

Worksheet - 4

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BRANCH – CSE BTECH
SEC – WM 902 B
SUB JAVA LAB

1. Aim/Overview of the practical:

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.

3. Code:

```
package first;

import java.util.ArrayList;
import java.util.Map; import
java.util.Scanner; import
java.util.TreeMap;

public class exp4 {
    public static void main(String[] args) {
        Map<String, ArrayList<Integer>> m = new TreeMap<>();
        Scanner sc = new Scanner(System.in);
```

```
System.out.print("Enter Number of Cards: ");
int n = sc.nextInt();    String s;
for(int i=0; i<n; i++) {
    System.out.println("Enter Card " + (i+1));
s = sc.next();
    if (!m.containsKey(s)) {
        m.put(s, new ArrayList<>());
    }
    m.get(s).add(sc.nextInt());
}
System.out.println("Distinct Symbols are: ");
for(String k: m.keySet()) {
System.out.print(k + "");
}
int sum=0;
System.out.println();
for(Map.Entry<String, ArrayList<Integer>> mv: m.entrySet()) {
System.out.println("Cards in " + mv.getKey() + " Symbol");
    for (Integer integer : mv.getValue()) {
        System.out.println(mv.getKey() + "" + integer);
        sum += integer;
    }
System.out.println("Number of cards: " + mv.getValue().size());
System.out.println("Sum of numbers: " + sum);
sum=0;
}
}
}
```

5. Result/Output:

```

Problems @ Javadoc Declaration Console X
<terminated> exp4 [Java Application] /Users/konichivo/Library/Java/Ja
Enter Number of Cards: 5
Enter Card 1
s 2
Enter Card 2
f 5
Enter Card 3
s 6
Enter Card 4
a 5
Enter Card 5
f 7
Distinct Symbols are:
a f s
Cards in a Symbol
a 5
Number of cards: 1
Sum of numbers: 5
Cards in f Symbol
f 5
f 7
Number of cards: 2
Sum of numbers: 12
Cards in s Symbol
s 2
s 6
Number of cards: 2
Sum of numbers: 8

```

Learning outcomes (What I have learnt):

1.Learnt about the concept of TreeMap and its functions such as put, containKeys, getValue, getKey.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			