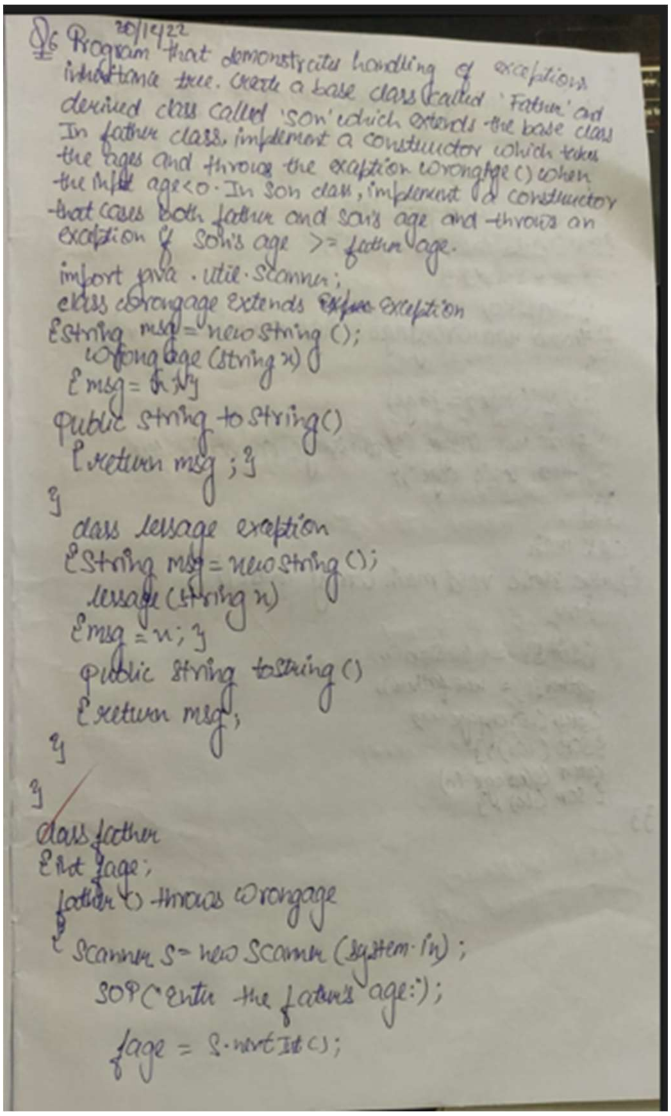
LAB PROGRAM – 6

Q. 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 cases both father and son’s age and throws an exception if son’s age is >=father’s age.

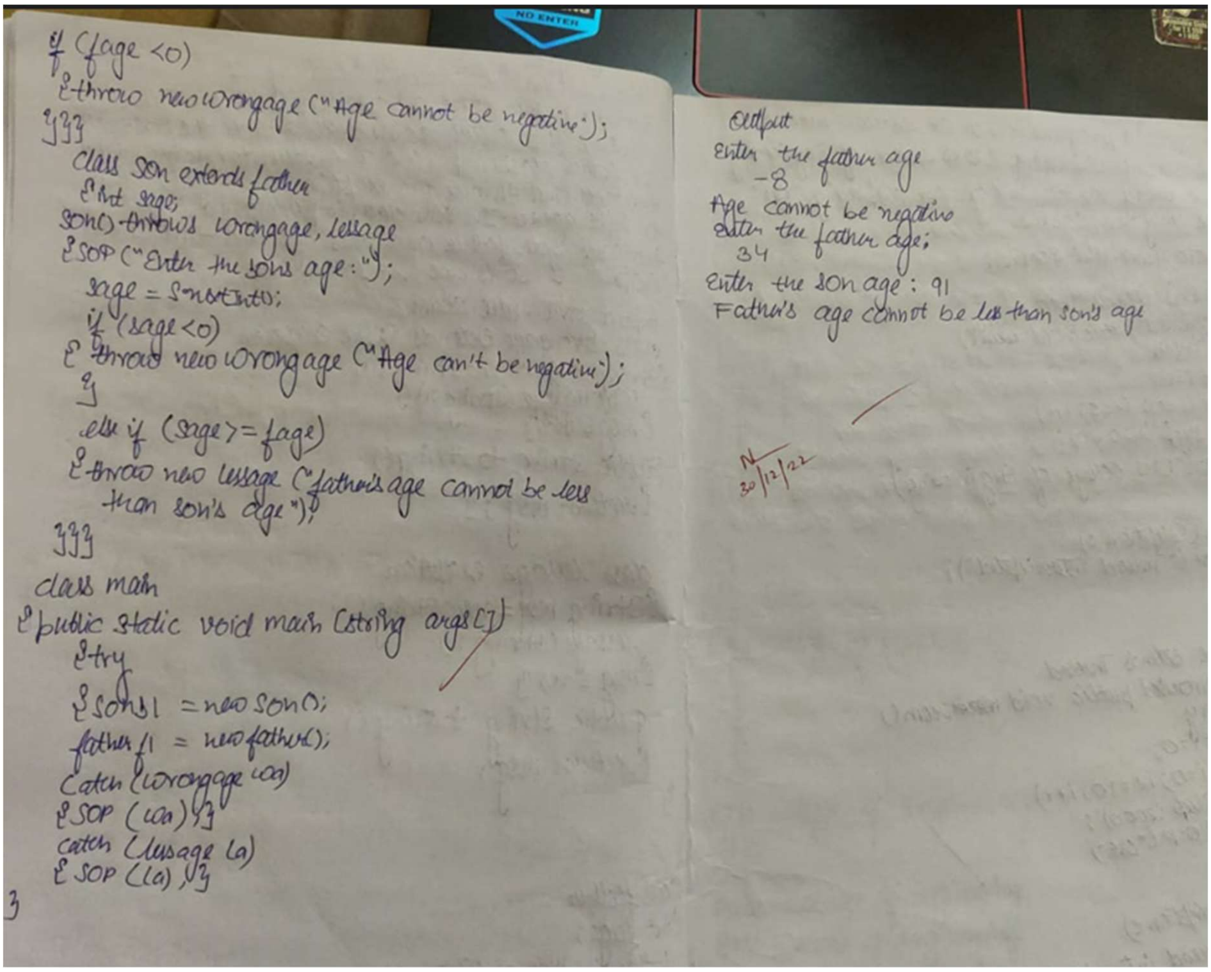
```
import java.util.*;

class WrongAgeException extends Exception

{

 String msg = new String();

WrongAgeException(String x)

{

 msg=x;

}

public String toString()

{

 return msg;

}

}

class Father

{

 int f_age;

 Father ()

 throws WrongAgeException

{

 Scanner s = new Scanner(System.in);
 System.out.println("Enter father's age:");
 f_age = s.nextInt();
 if (f_age < 0)
{
throw new WrongAgeException("Father age < 0");
 }
 }
 void display()
{
 System.out.println("Father age: "+f_age);
 }
 }
 class Son extends Father{ int s_age;
Son() throws WrongAgeException
{
 Scanner s = new Scanner(System.in);
 System.out.println("Enter son's age:");
 s_age = s.nextInt();
 if (s_age < 0)
{
 throw new WrongAgeException("Son age < 0");
 }
 else if (s_age > f_age)
{
 throw new WrongAgeException("Son age is > that father's age!");
 }
 }
 void display()
{
System.out.println("Father age: "+f_age);
```

```
 System.out.println("Son age: "+s_age);
 }
 }
 class excep
{
 public static void main(String[] args)
 {
 try
{
 Father f = new Father();
 f.display();
 Son s = new Son();
 s.display();
 }
 catch (WrongAgeException wae)
{
 System.out.println(wae);
 }
 }
 }
```



Q6 20/1/22 Program that demonstrates handling of exceptions 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 ages and throws the exception wrongage() when the input age<0. In son class, implement a constructor that cases both father and son's age and throws an exception if son's age >= father age.

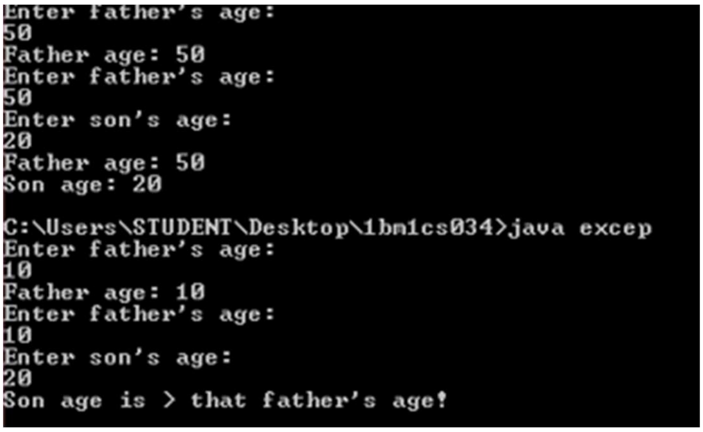
```
import java.util.Scanner;
class wrongage Extends Exception
{String msg = new String();
  wrongage (String x)
 {msg = x;}
public string toString()
 {return msg ;}
}
 class lessage exception
 {String msg = new String();
  lessage(String x)
 {msg = x; }
  public String toString()
  {return msg;
 }

}
class father
{int fage;
 father() throws wrongage
 {
 Scanner s = new Scanner (system.in);
   SOP("Enter the father's age:");
    fage = s.nextInt();
```



```
if (fage <0)
{throw new wrongage ("Age cannot be negative");
}}}
  class son extends father
   {int sage;
  son() throws wrongage, lessage
  {SOP ("Enter the sons age:");
    sage = S.nextInt();
    if (sage<0)
  { throw new wrongage ("Age can't be negative");
   }
   else if (sage>=fage)
  {throw new lessage ("father's age cannot be less
     than son's age");}
  }}}
 class main
{public static void main (String args[])
    {try
    {son s1 = new son();
    father f1 = new father();
   Catch (wrongage wa)
   {SOP (wa)}}
   catch (lessage la)
   {SOP (la);}}
}
```

Output
Enter the father age
 -8
Age cannot be negative
Enter the father age;
 34
Enter the son age : 91
Father's age cannot be less than son's age

N
30/12/22



```
Enter father's age:
50
Father age: 50
Enter father's age:
50
Enter son's age:
20
Father age: 50
Son age: 20

C:\Users\STUDENT\Desktop\1bm1cs034>java excep
Enter father's age:
10
Father age: 10
Enter father's age:
10
Enter son's age:
20
Son age is > that father's age!
```