

30/01/24

WEEK 7

classmate

Date \_\_\_\_\_

Page \_\_\_\_\_

Write a program that demonstrates handling of exception in inheritance tree. Create a base class called "Father" and derived class "Son" which extends the base class. In father class, implements a constructor which takes the age and throws the exception Wrong age() when the input age  $< 0$ . In Son class, implement a constructor that takes both father and son's age and throw an exception if son's age is  $\geq$  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 int nextEnt() {  
    return scanner.nextInt();  
}
```

```
{  
class father extends InputScanner {  
    protected int fatherage;
```

```
    public father() throws Wrongage {  
        System.out.print("Enter father age:");  
        fatherage = super.nextEnt();
```

```
        if (fatherage < 0) {  
            throw new message("age cannot be negative");  
        }
```

```
    }  
    public void display() {  
        System.out.println("father age " + fatherage);  
    }
```

```
    }  
class son extends father {  
    private int sonage;
```

```
    public son() throws Wrongage {  
        super();
```



```
System.out.print("Enter the age");  
sonage = sc.next().nextInt();
```

```
if (sonage >= fatherage) {  
    throw new WrongAge("son age cannot be  
    greater than or equal to father's age");  
} else if (sonage < 0) {  
    throw new WrongAge("age cannot be negative");  
}
```

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

Output:-

Enter father's age : 20

Enter son's age : 12

Father's age : 20

Son's age : 12

Enter father's age : 10

Enter son's age : 12

Error: Son's age cannot be greater than father's age.

Enter father's age : 20

Enter son's age : -2

Error: Age cannot be negative

8  
30/01/29