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Software Development I

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Blackjack is a popular card game, played frequently in casinos for gambling, or in households for leisurely fun. It can be represented in physical form, with playing cards, but I will be attempting to create a game of Blackjack with the help of Java code. To do this, I will be using 4 different classes, these being the main function for the game, the class that handles the deck, the class that gives the cards their value, and a class that will give the player their hand. The reason why I want to do this project is because of my interest in gaming as a whole. I want to be able to figure out how coding a game works, and using a physical card game that I have played often throughout my life, I believe that I can achieve this goal.

I have so far figured out the code for the Deck and Card classes. These classes function off of each other, as the Card class is what assigns values to the digital cards. The card class contains two strings, with one string representing the numbers and face cards, and the other string representing the suits. For each suit, the cards are given values equaling one to eleven, as these are the card values that will be used to play a game of blackjack. For example, in the overall code, the player will be given a random card, such as the ten of hearts and the four of spades. The player will know that these particular cards have set values that total up to fourteen, and this is because of the Card class. In the Deck class, an array list is created in order to store the cards for a new, shuffled deck. The cards created from the Card class are stored into this array list in the Deck class, and then another function takes the values in the array list and randomizes them. This function represents the shuffling of the cards, meaning that each game of blackjack will be different than the last. I have looked into other programs of famous card games, such as poker, and the classes within those programs work in a similar way, creating the cards in one class and having a separate class to shuffle the whole deck.

The final steps of the program are to create the class for the player’s hand, as well as create the function that runs the game, which will be the class most accessed by the user. No code should be edited by the user before starting, as everything will be formatted using input commands from the user to play the game. In conclusion, the program should be able to take the player through as many games of Blackjack as the user desires, stopping if the user prompts a certain command in the main function. Working on this project should help me realize what is takes to create a functional game.

Card
-rank: int -suit: int -value:int -ranks: String[] -suits: String[]
Card(suit: int, rank: int) +toString(): String +getRank(): int +getSuit(): int +getValue(): int +setValue(set: int): void

Deck
-deck: ArrayList<Card>
Deck() +shuffle(): void +drawCard(): Card

Bibliography

Arnold, Ken, James Gosling, and David Holmes. *The Java programming language*. Addison Wesley Professional, 2005.