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CS162

Lab 3 Analysis and Results

Analysis

I received a set a files for the die and loaded die classes that were a bit different than what I had originally designed. They both contained pointers, so I was required to brush up a bit on how to properly use them. After reviewing the topic I proceeded to change the loaded die class so that it inherited data from the die class. Once I did this I found that I had to redefine the roll function in the loaded die class so that it still gave skewed results, but I was able to delete the sides variable since it was inherited from the die class. I also left the constructors in the loaded die class so that a loaded die object could still be created. Finally, I tested the die classes and my results can be found in the results section.

After testing the die classes I proceeded to create the game class. I followed my original design for lab 2 fairly closely but I did make a few changes. I decided to declare the die classes within the main instead of having a separate function. Since I was only using this one time within the game I decided that a function was not necessary. I also decided that a separate function was not need for selecting how many rounds of war to play.

I found it easier to have a die type declared for each player and then choosing which type to use depending on the user input. This did deviate slightly from my original plan but still follows it fairly closely. Besides these slight changes feel that I followed my design in lab 2 fairly well.

Results

The results after introducing inheritance into the loaded die class were exactly as expected. In order to confirm this, I first ran the main program that was provided to me in the zip file. After testing several different die sizes I then proceeded to test the die classes using inheritance. I found the results to be very similar to what they had been before inheritance so this confirmed that the inheritance was implemented correctly.

After testing the die classes I then proceeded to create the game class. As mentioned above I did follow my original design fairly closely. Since the roll functions had already been tested previously I did not test them again. Instead I chose to play the game of war several times with different die types and a different number of rounds. I found that the results did make sense. For the most part if a player was playing with a loaded die they would win. If both die were normal the results were much closer to 50/50. I feel that with these results my game of war program was functioning as it should.