Section 1 Project00

During this library selection process I had a bit of trouble looking for a library to look into. A lot of the libraries on the python website don’t provide a description or any documentation so I did not know how to choose. After looking through many topics while traversing through the tree I became frustrated because I couldn’t find anything reasonable. I googled “python libraries” and I succumb to the popular ones with plenty of documentation. The first project I started with was using the Pandas library. I read the documentation on how to install it and then after I set up my environment I began thinking of what dataset I would analyze. I then chose to go with a video game dataset; then I began to wonder what would be useful for someone into gaming like myself. I immediately realized how I struggle at times to find something new to play and the public majority is usually only interested in top games. Top games are usually the most popular ones and so I thought to myself, “what’s the quickest way to find a popular game to play? Well, that’d be just running a program, typing in the genre you’re interested in, hitting enter and boom a list of the top 20 popular games pop up in seconds.” So now I have avoided doing any internet searches and in seconds after writing one very simple program I have access to a dataset of over 16,000 games. This dataset was downloaded from Kaggle and provided all the data I needed onto a csv file. After using the pandas library I realized how this program could’ve gone from 50+ lines of code to less than 20. I was able to read off of the csv file with a “read\_csv” function. After I read from the file I analyzed the data and narrowed down my findings with the function “df.loc[df['Genre'] == userin].head(20)”. This was all it took to complete my idea and I did it quickly with no real issues.

Link to the documentation is [here](https://pandas.pydata.org/docs/user_guide/index.html#user-guide).

Section 2 Project01

This next project took me a lot of time to figure out since I’ve been having trouble locating good libraries to start with. After about an hour of searching I finally decided on another popular concept which I was introduced to during our class. Web scraping using beautiful soup, I found this very useful. Well, not this particular project, but the concept of webscraping since it can be updated automatically every time you run the program. I say that not this particular project I found a practical use for because whenever I would try to webscrape a website that I would actually access personally, I would get denied. My first attempt was to web scrape new egg or amazon so I can actually use this program later since I am currently looking for power supply for my pc. I initially intended to webscrape the power supply’s that were on each page so I could easily run the program and see the current prices and brand names etc. But sadly I was denied access and had to give up on a number of popular websites since they were using a https rather than http. So I scoured the internet and all the sites I came across I had the same issue, so I just googled “websites free to scrape” and I came across a site that was essentially made as a demo site just for programmers to practice scraping. After finally finding a site I can successfully scrape I then began to work on analyzing the html script of the site and it was a bit surprising. I am grateful that I do know at least the basics of html and how html scripts are organized. The website I came across was a book selling site and I scraped the book names, the price of each book and the availability status. I read the information that was relevant and wrote it to a csv file in excel, so every time the program is run it is updated and will be accurate every time. The most useful function and one of the most powerful was the “findAll” this made traversing through the html script extremely easy.

Link to the documentation is [here](https://www.crummy.com/software/BeautifulSoup/bs4/doc/).

Section 2 Project02

This final project I had a lot of fun with and honestly opened me up to appreciating the way libraries can make coding so much more simple than many other programming languages. I found the library pillow and immediately started to look through youtube and just trying to find ideas as to how I can make pillow into a useful practical program. I then thought, “Ok a lot of people take pictures and maybe I can develop something to edit pictures to some degree but make it extremely simple for the user.” I realized how much pillow can do so this last part of the project became a lot longer than the other two parts It took me around the same time to complete, but took a lot more lines of code than the others. I wrote over 100 lines to complete my idea, I did this because I was just having too much fun with this library and how simple it was to comprehend so I kept adding and adding things to have a little more options than I had initially planned to have. I learned most from this part of the project than the other two parts because I felt so invested in this library. I really developed a lot better understanding of if else and while loops through this project. I then began polishing up this project to make it more user friendly and became very satisfied with the results. I allowed the user to do a number of things: change image format, resize, rotate, mirror, flip, brightness, filter and change to black and white. All these different options generated a lot of if else and image functions. The original images were not changed only new ones were created from these new images and I found this very handy and practical for the user. I think I really enjoyed this project 2 assignment, it really opened me up to learning more python and I hope I can continue this trend of enthusiasm during these troubling times.

Link to the documentation is [here](https://pillow.readthedocs.io/en/stable/).