The purpose of this program is to run a single round of Yahtzee and show the user potential scores for their roll. It takes user input through the terminal and determines which dice to keep or discard. At the end, it asks if the user wants to play again. The potential scores for each game are not saved.

For my program I had four classes. The Die class which creates a die object, the Alldice class which uses composition and has 5 Die objects, the main Yahtzee class which contains game logic, has an Alldice object and has a Scoring object, and the Scoring class which creates a scorecard object.

I had a total of 3 problems with my code. The first one was in the AllDice class. I had a simple method to return one of the dice's sides up. I needed to do this for each dice but I didn't want to type basically the same method 5 times. So I copy pasted it but forgot to change the object it was referencing. 30 minutes of headache later I realized that every method (roll1, roll2, roll3…) did die1.roll(); Oops. The next problem I had was not initializing an array before I copied it over but that was a quick fix. The last problem I had was with my scoring where I didn't realize you could have a straight with 2 of one type of dice. This I fixed by doing >= instead of ==.

If I had more time I would have tried to make my code more future proof but I think it should be pretty easy to change in the future.

AllDice

(C)AllDice

- diceSidesUp: int[] [0..*]
- diceToKeep: ArrayList<Integer> [0..1]
- die1: Die [0..1]
- die2: Die [0..1]
- die3: Die [0..1]
- die4: Die [0..1]
- die5: Die [0..1]

+ addToKeep(chosenDice: String)
+ clearList()
+ printAll()
- roll1()
- roll2()
- roll3()
- roll4()
- roll5()
+ rollAll()
+ rollRemaining()
- rollRemainingSwitch(i: int)
+ updateSidesUp()

Scoring

(C)Scoring

- currentHand: int[] [0..*]
- eachKind: int[] [0..*]
- extraPoints: boolean [1]
- pointsOfEachType: int[] [0..*]
- totalPoints: int [1]

+ addHand(handFromAllDice: int[])
+ calculateScores()
- chance()
+ dislpayScores()
- fourOfAKind(): int
- fullHouseScores()
- numOfEachKind()
- ofAKindScores()
- oneThroughSixScores()
- sortHand()
- straights(): boolean[]
- straightsScores()
- sumOfHand(): int
- threeOfAKind(): int
- yahtzee()

Yahtzee

(C)Yahtzee

+ calculateScores()
+ clearScoreBoard()
+ coreGameLoop(sc: Scanner)
+ main(args: String[])

die1 [0..1] die2 [0..1] die3 [0..1] die4 [0..1] die5 [0..1]

Die

(C)Die

- numSides: Integer [0..1]
- sideUp: Integer [0..1]

+ compareTo(otherDie: Die): int
+ roll()