LAB PROGRAM 8

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 the exception NegativeAge( ) when the input age<0. In Son class, implement a constructor that cases both father and son's age and throws an exception WrongAge() if son's age is >= father's age.

```java
import java.util.*;
class WrongAge extends Exception
{
    int f,s;
    WrongAge(int fAge,int sAge)
    {
        f=fAge;
        s=sAge;
    }
    public String toString()
    {
        return "Enter correct ages as Father's age can't be less than or equal to Son's age.";
    }
}
class NegativeAge extends Exception
{
    int x;
    NegativeAge(int fAge)
```

```java
    {
        x=fAge;
    }
    public String toString()
    {
        return "Age can't be negative.";
    }
}
class Father
{
    int fAge;
    Scanner in = new Scanner(System.in);
    Father() throws NegativeAge
    {
        System.out.println("Enter Father's age: ");
        fAge=in.nextInt();
        if(fAge<0)
        {
            throw new NegativeAge(fAge);
        }
    }
}
class Son extends Father
{
    int sAge;
```

```java
        Scanner in = new Scanner(System.in);
        Son() throws NegativeAge,WrongAge
        {
            super();
            System.out.println("Enter Son's age: ");
            sAge=in.nextInt();
            if(sAge<0)
            {
                throw new NegativeAge(sAge);
            }
            if(sAge>=fAge)
            {
                throw new WrongAge(fAge,sAge);
            }
        }
}
class exception_handling
{
    public static void main(String args[])
    {
        try
        {
            Son s = new Son();
        }
        catch(NegativeAge n)
```

```java
        {
            System.out.println("Exception: "+n);
        }
        catch(WrongAge w)
        {
            System.out.println("Exception: "+w);
        }
    }
}
```

```
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C:\Users\SAKSHI>cd C:\Users\SAKSHI\JAVA PROGRAMS

C:\Users\SAKSHI\JAVA PROGRAMS>javac exception_handling.java

C:\Users\SAKSHI\JAVA PROGRAMS>java exception_handling
Enter Father's age:
45
Enter Son's age:
12

C:\Users\SAKSHI\JAVA PROGRAMS>java exception_handling
Enter Father's age:
-4
Exception: Age can't be negative.

C:\Users\SAKSHI\JAVA PROGRAMS>java exception_handling
Enter Father's age:
45
Enter Son's age:
-5
Exception: Age can't be negative.

C:\Users\SAKSHI\JAVA PROGRAMS>java exception_handling
Enter Father's age:
45
Enter Son's age:
50
Exception: Enter correct ages as Father's age can't be less than or equal to Son's age.

C:\Users\SAKSHI\JAVA PROGRAMS>
```