

Vectors

- Deck: The full deck of 52 cards, shuffled
- ComputerHand: The computers hand of cards available to play
- UserHand: The Users hand of cards available to play
- Bluedeck: The deck of card images set into a vector
- ComputerTie/UserTie: Each used to pull out three random numbers to then be added to either the winner or loser of the tie's vector.
-

Variables

- User: One random number selected out of UserHand used to display the card image
- Computer: One random number pulled out of ComputerHand used to display the card image
- UserValue: The actual value of the User card based on the position of the card in "Bluedeck", the winner of each battle is determined from this value and...
- ComValue: The actual value of the User card based on the position of the card in the "Bluedeck"
- UserScore: Used to evaluate how many cards the player has in a streamlined manner
- ComputerScore: Used to evaluate how many cards the computer has in a streamlined manner
- ComputerTieBreaker/UserTieBreaker: The random number pulled out of Userhand/Computerhand to determine the winner of a tie.

Commands

- Fprintf(): Used to print text to the command window
- Pause;; used to pause the application until user input
- Randperm(): Used to randomize the deck
- clc : Clears the command window.
- clear : Clears the workspace.
- Datasample(): Used to pull a random number from vectors
- Imshow(): Used to display images
- Winopen(): Used to open gif image
-
- **War:** The game starts and loads card images. The numbers one to 52 are then placed into a vector "deck" and randomly shuffled. This deck is then split in half and placed in two separate vectors representing the computer's and user's beginning hands. The user and computer are set to have a "score" that decreases by one if you lose and increases by one if you win, to more easily keep track of the number of cards in your hand during the game than by displaying the length of a vector. A "While loop" is set up so that the game

runs until either the computer or users score reaches zero. The "bluedeck" array is the card pictures, and to set the value for each picture displayed an if statement runs so that if lets say, the 27th card in the deck is played, well that corresponds to a value of 7, so that is the value that will be displayed and evaluated below. First a random card is selected from the "computer hand" and the picture is displayed along with the value, the "pause" command is used to stop the application until the user presses a button. Then there is one more if statement, with 2 if else statements, each showing the course of action taken when the user wins, the computer wins, and when there is a tie. In the event of the user winning, the 1 is added to the score, the computer's card is added to the users vector, and the computer's card is deleted from the computers vector. The opposite occurs when the computer wins. The user sore is subtracted by 1, the the user's card is added to the computer's vector, and the user's card is removed from the user's vector. If a tie occurs first a gif image is displayed, three random cards are pulled out and set in their own vector called ComputerTie/UserTie, then one more random card is pulled out (ComputerTieBreaker/UserTieBreaker) and they are evaluated. If the User wins this tie, than the computer's original card played, the three extra cards taken out, and the final "tie breaker" card is added to the users's vector, and those same cards are deleted from the computer's vector. 5 is then added to the user's score. The opposite occurs if the computer wins. The loop continues until either the User, or Computer scores hit zero.