Generics

Assignment-5

1.

Employee.java

```
package com.chandan;

import java.util.*;


class Emp {

    int id;
    int salary;
    String name;
    public Emp(int id, int salary, String name) {
        super();
        this.id = id;
        this.salary = salary;
        this.name = name;
    }
    public void display()
    {
        System.out.print("ID= "+id);
        System.out.print(", Salary= "+salary);
        System.out.print(", Name= "+name);
    }
}

public class Employee
{
    public static void main(String[] args)
    {
        Emp emp1=new Emp(101,25000,"ABC");
        Emp emp2=new Emp(102,20000,"XYZ");
        HashSet<Emp> ab=new HashSet<Emp>();
        ab.add(emp1);
        ab.add(emp2);
        Iterator<Emp> em=ab.iterator();
        while(em.hasNext())
        {
            em.next().display();
            System.out.println();
        }
    }
}
```

Console

```
<terminated> Employee [Java Application] C:\Pro
ID= 102, Salary= 20000, Name= XYZ
ID= 101, Salary= 25000, Name= ABC
```

2.

lamda.java

Generics/src/com/chandan/lamda.java

```
import java.util.*;
public class lamda
{
    public static void main(String[] args)
    {
        HashMap<Integer,Double> ab=new HashMap<Integer,Double>();
        ab.put(2, 587.222);
        ab.put(3, 687.222);
        ab.put(4, 7787.222);
        ab.put(6, 5287.222);
        ab.put(8, 5817.222);
        ab.put(10, 5087.222);
        ab.put(9, 58117.222);
        ab.put(1, 580007.222);
        ab.put(5, 5814207.222);
        System.out.println(ab);
    }
}
```

Console

```
<terminated> lamda [Java Application] C:\Program Files\Java\jdk-16.0.2\bin\javaw.exe  (15-Nov-2021, 10:55:49 pm
{1=580007.222, 2=587.222, 3=687.222, 4=7787.222, 5=5814207.222, 6=5287.222, 8=5817.
```

3.

Swap.java

```java
package com.chandan;

public class Swap
{
    public static <E> void swap(E[] x)
    {
        E a=x[0];
        x[0]=x[1];
        x[1]=a;
    }

    public static void main(String[] args)
    {
        Integer[] arr= {6,3,2};
        System.out.println("Before");
        System.out.println(arr[0]+" "+arr[1]);
        swap(arr);
        System.out.println("After");
        System.out.println(arr[0]+" "+arr[1]);

    }

}
```

Console

```
<terminated> Swap [Java
Before
6 3
After
3 6
```

4.

(a)

Demo.java

```java
package com.chandan;
class Pair<k,v>
    {
        k key;
        v value;
        public Pair(k key,v  value)
        {
            this.key=key;
            this.value=value;

        }
        public <k,v> String gene()
        {
            return key+" "+value;
        }
    }
    public class Demo
    {
        public static void main(String[] args)
        {
            Pair<String,String> obj=new Pair<String,String>("Chet
            System.out.println(obj.gene());
        }
    }
```

Console

```
<terminated> Demo (3) [Java A
Chethan SE
```

4 (b)

Demo.java

```
1  package com.chandan;
2  class Pair<k,v>
3      {
4          k key;
5          v value;
6          public Pair(k key,v  value)
7          {
8              this.key=key;
9              this.value=value;
10
11         }
12         public <k,v> String gene()
13         {
14             return key+" "+value;
15         }
16     }
17     public class Demo
18     {
19         public static void main(String[] args)
20         {
21             Pair<String,java.util.Date> obj=new Pair<String,java.
22             System.out.println(obj.gene());
23         }
24     }
25
```

Console

```
<terminated> Demo (3) [Java Application] C:\Program Files\Java\j
Today is  Mon Nov 15 23:11:22 IST 2021
```