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2/10/19

CS2301, MW 1:30pm-2:50pm

**Lab 1 Report**

This weeks’s lab consists of creating different figures using Recursion in Python.

My approach to this task was to practice first the exercises from the lab, then move onto the lab’s figures next. When attempting this, drawing circles overlapping was the first set of three figures I was able to create. Moving onto drawing squares, I was unsuccessful in doing so. My code starts with my successful attempt at creating the set of circles overlapping. The first method, “circle” is to create my circle first by using simple math to create the circle using the numbers given from the second method, “drawing\_circles”. My second method takes the numbers given in the print code after this method, and sends it to the first method, creating the circle, then back to the second method to use the created circle to constantly draw the next circle inside of its area. At first, using the code given for exercises, I relied on the “Drawing circles” exercise we were given in class to practice for this lab. After giving it some practice and thought on how it worked, I was able to see that the coding between this lab and the exercise weren’t so different after all. There was only one part needing to be changed to have the circles, instead of repeatedly being drawn around the same center in the middle, were now being drawn to the left of the grid and continuously being drawn. I experimented with the numbers in the print code to match exactly how they are to look (changing the decimals or whole numbers). In this case, it was “draw\_circles(ax, 50, [100, 0],100, .7)”, the changing of the .7, mainly. After Monday’s class, I finally understood that “.7” was the percentage of how much the newer circle was going to be from the original one, and I took off from there. After this, starting on the Square’s recursion should’ve been similar to me, but I couldn’t understand how to repeatedly draw squares on the corners of the original squares by either changing their center points nor seeing if it could’ve been almost exact to the squares exercise code. By the deadline, I was not able to successfully draw the squares, binary trees, nor circle crosses.

My lessons from my attempt at this lab are learning to understand plots and which variables are coordinates in Python. At first, attempting this lab deemed difficult, but after explanations in class, I was able to understand the coding easier. Also, I’ve learned to be better prepared in the future with as much resources as I can use as possible (TA, professor, google, etc.) to be able to complete the next lab, and take more time off my job to do so.

Appendix: https://github.com/Brianna-T/Lab-1.git