30/01

LAB - 07

Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class called "Son" which extends the base class. In Father class implement a constructor which takes the age and throws an exception WrongAge when the input age < 0. In Son class, implement a constructor that takes both father and son's age and throws an exception if son's age >= father's age.

```
import java.util.*;
class WrongAge extends Exception
{
    public WrongAge (String s)
    {
        super(s);
    }
}

class Father
{
    Scanner sc = new Scanner (System.in);
    public int F_age;
    public Father() throws WrongAge
    {
        System.out.println(" Enter Father's age ");
        F_age = sc.nextInt();
        if (F_age <0)
        {
            throw new WrongAge ("Age cannot be negative");
        }
    }
}
public
```

```
class Son extends Father
{
    private int S_age;
    public Son() throws WrongAge
    {
        System.out.println("Enter son's age");
        S_age = sc.nextInt();
        if (S_age > F_age)
        {
            throw new WrongAge("Son's age cannot be greater than father's age");
        }
        else if (S_age < 0)
        {
            throw new WrongAge("Age cannot be negative");
        }
        else if (S_age == F_age)
        {
            throw new WrongAge("Age cannot be same");
        }
        else
        {
            System.out.println("valid age");
        }
    }
    public void display()
    {
        System.out.println("Father's age = " + F_age);
        System.out.println("Son's age = " + S_age);
    }
}
```

```
class Lab7
{
    public static void main (String args[])
    {
        try
        {
            Son ~~new~~ son = new Son ();
            son.display ();
        }
        catch (WrongAge e)
        {
            System.out.println (" Exception caught ");
            System.out.println (e.getMessage ());
        }
    }
}
```

O/P

① Enter Father's age 67
Enter Son's age 56
Valid age
Father's age = 67
Son's age = 56

② Enter Father's age = -10
Exception caught
Age cannot be negative.

③ Enter Father's age = 20
Enter Son's age = 20
Exception caught
Age cannot be same.

SANJANA SURESH
1BM22CS239

(4) Enter father's age = 45
Enter son's age = 90

Exception caught
Son's age cannot be greater than father's age.