Project Name: 5 - Card Draw

Team Number: 2

Overview:

Our project is a Poker game - 5 card draw. The user can choose to play against other players or none at all. The user tries to get the highest hand possible. The game starts with an ante (a forced bet in which all players put an equal amount of money or chips into the pot before the deal begins). Then each player is dealt 5 cards, all face down. The first betting round begins. The players can choose to either raise, call, check or fold. Each player then specifies how many cards they want to replace and those cards are replaced by cards from the deck. After the draw phase, the second betting round begins with the player who opened the first round. The remaining players can choose to either raise, call, check or fold. After that the players reveal and compare their hands. The player with the highest hand takes the pot. If tied, the pot is split between players who have the same value of hand.

The value of a hand is calculated as follows, from highest to lowest.
● Royal Flush (A, K, Q, J, 10, all the same suit)
● Straight Flush (Five cards in a sequence all in the same suit)
● Four of a kind (All four cards of the same rank)
● Full house (Three of a kind with a pair.)
● Flush (Any five cards of the same suit, but not in a sequence)
● Straight (Five cards in a sequence, but not of the same suit)
● Three of kind (Three cards of the same rank)
● Two pair (Two different pairs)
● One pair (Two cards of the same rank)
● High card (When the user haven't made any of the hands above, the highest card plays)

Functional Requirements:

FR1: The player chooses the initial game settings
    A. Number of Players
    B. Ante Amount
    C. Starting Money

FR2: When player hits start game, game starts with chosen settings.

    A. Load Game will allow the player to continue a previously started game.

FR3: Each player is dealt 5 cards from the top of a shuffled deck.

FR4: First Round of Betting - Betting goes clockwise around the table starting with the dealer, and after each round the dealer also goes around clockwise. The first dealer is chosen randomly.

    A. Raise - Increase bet amount with a fixed minimum

    B. Call - Match bet amount

    C. Check - If there are no bets, pass turn.

    D. Fold - Concede the round.

FR5: End round when betting ends (All players have put in the same amount of money or have folded following one rotation of betting around the table.)

FR6: Draw Phase - Each player specifies how many cards they want to replace. They then are dealt cards until they have 5 back in their hand in order starting from the dealer going clockwise.

FR7: Second Round of Betting begins with the same rules as the first round.

FR8: Showdown

    A. Reveal and compare hands

    B. Announce the winner
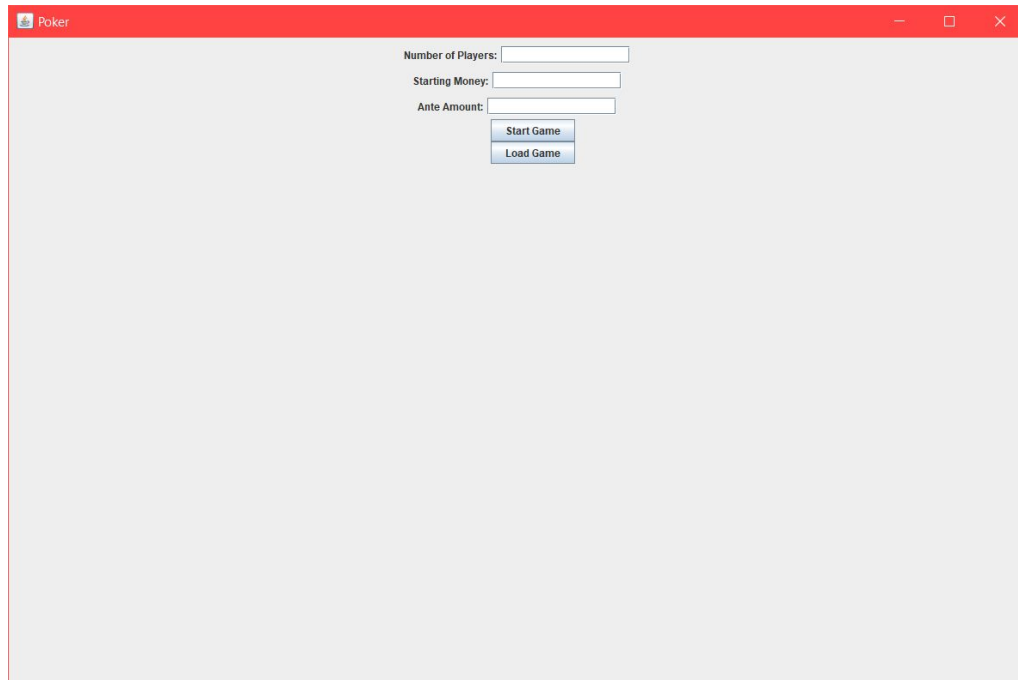
    C. Winner gets all the money in the pot

    D. If two or more players are tied, split the money.

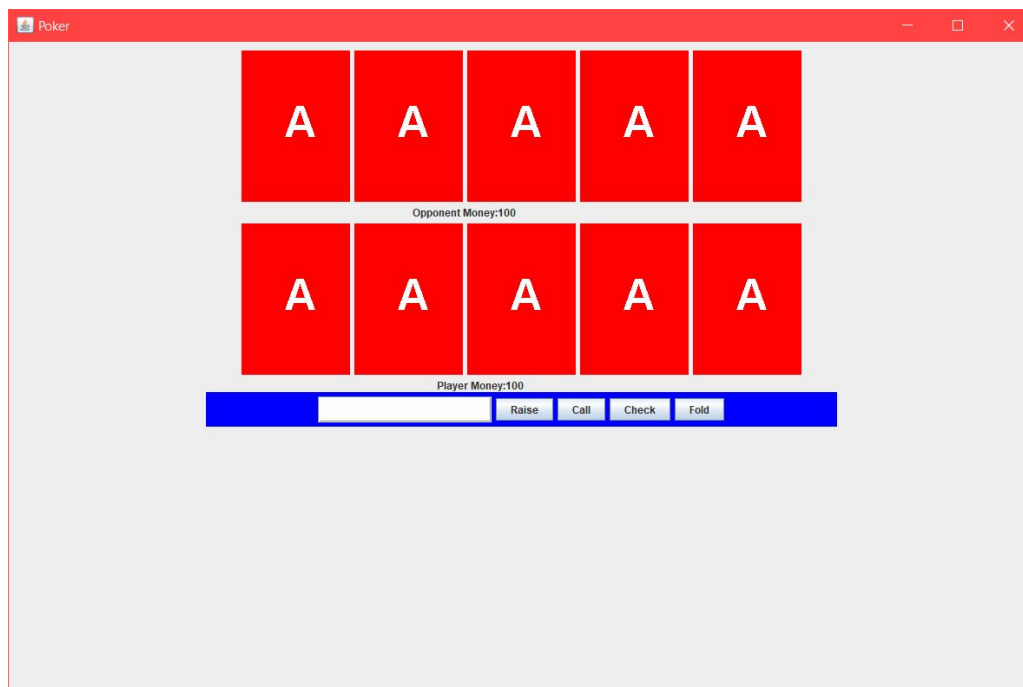FR9: Game continues until only one player has money left.

FR10: On Close, if there is a game ongoing, the game data is saved.

User Interface Prototype:

Initial Game Settings Screen-

Main Game Screen-

User Interface Requirements:

UIR1: Game Options

1. Number of Players - The number of players will be determined by the number the user types in. (FR1A)
2. Ante Amount - The ante amount for the game is determined by the number the user types in. (FR1B)
3. Starting money - The starting money for each player is determined by the number the user types in. (FR1C)
4. Start Game - A new game is begun with the selected settings. (FR2)
5. Load Game - The saved game is read and continued with all data saved. (FR2A)

UIR2: Round buttons
1. Raise - FR3A is executed and update the pot
2. Call - FR3B is executed and update the pot
3. Check - FR3C is executed
4. Fold - FR3D is executed

UIR3: Exchange cards - Select cards to discard - FR6
A. The player can click on the cards he/she wants to discard.
B. The opponents' cards will be discarded and replaced.
C. Add the same number of cards to the players' hands.

UIR4: After the second betting round, all hands are shown face up and the hands' values are displayed. - FR8A

UIR5: Update the players' money and remove the pot. - FR8B-D

Appendix

https://en.wikipedia.org/wiki/Five-card_draw