

**LAB PROGRAM 8: 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 WrongAge extends Exception{

    int f,s;

    WrongAge(int fage,int sage){

        f=fage;

        s=sage;

    }

    public String toString(){

        return "Please enter the correct ages as father's age can't be less than or equal to the son's age.";

    }

}

class NegativeAge extends Exception{

    int x;

    NegativeAge(int fage){

        x=fage;

    }

    public String toString(){

        return "Age can't be a negative value.";

    }

}
```

```
}
```

```
class Father
```

```
{
```

```
int fage;
```

```
Scanner in=new Scanner(System.in);
```

```
Father() throws NegativeAge
```

```
{
```

```
System.out.println("Enter the father's age:");
```

```
fage=in.nextInt();
```

```
if(fage<0){
```

```
throw new NegativeAge(fage);
```

```
}
```

```
}}
```

```
class Son extends Father
```

```
{
```

```
int sage;
```

```
Scanner in=new Scanner(System.in);
```

```
Son() throws NegativeAge,WrongAge{
```

```
super();
```

```
System.out.println("Enter the son's age :");
```

```
sage=in.nextInt();
```

```
if(sage<0)
```

```
{
```

```
throw new NegativeAge(sage);
```

```
}  
if(sage>=fage){  
    throw new WrongAge(fage,sage);  
}  
}}  
  
class LAB8{  
    public static void main(String args[]){  
        try{  
            Son s=new Son();  
        }  
        catch(NegativeAge n){  
            System.out.println("Exception:"+n);  
        }  
        catch(WrongAge w){  
            System.out.println("Exception:"+w);  
        }  
    }  
}}
```

## **OUTPUT**

```
C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
-34
Exception:Age can't be a negative value.

C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
40
Enter the son's age :
40
Exception:Please enter the correct ages as father's age can't be less than or equal to the son's age.

C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
40
Enter the son's age :
15

C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
```

```
C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
40
Enter the son's age :
40
Exception:Please enter the correct ages as father's age can't be less than or equal to the son's age.

C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
40
Enter the son's age :
15

C:\Users\Dell\Desktop\java>javac Lab8.java

C:\Users\Dell\Desktop\java>java LAB8
Enter the father's age:
41
Enter the son's age :
45
Exception:Please enter the correct ages as father's age can't be less than or equal to the son's age.

C:\Users\Dell\Desktop\java>
```