Lab Program 7

Q) Write a program that demonstrates handling of exceptions in inheritance stream. Create a base class called "Father" and a derived class called "Son" which extends the base class. In class Father, implement a constructor which takes the age & throws an exception WrongAge() when the input age is less than zero. In class Son, implement a constructor that uses both Father & Son's age and throws an exception if Son's age >= Father's age.

Source Code

```
impost java.util.*;

class WrongAge extends Exception{
    public WrongAge (String error_message){
        Super (error_message);
    }
}

class Father {
    int f_age;
    public Father (int f_age) throws WrongAge {
        if (f_age < 0)
            throw new WrongAge ("Age can't be negative");
        this.f_age = f_age;
        System.out.println ("Father's age = "+ f_age);
    }
}

class Son extends Father {
    int s_age;
    public Son (int f_age, int s_age) throws WrongAge {
        super(f_age);
```

```java
        if (s_age < 0)
            throw new WrongAge("Age can't be negative");
        if (s_age > f_age)
            throw new WrongAge("Son's age can't be greater than
                                or equal to Father's age");
        this.s_age = s_age;
        System.out.println("Son's age: " + s_age);
    }
}


public class Age {
    public static void main(String[] args) {
        int f_age, s_age;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter father's age:");
        f_age = sc.nextInt();
        System.out.println("Enter son's age:");
        s_age = sc.nextInt();
        try {
            Son son = new Son(f_age, s_age);
        }
        catch (WrongAge err) {
            System.out.println("Exception: " + err.getMessage());
        }
    }
}
```

Output

Enter father's age:

7

Enter son's age:

8

Exception : 👉 Son's age can't be greater than or equal to Father's age

Enter father's age :

-4

Enter son's age:

8

Exception: Age can't be negative

Enter father's age:

25

Enter son's age:

-10

Exception: Age can't be negative

Enter father's age:

25

Enter son's age:

5

Father's age: 25

Son's age: 5