

- Q) 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 >= father's age.

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

```
class WrongAge extends Exception {
```

```
    public WrongAge() {  
        super("Age Error");  
    }
```

```
    public WrongAge (String message) {  
        super (message);  
    }  
}
```

```
class InputScanner {  
    protected Scanner scanner;
```

```
    public InputScanner () {  
        this.scanner = new Scanner (System.in);  
    }
```

```
    public int getIntInput () {  
        return scanner.nextInt();  
    }  
}
```


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```
class Father extends InputScanner {
```

```
    protected int fatherAge;
```

```
    public Father() throws WrongAge {  
        System.out.println("Enter father's  
        age");
```

```
        fatherAge = get Int Input();
```

```
        if (fatherAge <= 0) {
```

```
            throw new WrongAge ("Age  
            cannot be negative");
```

```
        }
```

```
    }
```

```
    public void display() {
```

```
        System.out.println("Father's age: " + fatherAge);
```

```
    }
```

```
}
```

```
class Son extends Father {
```

```
    private int SonAge;
```

```
    public Son() throws WrongAge {
```

```
        super();
```

```
        System.out.println("Enter son's age:");
```

```
        sonAge = get Int Input();
```

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

```
            throw new WrongAge ("son's age  
            cannot be greater than father's age");
```

```
        } else if (sonAge <= 0) {
```



```

        throw new WrongAge ("Son's age cannot be
        greater than father's age" & ("Age cannot be given
        negative"));
    }
}

```

```

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

```

```

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

```

O.P:-

Enter father age :- 1

~~Age~~ Error: Age cannot be negative

Enter father's age: 45

Enter son's age: 0

Error: Age cannot be given negative

Enter fathers age 45
Enter sons age 55

error son's age cannot be greater than father's age.

Enter fathers age : 45
Enter son's age : 25

~~fathers age : 45
son's age : 25~~

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