Lab Program 6

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 WrongAge( ) when the input age=father's age.

Source Code:

```
import java.util.*;



class fatherAgeException extends Exception
{
  public String toString(){
     return("Father's age is less that 0");
  }
}

class sonAgeException extends Exception{
   int a;
   sonAgeException(int age){
     a=age;
   }
   public String toString(){
     if(a<0)
       return("Son's age is less than 0");
     else
```

```java
        return("Son's age is more than father's age");
    }
}



class Father{
    int age;
    Scanner in=new Scanner(System.in);
    Father(){
        System.out.println("Enter the father's age: ");
        age=in.nextInt();
    }
    void ex1() throws fatherAgeException
    {
        if(age<0)
         throw new fatherAgeException();
    }



}
class Son extends Father{
    int age;
  Son(){
    System.out.println("Enter the age of son: ");
    age=in.nextInt();
  }
```

```java
    void ex2() throws sonAgeException{
        if(age<0||age>super.age){
            throw new sonAgeException(age);
        }
    }
}


public class except {
    public static void main(String[] args){
        Son s=new Son();
        try{
            s.ex1();
        }
        catch(fatherAgeException e){
            System.out.println(e);
        }
        try{
            s.ex2();
        }
        catch(sonAgeException e){
            System.out.println(e);
        }
    }
}
```

Output:

```
C:\Windows\System32\cmd.e    X    +    v

C:\Javaprog>javac except.java

C:\Javaprog>java except
Enter the father's age:
23
Enter the age of son:
34
Son's age is more than father's age

C:\Javaprog>java except
Enter the father's age:
-1
Enter the age of son:
-2
Father's age is less that 0
Son's age is less than 0

C:\Javaprog>java except
Enter the father's age:
45
Enter the age of son:
-2
Son's age is less than 0

C:\Javaprog>java except
Enter the father's age:
-7
Enter the age of son:
-3
Father's age is less that 0
Son's age is less than 0

C:\Javaprog>
```