Week 10: Lab Programs-7 and 8

LAB PROGRAM-7:

7. Write a program to demonstrate generics with multiple object parameters.

```
import java.util.*;
class Gener<T,U,V>
{
	T usn;
	U attendance;
	V cgpa;
	Gener(T n,U a,V c)
	{
		usn = n;
		attendance = a;
		cgpa = c;
	}
	void display()
	{
		System.out.println("============================");
		System.out.println("USN of student: "+usn);
		System.out.println("Attendance = "+attendance);
		System.out.println("CGPA = :"+cgpa);
	}
}
class Generics
```

```
{
	public static void main(String args[])
	{
		Scanner in = new Scanner(System.in);
		String USN;
		int attd;
		double cg;
		System.out.println("Enter the USN of the student:");
		USN = in.next();
		System.out.println("Enter the attendance % of the student:");
		attd = in.nextInt();
		System.out.println("Enter the CGPA of the student:");
		cg = in.nextDouble();
		Gener<String, Integer, Double>  ob = new Gener<String,
Integer, Double>(USN, attd, cg);
		ob.display();
	}
}
```

OUTPUT:

```
C:\Users\win10\Documents\Java lab programs>javac Generics.java

C:\Users\win10\Documents\Java lab programs>java Generics
Enter the USN of the student:
1BM19CS001
Enter the attendance % of the student:
90
Enter the CGPA of the student:
9.7
============================
USN of student: 1BM19CS001
Attendance = 90
CGPA = :9.7
```

LAB PROGRAM-8:

8. Write a program that demonstrates handling of exceptions in inheritance tree. Create a base classcalled “Father” and derived class called “Son” which extends the base class. In Father class,implement a constructor which takes the age and throws the exception Wrong Age( ) when the inputage=father’s age.

```
import java.util.Scanner;

class WrongAge extends Exception {
    int age;

    WrongAge(int x) {
        age = x;
    }

    public String toString() {
        return "AGE OF SON=" + age + " IS ENTERED INCORRECTLY";
    }
}

class Father {
    int a;

    Father(int x) {
        a = x;
    }
}
```

```
class Son extends Father {
    int age;

    Son(int fage, int sage) {
        super(fage);
        age = sage;
    }

    void compute() throws WrongAge {
        if (age >= a) {
            throw new WrongAge(age);
        } else {
            System.out.println("THE AGES ARE ENTERED CORECTLY");
            System.out.println("FATHER'S AGE=" + a + "\t" + "SON'S AGE="
+ age);
        }
    }

}

class ExceptionsMain {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("ENTER FATHER'S AGE:");
        int f = s.nextInt();
        System.out.println("ENTER SON'S AGE:");
        int so = s.nextInt();
```

```
        Son ss = new Son(f, so);
        try {
            ss.compute();
        } catch (WrongAge e) {
            System.out.println(e);
        }
    }
}
```

OUTPUT:

```
C:\Users\win10\Documents\Java lab programs>javac ExceptionsMain.java

C:\Users\win10\Documents\Java lab programs>java ExceptionsMain
ENTER FATHER'S AGE:
45
ENTER SON'S AGE:
12
THE AGES ARE ENTERED CORECTLY
FATHER'S AGE=45 SON'S AGE=12
```

```
C:\Users\win10\Documents\Java lab programs>javac ExceptionsMain.java

C:\Users\win10\Documents\Java lab programs>java ExceptionsMain
ENTER FATHER'S AGE:
45
ENTER SON'S AGE:
60
AGE OF SON=60 IS ENTERED INCORRECTLY
```