

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 takes father and son's age and throws an exception if son's age is  $\geq$  father's age.

```
import java.util.Scanner;  
class WrongAge extends Exception {  
    public WrongAge (String message) {  
        super (message);  
    }  
}  
class InputScanner {  
    protected Scanner scanner;  
    public InputScanner () {  
        scanner = new Scanner (System.in);  
    }  
    public int nextInt () {  
        return scanner.nextInt ();  
    }  
}
```

```
class Father extends InputScanner {  
    protected int fatherAge;  
    public Father () throws WrongAge {
```

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

fatherAge = scanner.nextInt();

if (fatherAge < 0).  
throw new WrongAge ("Age  
cannot be negative");

public void display() {  
System.out.println("Father's age: " +  
fatherAge);

class Son extends Father {  
private int sonAge;

public Son() throws WrongAge {  
super();

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

sonAge = scanner.nextInt();

if (sonAge > fatherAge)

throw new WrongAge ("Son's age  
cannot be greater than father's  
age");

elseif (sonAge < 0)

throw new WrongAge ("Age cannot  
be negative");

elseif (sonAge == fatherAge)

throw new WrongAge ("Same  
age not possible");

```
public void display() {  
    super.display();  
    System.out.println("Son's age : " +  
        sonAge);  
}
```

```
public class FatherSon {  
    public static void main(String[] args) {  
        try {  
            Son son = new Son();  
            son.display();  
        } catch (AgingAge e) {  
            System.out.println("Error : " +  
                e.getMessage());  
        }  
    }  
}
```

Output

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Enter father's age:  
48

Enter son's age:  
21

Father's age: 48

Son's age: 21.

Enter father's age: 12

Enter son's age:  
56

Error: Son's age cannot be greater than  
father's age.

Enter father's age: -12

Error: Age cannot be negative

Enter father's age: 10

Enter son's age: 10

Error: Same age not possible.

With code

class Main

{ public static void main(String[] args) {

int a = 10; int b = 20;

System.out.println("a = " + a);

System.out.println("b = " + b);

}}

Output: