David Centeno
2/12/2021
5001 Intensive Foundations
Spring 2021

Report 03
(Used 1 Time Warp Day)

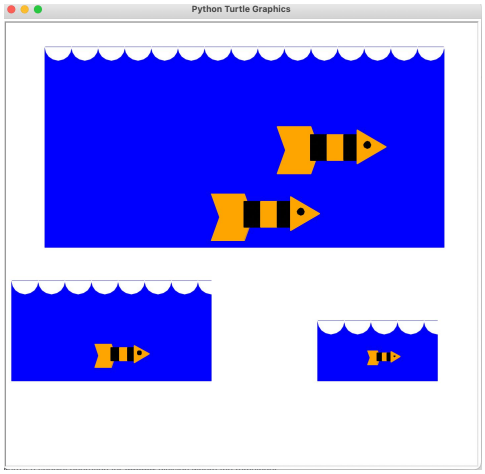
Summary:
The idea of project three is to create a surrealist piece of art with turtle graphics. The project keeps in mind that we need to focus on some key programming concepts such as abstraction, scope, clean non-repetitive code and functions in functions. Ultimately at the end of the project we should be able to scale and control one of the scenes within a scene

Follow up questions:

1. A command line argument is an argument that you can pass in the terminal/command line that will pass into the code that takes a command line argument
2. An if statement allows us to use some control flow. We can set the parameters of a certain condition and if its true or false we can have that condition execute
3. In python = is an assignment operator. In example of this is a = 0. We have binded the variable a with the value 0. The == operator compares the two data types on both sides and determines if they are equivalent. An example of this is 12 == 12, this would be a true statement. In the case of 0 ==12, this would prove as false.
4. You can control how many times a for loop repeats by passing it a function parameter such as an integer or even a variable.
    a. I.e for i in range(e) print =’Hello’.If E=9. Hello will print 9 times.
5. The False Mirror work by Rene Magritte and “We Chose This Road My Dear” by Frank Moth. These pieces got me thinking in the mind of surrealism and wanted to do something with space. At first I had an idea of copying the eye idea of the False Mirror but wanted to do something a bit different. The space concept got me thinking of things that shouldn't exist in space and came up with the idea of fish swimming through space or being in containers in space.

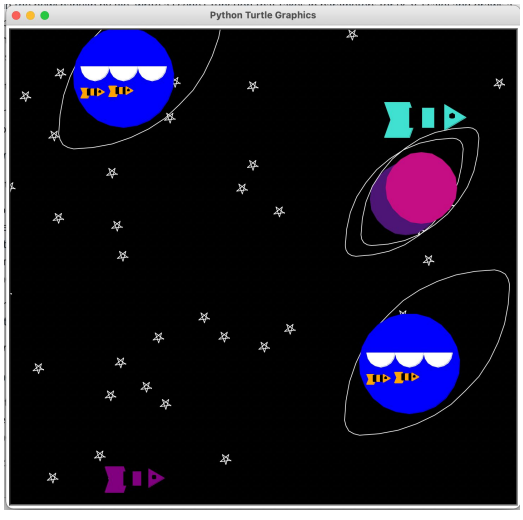
Task Elements:

Image #1



Initially this was quite fun to program. I learned how to stack my images so I can create the waves. The crescents I made, I found that the fill will color in from one crescent to another and not below. I created blue blocks and made sure the wave function stayed at the top so the illusion looks like its waves.

Image#2



My surrealist idea of having fish swim through space and be in containers was much harder to execute than I initially thought. I wanted to add planets so I decided to use two of the planets as a “water planet” to host the fish so there’s some type of surrealist element to it as well as just fish in the stars. The pink and purple planets will forever hold the most clever computer plotting and color scheme. At a quick glance it looks like one planet with shading but is indeed two separate planet functions.

Image #3

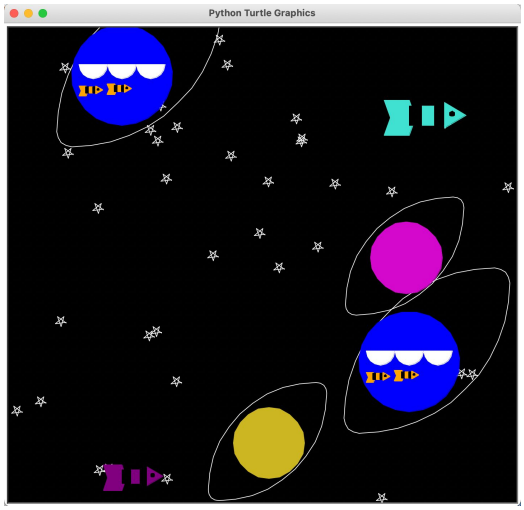
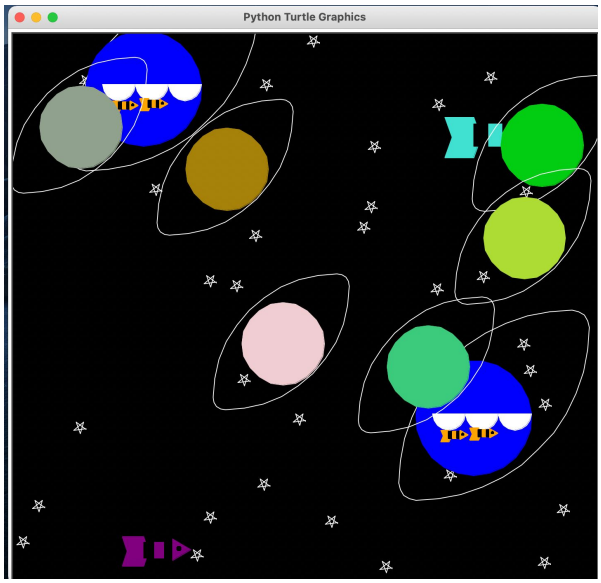


Image 3 takes the command line argument with just initially two planets and plots them out randomly

Image#4



In Image 4 I added 6 planets via the command line argument. Not sure if there is a way to protect from overlapping but that would make the image look much neater.

Extensions:

- Learned how to create ellipses and tried manipulating to make it look like a ring of a planet
- Read more on circle documentation and learned how to make crescents
- Figured out how to make crescents/waves have color by stacking images
- Used conditional statement to reverse the direction of a shape

- Not sure if it would be considered an extension at this point but used the random function to create random colors and random positioning.

Reflection:

Although the drawing did not turn out how I imagined or wanted to, I definitely found that I'm feeling more confident with the use of functions and passing appropriate parameters. The project has also helped with understanding the scope of functions within functions and using conditional statements.

Acknowledgements:

How to draw an Ellipsis: https://www.geeksforgeeks.org/draw-ellipse-using-turtle-in-python/

Reference: https://docs.python.org/3/library/turtle.html