

Q) Write a program that demonstrate 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 uses both father and son's age and throws an exception if son's age is  $\geq$  father's age.

$\Rightarrow$  class WrongAgeException extends Exception {

```
    public WrongAgeException (String msg) {  
        super(msg);  
    }
```

```
class Father {  
    int age;
```

```
    public Father (int age) throws WrongAgeException {  
        if (age < 0)  
            throw new WrongAgeException ("Father's age can't be -ve!");
```

```
        this.age = age;  
    }
```

```
}
```

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

```
    public son (int fage, int sage) throws WrongAgeException {  
        super (fage);
```

```
        if (sage < 0)  
            throw new WrongAgeException ("Son's age cannot be -ve");
```

```
        if (sonAge >= fathAge)  
            throw new WrongAgeException ("Son's age can't be  
greater than that of  
father age!");
```

```
        this.sage = sage;
```

```
    }
```

```
}
```

```
import java.util.*;  
public class Main {
```

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

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

```
        System.out.println ("Enter father's age:");  
        int f_age = sc.nextInt();
```

```
        System.out.println ("Enter son's age:");  
        int s_age = sc.nextInt();
```

```
        try {
```

```
            Son s = new Son (s_age, f_age);
```

```
            System.out.print ("The difference is:");
```

```
            System.out.print (f_age - s_age);
```

```
        }
```

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

```
            System.out.print (e.getMessage());  
        }
```

```
    }
```

O/P= Enter father's age: 15

Enter son's age: 21

~~Wrong Age~~ Enter son's age can't be greater than that of father age.

Recall