Christopher Eichstedt

CS202/Spring 2016

Project 12

I don't think I have gotten a concept quite as fast as I did with Class Inheritance & Polymorphism. And it seems like something I should have used for quite a while now. It definitely would've made those car rental programs earlier, a lot easier than just making 3 new classes. Regardless, I was able to test some theories and was pleasantly surprised with the result. I have listed a few of them below:

1. **Tested how private, public and protected data functioned within an inherited function.**
    a. This took a little less time wrapping my head around, than originally anticipated. Once I remembered that we didn't have to dynamically allocate the data within the class, it was just a matter of reminding myself that each object would require me to set the values for "isThreeDimensional" when initializing their other values.
2. **Tested how information could be read using an ID within an Array**
    a. The array seemed a bit intimidating at first but once I realized that you could use a switch statement for each case, it became a lot easier to comprehend. I would simply just allot the value after determining which shape ID I encountered, and distribute the information after the fact.
3. **Tested out double pointers and how to access their information**

a. Double pointers were something that I was looking forward to using as they seem to be explicitly used with class inheritance. All in all, they weren't that difficult to implement and utilize but were kind of fun to poke around with.

4. **Tested how to print out the information in the correct format described**
    a. This one, for some reason, was the most trickiest. I had first thought to cycle through the array and print out each item in order of 3-dimensional versus non 3-dimensional. It was with that line of thinking, I had realized that I could just use (2) for loops, and print out information based on the bool value, "is3D", that was defined earlier when I set the value for, "isThreeDimensional". So I just implemented the aforementioned loops with conditional statements that would print out Perimeter/Surface Area first, and then Area/Volume.

Without a doubt, Class inheritance & Polymorphism was my favorite project to date. Not because of it's simplicity and easy design. But mostly for how well it spoke to me and its usefulness. Going forward in Computer Science, I will definitely utilize what I learned during this project and more importantly, this class. Thank you for all of your help, and I hope to see you again in the future.