**The Challenge**

This week we create a card class, a card deck and a card game client class to use these card classes.

**PlayingCard Class**

The card class needs to hold two values as reference variables: a suit, and a card value (2-10, jack, queen, king, or ace). The card needs to have methods that enable it to return it’s suit and it’s card value.

**CardDeck Class**

A card deck needs a reference variable that is an array of 52 cards. A full deck needs to have one of each card, and no duplicates. The deck needs an ability (method) to build a new deck. That is, it needs a way to populate its array of cards with all the unique cards in a card deck. The card deck should also have a method to deal a card. The dealCard() method needs to return a card from the card deck. We will use this deck of cards in our client class to create several games.

**Card Games & Client**

The card game client class should use a deck of cards to play several games. Each game should be available in its own static method.

* Fifty Card Pickup: Create a card game that “spits” all fifty-two cards in a deck onto the floor. This game should create a deck of cards, and then deal all of that decks cards until the deck is empty and deals ‘blank’ cards.
* Play a hand of poker. deal five cards. determine what the value of the hand is. two of a kind, three of a kind, two pair, full house, four of a kind, straight, straight flush, flush, royal flush, or simply a high card if there are none of the prior combinations.
* Play two hands of poker against each other.
* Play a hand of poker, and / or two hands of poker, and allow a ‘user’ to discard a card and have another card dealt to their hand.
* War
* Black Jack

**Some things to consider**

* You will need to keep track some how of whether a deck currently contains a card or not. For instance, if the deck has dealt the 3 of clubs, you will need to know that the deck no longer has a 3 of clubs, because that card is now somewhere else.
* You will need to consider what happens when a client asks a deck to deal a card when there are no more cards to deal. Perhaps you could deal a null card? How will the deck ‘know’ when it is empty?
* Consider using nested for loops to create your deck of cards.