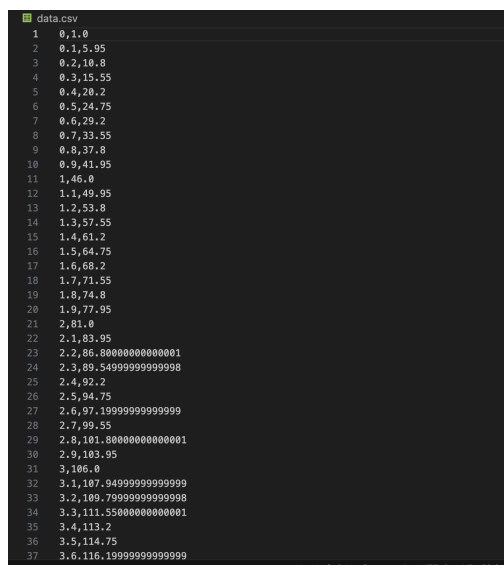Svita Kiran
Project 01: Creating Data

Abstract

The key concepts of this project were to develop algorithms and create, break down, and plot data. What the program is meant to do is that it breaks down a process, which in this case is a physics equation which approximately models the position of an object due to different factors such as velocity, acceleration, and gravity. When a user runs the program, different plot points will show up comparing planets.

Method

A key concept from class that helped me with the code in this program was defining variables because that made this code a lot smoother, easier to understand, and easier to run when I would make small changes. Another concept that may seem simple was also spacing well because there was a lot of code and seemingly random letters that could have gotten lost or made the code much more confusing if I hadn't been spacing throughout the program.

Results

This is an image of the data from the program which plotted the trajectory of an object with certain inputs. The two values are t (time) and y (position) where y was calculated by the first equation that was given.

Reflection

The concepts that I learned and used in this project could be useful in my life because if I had a lot of data that I needed to plot then I now have a method to do so. Aside from the programming, this project helped me know how to break stuff down into smaller pieces and make it easier to read and understand. I can use this if I feel overwhelmed or if I have to do something and I don't know how to start, now I know how to start small and work up and connect everything together.

Extension
I did the extension that was to figure out how to let the user specify the name of the file to be created. I added an input command and then changed the input into a string. I struggled at first because I put it as part of a function which was being called 100 times, but then I was able to move it out and have it work how it was supposed to.

Sources
CS152 FA23 Project 1 Creating Data - document from class given by Professor Harper
CS152 FA23 Lab 1 Getting Started - document from class given by Professor Harper