Building the Initial Game Board

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

- Consider and address the following questions:

1. Think about how the game Elevens is played. What would a Board Class look like if it were to build an initial game board for Elevens? What instance variables might a Board need? What methods might a Board need?
2. This lab will focus on the following:
   a. Board() constructor method that deals 9 cards to set up the game. How might you code this?
   b. Creating a dealCards() method that will deal the 9 cards. How might you code this?
   c. Creating a toString() method that will print 9 cards visible on the board. This toString() method will be created very much like the method in lab #4 that was created to print out an entire deck of cards. How might you code the toString() method for the Elevens Board?

- Below is the framework for the Board Class. Complete the Board Class:

```
public class Board {
  private final int BOARD_SIZE=9;
  private Card[] cardsOnBoard;                  //Array of cards needed for board
  private Deck gameDeck;                        //Deck of cards to play with
  public Board(){
                                                //Make array to hold the cards for a game
                                                //Get your new deck of cards created/ready
                                                //Shuffle the deck to randomize the cards
                                                //Deal the 9 cards (action = method)
  }
  public void dealCards(){
    for(                          ) {           //loop 9 times (using the game board size to do so)
                                                //Deal a card "to the board"
    }
  }
 @Override
  public String toString(){                     //Must override the toString() method
    String boardInventory = "";                 //String to store all text
    for(                          ) {           //Loop through cards that are "on the board"
                                                //Add Card information to the String
    }
                                                //return statement needed
  }
}
```

- Create a BoardTester Class that builds a board, deals cards to the board, and then prints the board inventory. The output should look very similar to the below output (with the exception that you will get random cards):

```
Card #1: J of Hearts (point value = 11)
Card #2: 10 of Hearts (point value = 10)
Card #3: A of Clubs (point value = 1)
Card #4: 10 of Clubs (point value = 10)
Card #5: A of Diamonds (point value = 1)
Card #6: 2 of Diamonds (point value = 2)
Card #7: J of Clubs (point value = 11)
Card #8: K of Spades (point value = 13)
Card #9: 4 of Clubs (point value = 4)
```