I did a whiteboard design of this project before i started coding and as I went along I found that I had to revisit the design a few times. One specific redesign that I remember was all the shapes inserting from Shape I quickly found as i started working on the composite shape that there were going to be issues with rotation. With the composite I was unable to find a center point. So at this point I revisited the design and decided to add another layer of inheritance in that the geometric shapes would inherit from a Geometric class that in turn inherited from Shapes. This allowed me to have a common implementation of methods that would take far too long to implement in the composite shape.

When it comes to testing I found several bugs in my code that I would not have caught with out unit testing. I was slightly annoyed about writing pointless tests for getters and setters as they are built into the language and likely have many tests that are of much higher quality than the ones I wrote for them.

Overall it was a great assignment it took a bit of time but ended up being pretty fun. It was pretty satisfying when it was completed. The flyweight pattern made a lot more sense after I had implemented it.