

**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=father’s age.**

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

```
class Father {  
    int fatherAge;  
  
    Father(int age) throws WrongAgeException {  
        if (age < 0) {  
            throw new WrongAgeException("Father's age cannot be negative!");  
        }  
        this.fatherAge = age;  
        System.out.println("Father's age: " + fatherAge);  
    }  
}
```

```
class Son extends Father {
```

```
int sonAge;
```

```
Son(int fatherAge, int sonAge) throws WrongAgeException {
```

```
    super(fatherAge);
```

```
    if (sonAge >= fatherAge) {
```

```
        throw new WrongAgeException("Son's age must be less than Father's age!");
```

```
    }
```

```
    this.sonAge = sonAge;
```

```
    System.out.println("Son's age: " + sonAge);
```

```
}
```

```
}
```

```
public class Main {
```

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

```
        try {
```

```
            Son s1 = new Son(45, 20);
```

```
            System.out.println("Object created successfully!\n");
```

```
            Son s2 = new Son(40, 40);
```

```
        } catch (WrongAgeException e) {
```

```
            System.out.println("Exception caught: " + e.getMessage());
```

```
        }
```

```

    try {

        Son s3 = new Son(-50, 10);

    } catch (WrongAgeException e) {

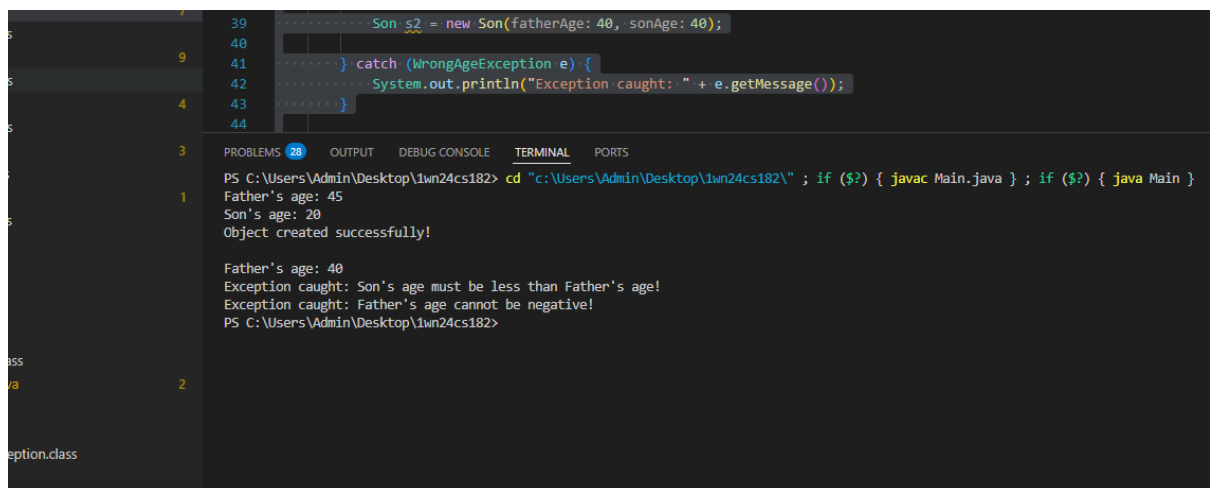
        System.out.println("Exception caught: " + e.getMessage());

    }

}

```

## OUTPUT:



The screenshot shows an IDE with a Java file on the left and a terminal window on the right. The Java code defines a `WrongAgeException` class and a `Son` class. The `Son` class has a constructor that throws `WrongAgeException` if the father's age is less than the son's age or if the father's age is negative. The terminal shows the output of running the program, which prints the father's and son's ages and then catches the exception, displaying the error message: "Exception caught: Son's age must be less than Father's age!".

```

39 ..... Son s2 = new Son(fatherAge: 40, sonAge: 40);
40
41 .....} catch (WrongAgeException e) {
42 .....    System.out.println("Exception caught: " + e.getMessage());
43 .....}
44
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PROBLEMS 28 OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\Admin\Desktop\1wn24cs182> cd "C:\Users\Admin\Desktop\1wn24cs182\" ; if ($?) { javac Main.java } ; if ($?) { java Main }
Father's age: 45
Son's age: 20
Object created successfully!

Father's age: 40
Exception caught: Son's age must be less than Father's age!
Exception caught: Father's age cannot be negative!
PS C:\Users\Admin\Desktop\1wn24cs182>

```