Object Oriented Programming Experiment-10

Name:- Vamika Mahajan **Sap Id:- 500096495**

Batch: - B6 **Branch: - B. TECH CSE CCVT**

Ques1- Write a program for the following ArrayList (a) Read all elements from ArrayList by using Iterator, (b) Create a duplicate object of an ArrayList instance, (c) Reverse ArrayList content.

```
import java.util.*;
public class AL
{
public static void main(String[] args)
{
ArrayList<Integer> l1 = new ArrayList<Integer>();//CREATING ArrayList OBJECT
l1.add(10);
l1.add(20);
l1.add(30);
l1.add(40);
l1.add(50);
//(a) Read all elements from ArrayList by using Iterator
Iterator i1 = l1.iterator();
System.out.println("Original Arraylist-");
while (i1.hasNext())
{
System.out.println(i1.next());
}
//(b) Create a duplicate object of an ArrayList instance
ArrayList copy = new ArrayList();
copy = (ArrayList)l1.clone();
System.out.println("Duplicate ArrayList instance-"+copy);
ArrayList l2=new ArrayList();
// (c) Reverse ArrayList content
System.out.print("Reversed Arraylist-");
for(int i=l1.size()-1;i>=0;i--){
l2.add(l1.get(i));
}

System.out.println(l2);
}
}
```

```
C:\java programs> java AL
Original Arraylist-
10
20
30
40
50
Duplicate ArrayList instance-[10, 20, 30, 40, 50]
Reversed Arraylist-[50, 40, 30, 20, 10]
```

Ques2- Write a program for the following HashMap (a) Find whether the specified key exists or not, (b) Find whether the specified value exists or not, (c) Get all keys from the given HashMap, (d) Get all key-value pair as Entry objects.

```
import java.util.*;
public class HM
{
Scanner sc = new Scanner(System.in);
public static void main(String args[])
 {
HashMap<Integer, String> hm1 = new HashMap<Integer, String>();
hm1.put(1, "Vamika");
hm1.put(2, "Muskan");
hm1.put(3, "Riddhi");
hm1.put(4, "Khushi");
System.out.println("Hashmap-" + hm1);
//(a) Find whether the specified key exists or not
Scanner sc = new Scanner(System.in);
System.out.print("Enter key you want to search-");
int n = sc.nextInt();
if (hm1.containsKey(n)) {
System.out.println("Key is present");
}
else
{
System.out.println("Key is not present");
}
//(b) Find whether the specified value exists or not,
System.out.print("Enter value you want to search-");
String s = sc.next();
if (hm1.containsValue(s))
{
System.out.println("Value is present");
}
else
```

```
{
System.out.println("Value is not present");
}
//(c) Get all keys from the given HashMap
System.out.println("All keys from hm1 HashMap-");
for(Integer m:hm1.keySet())
{
System.out.println(m);
}
//(d) Get all key-value pair as Entry objects
System.out.println("All key-value pair as Entry objects-");
for (Map.Entry<Integer, String> entries : hm1.entrySet()) {
System.out.println(entries.getKey() + "-" + entries.getValue());
}
}
}
```

```
C:\java programs> java HM
Hashmap-{1=Vamika, 2=Muskan, 3=Riddhi, 4=Khushi}
Enter key you want to search- 1
Key is present
Enter value you want to search- Vamika
Value is present
All keys from hm1 HashMap-
1
2
3
4
All key-value pair as Entry objects-
1-Vamika
2-Muskan
3-Riddhi
4-Khushi

C:\java programs>
```

```
C:\java programs> java HM
Hashmap-{1=Vamika, 2=Muskan, 3=Riddhi, 4=Khushi}
Enter key you want to search- 7
Key is not present
Enter value you want to search- Nirmol
Value is not present
All keys from hm1 HashMap-
1
2
3
4
All key-value pair as Entry objects-
1-Vamika
2-Muskan
3-Riddhi
4-Khushi

C:\java programs>
```

Ques3- Write a program for the following HashSet (a) Copy another collection object to the HashSet object, (b) Delete all entries at one call from HashSet, (c) Search user-defined objects from HashSet.

```
import java.util.*;
class HS
{
public static void main(String args[])
{
HashSet<Integer> hs1=new HashSet<Integer>();
hs1.add(111);
hs1.add(222);
hs1.add(333);
System.out.println("Original Hashset-"+hs1);
ArrayList<Integer> hs2=new ArrayList<Integer>();
hs2.add(444);
hs2.add(555);
//(a) Copy another collection object to the HashSet object
hs1.addAll(hs2);
System.out.println("After Copying another collection object to the HashSet object-"+hs1);
//(c) Search user-defined objects from HashSet
Scanner sc=new Scanner(System.in);
System.out.print("Enter element you want to search in Hashset-");
int s=sc.nextInt();
if(hs1.contains(s)){
System.out.println("Element is present");
}
else{
System.out.println("Element is not present");
}
//(b) Delete all entries at one call from HashSet
hs1.clear();
System.out.println("After deleting all entries at one call -"+hs1);
}}
```

Command Prompt

```
C:\java programs>java HS
Original Hashset-[333, 222, 111]
After Copying another collection object to the HashSet object-[555, 444, 333, 222, 111]
Enter element you want to search in Hashset-555
Element is present
After deleting all entries at one call -[]

C:\java programs> java HS
Original Hashset-[333, 222, 111]
After Copying another collection object to the HashSet object-[555, 444, 333, 222, 111]
Enter element you want to search in Hashset-888
Element is not present
After deleting all entries at one call -[]

C:\java programs>
```