WEEK - 7

30/01/24

// wap 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 uses both father & son's age and throws an exception if son's age is >= father's age.

```
import java.util.Scanner;

class wrong extends exception {
    Public wrongAge() {
        super("Invalid age");
    }

    Public wrongage(string message) {
        super(message);
    }
}

class InputScanner {
    Public static int nextInt() {
        Scanner scanner = new Scanner(System.in);
        return scanner.nextInt();
    }
}

class Father Extends InputScanner {
    private int fAge;

    Public Father() throws wrongAge {
```

```
        System.out.println("Enter father's age: ");
        fAge = nextInt();
        if (fAge < 0) {
            throw new WrongAge("Age cannot be
                                negative");
        }
    }
    Public int getAge() {
        return fAge;
    }
    public void display() {
        System.Out.Println("Father's age:" +fAge);
    }
}

class son extends Father {
    private int sonAge;

    public son() throws WrongAge {
        super();
        System.out.println("Enter son's age: ");
        sonAge = nextInt();

        if (sonAge >= getFAge()) {
            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 void displaySonAge() {
        System.out.println("Son's Age: " + sonAge);
    }
}

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

Sample output :-

```
Enter Father's age : 45
Enter Son's age : 60
Error : son's age cannot be greater than or equal
        to father's age.

Enter Father's age : 45
Enter Son's age : -5
Error : Age cannot be negative.

Enter Father's age : 45
Enter son's age : 25
Father's age : 45
son's age : 25
```

20/01/24