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EXPERIMENT - 04

PROBLEM STATEMENT :

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 symbol 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. For each symbol print all the card details, number of cards and their sum respectively.

CODE :

```
import java.util.ArrayList;
import java.util.HashMap;
import java.util.Map;
import java.util.Scanner;

public class exp5_2 {
    public static void main(String[] args){
        int count = 0, sum = 0;
        ArrayList<Integer> arr = new ArrayList<>();
        HashMap<String,ArrayList<Integer>> map= new HashMap<String,ArrayList<Integer>>();
        Scanner sc = new Scanner(System.in);
        System.out.print("\nEnter the number of cards : ");
        int n = sc.nextInt();

        for(int i = 1; i <= n; i++){
            System.out.println("\nEnter card " + i + ":");
            String key = sc.next();
            int val = sc.nextInt();
            if(map.containsKey(key)){
                arr = map.get(key);
                arr.add(val);
            }else{
                arr = new
                ArrayList<Integer>();
                arr.add(val);
                map.put(key, arr);
            }
        }

        System.out.print("\nDISTINCT SYMBOLS ARE : ");
        for (String key: map.keySet()){
            System.out.print(key + " ");
        }
        System.out.println();
    }
}
```



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```
for(Map.Entry<String, ArrayList<Integer>> entry : map.entrySet()){
    System.out.println("\nCards in " + entry.getKey() + " Symbol :");
    count = 0;
    sum = 0;

    for(Integer values : entry.getValue())
    {
        System.out.println(entry.getKey() + " " + values);
        count++;
        sum += values;
    }

    System.out.println("\nNUMBER OF CARDS : " + count);
    System.out.println("SUM OF NUMBERS : " + sum);
}

System.out.println();
}
```

OUTPUT :

```
cd "/Users/tejasnirala/PBLJ/untitled/src/" && javac exp5_2.java && java exp5_2
(base) tejasnirala@Tejass-MacBook-Air untitled % cd "/Users/tejasnirala/PBLJ/untitled/src/"

Enter the number of cards : 5

Enter card 1:
z 8

Enter card 2:
a 0

Enter card 3:
g 7

Enter card 4:
a 6

Enter card 5:
z 3

DISTINCT SYMBOLS ARE : a g z

Cards in 'a' Symbol :
a 0
a 6

NUMBER OF CARDS : 2
SUM OF NUMBERS : 6

Cards in 'g' Symbol :
g 7

NUMBER OF CARDS : 1
SUM OF NUMBERS : 7

Cards in 'z' Symbol :
z 8
z 3

NUMBER OF CARDS : 2
SUM OF NUMBERS : 11

(base) tejasnirala@Tejass-MacBook-Air src %
```