

### **Program 7:**

**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<0. In Son class, implement a constructor that takes both father and son’s age and throws an exception if son’s age is >=father’s age.**

```
import java.util.Scanner;
```

```
class WrongAge extends Exception {  
    WrongAge(String message) {  
        super(message);  
    }  
}
```

```
class Father {  
    int F_age;  
  
    Father(int age) throws WrongAge {  
        if (age <= 0) {  
            throw new WrongAge("Error!!! Age must be positive");  
        } else {  
            F_age = age;  
        }  
    }  
}
```

```
class Son extends Father {  
    int S_age;  
  
    Son(int fage, int sage) throws WrongAge {  
        super(fage);  
    }  
}
```

```

    if (sage <= 0) {
        throw new WrongAge("Error!!! Age must be positive");
    } else if (fage <= sage) {
        throw new WrongAge("Error!!! Son's age must be lesser than Father's age");
    } else {
        S_age = sage;
        System.out.println("\nNo Errors!!!\nFather age: " + F_age + "\nSon's Age: " +
S_age);
    }
}
}

```

```

class Program7 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Father's age: ");
        int fa = sc.nextInt();

        try {
            Father f = new Father(fa);
        } catch (WrongAge e) {
            System.out.println(e.getMessage());
            return;
        }

        System.out.println("Enter Son's age: ");
        int sa = sc.nextInt();
        try {

            Son s = new Son(fa, sa);
        } catch (WrongAge e) {
            System.out.println(e.getMessage());

```

```
}  
  
}  
  
}
```

## **OUTPUT:**

```
PROBLEMS 26 OUTPUT TERMINAL  
  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> javac Program7_Exceptions.java  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> java Program7  
Enter Father's age:  
0  
Error!!! Age must be positive  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> java Program7  
Enter Father's age:  
45  
Enter Son's age:  
0  
Error!!! Age must be positive  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> java Program7  
Enter Father's age:  
45  
Enter Son's age:  
55  
Error!!! Son's age must be lesser than Father's age  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> java Program7  
Enter Father's age:  
45  
Enter Son's age:  
35  
  
No Errors!!!  
Father age: 45  
Son's Age: 35  
PS C:\Users\VIGNESH\OneDrive\Desktop\3rd SEM LAB\00JLAB> |
```