Creating a Deck of Cards

(designed to accompany the AP® Computer Science A Elevens Lab)

- Consider the following questions first:

1. What important characteristics does a deck of cards have?
2. What are appropriate instance variables for all decks?
3. What would a default constructor method look like that would create a deck of cards?
4. What would a constructor method look like that would use parameters to build a specific card (what parameters might we need to build a deck of cards)?
5. What accessor methods would be needed to access deck variables?
6. What would a method look like that would simply return the size of the deck?
7. What would a method look like that checks to see if the deck is empty (important for digital gaming!)?

- For this document, the following instance variables and methods will be used:

Instance Variables:	size	cards (This will be an ArrayList that will hold Card objects from Lab 1)	
Methods:	Deck()	size()	isEmpty()

SPECIAL NOTE: The Deck() constructor method will be tricky! It will need three parameters … The three parameters need to be three different parallel arrays that will hold the characteristics of each card (card ranks, card suits, and card values).

- Below is the framework for the basic Deck object. How would you complete the framework?

```
public class Deck {

    //2 private instance variables:  one named size (# cards), one named cards to hold ArrayList of cards

    public Deck(String[] ranks, String[] suits, int[] values){
        //code to initialize the cards ArrayList, fill it with Card objects (for-loop), and store size of deck in "size"
    }

    public boolean isEmpty(){
        //code to see if the deck is empty (has no cards left).  Returns true if empty, returns false if cards exist
    }

    public int size(){
        //code to return the size of the deck
    }
}
```

- Create a DeckTester class that contains a main method. No output will occur so don't be confused when you see…

```
run:
BUILD SUCCESSFUL (total time: 0 seconds)
```