

Introduction

This was a pretty difficult project to do, but it was all very much worth it in the end when my program started to function properly. It's not finished which is why I plan on continuing with this program in project 2. I'm pretty much a newbie when it comes to programming since this is the first programming class I've ever taken, but regardless I pushed myself by staying up several nights and working on the project during my lunch hours at work.

It took about a week of working things out and trying different ideas to come out with what I have now. I hope to continue working on this program in the future.

Summary

Blackjack

Many 'if' statements were utilized to determine whether the user holds an ace card. Since the player can only hold one Ace card with a value of 11, I switched a Boolean function to True every time the player got an Ace card. But if the Boolean function is already set to TRUE, then any new Ace cards are given a value of 1. The name is inputted from a file and the results of the game are outputted to another file.

A for-loop is utilized and can only be looped if the user wishes to continue (Hit) or if their hand is less than 21. If the user continues to 'Hit' and their hand equals or exceeds 21 then the program breaks out of the loop and goes onto the dealers turn. If a lowercase 'h' is pressed instead of an uppercase 'H', the program converts it to an uppercase 'H' and continues with the loop. The user can hit as many times as they wish as long as their hand does not exceed 21. The loop can be broken if the user wishes to 'Fold' before their hand has exceeded 21. The loop can only be broken if the user chooses to 'Fold' or if their number equals or exceeds 21.

Once it is the dealers turn, a do-while loop is utilized to determine their hand. The same if- statement determining if they have an ace is used in this loop as well. Once their hand equals or exceeds '16', the loop is broken.

Once the user and dealers' turns are over, several if-else-if statements are utilized to determine the winner. If both players exceed 21 the program outputs nobody as the winner. If either player exceeds 21, their opponent automatically wins the game. If neither player exceeded 21 then their hands are compared and whoever had the greater hand is declared the winner. If the user is the winner then the program displays the amount they won.

Pseudo Code

Initialize

Random switch case greeting is chosen Asks for user name

Input bet amount

Random card number generated

If (card==11)

*“You have an Ace” (ace=**true**) Card added to hand*

Random card number generated

If (card==11)

*If (ace==**true**)*

“You already have an Ace” (card=1)

Card added to hand

If (hand==21)

Skips loop, jumps to where it's Dealers' turn.

Else

Asks if user would like to continue (cin>>choice)

If (choice==h)

Makes it uppercase by subtracting 32 (static_cast)

If (hand<21 and choice=='H') (exits loop if hand goes over 21 OR if user decides to fold)

For (hand<21 and choice=='H')

Random card number generated

If (card==11)

*If (ace==**true**)*

Counts card as 1 instead of 11 ace=true

Ace=true

Else If (hand+card>21)

Counts card as 1 instead of 11 Ace=true

Else

Ace=true (value of card is left at 11)

Displays new hand count

If (hand>21) (if hand>21 loop will automatically break)

Asks the user if wants to 'Hit' (Repeat loop) or fold (Exit loop)

Cin>>choice

If (choice == 'h')

Converts 'h' to 'H' (if 'H', for-loop is repeated)

Displays current hand

While (dealer<=16)

Random card number generated Card added to dealers hand

If (card==11)

If (dealers hand>21) Card=1

a++

Displays dealers hand

if (user hand and dealer hand exceed 21) Outputs "nobody wins"

Else if (user exceed 21) Outputs "Dealer wins"

Else if (dealer exceeds 21) Outputs your name as winner

Else

Ternary operator used to analyze the winner: (Congrats, you won!) or (The Dealer won) but if both handles are the same Outputs "Tie! Nobody won!"

if (user won)

Outputs amount won in the bet