Experiment 5

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Subject: Project Based Learning in Java   Subject Code: 22CSP-359

1. **Aim:** Create a program to collect and store all the cards to assist the users in finding all t a given symbol using Collection interface.

2. **Objective:**

   ☒ To implement a Java program that utilizes the Collection framework to store and manage card objects efficiently.
   ☒ To practice the use of ArrayList for dynamic storage and retrieval of objects.
   ☒ To enhance input validation techniques by handling incorrect or empty inputs properly.

3. **Implementation/Code:**

```java
import java.util.*;
class card{
    String type;
    int value;
    card(String type,int value){
        this.type=type;
        this.value=value;
    }
}
public class Main{
    public static void main(String[] args) {
        List<card> cards=new ArrayList<>();
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the number of cards: ");
        int n=sc.nextInt();
        System.out.println("Enter the card:");
        for(int i=0; i<n; i++){

            System.out.println("Card Type:");
            String t=sc.next();
```

```
System.out.println("Card Value:");
int v=sc.nextInt();
cards.add(new card(t,v));


        }
        System.out.print("Enter the card Type to Search: ");
        String type=sc.next();
        if(type.isEmpty()) {
        System.out.println("Cannot be empty");
        return; }
        if(!type.equals("diamond")&&
        !type.equals("heart")&&
        !type.equals("club")&&
        !type.equals("spade")){
            System.out.println("Invalid Card Type");
            return; }
        boolean found=false;
        System.out.println("Cards with Type: "+type);
        for(card c:cards){
            if(c.type.equals(type)){
                System.out.println(c.value);
                found=true;
            }
        }
        if(!found) System.out.println("No such card found");
    }
}
```

4. Output:

5. Learning Outcomes

- ☒ Understand how to use the Collection framework (List interface) in Java for object storage and retrieval.
- ☒ Gain experience in handling user input effectively and implementing validation checks.
- ☒ Develop an understanding of iterating over collections to search for specific objects dynamically.
- ☒ Improve coding skills in object-oriented programming by creating and managing custom classes (Card class).