**Project 3 Documentation**

The goal of this project was to create a python program that can be used to improve the lives of people around us. To create a fitting program concept, I decided to look at the technology that I use around me. At first, I looked through my desktop, hoping to find some sort of motivation. As I reached for my phone and unlocked it however, I realized that social media is still as relevant as it has always been. At first, I considered possibly creating a Twitter bot that automatically tweets positive affirmations throughout each day. I also considered using a Twitter bot for similar feats such as automatically posting tweets with random fun facts, or the weather in random areas of the world. Although I still hold interest for these concepts, I decided to simplify my project concept a bit more due to time restraints and my heavy course load. Eventually I decided to create a social media growth calculator using python. Since most people around the world utilize social media daily, I decided that a social media growth calculator would be helpful to any individuals who are either personally curious about their own online presence or genuinely concerned about their growth rate. The latter is especially important to consider when social media influencers around the world continue to grow in number, wealth, and power. Overall, the social media growth calculator gives users the ability to check their own growth rate based on the number of followers they have. This python program can be used to improve the lives of the people around myself and the world.

My safe goal for this project was to create a simple social media growth calculator with proper user input and the final output. This is the most basic version of the project that I aimed for in case my stretch goal did not end up working out. My stretch goal included implementing various social media API’s such as Twitter and Facebook to automatically pull data from the site(s) itself. This stretch goal would only ask the user to select their social media platform and input their username. Following this, the program would then display the same output that would be seen with the safe goal version.

Overall, the progress I made on the python program stalled almost immediately. This is due to my unfamiliarity with using API’s as well as a general lack of skills regarding data manipulation. Time restraints existed due to my heavy university course load as well as outside responsibilities which quickly meant that my stretch goal failed. Following this realization, I decided to fully implement the original safe goal plan to complete this project. Since I was new to the *colored* python library, it took quite a bit of time to work out how to fully implement this library into my program. I decided to use this library after a close friend and industry programmer recommended it to me since they used it in their own coursework when they were completing their own undergraduate degree. This slowed down overall development speed however eventually due to online documentation, I was able to succeed in implementing it. Following this, all that was left was to create the class methods needed for user input, output and of course the calculations that are central to the program’s functionality. Although this version of the program did not meet my stretch goal plan, it still maintains its full functionality without leading the user to believe something is missing.

I found using online resources to be very useful during the development of this program. Online documentation for the python programming language as well as documentation on various libraries and other concepts tremendously helped overall development. This python program was also supported by previous python assignments and projects as those were used as reference in some smaller cases especially concerning classes and methods as that is where I usually stumble. Not only were online resources very helpful throughout project development, but past assignments and projects were as well. Many resources online however were not helpful as the examples shown were either outdated or too beyond the scope of my current skillset to fully understand and implement.

While developing this python program, I learned many things regarding general python practices as well as python library usage. I found that creating smaller sized projects such as the ones assigned throughout the semester, improves programming skills much faster than relying on much larger assignments. Although I had issues with the methods, I created within the program at first, I quickly learned how to solve the present issues and become and overall, a more flexible programmer.