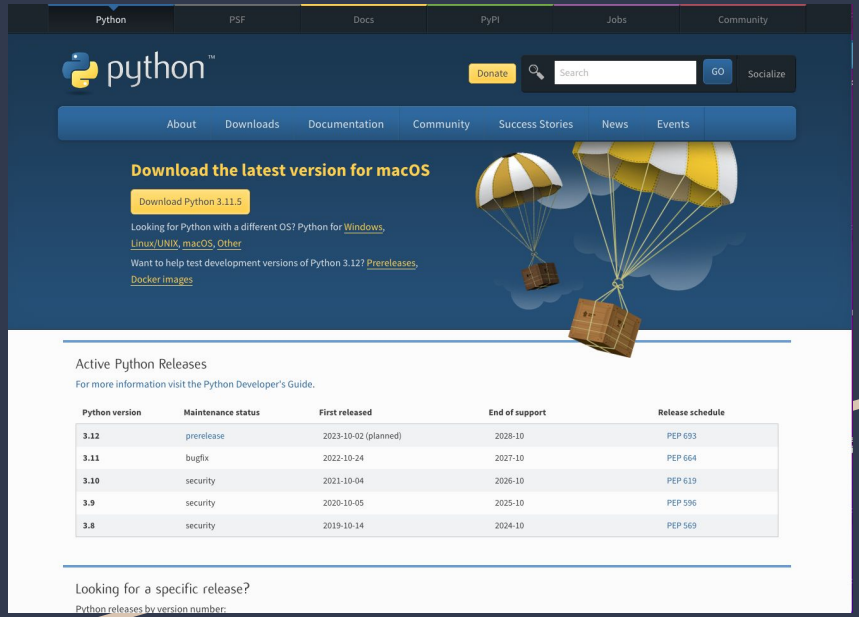
Why data analysis?

- Data analysis involves the application of techniques and tools to extract valuable insights from datasets. In our data-driven world, the ability to interpret data and derive meaningful conclusions is a fundamental skill.
- This skill is very important in many fields, including, business, healthcare, science, and finance as it allows decision-makers to make informed choices, optimize processes, reduce costs, enhance products, and identify key market trends.

How is data analysis applied in this project?

- In this Mall Segmentation Project, we will use specific consumer data, such as their yearly income, age, gender, and spending score. We will be using numerous data analysis techniques in order to visualize and interpret the data. Finally, we will be drawing conclusions that are meaningful to market leaders and their decisions.

Requirements



Follow the instructions to install Python and Jupyter Notebooks:

1. First Install Python using the following link:
   https://www.python.org/downloads/
2. Once Python is installed, install Jupyter Notebooks:
   For macOS run the following commands in Terminal:
   1. Run: pip3 install jupyter
   2. Log out and Log Back in once installed

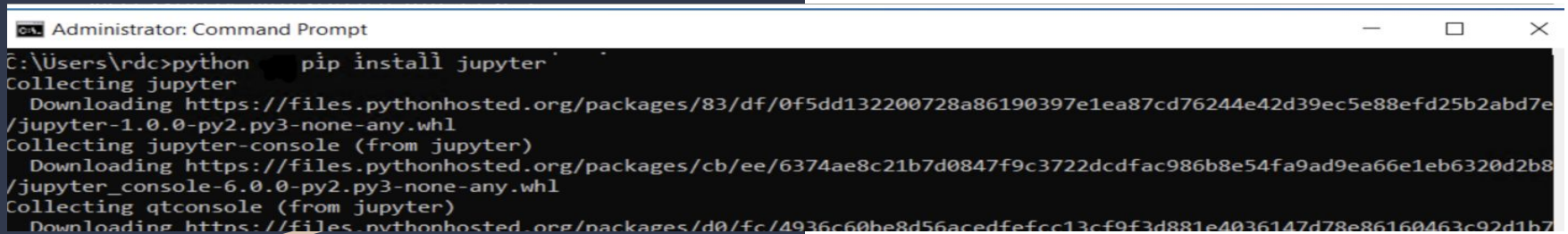
   For Windows run the following commands in Command Prompt:
   1. Run: pip install jupyter

Once it is installed, Run: jupyter notebook, to open the notebook.

Jupyter Notebooks Installation Steps: Windows

1. Type in the following script in the command prompt: pip install jupyter

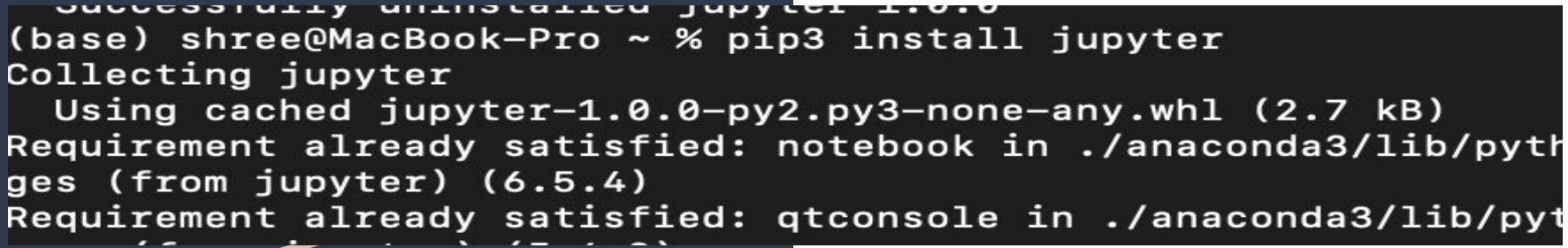
2. Take a moment to do this, and please reach out if you're having any problems!



Installation Steps: Mac

1. Type in the following script in the command prompt: pip3 install jupyter

2. Take a moment to do this and please reach out if you're having any problems!



Project Introduction

CustomerID	Gender	Age	Annual Income (k$)	Spending Score (1-100)
1	Male	19	15	39
2	Male	21	15	81
3	Female	20	16	6
4	Female	23	16	77
5	Female	31	17	40
6	Female	22	17	76
7	Female	35	18	6
8	Female	23	18	94

- Throughout this course, we will be working on a sample project, on Customer Segmentation. For this project, we will utilize the graphs in our analysis of customers' practices. And our final goal will be to use our analysis to draw conclusions which drive market and product decisions.

- The dataset we will be using is one on 200 Mall Customers, including data points on customers' annual salaries, age, spending score, and genders.

Homework

Read introductory material on customer segmentation and its value to businesses.

(Article on Customer Segmentation)

(Another Article on Customer Segmentation)