

Report08

Problem Description

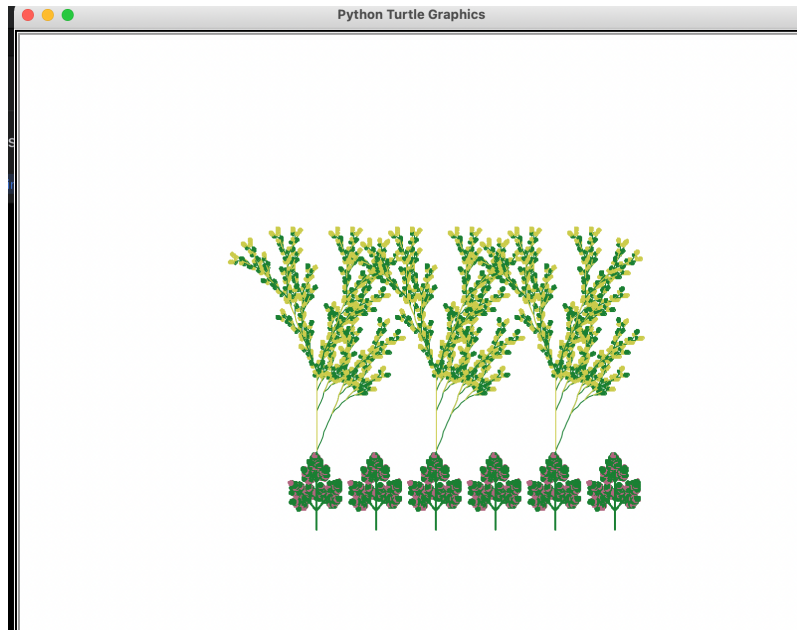
The purpose of this project is to make full use of L-systems and limiting the use of hard coding any turtle programs. In this project all drawings are initiated through the L-system class and turtle interpreter class. Using their methods this allows the python programs to draw out the L-systems that are defined in text files.

Follow-up Questions

1. A class is a way to create object in python and can be thought of a object constructor
2. An object is a collection of methods and variables that is contained within a class
3. The role of self is to allow access of the methods and variables of a class.
4. If there is an object x and you need to access one of its methods y, you can access y by doing the following objectx.y()
5. I drew inspiration from an enso tree. It to me is a meaningful symbol but simple in nature.

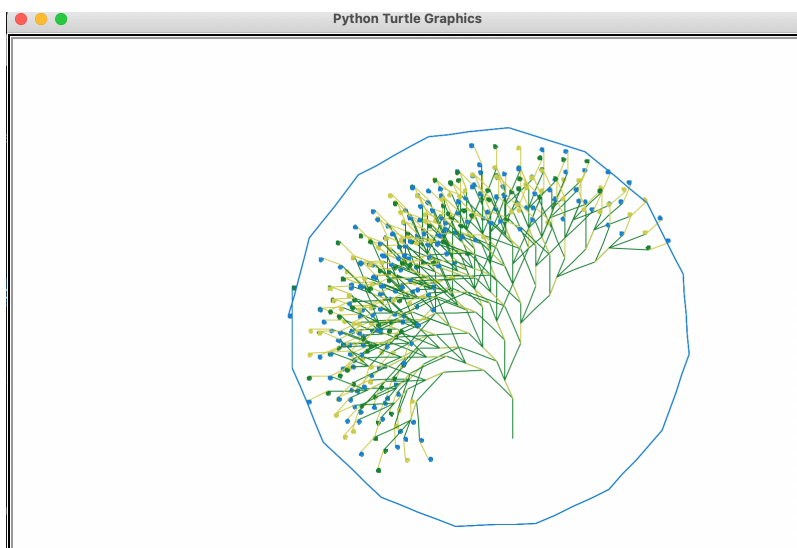
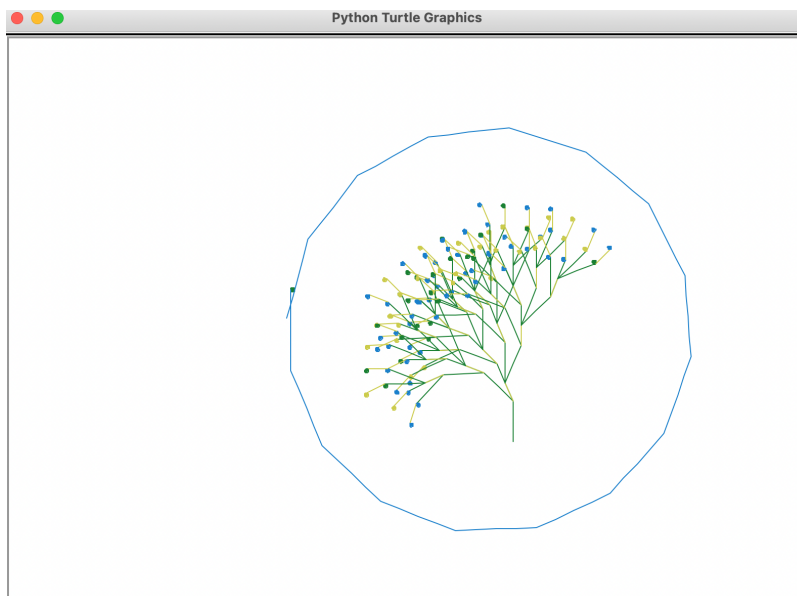
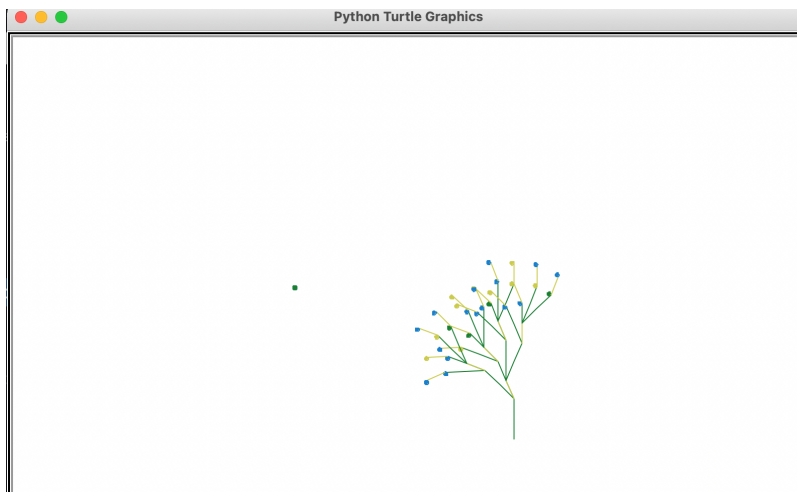
Required Task Elements

Image 1



I found that changing the iterations of an L-System greatly changes the size and look of the tree being drawn. This was good to figure out as it is important to figure out how your L-System lays out

Image 2(Growth.py Iterations: 3,4,5)



Seeing how the L-System change over iterations is very interesting to see. I was trying to design an Enso tree drawing but ran into a small hiccup trying to figure out how to get the circle to stem appropriately from the base of the tree and go around it.

Extensions

- **Leaves/Berries** - Added a conditional into the interpreter to add in a circle when ever it came across an L in the text file. It will also take in a a color from the color stack
- **Fancy** - This is a very loose extension on my end but I added a loop to draw out a bush in arrangement.py instead of having the L-system handle the drawing of multiple bushes
- **Different shape** - Another loose extension on my end but made a circle using the L system. I don't believe this is the most elegant solution but accomplishes the desired affect for now.

Reflection

Working on project 8 has definitely challenged me in many ways. Initially I was having issues with my L-system and turtle interpreter. I believe I was having issues with this just due to understanding of how classes handle data. Once I got a decent handle of that, the flow of the project felt much better. Working with the L-System directions still has me guessing at times as to what effect I will get but am feeling much more comfortable with it now than previously.

Acknowledgements

Andres - Assistance with helping debug initial issues with L system and Turtle Interpreter

ABOP - For initial starts of L Systems. I based my bushes off of example E and large trees off of example F

Turtle Documentation - For looking up parameters of color method and circle method