

Final Project Proposal Blackjack

We will implement a version of Blackjack in Terminal. It will have a user go up against multiple bots, with 4 possible actions every turn: Hit, Stand, Double, and Split.

- Hit: Draw a random card and add to your hand
- Stand: Keep the cards you have, no more drawing
- Double: Only possible at the beginning, can only hit once. Gives 2x the reward if won.
- Split: Split a hand into two and play each resulting hand consecutively.

The bots will have a threshold number where they will always Stand. Otherwise, we'll use `Math.random()` to determine if the bots will hit or double. We're thinking of using two arrays to classify the value and the suit of a card.

We will utilize card counting to assist the user, if they choose to use it. This keeps track of the number of high and low value cards that have already been dealt. This can assist the user in determining if they have an advantage on the next hand.

We will have a total score in lieu of using real money. The score is multiplied by 1.5x for every match the user wins. The score will reset when the user loses.

Other methods besides the 4 actions:

- setup: deals two cards to each participant
- getHandValue: takes a player as an input, returns their current hand value
- blackjack: returns true if the player has a hand value of 21 (Or ace + face as first 2 cards)
- bust: returns true if the player has a hand value over 21
- outcome: has 3 print results: user win, user loss, push (if a tie occurs)