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CPSC224
Homework #1 Write-Up
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Summary of Program:

        The goal of this program was to create essentially the most bare bones version of Yahtzee. This version only has one player (the user), one hand/three roles, and one scorecard. The user is able to keep dice from previous roles or re-role the whole hand. The player has no name or information and there is no saved data from one hand to the next. The scorecard simply shows the scores from the single hand after the three roles have been made.

Overview of Design:

        I designed this program with the original intention of being able to expand on it. I created a few different classes that were used; scorecard, HandOfDice, and Die were essentially the only ones that I really used for this project. Die is simply a class that creates a random int (known in the program as face), and uses that as the "roll". While this is a simple class, it was important in my mind to separate it from HandOfDice for the sake of expanding it in the future. HandOfDice is the bulk of the gameplay. It creates an array of Die and uses that to roll, re-roll, and keep dice that the player chooses before sorting it at the end of the hand. There is no real math or adding of the scores in HandOfDice, rather this code is in "scorecard". The scorecard was the most difficult part of this assignment for me to design, in particular the lower part of the scorecard. I struggled with how to divy up methods and when to call each method. I built the program with the knowledge that I will need to add the player class eventually, however, that was not implemented in this version.

Design/Programming Issues:

        I was pretty happy with how little trouble I had creating this program. I found the scorecard to be the hardest section to program. I was constantly getting stuck with which order to score the dice, how to determine what points went where, and how to display all the scores. However, comparing the experience I had with this program to some of the assignments I had last year I felt much less frustrated and much more confident in my code, which is a good feeling.

In Retrospect:

        One of the main things I would change is the scorecard system. I used a series of if statements to tally up both sections of the scorecard which makes this program a little harder to expand or add onto. I also want to work on fully planning out my programs before I actually start coding. I planned out my HandOfDice class before getting too deep into, but I did the opposite with the scorecard. I thought (mistakingly) that I would be able to code the scorecard without too much planning but I quickly realized this was a very incorrect approach.

UML Class Diagram: