**Goal/Summary:** The overall goal of this program was to extend my previous work on the game Farkle. I did this by first adding multiple visual niceties, including an introductory banner with the name of the game and my name. I also created a Player class that allows players to enter their names when they begin the game. Additionally, I created a new Hand class which can create a hand of less than six dice, meaning players can reroll their unmelded dice instead of merely ending the round. This also allowed for the detection of a Hot Hand, allowing the player to quit or reroll all their die.

**General Design:** In the design I created for my program, I added both the Player and the Hand class. I utilized the Die class created by Professor Crandall to create six Die instances within the Hand class, which I rolled and added to an Array List to access later. The Hand class also contained the test to see if the Hand Farkled or was a hot hand, I also used the Die class to create a new Die to reroll. I then began the interaction with the user by outputting the six dice they rolled and gave them the option to move any of the die to their meld, bank their points, quit the game, or reroll. To take in this input from the user I used an if statement, if the user was choosing to move a die, tested if the die was being moved to or from the meld, and performed that action. To do this, I created a Meld class with a method that allowed integers to be added to it’s dice array field. These integers were the side that is up on the die being moved to the meld. Similarly, the side that is up could be removed from the array or returned to another class. When a die’s face is added to the array it is also added to the combo array in the Combo class I created. The combo class has methods which test each test case that could produce points, and returns a score which is used in the meld class when calculating the meld score. This meld score is returned to main in Farkle and output on each screen.

**Unit Test Description:** I used two unit tests for each of the combo class tests, for example, checkForOnes() has two tests for either true or false, which take in an array that is supposed to be the random dice, then puts them through the checkForOnes() function and asserts that it is either true or false depending on the test.

**Design/Programming issues:** I had some issues while creating the getRerollHand() method, as it was confusing to switch between an array that held the side up of each die, and the other which held the number of each side up in the list of die. Additionally, it was difficult to switch between the integer side up of the dice and the Die itself. This also made the method less readable, making it more difficult to go back and edit or add to later.

**Looking Back:** If I were to have more time, I would make my Hand class and Farkle class more readable. Specific functions within the Hand class were difficult to read like getRerollHand(), checkForHotHand(), or hotHandTrue(), but the Farkle class was not very clearly written out—the order is not very easy to follow in terms of the way the gameplay works itself out. I would go back and use more comments, laid out in a way that is easy to follow and read.

