

Lab program - 7

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- 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 `wrongAge()` when the input age < 0 . In Son class, implement a constructor that uses both father and son's age and throws an exception if son's age is \geq father's age.

```
→ import java.util.Scanner;

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

class Father {
    protected int age;
    public Father (int age) throws WrongAgeException {
        if (age < 0) {
            throw new WrongAgeException ("Father's age cannot be negative");
        }
        this.age = age;
    }
}

class Son extends Father {
    private int sonAge;
```



```

public Son (int fatherAge, int sonAge) throws WrongAgeException {
    super (fatherAge);
    if (sonAge < 0) {
        throw new WrongAgeException ("Son's age
        cannot be negative.");
    }
    if (sonAge >= fatherAge) {
        throw new WrongAgeException ("Son's age cannot
        be greater than or equal to father's age");
    }
    this.sonAge = sonAge;
}

```

```

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

```

```

public class Demo {
    public static void main (String [] args) {
        try {
            int fatherAge = 45;
            int sonAge = 20;

            Son son = new Son (fatherAge, sonAge);
            son.displayAges ();
        }
        catch (WrongAgeException e) {
            System.out.println ("Caught Exception : " + e.getMessage());
        }
    }
}

```


O/Pcaught
Exception :

when Father age = 5

Son Age = 25

Son's Age cannot be greater than or equal
to Father's age.caught
Exception :

when Father age = -1

Son Age = 20

Father's age cannot be negative

when Father age = 45

Son Age = -1

Caught Exception: Son's Age cannot be negative.

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