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CS 162: Intro CS II
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Assignment #3: Polymorphism Program – Reflection

Reflection

What did you learn about the problem as you went? Why or how did you learn it?
> In this assignment, I need to create a program that will create different class of characters. Each of these characters had different traits, as far as attack, defense, armor, strength, etc. Essentially, the program would have the user create these and then could make them fight one another until the character's strength is drained to 0.
> This program required us to use the concepts of polymorphism and present a class hierarchy. These concepts I learned how to do through in-class video lecture and class assigned textbook reading.

What tests didn't work out the way you expected? What alterations did you have to make to your program due to failed tests? How could your planned tests have been more complete?
> I started out with some of the easier classes that didn't have any or much special attributes such as the Barbarian and Reptile. As long as I had those in, there was no special cases that I needed to worry about. I was thinking during the implementation if as long as I have those in place and it doesn't work, then I wouldn't have to make a whole of changes. Just need to take one piece at a time.
> The tests that I had laid out in the test plan were going fine and exactly how I had predicted. Once I had the Barbarian and Reptile pieces set in ok, I needed to make sure the other pieces were fine. The only one I had difficulty was handling the Blue Man exception. In this one, the requirement was the Blue Man would only attack if there was more than one of them. I set up a population variable within Character to set the population and when there was more than one Blue Man it would attack.

When I initially created the code, I was thinking I needed to have a class hierarchy of the Character class which would essentially carry functions, and the vector list of all the characters. Below that would be all the child classes, such as Reptile, Shadow and so on. I came to realize during the middle of

What was missing or needed to be altered from your initial design, and why?
> When I initially created the code, I was thinking I needed to have a class hierarchy of the Character class which would essentially carry functions, and the vector list of all the characters. Below that would be all the child classes, such as Reptile, Shadow and so on. I came to realize during the middle of implementation and I wanted to make sure everything was compiling correctly, that it wasn't coming together correctly. Attributes and methods needed to instantiate within the hierarchy. As in none of the methods and attributes matched between Character and the sub-classes.
> I choose to move the Character Class as its own class, then create a Base class with all the attributes and functions a character would have. Each of the sub-classes would be below in the hierarchy of Base. There required its own header and implementation file, but nothing I couldn't just copy and paste over.
> I also missed a dice roll mechanism in my design, so that a number of dice and sides of dice would create a random total for the character's attack or defense. I knew this needed to be added, just forgot to add it in.

What problems did you encounter during implementation? How were you able to solve those problems? What outside sources (sites, books, or other materials) did you find helpful?

> As I mentioned above, I had an issue with mismatched attributes and behaviors within the hierarchy. I really looked at some of my lab material from a previous week to have an example of what it supposed to look like when it is complete.

Can you generalize any parts of your problem solving experience in a way that might help you on future assignments?

       Another problem I had during the design I discovered is I thought we were going to do something with virtual methods as I was working with it during the week. It took me a while to realize that I didn't need to implement that at all into the program. I think, it would help me to re-read the assignment after I finished off another piece of work for the class, to refresh where and what actually needs to be accomplished.