

20/11/2024

Lab Program 7

Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class "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 both 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()  
    {
```

```
        System.out.println("Wrong Age");  
    }
```

```
    public WrongAge(String s)  
    {
```

```
        super(s);  
    }
```

```
}
```

```
class Father
```

```
{
```

```
Scanner sc;  
int fage;  
Father() throws WrongAge  
{  
    sc = new Scanner(System.in);  
    System.out.println("Enter father's age");  
    fage = sc.nextInt();  
    if (fage < 0)  
        throw new WrongAge("Age cannot  
            be negative");  
}
```

```
public void display()  
{  
    System.out.println("Father's Age=" +  
        fage);  
}
```

```
class Son extends Father  
{  
    int sage;  
    Son() throws WrongAge  
    {  
        super();  
        System.out.println("Enter Son's Age");  
        sage = sc.nextInt();  
  
        if (sage > fage)  
            throw new WrongAge("Son's age
```



```
cannot be greater than father's  
age");  
else if (sage < 0)  
    throw new WrongAge("Age cannot  
    be negative");
```

```
}
```

```
public void display()  
{
```

```
    super.display();
```

```
    System.out.println("Son's Age = " +  
                        sage);
```

```
}
```

```
}
```

```
class Main
```

```
{
```

```
    public static void main(String at[])  
        throws Exception
```

```
{
```

```
    try {
```

```
        Son s = new Son();
```

```
        s.display();
```

```
    }
```

```
    catch (WrongAge e)
```

```
    {
```

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

```
    }
```

```
}
```

```
}
```

① Enter father's age

52

Enter Son's Age

19

Father's Age = 52

Son's Age = 19

② Enter father's age

38

Enter Son's Age

40

Exception: ~~son's age cannot be greater than father's age~~

30.01.24