30/1/24

Write a program that demonstrates handling exceptions in inheritance tree. Create a base class called "Father" and derived class "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 cases both father and son age and throws an exception if son's age is >= father's age

```java
import java.util.*;
class WrongAge extends Exception{
    public WrongAge (String s){
        super(s);
    }
}

class InputScanner{
    protected Scanner s;
    public InputScanner () {
        s=new Scanner(system.in);
    }
}

class Father extends InputScanner{
    int fatherage;
    public Father () throws WrongAge{
        System.out.println("Enter father's age:");
        fatherAge=s.nextInt();
        if (fatherAge <0){
            throw new wrongAge ("Age cannot be negative")
        }
    }
}
```

```java
    public void display() {
        System.out.println('Father's age:" + fatherAge);
    }
}
class Son extends Father {
    int sonAge;
    public Son() throws WrongAge {
        System.out.println("Enter son's age: ");
        sonAge = s.nextInt();
        if (sonAge > fatherAge) {
            throw new WrongAge("Son's age
                                cannot be greater than father's
                                age");
        }
        else if (sonAge < 0) {
            throw new WrongAge("Age cannot be
                                negative");
        }
    }
    public void display() {
        System.out.println("Son's Age " + sonAge);
    }
}
public class ExceptionDemo {
    public static void main(String[] args)
    {
        try {
            Son sn = new Son();
            sn.display();
        }
        catch (WrongAge e) {
            System.out.println("Negative error" + e);
            System.out.println(e.getMessage());
        }
    }
}
```

Output:
Enter father's age:
41
Enter son's Age:
18

Son's Age 18
Enter father's age:
41
Enter son's Age:
45
Negative Error WrongAge: Son's age cannot be greater
than father's age
Son's age cannot be greater than father's age
Enter father's age
41
Enter son's age
-21

Negative Error Wrong Age: Age cannot be negativ
Age cannot be negative

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