

Exception (OHOHOH)

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OOP Class, April 25, 2013

try-catch

```
1     try {  
2         your_original_code ();  
3     }  
4     catch (Exception e) {  
5         listen_to_complaint ();  
6     }
```

- when `your_original_code` “ohohoh”,
`listen_to_complaint` part will **handle** it

try-catch

```
1     try {
2         line_1;
3         line_2;
4         line_3;
5     }
6     catch (Exception e) {
7         line_4;
8         line_5;
9     }
```

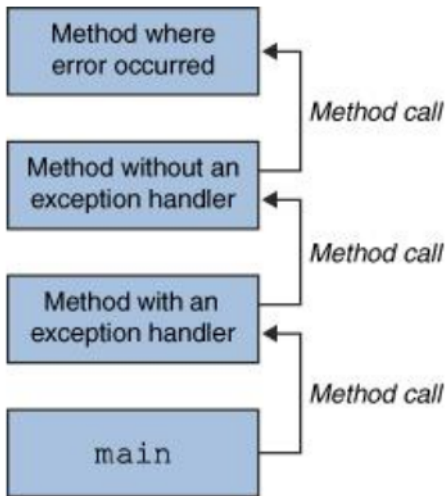
- when **exception** happens at line_1: [1], 4, 5
- when **exception** happens at line_2: 1, [2], 4, 5
- when **exception** happens at line_3: 1, 2, [3], 4, 5
- when **exception** happens at line_1 and line_4: [1], [4], ?

try-throw-catch

```
1     try{
2         line_1;
3         line_2;
4         Exception e = new Exception("ohohohohohoh");
5         throw e;
6         //or throw new Exception("ohohohohohoh");
7         line_3;
8     }
9     catch(Exception e){
10        line_4;
11        line_5;
12    }
```

- if no other exception happens: 1, 2, 4, 5

Exceptions in Method Calls (from Java Tutorial)



try-throw-catch-catch

```
1 //class NullPointerException extends Exception
2 try{
3     line_1;
4     throw new Exception("ohohohohohoh");
5     line_2;
6 }
7 catch(NullPointerException n){
8     line_3;
9     line_4;
10 }
11 catch(Exception e){
12     line_5;
13 }
```

- if NPE happens at line 1: [1], 3, 4
- if Exception happens at line 1: [1], 5
- if no exception happens at line 1: 1, 5
- if exception happens at line 2?

try-throw-catch-catch

```
1      try {  
2          line_1;  
3          throw new Exception("ohohohohohoh");  
4          line_2;  
5      }  
6      catch(Exception e){  
7          line_5;  
8      }  
9      catch(NullPointerException n){  
10         line_3;          subclass  
11         line_4;  
12     }
```

- if NPE happens at line 1: [1], 5
- if Exception happens at line 1: [1], 5
- “need to catch more specific exceptions first” (hahaha if not)

Exception Class Hierachy

Throwable

Error

Exception

```
1 public class java.lang.Throwable;  
2 public class java.lang.Exception  
3     extends Throwable;  
4 public class java.lang.Error  
5     extends Throwable;  
6 public class java.lang.RuntimeException  
7     extends Exception;  
8 public class java.lang.NullPointerException  
9     extends RuntimeException;  
10 public class java.lang.ClassNotFoundException  
11     extends Exception;  
12 public abstract class java.lang.VirtualMachineError  
13     extends Error;
```

VMError

RTE

NPE

try-throw-catch-finally

```
1      try {
2          line_1;
3          throw new RuntimeException("ohohohohohoh");
4          line_2;
5      }
6      catch (NullPointerException e) {
7          line_3;
8      }
9      catch (RuntimeException e) {
10         line_4;
11     }
12     finally {
13         line_5;
14     }
```

- if NPE happens at line 1: [1], 3, 5
- if RTE happens at line 1: [1], 4, 5

What is the difference between the `finally` block and just putting lines afterwards?