

7. Write a program that demonstrates handling of exceptions in inheritance 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 < 0. In Son class, implement a constructor that takes both father and son's age and throws an exception if son's age is \geq father's age.

```
import java.util.*;
```

```
class FatherAgeException extends Exception
{
    public String toString() {
        return ("Father's age is less than 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
            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();
    }
    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:

Enter father's age:

56

Enter son's age:

76

Son's age is more than father's age.

Enter father's age

-40

Enter son's age

-50

Father's age is less than 0

Son's age is less than 0

```
C:\Users\bmsce\Desktop>javac except.java
```

```
C:\Users\bmsce\Desktop>java except
```

```
Enter the father's age:
```

```
34
```

```
Enter the age of son:
```

```
12
```

```
C:\Users\bmsce\Desktop>java except
```

```
Enter the father's age:
```

```
56
```

```
Enter the age of son:
```

```
76
```

```
Son's age is more than father's age
```

```
C:\Users\bmsce\Desktop>java except
```

```
Enter the father's age:
```

```
43
```

```
Enter the age of son:
```

```
0
```

```
C:\Users\bmsce\Desktop>java except
```

```
Enter the father's age:
```

```
-70
```

```
Enter the age of son:
```

```
7
```

```
Father's age is less than 0
```

```
Son's age is more than father's age
```

```
C:\Users\bmsce\Desktop>java except
```

```
Enter the father's age:
```

```
-40
```

```
Enter the age of son:
```

```
-50
```

```
Father's age is less than 0
```

```
Son's age is less than 0
```

```
C:\Users\bmsce\Desktop>
```