David Centeno
5001/5003 Spring 2021
Intensive Foundations
2/2/2021

Report 2

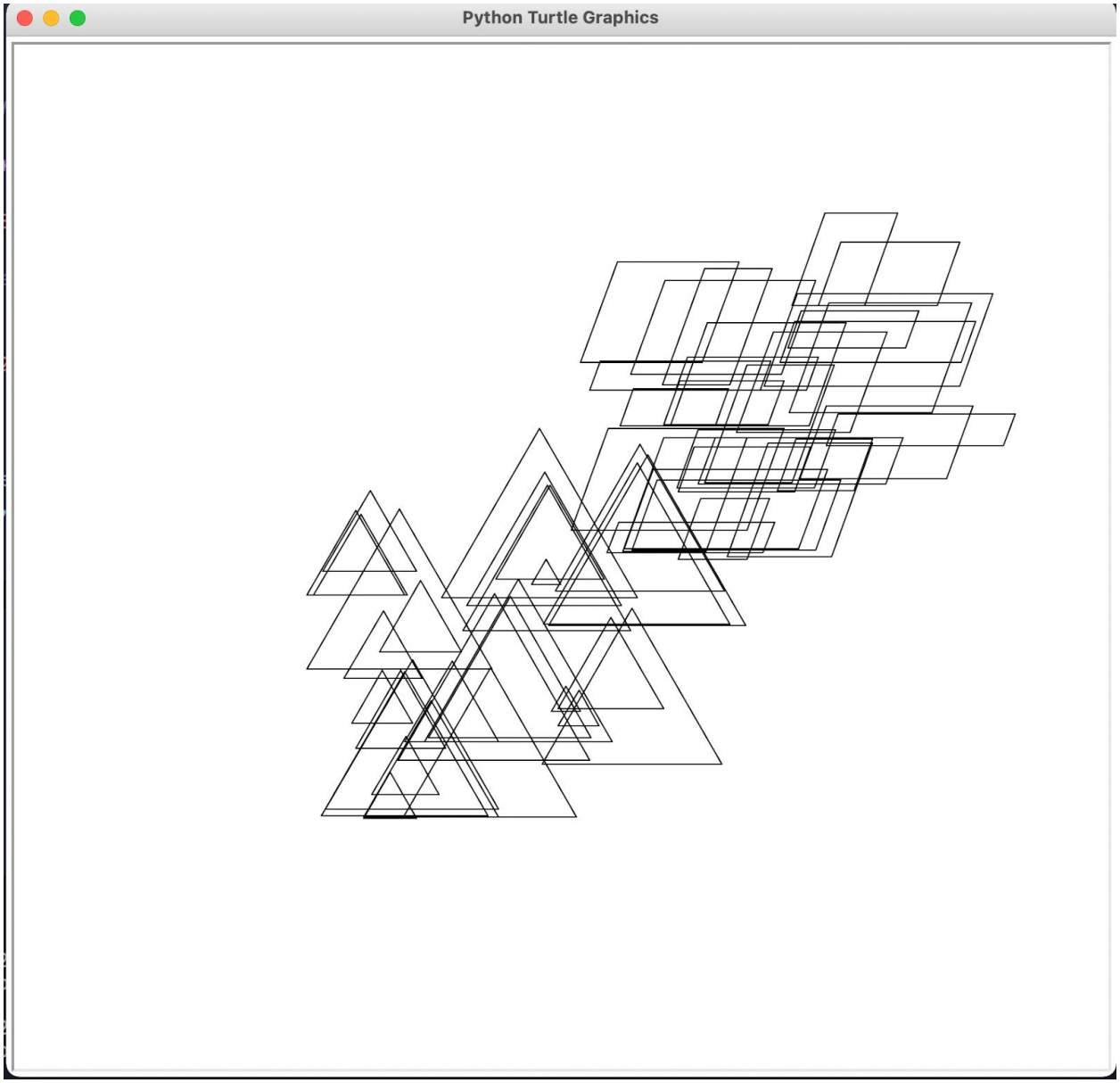
Summary:

The purpose of this project was to enforce the use of how parameters work and making better use of scaffolding of functions. With a better understanding of parameters, functions, and now the use of for loops we can write code that looks clean and that is less repetitive. The end goal of this project is to take those concepts and create a scene that reminds us of Maine.

Follow up Questions:

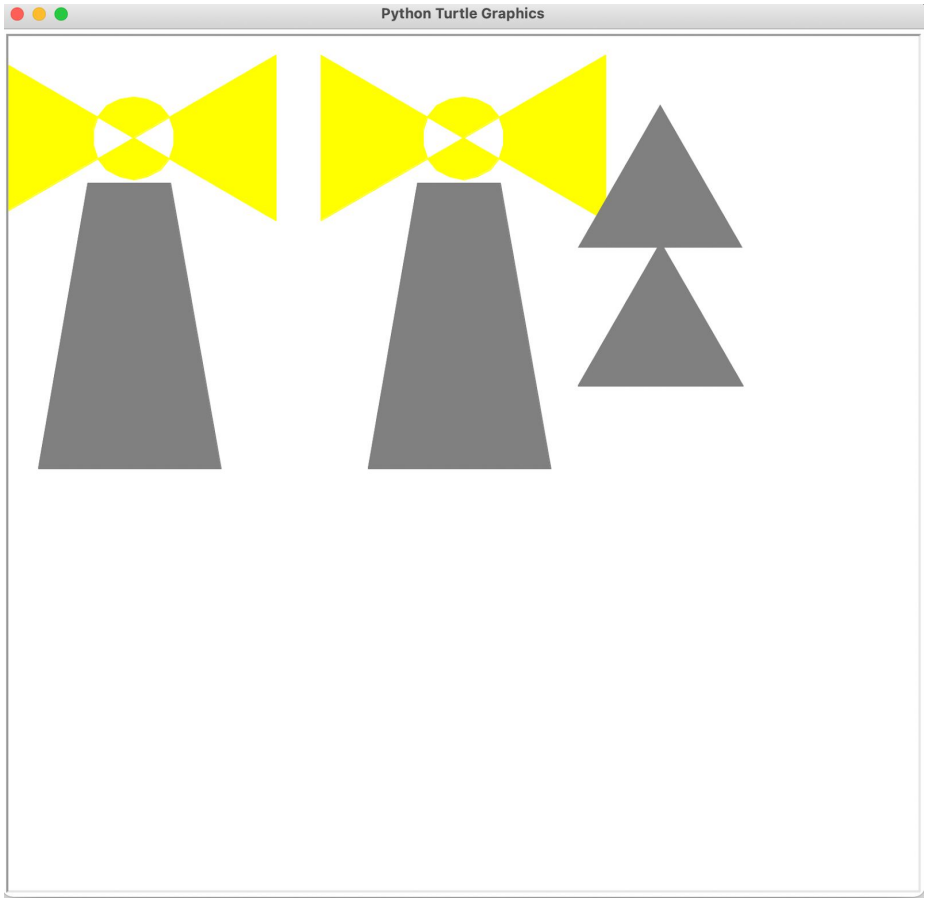
1. Breaking parts of the scene into smaller pieces makes creating the scene a lot easier. It is much easier to manipulate a function or object at a basic level rather then a function that pulls in multiple objects and other functions at once
2. A for loop is a way for the user to repeat code without having to write it out multiple times. This is incredibly useful as we do not have to repeatedly write the same code and can even tell the loop when to start and when to end.
3. There is a big difference between “from import turtle *” and “import turtle”. From Import turtle will pull in all the functions and methods that turtle has created in its library and makes it accessible to call within the global scope. There is no need to reference the turtle library. With “import turtle” we can assign a reference such as “t” and anytime we call “t.” we can then access turtle’s library. This prevents the turtle library from overwriting anything in the global table.
4. The random package allows python to use a library of functions that help produce a random parameter or function to the users code. An example of this is passing a coordinates function a random.randomrange( ) parameter. This would allow for starting at random plots in an x,y axis for instance.
5. When a Maine artist comes to mind I think of Dahlov Ipcar. I went to the Portland Museum of Art and saw one of her exhibits and liked her work. I enjoyed her use of geometry in her paintings.

Image #1



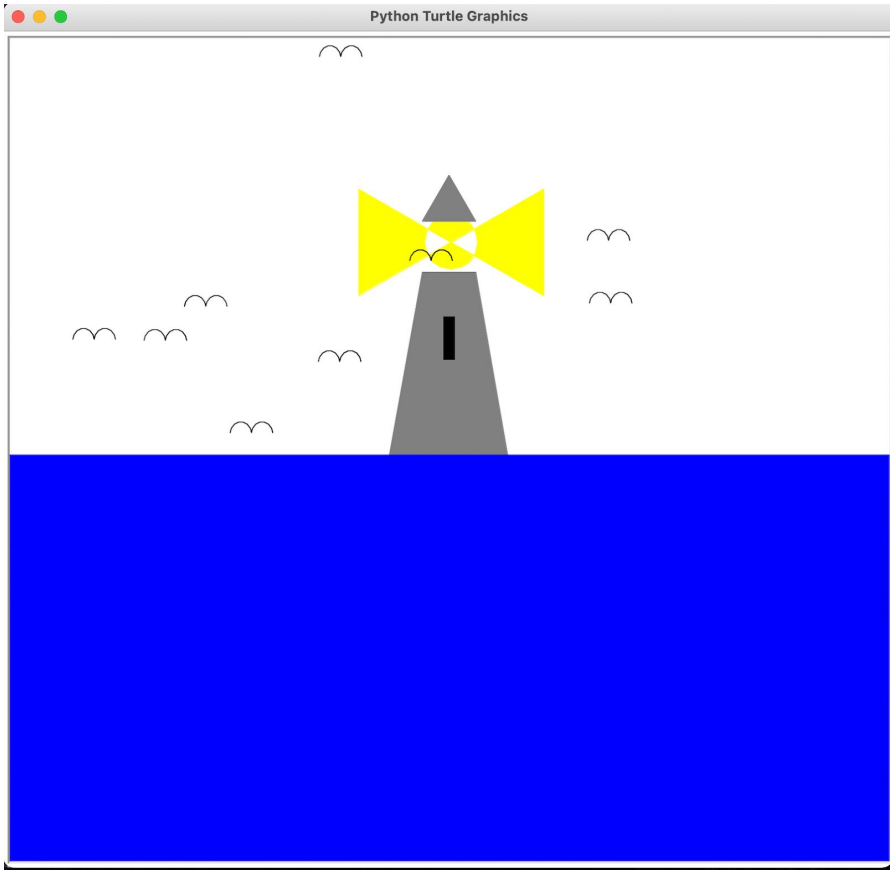
The drawing above proves that shapes can be created randomly within the given random parameters. I added the random function to help further prove that no matter the coordinates the shapes can be created correctly.

Image#2



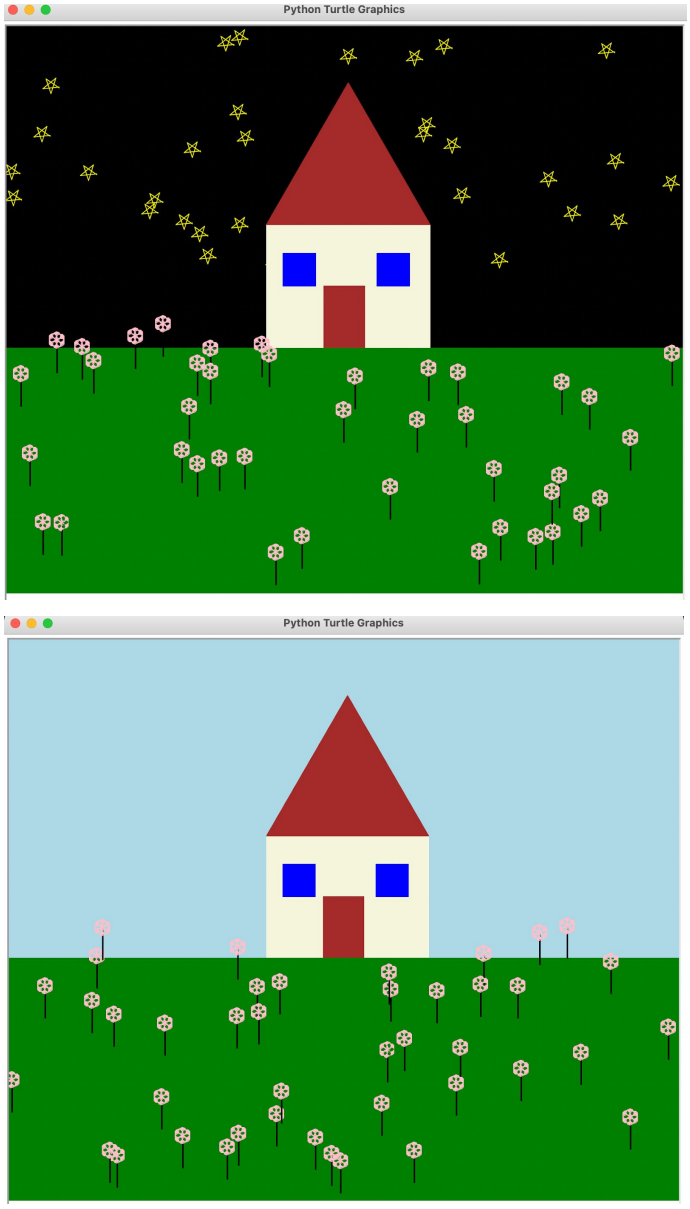
This part of the project made me realize to test and test often. I was having some issues with shapes not moving and starting at the right angle. After a few adjustments I was able to get this to work. I also learned that trapezoids are incredibly difficult to iterate and make smaller each time and have spent much more time than I care to say on figuring that out. I ended up using a large rectangle and using that as the base for the intended lighthouse. By making a few adjustments and some simple math I was able to figure out how to make an intertwined triangle as one shape.That made a great shape for the spotlight for the lighthouse.

Image #3



Seeing the end result of scene 1 gave me a great appreciation to how much code goes into creating a scene that looks this simple.

Image #4



I had a bit more fun creating scene 2. I had a bit of a hard time creating the scene I would like with scene1. I remember my first efforts of ever drawing being a house so it was fun to tackle that again via code. To add some more complexity to this I expanded on the semi circle bird

shape and made them into flowers. I also added here a conditional statement to either make it night or day time.

Extensions:
-Used more complex shapes such as semicircles for birds and flower shapes for scene 2
-Added random function to birds to plot them out randomly and generate a random amount of birds
-Created a condition statement for scene2 that would switch from day to night. scene2( ) takes an argument of True or False

Reflection:
This project has helped me better understand functions, scope, and parameters. Prior to the project I felt like I knew how functions and parameters worked but now feel much more comfortable and can better identify which values are being updated by which parameter. I also found that I was more conscious of trying to write more efficient and less repetitive code. The for loop has definitely helped with this.

Resources:
https://docs.python.org/3/library/turtle.html Used for refresher on fills,color, and circles.