

Q7 Write a program that demonstrates handling of exceptions in Inheritance tree. Create a base class called "Father" and derived class called "Son" which extends base class. In Father class, implement a constructor which takes age and throws exception WrongAge[] when input age < 0. In Son class, implement a constructor that uses father's age and throws exception if son's age >= father's age.


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

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

```
class Father {  
    public int age;  
    public Father (int age) throws WrongAgeException  
    {  
        if (age < 0)  
            throw new WrongAgeException ("Father age cannot be  
            negative!");  
        this.age = age;  
        System.out.println ("Age set to " + this.age);  
    }  
}
```

```
class Son extends Father {  
    private int sonAge;  
    public Son (int fatherAge, int sonAge) throws WrongAgeException  
    {  
        super (fatherAge);  
        if (sonAge < 0) {  
            throw new WrongAgeException ("Son age cant be  
            negative!");  
        }  
    }  
}
```



```
if (sonAge >= fatherAge)
```

```
throw new WrongAgeException("Son age cannot be greater  
than or equal to Father age");
```

```
this.sonAge = sonAge
```

```
System.out.println("Son's age is set to : " + this.sonAge);
```

```
}  
}
```

```
public class Main {
```

```
public static void for main(String[] args) {
```

```
Scanner scanner = new Scanner(System.in);
```

```
try {
```

```
System.out.print("Enter father age : ");
```

```
int fatherAge = scanner.nextInt();
```

```
System.out.print("Enter son age : ");
```

```
int sonAge = scanner.nextInt();
```

```
Son son = new Son(fatherAge, sonAge);
```

```
}
```

```
catch (WrongAgeException e) {
```

```
System.out.println("Exception : " + e.getMessage());
```

```
}
```

```
catch (Exception e) {
```

```
    System.out.println("Error" + e.getMessage());
```

```
}
```

```
}
```

```
}
```

Output :

Enter Father's age : 50

Enter son's age : 25

Enter Father's age : -5

Enter son's age : 10

~~Exception occurred~~ : Father's age cannot be negative !