COMP 1409 Lab 7-b Take-home lab

Playing cards are arranged into four suits: Clubs, Diamonds, Hearts and Spades. There are 13 cards in each suit. Each card has a value, indicated by the number of symbols it has on the front. Pictured above is the Ace of each suit. For this lab the Ace has a value of 1. Face cards (Jack, Queen, King) all have a value of 10.

Create a class called **Card** that has these features:
• instance variables for suit, value and description (e.g. “Ten”, “King”, “Ace”).
• a default constructor and a second constructor that expects all three values to be passed as parameters, in this order: description, suit, value.
• “get” and “set' methods for all instance variables.
• Use symbolic constants to ensure the set value does is no less than 1 and no greater than 10..

A deck is an array of cards. Create a class called **Deck** that has these features:
• one instance variable: a Card[ ].
• a constructor that initializes the instance variable.
• a method that adds a new Card to the array. This is the method signature: **`public void addCard(Card cardToAdd).`** It must not add a Card where one already is.
• A method that takes an int parameter and the Card stored at that index position. This method must ensure that the parameter is a valid index position and that the element is not null: **`public void takeCard(int position)`**
• A method called **`showDeck()`** that displays the information about all cards in the deck, e.g.

```
Ace of Spades
Ten of Hearts
Six of Diamonds
...
```

Provide a **TestDeck** class that will drive the program by creating Cards and adding their references to the Deck. Test the Deck methods you have implemented above.

Upload the lab to the appropriate D2L dropbox before the due time. A suggested solution will be discussed in class and labs not already in the dropbox will not receive any points.