Experiment Number - 5

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Subject Name: PBLJ LAB
Subject Code: 20CSP-321

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.

2. Hardware and Software Requirements :

PC with windows installed, IntelliJ IDEA (IDE).

3. Program Code:

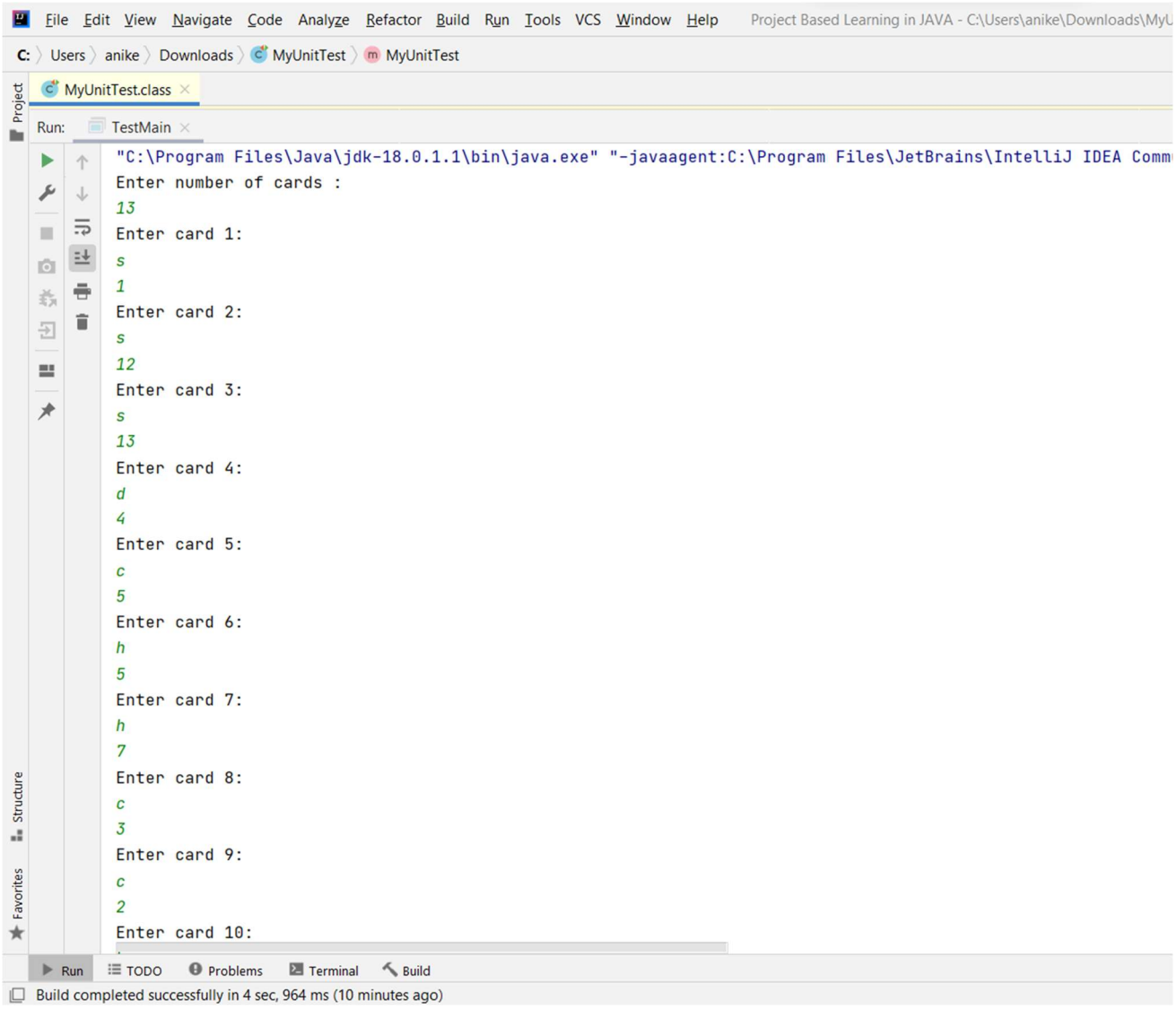
```
import java.util.*;

public class TestMain {
```

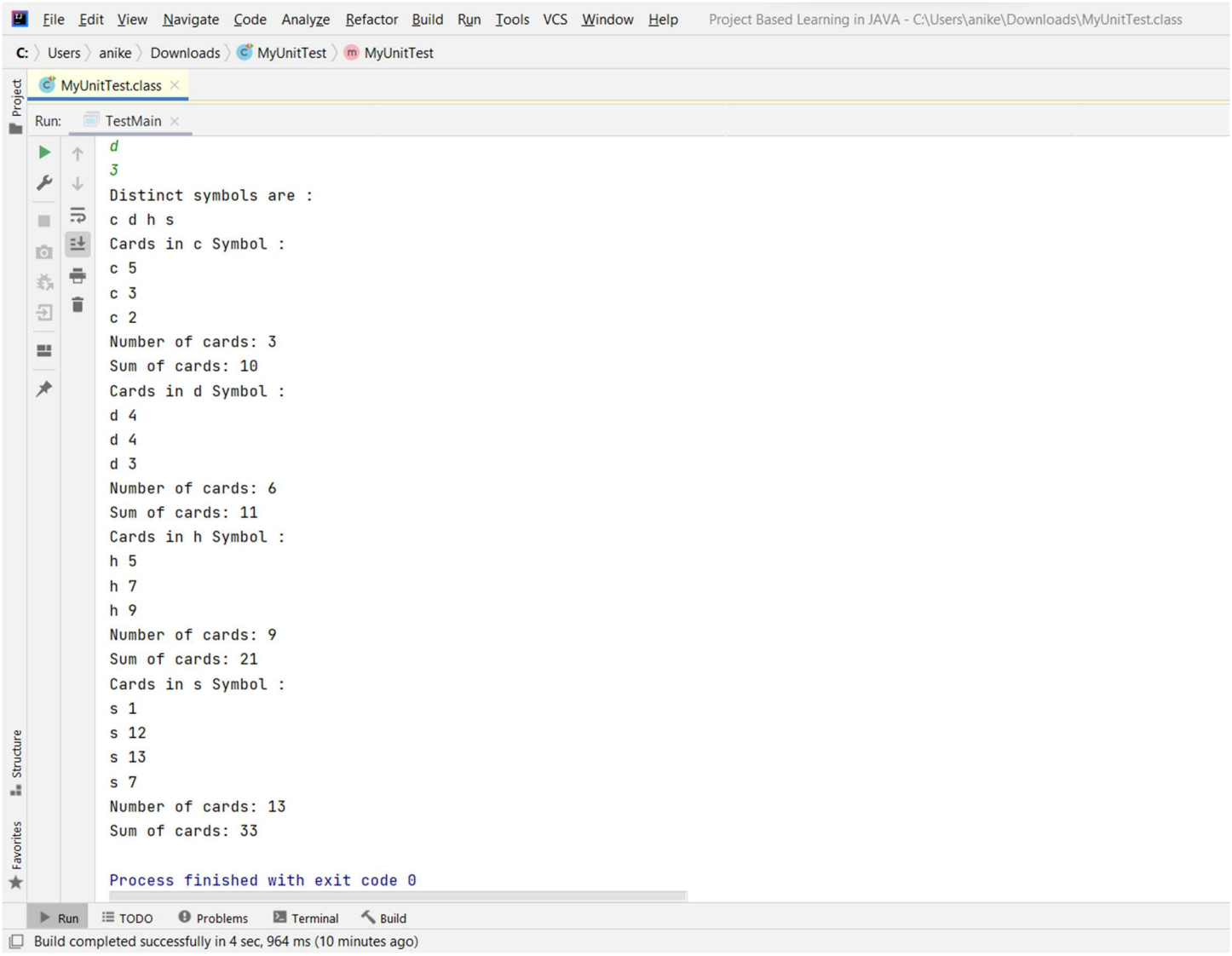
```
public static void main(String[] args)  {
    Scanner input = new Scanner(System.in);
    List<Integer> valueList = new ArrayList<Integer>();
    TreeMap<String, List<Integer>> mapObj = new TreeMap<String, List<Integer>>();
    int totalCards, index, value, sum = 0, count = 0;

    System.out.println("Enter number of cards : ");
    totalCards = input.nextInt();
    String symbol;

    for(index=1; index<=totalCards; index++) {
        System.out.println("Enter card " + index + ":");
        symbol = input.next();
        value = input.nextInt();
        if (mapObj.containsKey(symbol)) {
            valueList = mapObj.get(symbol);
            valueList.add(value);
        }
        else  {
            valueList = new ArrayList<Integer>();
            valueList.add(value);
            mapObj.put(symbol, valueList);
```

```
    }
}

System.out.println("Distinct symbols are :");
for(Map.Entry<String, List<Integer>> getData : mapObj.entrySet())  {
    System.out.print(getData.getKey() + " ");
}

System.out.println();

for(Map.Entry<String, List<Integer>> getData : mapObj.entrySet()) {
    System.out.println("Cards in " + getData.getKey() + " Symbol :");
    ArrayList<Integer> temp = (ArrayList<Integer>) getData.getValue();
    Iterator<Integer> itr = temp.iterator();
    while (itr.hasNext()) {
        count++;
        int val = (int) itr.next();
        System.out.print(getData.getKey());
        System.out.println(" " + val);
        sum += val;
    }
    System.out.println("Number of cards: " + count);
```

```
            System.out.println("Sum of cards: " + sum);
            sum = 0;
        }
    }
}
```

4. Output :




File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Project Based Learning in JAVA - C:\Users\anike\Downloads\MyUnitTest.class
C: Users anike Downloads MyUnitTest MyUnitTest
MyUnitTest.class
Run: TestMain
d
3
Distinct symbols are :
c d h s
Cards in c Symbol :
c 5
c 3
c 2
Number of cards: 3
Sum of cards: 10
Cards in d Symbol :
d 4
d 4
d 3
Number of cards: 6
Sum of cards: 11
Cards in h Symbol :
h 5
h 7
h 9
Number of cards: 9
Sum of cards: 21
Cards in s Symbol :
s 1
s 12
s 13
s 7
Number of cards: 13
Sum of cards: 33
Process finished with exit code 0
Run TODO Problems Terminal Build
Build completed successfully in 4 sec, 964 ms (10 minutes ago)

Learning outcomes (What I have learnt):

1. I have learnt how to write program in JAVA.
2. I have learnt how to create classes and its objects in JAVA.
3. I have learnt how to take input from user using Scanner class.
4. I have learnt how to create Array in JAVA and traverse each elements using loop.
5. I have learnt how to create an application to collect and store all the cards to assist the users in finding all the cards in a given symbol.

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.			