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CPSC 224: Homework #2 Summary

Summary of Program Goals:

The primary goal of this program was to run the basics of the Yahtzee game using the Java programming language. Yahtzee is broken up into two major parts: dice rolls and scoring. Given the C++ program provided in the repository, the main goal was to effectively implement the functions in an organized manner for the Java version. This included making the program more object oriented as well as implementing an ArrayList to hold dice rolls rather than just an array.

General Design Approach:

As mentioned before, it is poor practice to place all functions into the main function of a program. To organize this better in Java, object-oriented programming is necessary so that it can be easier to understand the program as well as make it easier to further develop the game in the future. Since the main parts of Yahtzee were mainly rolling dice and scoring, two classes were created. Any methods related to dice rolling for the game was stored in the Dice class; likewise, scoring of the final set of dice was encapsulated in the Scorecard class. These objects were then implemented in a Game class where any additional Yahtzee rules and user interactions were added, such as the play again prompt.

Design/Programming Issues:

One of the main programming issues that I experienced was trying to take in a user-entered character from the command line to keep the play again loop running in the Game class. Even though the game itself seemed to work fine, the program kept failing when the user was prompted to enter 'y' to play again. To fix this, I had to identify what line of code was causing the program to quit using the debugging tool and stopping points. I realized that I was not taking in the whole user line with nextLine(), but I was using the next() function which caused the user string to incorrectly store user inputs as the game ran. Additionally, I was doing string comparisons to run my play again loop, which can cause internal issues. To fix this, I had Java

take the first character of the user input string and used that for the comparison to the 'y' character in the loop.

Retrospective:

If I had more time with this project, I would have liked to fix how the scoring worked. In Yahtzee, you are supposed to pick a certain line to get points for your total score. However, all the program can do is print all the possibilities for scores from your final hand. Additionally, the Dice and Scorecard classes still feel pretty large, so as the game is further develops I think some more classes could be useful in better organizing the different methods.