WEEK 7:

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

Source Code:

```
import java.util.Scanner;
class WrongAgeException extends Exception {
    public WrongAgeException(String message) {
        super(message);
class SonAgeException extends Exception {
    public SonAgeException(String message) {
        super(message);
class Father {
    int age;
    public Father(int age) throws WrongAgeException {
        if (age <= 0) {
            throw new WrongAgeException("Wrong age");
        this.age = age;
    public int getAge() {
        return age;
class Son extends Father {
     int sonAge;
    public Son(int fatherAge, int sonAge) throws WrongAgeException,
SonAgeException {
        super(fatherAge);
        if (sonAge >= fatherAge) {
            throw new SonAgeException("Son's age cannot be greater than or
equal to father's age");
        if(sonAge <= 0){</pre>
```

```
throw new WrongAgeException("Wrong age");
        this.sonAge = sonAge;
    public int getSonAge() {
        return sonAge;
public class FatherSon{
    public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter Father's Age: ");
            int fatherAge = sc.nextInt();
            System.out.print("Enter Son's Age: ");
            int sonAge = sc.nextInt();
            try {
                Son son = new Son(fatherAge, sonAge);
                System.out.println("Accepted Succesfully");
            catch (WrongAgeException e) {
                System.out.println(e.getMessage());
            catch (SonAgeException e) {
                System.out.println(e.getMessage());
       }
```

Output:

```
PS C:\Users\satis\OneDrive\Documents\ooj_lab> javac FatherSon.java
PS C:\Users\satis\OneDrive\Documents\ooj_lab> java FatherSon
Enter Father's Age: 44
Enter Son's Age: 26
Accepted Succesfully
PS C:\Users\satis\OneDrive\Documents\ooj_lab> javac FatherSon.java
PS C:\Users\satis\OneDrive\Documents\ooj_lab> javac FatherSon
Enter Father's Age: 30
Enter Son's Age: 32
Son's age cannot be greater than or equal to father's age
```

```
PS C:\Users\satis\OneDrive\Documents\ooj_lab> javac FatherSon.java PS C:\Users\satis\OneDrive\Documents\ooj_lab> java FatherSon Enter Father's Age: 30 Enter Son's Age: 0 Wrong age
```

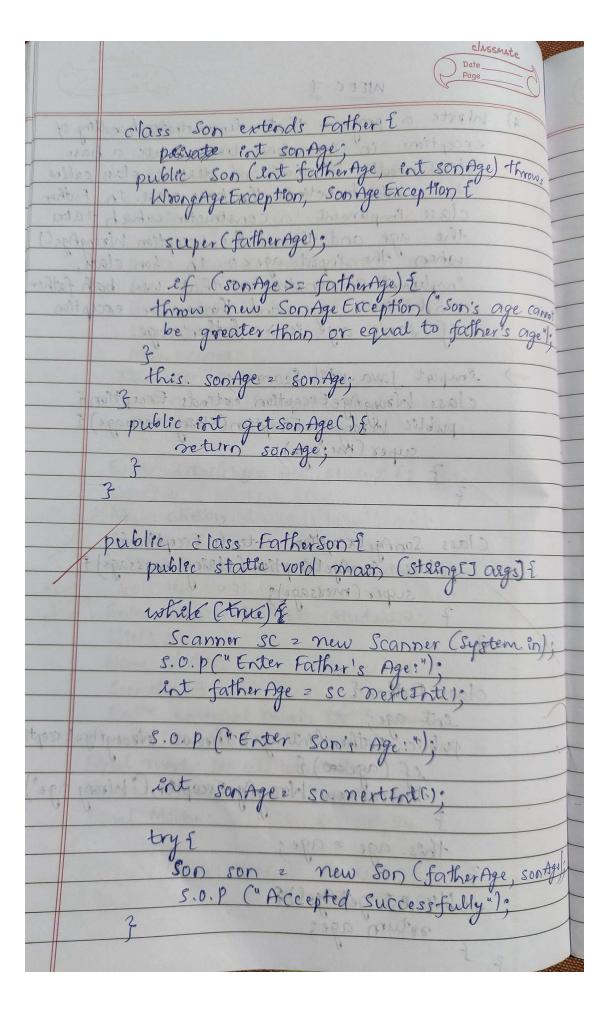
PS C:\Users\satis\OneDrive\Documents\ooj_lab> javac FatherSon.java
PS C:\Users\satis\OneDrive\Documents\ooj_lab> java FatherSon

Enter Father's Age: 0 Enter Son's Age: 15

Wrong age

Written Code & Output:

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exceptions in inheritance tree Create a base
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"Son" which extends the base class to Father class, Proplement a constructor which takes
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