



Java Assignment 4 Medium Level

Problem Statement :

Medium Level: Card Collection System Problem Statement  Create a program to collect and store all the cards (e.g., playing cards) and assist users in finding all the cards of a given symbol using the Collection interface.

Key Concepts Used  HashMap: To store cards with their symbols as keys.

Collection Interface: To manage and manipulate the card data.

User Interaction: Allow users to search for cards by symbol.

How to Run ? Navigate to the Medium/ folder.

Compile and run the CardCollection.java file.

Enter the symbol (e.g., "Hearts", "Spades") to find all cards of that symbol.

Code :

```
import java.util.*;

class CardCollection {

    private final Map<String, List<String>> cardMap = new HashMap<>();

    public void addCard(String symbol, String card) {
        cardMap.computeIfAbsent(symbol, k -> new ArrayList<>()).add(card);
    }

    public void searchCards(String symbol) {
        if (cardMap.containsKey(symbol)) {
            System.out.println("Cards in " + symbol + ": " + cardMap.get(symbol));
        } else {
```

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```
        System.out.println("No cards found for symbol: " + symbol);  
    }  
}  
}
```

```
public class CardCollectionSystem {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
        CardCollection collection = new CardCollection();  
  
        collection.addCard("Hearts", "Ace");  
        collection.addCard("Hearts", "King");  
        collection.addCard("Spades", "Queen");  
        collection.addCard("Diamonds", "Jack");  
  
        while (true) {  
            System.out.println("Enter symbol to search (or type 'exit' to quit): ");  
            String symbol = scanner.nextLine();  
            if (symbol.equalsIgnoreCase("exit")) {  
                break;  
            }  
            collection.searchCards(symbol);  
        }  
        scanner.close();  
    }  
}
```

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OUTPUT:

```
Enter symbol to search (or type 'exit' to quit):  
Hearts  
Cards in Hearts: [Ace, King]  
Enter symbol to search (or type 'exit' to quit):  
Spades  
Cards in Spades: [Queen]  
Enter symbol to search (or type 'exit' to quit):  
Diamonds  
Cards in Diamonds: [Jack]  
Enter symbol to search (or type 'exit' to quit):  
exit
```

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