



CIS-5

July 17th, 2018

BlackJack Game

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## Prompt:

Why I decided to make the blackjack game for a few reasons, the main reason why was that it has a simple enough rules that anyone can play, another reason why I picked the game was because it was my favorite card game growing up so it seemed like a perfect fit to make it in C++.

## Rules:

The rules of the game are very simple, the goal of the game is to get to “21” or as close as possible. It becomes a challenge to player to not go over ‘21’ and at the same time beat the “Dealer”. When starting the player is given two cards at random from a deck of cards, the face value of the cards is what they total, (for example a 7 of clubs = 7), with some exceptions to this rule, all face cards equal 10 and the Ace can equal (11, 10, or 1) depending on what the player wants to do with it.

When the game starts the player has an initial number that they get to work with, for example at the start of the game the player can have from 2 all the way to 21, from the start and this decided their next move.

## After drawing two cards:

The player then has a choice to make, they can choose to draw another card or stay, this choice varies from game to game. The player may have a low hand and has to hit in order to get a higher hand as the reward is better than the risk.

The Game itself in itself is a risk and reward game, there are many risks taken when drawing a card but the reward may be winning when if otherwise would have lost.

## Version 1 Notes:

After Getting the switch statement to work in order for a random card to be drawn, there was difficulty in being able to store the random number as a variable to be used again, instead I'm having the user input the value of cards with `cin >> input`. This solves the issue that I was having with Ace as it could be 3 different types of values and it changes if the player draws again. The user inputting the value they want to use with Ace fixes that problem.

## Switch Statements used:

I made two random number generators the first is for the card itself and the second it for the type of house(as of yet this does not change the game outcome but it makes it feel more of a card game)

I used a For loop to generate 2 cards for play, as it outputs a different card each time, for example

Three of hearts

Four of clubs

## Version 2 Notes:

Added another switch statement to be able to draw another card at random, this leads to many types of outcomes and used a lot of If and Else statements to get this done. How this was done was adding a Char 'y' or 'no' statement and if they chose to draw again would use the same code that was used to draw another card but just a single time. Alot of IF Else statements nested.

Dealer: Initially I wanted to make it a Two player game but for now I chose to make it a One player game against a "Dealer", however the dealer can not make choices , the number for his hand is chosen at random at the start of the round, (I made it so the dealer can go over 21 as well)

Also no numbers less than 15 as in actual blackjack the dealer must hit on a 15 or lower so they could not have a hand that low.

## Version 3 notes:

Added Text to the beginning of the game to make the game feel more game like, also inputted a true or false statement at the beginning of the game asking the user if they wanted to play the game. Also fixed issue where after drawing a card, there would be no winner chosen.

Future Changes to the game: I would like to implement where the user doesn't have to enter the cards they received but with my current knowledge of coding I couldn't seem to figure out, as well as the issue I was running it with the card ace. Also would like to add some type of point system into the game.