**Black Jack Game**

**Project Title:** Blazing Jack

**What are you building:** A black jack game.

**Why you chose that idea:** Because it is interesting and challenging.

**Who this program is for:** People who like playing black jack and want to improve their skills.

**How you plan to design app:**

1. Create a **Card** class to contain the basic information about cards. (attributes: suit & shape). Need a ***random*** method to randomly match numbers with shapes(equivalent of shuffling deck, so we don’t need another shuffle deck method later on). Need a ***determineValue*** method to get the value of cards. Need a ***getSuit*** method to get the suit of the card and a ***getShape*** method to get the shape of the card.
2. Create a **Hand** class(abstract class, act as a template for **Player** and **Dealer**. **Player** and **Dealer** class need to have all the methods in this class) to manage the hand of each player and the dealer. Need a ***manageHand*** method to deal cards to players(and dealer when there is only 1 player left). Need a ***calculateSum*** method to calculate the sum of the cards in each player/dealer’s hand. Need a ***getHand***(abstract, only a template, can write the details in **Player** and **Deale**r class, which extends **Hand**)method to get the hand of each player/dealer.

1. Create a **Role** class to determine the roles.(Interface, because **Player** and **Dealer** are different roles, but we want them to achieve some common functions). Need a ***getName*** method to get names and a ***getBalance*** method to get the balance of each player/dealer.
2. Create a **Player** class (additional attribute: balance, bet)(extends **Hand** class)(implements **Role** class). Need a ***setBet*** method to add the bet (need to compare to the balance inside, the bet cannot be greater than the balance). A ***calculateBalance*** method to calculate the balance of the winner. Need a ***getName*** method to get the players’ names, a ***getBalance*** method to return the balance of the players, a ***getBe***t method to return the bet of the players. Need a ***move*** method(parameter: Scanner, because need to read the players’ reply) to ask the player “Hit or Pass”. Need a ***getHand*** method to return the hand of the players.
3. Create a **Dealer** class (extends **Hand** class)(implements **Role** class). Need a ***getName*** method, a ***calculateBalance*** method, a ***getBalance*** method, a ***getBet*** method, a ***getHand*** method, and a move method.
4. Create a **Client** class(the class we directly operate in order to play the game). Need to be able to compare players’ hand with 21, if exceeds 21, remove the player. When some player’s hand is equal to 21, the player wins, end the game. When there is only 1 player left, compare the hand of the player with the dealer Whoever with a hand closer to 21 wins.

**Milestones:**

June 13th: finish **Card, Role** class

June 14th: finish **Hand** class

June 15th: finish **Player** and **Dealer** class

June 16th: finish **Client** class