Day 4: Card, Deck, and GUI Documentation

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Read the documentation for these three classes, and then answer the questions that follow.

Class Card

`public class Card`

Title: The Card class
Description: This class will represent a single playing card that has a value between 1 and 13, and a suit (Clubs, Diamonds, Hearts, or Spades)
Author: CSC 120 Instructors

Constructor Detail

Card

`card( int num )`
Parameterized Card constructor. Gets called when an object of the Card class is instantiated, sending a number as an argument. It determines the value and suit of the card, based upon the number received.

Parameters:

`num` - a number that gets converted to a value between 1 and 13 and one of the four suits (clubs, diamonds, hearts, or spades)

Method Detail

getValue

`int getValue()`
Returns what's stored in the instance variable value

Returns:

the state of the instance variable value

toString

`String toString()`
Returns the state of the card object

Returns:

a reference to a String object that contains the value and the suit of the card

Class Deck

```
public class Deck
```

Title: The Deck class
Description: This class provides the basic operations for a deck of cards, including creating the deck, shuffling it, and dealing cards from it.
Author: CSC 120 Instructors

Constructor Detail

Deck

```
deck( )
```
Default Deck constructor. Gets called when an object of the Deck class is instantiated.

Method Detail

shuffleDeck

```
void  shuffleDeck()
```
> Shuffles the deck

dealCard

```
Card  dealCard()
```
> If there are cards in the deck, return a reference to the top card object in the deck and decrease the number of cards in the deck by 1; return null otherwise to indicate an empty deck

Returns:
> a reference to a Card object

Class GUI

`public class GUI`

Title: The Graphical User Interface class
Description: This class provides a graphical user interface that can display playing cards.
Author: CSC 120 Instructors

Constructor Detail

GUI

  `GUI( )`
  Default GUI constructor. Gets called when an object of the GUI class is instantiated.
  Provides space for five cards.

Method Detail

showCard

`void   showCard( Card theCard )`
     Determines the value and suit of theCard and displays the appropriate card
     image
Parameters:
     `theCard` - a reference to a Card object. Assumes the card has been instantiated.

Questions

1. What's wrong with this statement?
    `GUI myWindow = new Card();`

2. What does this statement do?
    `Deck theDeck = new Deck();`

3. What's wrong with this statement?
    `theDeck.showCard();`

4. How would you declare all the variables necessary to deal a card? (You may assume
    that the statement `Deck theDeck = new Deck();` has already been typed.)

5. How would you use the variables you declared in the previous question to shuffle
    the deck and call the `dealCard` method?

6. What do you think is stored in the `String` object whose reference is returned by
    the `toString` method in the `Card` class?

7. Give an example of a call to the `toString` method using the variables you defined
    in Question #4.

8. How would you display the return value from the `toString` method you called in
    the previous question?