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# BlackJack

CSC-5 40717 PROJECT 2

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# What is BlackJack?

Blackjack, also known as twenty-one, is the most widely played casino banking game in the world. Blackjack is a comparing card game between a player and dealer, meaning that players compete against the dealer but not against any other players. It is played with one or more decks of 52 cards. The player or players are dealt an initial two-card hand and add together the value of their cards. Face cards (kings, queens, and jacks) are counted as ten points. A player and the dealer can count his or her own ace as 1 point or 11 points. All other cards are counted as the numeric value shown on the card. After receiving their initial two cards, players have the option of getting a "hit", or taking an additional card. In a given round, the player or the dealer wins by having a score of 21 or by having the highest score that is less than 21. Scoring higher than 21 (called "busting" or "going bust") results in a loss. A player may win by having any final score equal to or less than 21 if the dealer busts. The dealer has to take hits until his or her cards total 17 or more points. (In some casinos the dealer also hits on a "soft" 17, e.g. an initial ace and six.) Players win if they do not bust and have a total that is higher than the dealer's. The dealer loses if he or she busts or has a lesser hand than the player who has not busted. If the player and dealer have the same total, this is called a "push" and the player typically does not win or lose money on that hand.

## Summary

**Project lines: 227**

**Number of variables: 19**

This project is the result of what I have learned in class containing as much logic as I can think of. I quickly grew to realize that results are not always concrete without testing them first. It took me a couple of days to finish the project. Most of the card dealing logic was already set into my first project. The most tedious process in my opinion was the documentation but it also reflects the way I lack understanding of documentation. I wasn’t able to implement all the casino logic that I wanted but the game is fully functional with chances of winning being as fair as possible.

## Pseudocode

*set random seed and Declare variables for game*

*display Name of game*

*Ask player to set a bet amount*

*input starting bet value*

*Output object Bets*

*Create and open file "Bet Record.txt"*

*Write string to file*

*Write initial bet value to file*

*Do*

*Ask for this games bet*

*input single game bet*

*deal cards to player*

*display Card 1*

*call function rank() for Card 1 rank*

*call function suite() for Card 1 suite*

*display Card 2*

*call function rank() for Card 2 rank*

*call function suite() for Card 2 suite*

*Add up users 2 cards*

*initialize temp value "i" to 2*

*Display user options*

*Input choice*

*Case based on choice*

*Case =1(hit)*

*Do*

*if user total greater than 21*

*display bust*

*exit do while loop*

*if user total value less than MAX*

*call function rank() for Card [i] rank*

*call function suite() for Card [i] suite*

*Prompt for input*

*input hitAgn*

*add user total*

*increment card place variable*

*while hitAgn ==’y’ or ‘Y’*

*case=2(stand)*

*case=3(double down)*

*Multiply game bet by 2*

*call function rank() for Card [i] rank*

*call function suite() for Card [i] suite*

*add user total*

*display adjusted bet*

*if user total greater than 21, display BUST*

*case=4(surrender)*

*display bet surrendered*

*set user total to lose*

*Display dealers hand*

*Set dealers total to 0*

*for(assign initial values;i less than SIZE;increment i)*

*call function rank() for Card [i] rank*

*call function suite() for Card [i] suite*

*add dealer total*

*if dealer total between 21-17,then STOP*

*if dealer total over MAX then STOP;*

*if dealers total less than or equal to 21 and greater than user total or user total greater than 21.*

*subtract game bet from bet collective*

*write bets to file*

*display dealer wins*

*display remaining bet value*

*else if user total less than or equal to 21 and greater than dealer total or dealer total greater than 21*

*add bet to bet collective*

*write bets to file*

*display player wins*

*display remaining bet value*

*else if user total and dealer total are equal or both players BUST*

*display draw*

*write bets to file*

*display remaining bet value*

*if bet value less than or equal to 0*

*display player loses and exit timer*

*set start time to 0*

*while difftime less than 5*

*close file*

*exit program*

*while restart =='y'*

*close file*

*exit program*

*function rank*