Name:	SRN: PES1UG19CS427	
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Write a Java program to implement a pile of cards as a stack data structure. A pile contains cards where you can place a card on the top of the pile (push) and draw a card from the top of the pile (pop). A card should be an Object with properties card suit (Club, Diamond, Spade or Heart) and a card value (A, 1, 2, 3… 10, J, Q, K). You can also peek in to the pile by checking the card at the top without drawing it from the pile (display). The pile can contain a maximum of 10 cards. The pile should be an object instantiated in the main function. After that the user should be given a option to perform any of the three functions (place, draw or peek)

Note: Can use enum or string for datamembers
Can read from the user using scanner class or hardcode the values in the program

```
import java.util.Scanner;
class Card{
  String suit;
  String value;
  Card(String suit, String value){
    this.suit = suit;
    this.value = value;
  }
  public void display(){
    System.out.print("The card is the ");
    System.out.println(value+" of "+ suit);
  }
}

public class Pile{
  int top;
  int max;
  Card arr[];

  Pile(){
    top = -1;
    max = 10;
    arr = new Card[10];
  }
```

```
  public Boolean isEmpty(){
    return top ==-1;
  }

  public Boolean isFull(){
    return top == max-1;
  }

  public void insert(String suit, String value){
    top++;
    arr[top] = new Card(suit, value);
    System.out.println("Successfully Inserted");
  }

  public void draw(){
    System.out.println("The drawed card is:");
    arr[top].display();
    top--;
  }

  public void peek(){
    System.out.println("Top of the pile is:");
    arr[top].display();
  }
  public static void main(String args[]){
    Pile deck = new Pile();
    Scanner sc = new Scanner(System.in);
    System.out.println("Deck of cards\n");
    int choice = 0;
    String suit, value;
    while(choice!=4){
      System.out.println("\nChoose one from the below
choices\n1.Insert a Card\n2.Draw a Card\n3.Peek a Card\n4.Exit");
      choice = sc.nextInt();
      switch(choice){
        case 1:
        {
          if(deck.isFull()){
            System.out.println("Overflow");
            break;
          }
          System.out.println("Enter a suit and value");
```

```
            suit = sc.next();
            value = sc.next();
            deck.insert(suit, value);
            break;
          }
          case 2:
          {
            if(deck.isEmpty()){
              System.out.println("Underflow");
              break;
            }
            deck.draw();
            break;
          }
          case 3:
          {
            if(deck.isEmpty()){
              System.out.println("Empty Pile");
              break;
            }
            deck.peek();
            break;
          }
          case 4:
          {
            System.exit(1);
          }
        }
      }
    }
}
```

Output Screen shots showcasing the functions place, draw and peek

```
Choose one from the below choices
1.Insert a Card
2.Draw a Card
3.Peek a Card
4.Exit
1
Enter a suit and value
heart
7
Successfully Inserted

Choose one from the below choices
1.Insert a Card
2.Draw a Card
3.Peek a Card
4.Exit
1
Enter a suit and value
club
8
Successfully Inserted

Choose one from the below choices
1.Insert a Card
2.Draw a Card
3.Peek a Card
4.Exit
2
The drawed card is:
The card is the 8 of club

Choose one from the below choices
1.Insert a Card
2.Draw a Card
3.Peek a Card
4.Exit
3
Top of the pile is:
The card is the 7 of heart

Choose one from the below choices
1.Insert a Card
2.Draw a Card
3.Peek a Card
4.Exit
4
Sammiths-MacBook-Pro:~ sammithsbharadwaj$
```