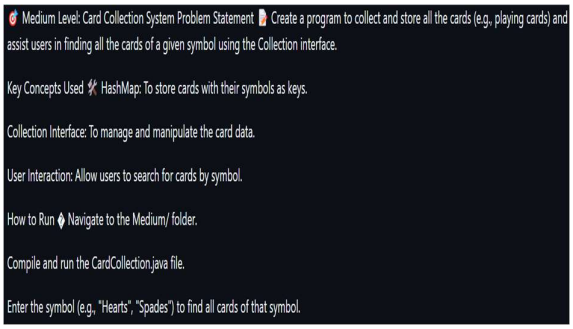
Assignment (Medium):



Code:

```
import java.util.*;

class CardCollection {
   static HashMap<String, ArrayList<String>> cardMap = new
HashMap<>();
   static Scanner sc = new Scanner(System.in);

   public static void main(String[] args) {
      while (true) {
         System.out.println("\n1. Add Card");
         System.out.println("2. Search Cards by Symbol");
         System.out.println("3. Show All Cards");
         System.out.println("4. Exit");
         System.out.print("Enter choice: ");
         int choice = sc.nextInt();
         sc.nextLine(); // Consume newline

         switch (choice) {
            case 1: addCard(); break;
            case 2: searchCards(); break;
            case 3: showAllCards(); break;
            case 4: System.out.println("Exiting..."); return;
            default: System.out.println("Invalid choice! Try
again.");
         }
      }
   }

   static void addCard() {
      System.out.print("Enter Card Symbol (e.g., Hearts, Spades):
");
      String symbol = sc.nextLine();
      System.out.print("Enter Card Name (e.g., Ace, King, 2, 3):
");
      String name = sc.nextLine();

      cardMap.putIfAbsent(symbol, new ArrayList<>());
      cardMap.get(symbol).add(name);
      System.out.println("Card added!");
   }

   static void searchCards() {
      System.out.print("Enter symbol to search: ");
      String symbol = sc.nextLine();

      if (cardMap.containsKey(symbol)) {
         System.out.println("Cards in " + symbol + ": " +
cardMap.get(symbol));
      } else {
         System.out.println("No cards found for this symbol.");
      }
   }

   static void showAllCards() {
      if (cardMap.isEmpty()) {
         System.out.println("No cards in the collection.");
      } else {
         for (String symbol : cardMap.keySet()) {
            System.out.println(symbol + ": " +
cardMap.get(symbol));
         }
      }
   }
}
```

Output:

```
                    cd "d:\coding\java\" ; if ($?) {

  1. Add Card
  2. Search Cards by Symbol
  3. Show All Cards
  4. Exit
  Enter choice: 1
  Enter Card Symbol (e.g., Hearts, Spades): Spades
  Enter Card Name (e.g., Ace, King, 2, 3): Ace
  Card added!

  1. Add Card
  2. Search Cards by Symbol
  3. Show All Cards
  4. Exit
  Enter choice: 3
  Spades: [Ace]

  1. Add Card
  2. Search Cards by Symbol
  3. Show All Cards
  4. Exit
  Enter choice: 4
  Exiting...
  PS D:\coding\java>
```