Project 1

Title: Blackjack

Course: CSC-5

Section: 46023

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**1 - Introduction:**

Blackjack is a simple game that has become a common card game over the past few centuries. This game originated centuries ago with Miguel de Cervantes, who is most famous for writing *Don Quixote*. In another book, his plot includes a card game where the aim is achieve a total of 21 from a deck of cards. Ever since then, the game has evolved and has been introduced as one of the leading games that numerous casino’s utilize to attract tourists and gamblers in hopes of making some profit.

Often times though, many people do enjoy the game itself, and are not inspired by the potential to make money off of a simple card game. One opportunity to play and practice decision making for this game is through this program.

**2 – Game Play and Rules:**

The game of blackjack is fairly simple. In the game, the player is rivaling the dealer, which means that regardless of the number of players in the game, the only contest is between the dealer and each individual player. The first step is that the player and the dealer draws two cards each from a deck of 52 cards. When the cards are randomly

Then, according to the type of card that is drawn (king, 2, ace), a value is assigned to that card. The following table demonstrates how the types of the cards correlate with the values of the cards:

|  |  |
| --- | --- |
| Card Name | Card Value |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| Jack | 10 |
| Queen | 10 |
| King | 10 |
| Ace | 1 or 11 |

As shown above, the number cards represent the value that they are worth, whereas the face cards are all worth 10 points. Finally, the ace has an option available for how much it is worth. It can either be given a value of 1 or 11 points, depending on what the total value of the person’s hand is.

After the initial two cards are given, the values of the hand (the person’s cards) is calculated. The whole potential of the goal is to achieve a total point value of 21. If the person (dealer or player) gets a 21 total point value in the first hand, they have a blackjack and automatically win the game. If neither person has such a value, they are given the opportunity to draw another card, or “hit.”

Altogether, the total of the first two cards can never reach 21, even if the two are both ace cards (seeing as one can be an 11 while the other is a 1, for a total of 12). After the third card is drawn, this opportunity to reach over 21 becomes available. The next card is added to the original point value of the initial two cards. If either the dealer or the player reaches over 21, he/she will “bust” and automatically loses. Both the dealer and the player may hit as many times as desired, but in most situations neither will hit more than four or five times.

In most casinos and places where blackjack is played at commonly, the dealer is required to hit if their total card value is less than 17. The reason for this requirement is so dealer has the greatest advantage to win if he/she has more than 17 and there will be a larger chance to win if hitting with a number below 17.

Finally, after both people have drawn their hands, the two values are compared. If the dealer or player has a blackjack initially, as stated above, they automatically win. In the case where the dealer and player have the same hand, it is generally accepted that if the hand is above 17 points, that it will be counted as a draw. If the hands are below 17, the game will be counted as a loss for the player. If both the dealer and player bust, then the game is counted as a draw. Finally, if neither player nor the dealer achieves a 21 point value, the higher point value wins the game.