Lab 7

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

```java
import java.util.Scanner;

class WrongAge extends Exception {
    public WrongAge (String message) {
        super (message);
    }
}


class Father {
    int age;
    public Father (int age) throws WrongAge {
        if (age < 0) {
            throw new WrongAge ("Age Cannot be
                                Negative !");
        }
        this.age = age;
        System.out.println ("Father's Age: " + this.age);
    }
}


class Son extends Father {
    int sonAge;
    public Son ( int fatherAge, int sonAge) throws WrongAge {
        super (fatherAge);
```

```java
        if (sonAge < 0){
                throw new WrongAge ("Son's Age Cannot
                    be Negative! ");
        }
        if (sonAge >= fatherAge){
                throw new WrongAge (" Son's Age Cannot be
                    Greater than or Equal to father's Age!");
        }
        this. sonAge = sonAge;
        System. out. println ("Son's Age:  " + this. sonAge);
    }
}


public class FatherSon{
    public static void main (String [] args){
        Scanner scanner = new Scanner (System. in);
        System. out. print ("Enter Father's Age : ");
        int fatherAge = scanner. nextInt ();
        System. out. print ("Enter Son's  Age: ");
        int sonAge = scanner. nextInt ();
        try {
            Son  son = new Son ( fatherAge, sonAge);
        } catch (WrongAge e){
            System. out. println ("Exception : " + e. getMessage ())
        }
```

```
            Scanner. close();
        }
    }
}
```

Output

i)

```
    Enter Father's Age: -1
    Enter Son's Age: 10
    Exception: Age Cannot be Negative
```

ii)

```
    Enter Father's Age: 25
    Enter Son's Age: -3
    Father's Age : 25
    Exception: Son's Age Cannot be Negative
```

iii)

```
    Enter Father's Age: 25
    Enter Son's Age: 30
    Father's Age: 25
    Exception: Son's Age Cannot be greater than Father's Age
```

iv)

Enter Father's Age: 29
Enter Son's Age: 9
Father's Age: 29
Son's Age: 9

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