# Project 11- 3D Turtle

The purpose of this lab was to utilize the 3D turtle to make 3D shapes and scenes.

Task one was to create four new 3D shapes using the shape class. By creating strings I could create shapes that have 3D. I had to utilize pitch, yaw, and roll and add these new characters to my interpreter class. I made filled shapes and wire shapes.

I also used the broken and jitter linestyles to make the shapes more interesting.
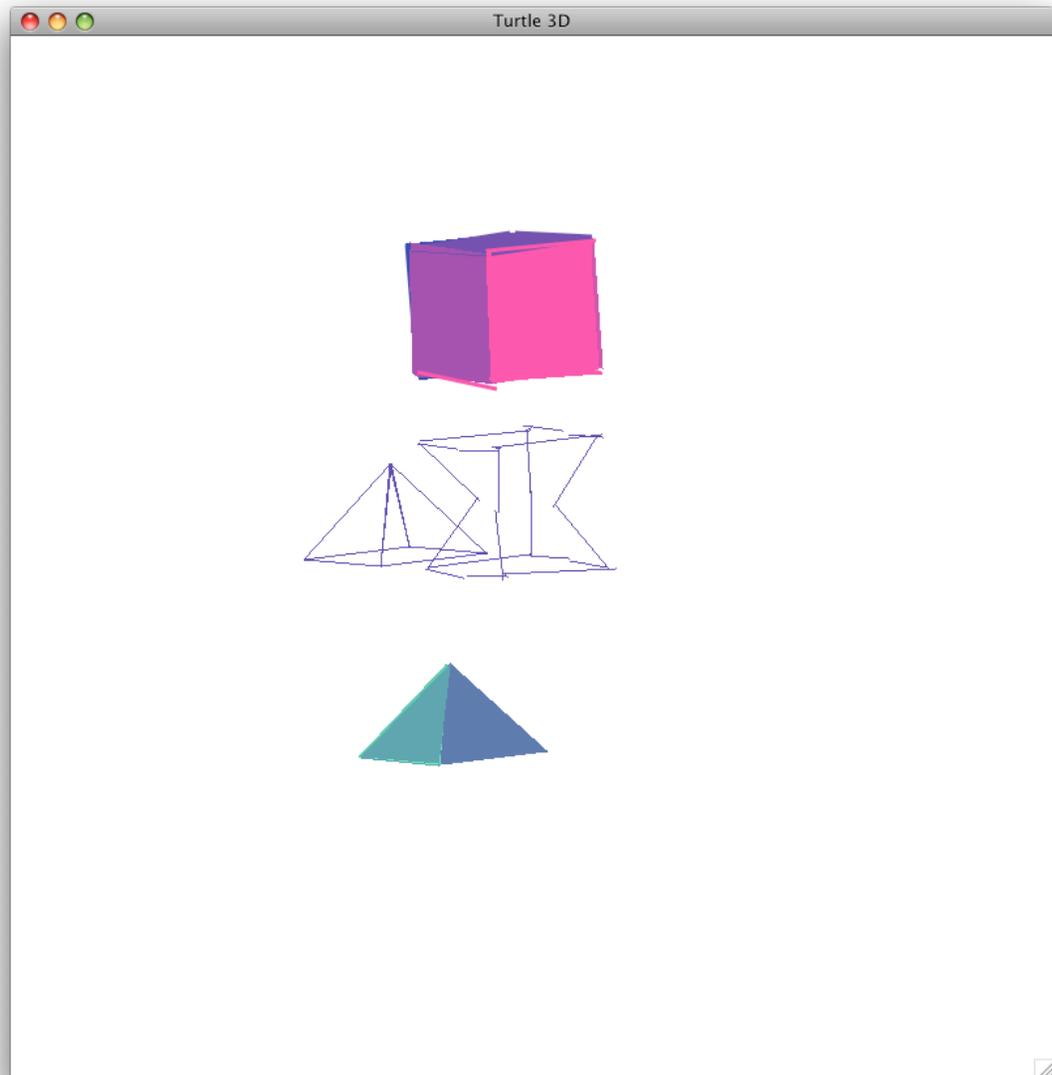
Required image one:
Task two was to create a scene using 3D images. I created a scene stacking the pyramids on top of the cubes to make houses. I also used L-systems to put trees into my scene and I used my own tumbleweed L-system. The tumbleweed is inside the wire house to show the depth of the 3D turtle. I used different colors on each side of the filled pyramid and cube so that I could tell the cube was complete and had all sides.
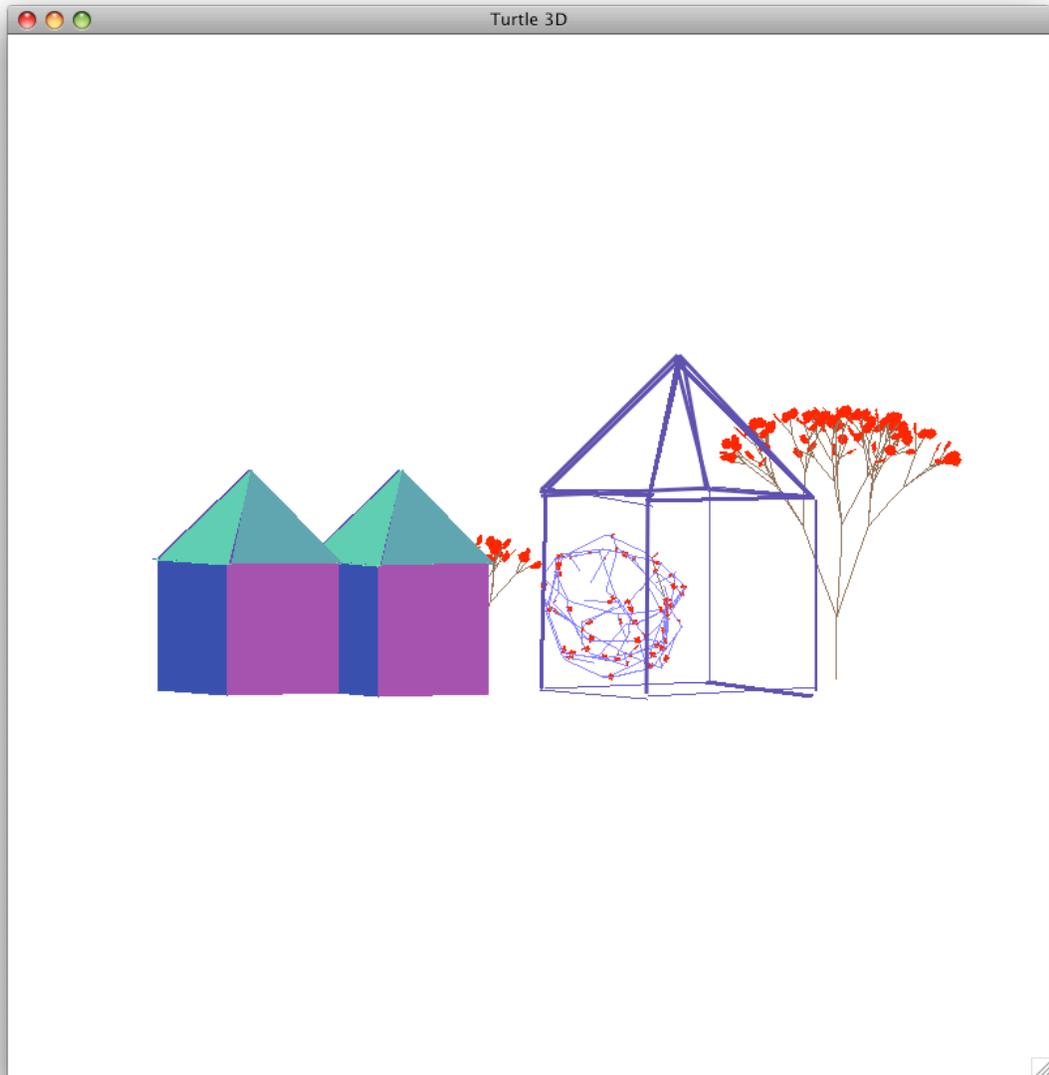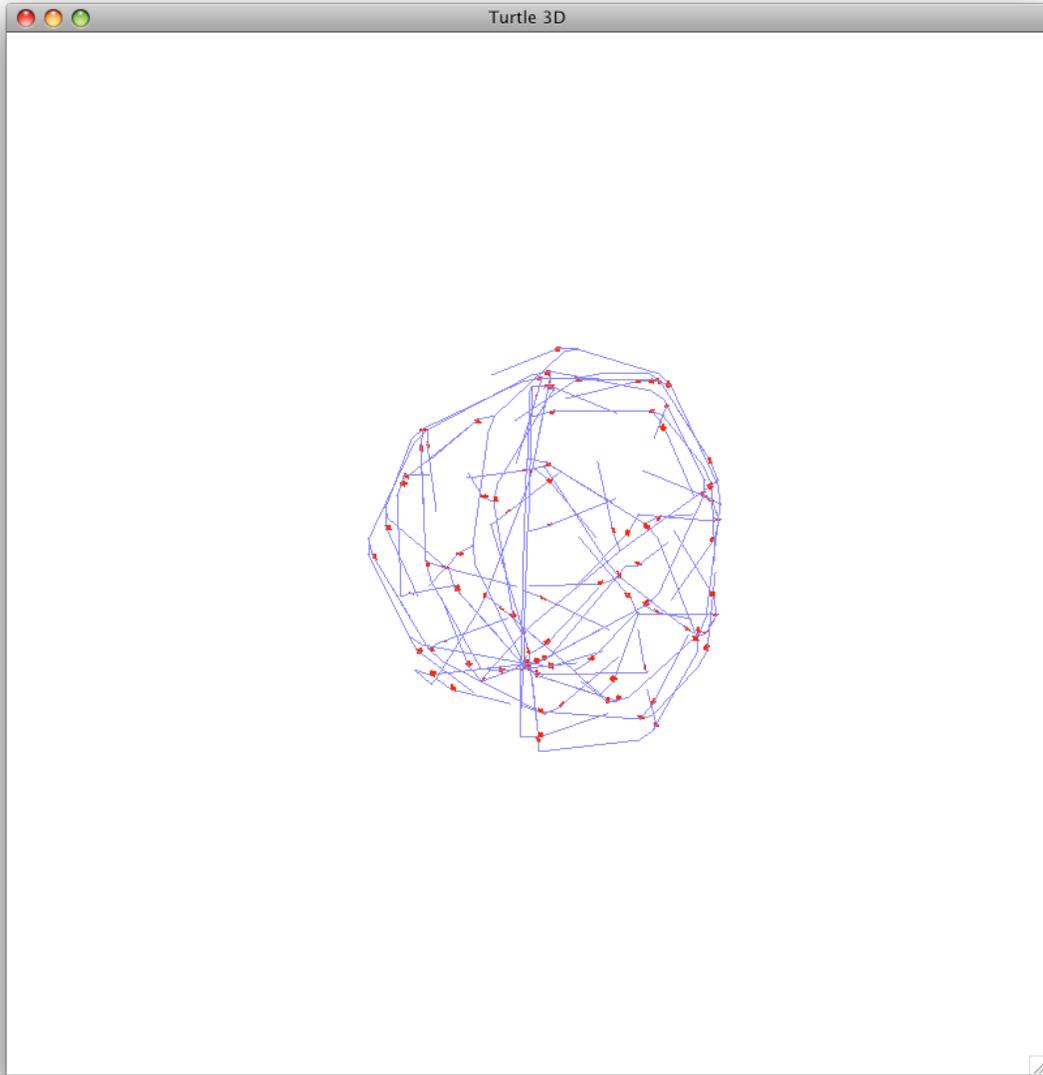
Required Image 2:
Task 3 was to create a scene using an extension. I chose to create my own parameterized L-system. My L-system looks like this:
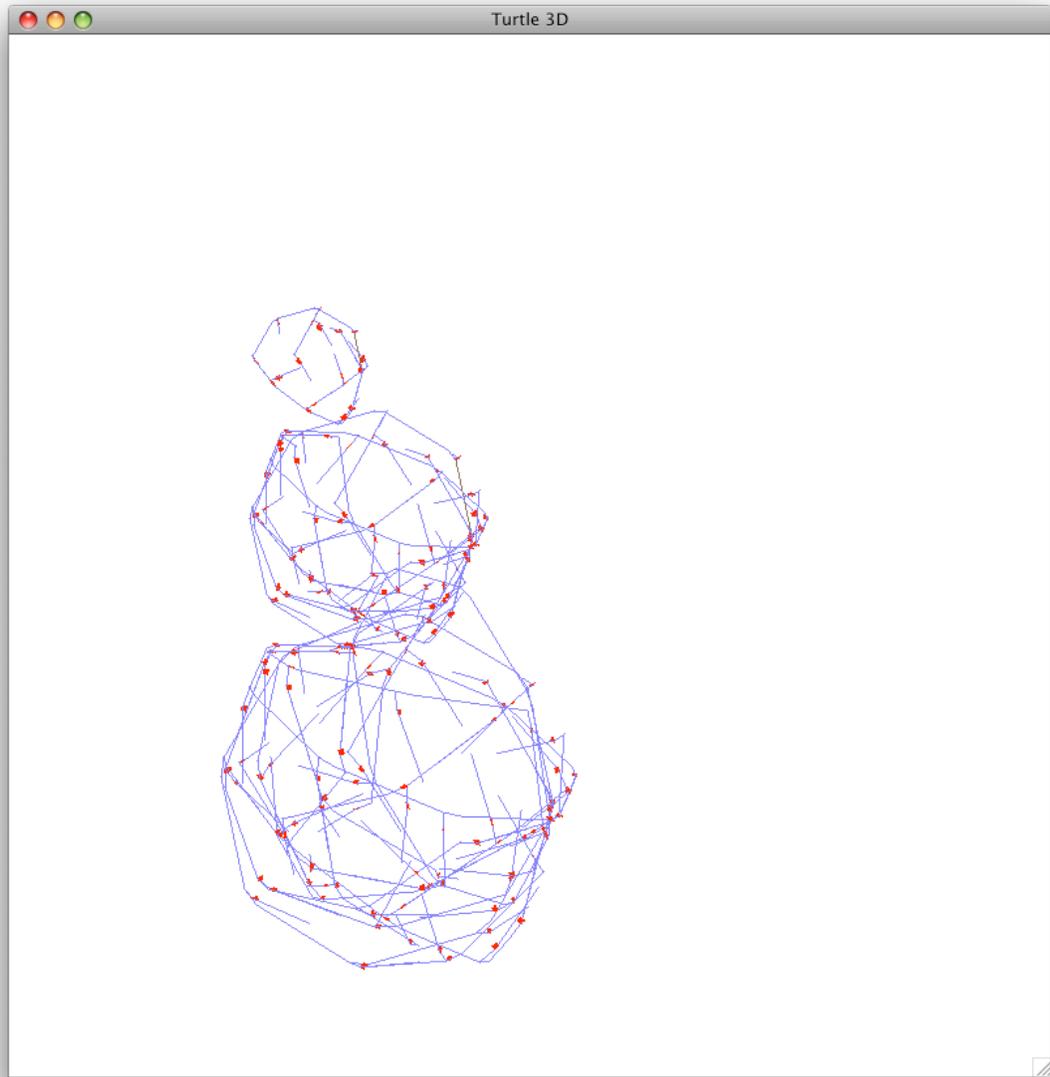
base F
rule F F+(6)F[(70)&FB+(4)F]

Just the L-system with 5 iterations looks like this:

Then I decided to make a more intersting picture by making a tumbleweed snowman figure. Each ball has 1 less iteration and the distance

decreases by 5.

In this lab I learned how to use the 3D Turtle package and how to use pitch, yaw, and roll. I also learned how to create strings that will fill in your shapes and that these strings are different from the wire shapes. I figured out how to change the colors so that each side of my filled cube and filled pyramid would be a different color.