

30/1/24

Q

WAP that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class "Son" which extends 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.Scanner;
class WrongAge extends Exception {
    public WrongAge(String WrongAge message) {
        super(WrongAge (message));
    }
}

class InputScanner {
    protected Scanner sc;
    public InputScanner() {
        sc = new Scanner(System.in);
    }
}

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

```

```

public void display() {
    System.out.println("Father's age is: " + fatherage);
}
}

```

```

class Son extends Father {
    private int sonage;
    public Son() throws Wrongage {
        super();
        System.out.println("Take son's age: ");
        sonage = sc.nextInt();
        if (sonage >= fatherage) {
            throw new Wrongage("Son's age can't be greater or  
equal to his father's age");
        }
    }
    else if (sonage < 0) {
        throw new Wrongage("Age can't be negative");
    }
}

```

```

public void display() {
    super.display();
    System.out.println("Son's age is: " + sonage);
}
}

```

```

public class FatherSonAge {
    public static void main(String args[]) {
        try {
            Son son = new Son();
            son.display();
        }
        catch (Wrongage e) {
            System.out.println("Error: " + e.getMessage());
        }
    }
}

```

Output:

① Enter father's age:

50

Enter son's age:

20

Father's age is: 50

Son's age is: 20

② Enter father's age

-50

Err: Age can't be negative

③ Enter father's age:

20

Enter son's age:

50

Err: Son's age can't be greater or equal to his father's age

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