

## WORKSHEET – 2.2

Name: SANSKAR AGRAWAL

Branch: B.E CSE

UID: 20BCS5914

Section/Group: 806 B

Semester: 5<sup>th</sup>

Subject Name: PBLJ Lab

### **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 consists 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.

**Apparatus Required:** IntelliJ Idea, JVM

Code:?

```
package com.company.luv2code; import

java.util.*; public class cards {

    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 getData :
        mapObj.entrySet()){
            System.out.print(getData.getKey() + " ");

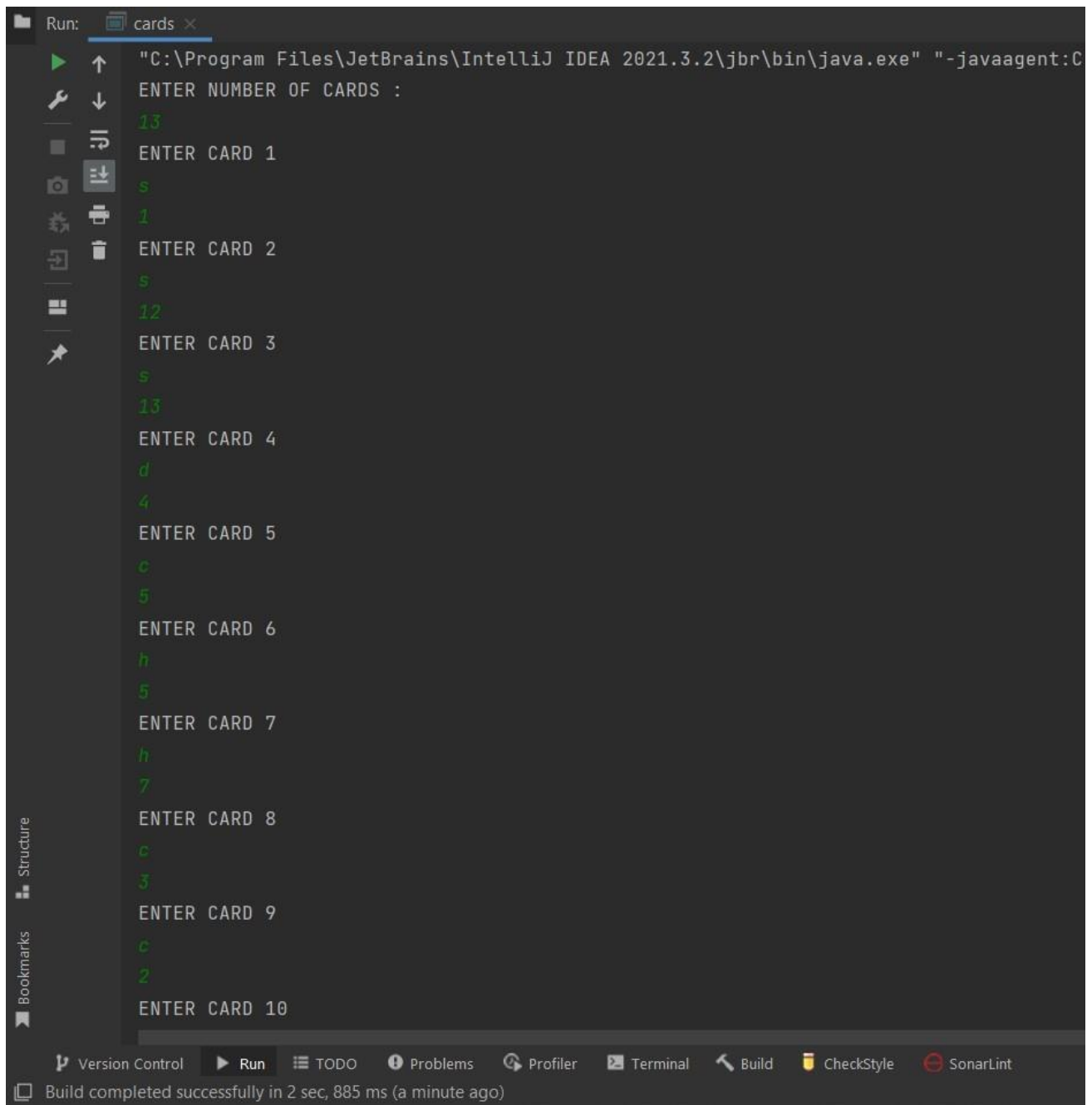
        }
        System.out.println();

        for(Map.Entry getData : mapObj.entrySet()){
            System.out.println("CARDS IN " + getData.getKey() + " SYMBOL :"); ArrayList<Integer> temp =
                (ArrayList<Integer>) getData.getValue();
            Iterator 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 NUMBERS : " + sum); sum = 0;
        }
    }
}
```

## Output:



The screenshot shows the IntelliJ IDEA Run console for a program named 'cards'. The console output is as follows:

```
"C:\Program Files\JetBrains\IntelliJ IDEA 2021.3.2\jbr\bin\java.exe" "-javaagent:C
ENTER NUMBER OF CARDS :
13
ENTER CARD 1
s
1
ENTER CARD 2
s
12
ENTER CARD 3
s
13
ENTER CARD 4
d
4
ENTER CARD 5
c
5
ENTER CARD 6
h
5
ENTER CARD 7
h
7
ENTER CARD 8
c
3
ENTER CARD 9
c
2
ENTER CARD 10
```

The left sidebar shows the 'Run' tab selected, with icons for Run, Debug, and other IDE functions. The bottom status bar indicates 'Build completed successfully in 2 sec, 885 ms (a minute ago)'.

```
2
ENTER CARD 10
h
9
ENTER CARD 11
s
7
ENTER CARD 12
d
4
ENTER CARD 13
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 NUMBERS : 10
CARDS IN d  SYMBOL :
d 4
d 4
d 3
NUMBER OF CARDS : 6
SUM OF NUMBERS : 11
```

Version Control Run TODO Problems Profiler Terminal Build CheckStyle

Build completed successfully in 2 sec, 885 ms (a minute ago)

```
Run: cards x
3
DISTINCT SYMBOLS ARE :
c d h s
CARDS IN c SYMBOL :
c 5
c 3
c 2
NUMBER OF CARDS : 3
SUM OF NUMBERS : 10
CARDS IN d SYMBOL :
d 4
d 4
d 3
NUMBER OF CARDS : 6
SUM OF NUMBERS : 11
CARDS IN h SYMBOL :
h 5
h 7
h 9
NUMBER OF CARDS : 9
SUM OF NUMBERS : 21
CARDS IN s SYMBOL :
s 1
s 12
s 13
s 7
NUMBER OF CARDS : 13
SUM OF NUMBERS : 33

Process finished with exit code 0
|
```

Structure

Bookmarks

Version Control Run TODO Problems Profiler Terminal Build CheckStyle SonarLint

Build completed successfully in 2 sec, 885 ms (a minute ago)