Experiment4

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Subject Name: PBLJ **Subject Code:22CSH-359**

1. **Aim:** Write a program to collect and store all the cards to assist the users in finding all the cards in a given symbol.This cards game consist of N number of cards. Get N number of cards details from the user and store the values in Card object with the attributes symbol and Number. Store all the cards in a map with symbols as its key and list of cards as its value. Map is used here to easily group all the cards based on their symbol. Once all the details are captured print all the distinct symbols in alphabetical order from the Map.

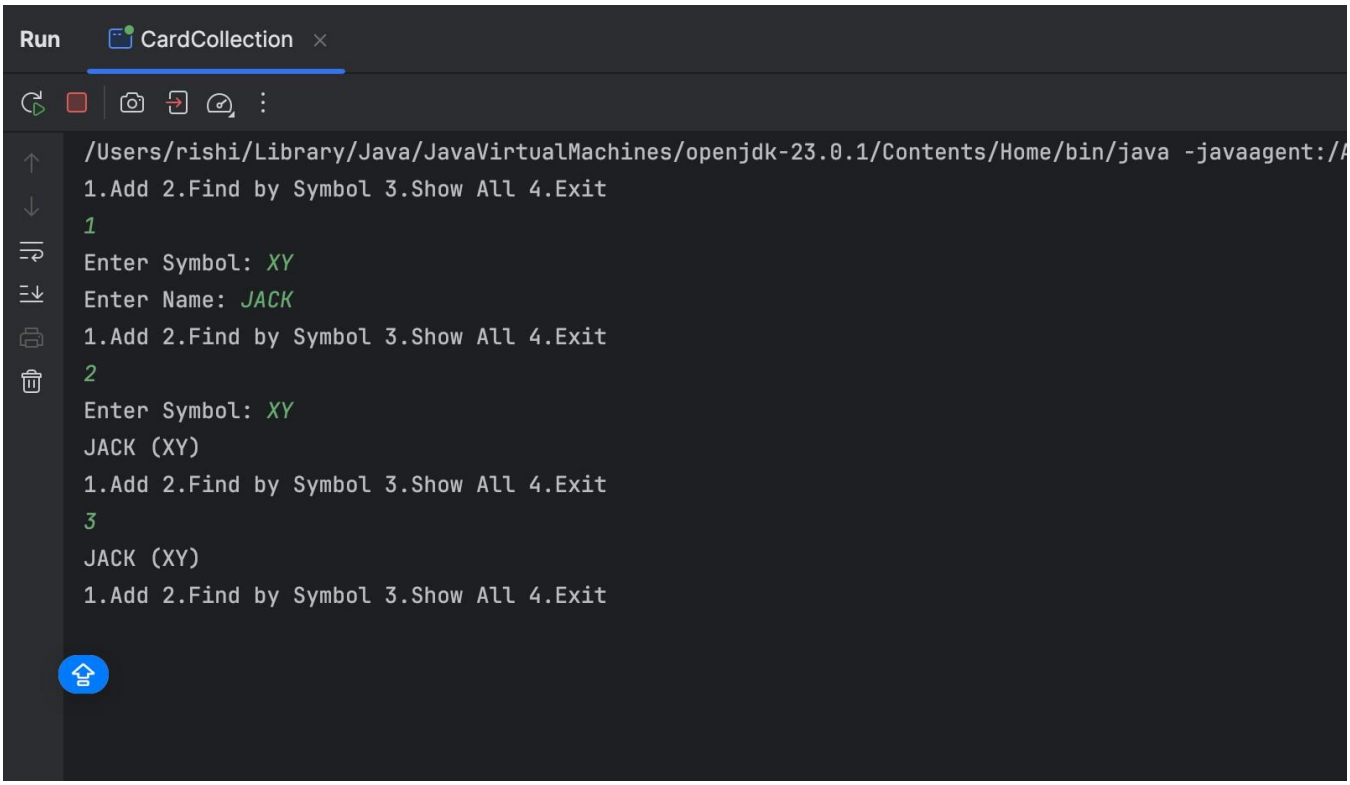
2. **Objective:**This program collects and stores Ncards, grouping them by symbol in a map for easy retrieval. It displays distinct symbols in alphabetical order along with their associated cards, total count, and sum of numbers, ensuring efficient organization and user-friendly output.

3. **Code**

```
import java.util.*;

class Card {
   String symbol;
   String name;

   Card(String symbol,String name){
      this.symbol = symbol;
      this.name= name;
   }

   Public String to String() {
      Return name+" (" +symbol + ")";
   }
}

Public class Card Collection{
   Static Collection<Card>cards=new Array List<>();
   static Scanner sc = new Scanner(System.in);
```

```
            Public  static void main(String[]args){
               while (true) {
                  System.out.println("1.Add2.FindbySymbol3.ShowAll4.Exit"); int
                  choice = sc.next Int();
                  switch(choice){
                     case1->add Card();
                     case2->find By Symbol();
                     case3->cards.for Each (System.out::println);
                     case 4 -> { return; }
                     default->System.out.println("Invalid");
                  }
               }
            }

static void add Card() { System.out.print("Enter
   Symbol: "); String symbol = sc.next(); sc.next
   Line(); System.out.print("Enter Name: ");
   String name = sc.next Line();
   cards.add(newCard(symbol,name));
            }

            static void find By Symbol() {
               System.out.print("Enter Symbol:");
               String symbol = sc.next();
               cards.stream().filter(c ->
         c.symbol.equals(symbol)).for Each(System.out::println);
            }
         }
```

4. Code



5. Learning Outcomes

- Understand how to use maps(dictionaries)for efficient data storage and retrieval.
- Learn to group and organized at a based on a key attribute.
- Gain experience in handling user input and storing objects dynamically.