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SRN-PES2UG19CS013
OOAD with JAVA
Hands on assignment-1

Code

```
import java.util.*;
class Card
{
    String suit;
    String value;
    Card(String suit,String value)
    {
        this.suit=suit;
        this.value=value;
    }
}

class Pile4 {
    // store elements of stack
    private String arr[];
    // represent top of stack
    private int top;
    // total capacity of the stack
    private int capacity;

    Pile4(int size) {
        // initialize the array
        // initialize the stack variables
        arr = new String[size];
        capacity = size;
        top = -1;
    }

    public void place(Card obj) {
        if (isFull()) {
            System.out.println("PILE FULL");

            // terminates the program
            System.exit(1);
        }
    }
}
```

```

    }

    // insert element on top of stack
    System.out.println("Inserting " +obj.suit+" " +obj.value);
    arr[++top] =obj.suit+obj.value;
}

public String draw() {

    // if stack is empty
    // no element to pop
    if (isEmpty()) {
        System.out.println("PILE EMPTY");
        // terminates the program
        System.exit(1);
    }

    // pop element from top of stack
    return arr[top--];
}

public void peek() {
    // if stack is empty
    // no element to pop
    if (isEmpty()) {
        System.out.println("PILE EMPTY");
        // terminates the program
        System.exit(1);
    }

    // pop element from top of stack
    System.out.println(arr[top]);
}

public void printStack() {
    for (int i = 0; i <= top; i++) {
        System.out.print(arr[i] + ", ");
    }
    System.out.println();
}

// return size of the stack
public int getSize() {

```

```

        return top + 1;
    }

    // check if the stack is empty
    public Boolean isEmpty() {
        return top == -1;
    }

    // check if the stack is full
    public Boolean isFull() {
        return top == capacity - 1;
    }

    public static void main(String[] args) {
        Pile4 pile = new Pile4(10);

        //Scanner sc= new Scanner(System.in);
        //System.out.print("Enter option:place,draw,peek");

        Scanner input = new Scanner(System.in);
        boolean mainLoop = true;
        //String str= sc.nextLine();

        //if(str=="place")
        //{
            // Scanner sc2= new Scanner(System.in);
            // System.out.print("enter card suit");
        //}
        int choice;
        while(true){
            System.out.print("1.) Place \n");
            System.out.print("2.) Draw\n");
            System.out.print("3.) Peek\n");
            System.out.print("4.) Exit\n");
            System.out.print("\nEnter Your Menu Choice: ");
            choice = input.nextInt();

            switch(choice){

            case 1:
                String str1,str2;
                Scanner sc2= new Scanner(System.in);
                System.out.print("Please Enter The Card Suit ");
                str1= sc2.nextLine();
                System.out.print("\nPlease Enter The Card Value: ");
                str2= sc2.nextLine();

```

```
        Card obj=new Card(str1,str2);
        pile.place(obj);
        break;

    case 2:
        pile.draw();
        break;

    case 3:
        pile.peek();
        break;

    case 4:
        System.out.println("Exiting Program...");
        System.exit(0);
        break;
    default :
        System.out.println("This is not a valid Menu Option! Please
Select Another");
        break;

    }

    }

    }

}
```

Output

```
1.) Place
2.) Draw
3.) Peek
4.) Exit
```

```
Enter Your Menu Choice: 1
Please Enter The Card Suit Club
```

```
Please Enter The Card Value: 3
Inserting Club 3
1.) Place
2.) Draw
3.) Peek
4.) Exit
```

```
Enter Your Menu Choice: 1
Please Enter The Card Suit Diamond
```

```
Please Enter The Card Value: 10
Inserting Diamond 10
1.) Place
2.) Draw
3.) Peek
4.) Exit
```

```
Enter Your Menu Choice: 3
Diamond10
1.) Place
2.) Draw
3.) Peek
4.) Exit
```

```
Enter Your Menu Choice: 2
1.) Place
2.) Draw
3.) Peek
4.) Exit
```

Enter Your Menu Choice: 2

- 1.) Place
- 2.) Draw
- 3.) Peek
- 4.) Exit

Enter Your Menu Choice: 3

Club3

- 1.) Place
- 2.) Draw
- 3.) Peek
- 4.) Exit

Enter Your Menu Choice: 4

Exiting Program...