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Assignment 8 Project
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What is your project?

My project is all about playing cards!

What is the goal of this project?

To give a user a random Hand of Cards (5 cards) taken from a Deck and rank how good the user's hand is based on Hand attributes like highest # total, 4 of a kind, flush, etc.

Explain why you designed your classes this way & why have you chosen these data members and how do you plan to use them?

I made 3 classes, one for Cards, one for Decks, and one for Hands. This makes it easier to separate the functions that each object will need to do, as well as building upon things that wouldn't be possible without multiple classes, like a Deck taking in an array of Cards. Potentially a 4th class in the works.

Each class will have its own specific set of functions, that can be utilized by other classes to help contribute to the whole working system. For example, the Card class has a print function within it, that way at any point where there is a card, the function can be called to print it. Deck[44].printCard(); would print the card at the 45th position in the deck.

CARD:

setSuit
setRank
getSuit
getRank
setCard

- getters and setters

clearCard- clears suit and rank of card
void printCard- prints card to console

DECK:

readDeck- fills deck with cards listed in a file
writeDeck - writes the deck to the file it read it from, but with the deck's new order
shuffleDeck- shuffles deck
sortDeck- sorts the deck like it would be if you first opened a deck of cards
clearDeck- clears the deck of cards
printDeck- prints the deck (or rather each card, in order the deck has them in)

HAND:

readHand- reads a hand in from a specific file

clearHand- clears the hand of cards

shuffleHand- shuffles the hand

sortHand- sorts the hand based off rank/suit

rankHand- ranks the hand based off flushes, full houses, etc

printHand- prints the hand (or rather each card, in order the hand has them in)

 highCard- highest card in a deck

 pair- checks for a pair within the hand

 twoPair- checks for a twopair within the hand

 threeOfAKind- checks for a threeofakind within the hand

 straight- checks for a straight within the hand

 flush- checks for a flush within the hand

 fullHouse- /checks for a fullHouse within the hand

 fourOfAKind- checks for a fourofakind within the hand

 straightFlush- checks for a straightflush within the hand

 royalFlush- checks for a royalflush within the hand

Explain how the design meets the requirement.

All of these requirements...

-2+ user defined classes

-4+ data members per class (including at least one array of user defined objects)

-Appropriate methods for each class (including getters and setters)

-Implementation for the 2 user defined classes must include at least:

--2+ if / if-else statements

--2+ while loops

--2+ for loops

--File IO for reading and writing data members of an object

...will be met through the implementation of all these three classes. From the printing methods, to the file i/o methods, to checking Hand Ranks, everything is more than covered.

However, not everything has been completed, as in all the Hand Ranking functions, and the Game class. I will continue working on it after submission.