

# WEEK 7

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

// Base class Father
class Father {
    protected int fatherAge;

    public Father(int age) throws WrongAgeException {
        if (age < 0) {
            throw new WrongAgeException(message: "Father's age cannot be negative!");
        }
        this.fatherAge = age;
    }
}

class Son extends Father {
    private int sonAge;

    public Son(int fatherAge, int sonAge) throws WrongAgeException {
        super(fatherAge); // call Father constructor
        if (sonAge >= fatherAge) {
            throw new WrongAgeException(message: "Son's age cannot be greater than or equal to Father's age!");
        }
        if (sonAge < 0) {
            throw new WrongAgeException(message: "Son's age cannot be negative!");
        }
        this.sonAge = sonAge;
    }

    public void displayAges() {
        System.out.println("Father's Age: " + fatherAge);
        System.out.println("Son's Age: " + sonAge);
    }
}
```

```
public class InheritanceExceptionDemo {
    Run | Debug | Run main | Debug main
    public static void main(String[] args) {
        try {
            // Example 1: valid ages
            Son s1 = new Son(fatherAge: 50, sonAge: 20);
            s1.displayAges();

            // Example 2: invalid son's age
            Son s2 = new Son(fatherAge: 45, sonAge: 50); // should throw exception
            s2.displayAges();
        } catch (WrongAgeException e) {
            System.out.println("Exception caught: " + e.getMessage());
        }

        try {
            // Example 3: negative father's age
            Father f = new Father(-10); // should throw exception
        } catch (WrongAgeException e) {
            System.out.println("Exception caught: " + e.getMessage());
        }
    }
}
```

```
PS C:\Users\VLT-BNT\OneDrive\Documents\Desktop\OOP JAVA> java InheritanceExceptionDemo
Father's Age: 50
Son's Age: 20
Exception caught: Son's age cannot be greater than or equal to Father's age!
Exception caught: Father's age cannot be negative!
```