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Project Requirements

BlackJack Rules

Number of Players : 2 - 7 players

Gameplay Rules :
The objective of this game is to attempt to get a total score close to 21 without going over. The goal is to try to beat the dealer. The game starts when each player (including the dealer) gets two cards - the dealer will get one card face down but all of the other cards will be face up. On each turn, the player will decide to "hit" (receive another card), "stand" (keep their current hand), or "double down" (double their initial bet and receive only one more card). Players continue hitting until they are satisfied with their hand or if they go over 21, which is a "bust," making them out of the round and losing their bet.

If the dealer's hand is worth 16 or less, the dealer has to take another card until the hand is worth 17 or more. After all the players' turns have ended (either stand or bust), all their hand values are compared and the player with the highest hand value wins. If the player's hand is equal to the dealer's hand, this is called a "push" and is a draw. The player's original bet will be returned to them in this case.

Scoring :
- The ace can be worth either 1 or 11. It can be chosen according to the player.
- Face cards like king, queen, jack are worth 10.
- Any other card is its numerical value.

Betting :
- Drop down menu on how much money (custom)

Functional Requirements:
FR1: There is a drop down menu for how many players will be participating (on the same machine)
FR2: Input menu for how much to bet for the round
FR3: The player(s) and dealer get dealt two cards each from the top of the shuffled deck
FR4: If a player gets dealt a 10 and an Ace, it's a natural, and they would be done.
FR5: The player(s) gets three options to hit, stand, or double down and a possibility to split if they have two cards with the same value.

FR6: If the player(s) choose to hit another card is added to the hand

FR7: If the player(s) choose to stand, they are finished for the round

FR8: If the player(s) chooses to double down, they double their initial bet, and another card is added to the hand

FR9: The player(s) can continue to hit as long as their hand's value is under 21

FR10: If the hand's value reaches 21, the player(s) are forced to stand

FR11: If the player(s) hand is over 21, they lose

FR12: When the player chooses to stand, the dealer's hand goes through certain updates:

1. If the dealer's hand adds up to less than or equal to 16, another card is added to the dealer's hand
2. If the dealer's hand <= 17, the dealer can't get any more cards
3. If the dealer's hand >= 17, the dealer loses

FR13: When the dealer stands, the player(s) and dealer's hands are compared and results are announced

1. A Black Jack Hand automatically wins (Ace with a card valued at 10)
2. If hands are equivalent, the game is a tie
3. If the dealer's hand value is greater than the player's hand value, the dealer wins.
4. If the player's hand value is greater than the dealer's hand value, the player wins.

User Interface Requirements:

UIR1: Dealer has one face up and one face down

UIR2: The player(s) get cards in their hand that are face up

UIR3: When the user selects "Hit," FR6 is executed

UIR4: When the user selects "Stand," FR7 is executed

UIR5: When the user selects "Double Down," FR8 is executed

UIR6: When the user selects "Stand", all other buttons are disabled until the end of the game

UIR7: At the end of the game, the dealer's entire hand is shown face up

Git repository - https://github.com/rbhosekar/teamprojectblackjack.git