

Exception (OHOHOH)

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OOP Class, April 29, 2013

try-throw-catch-finally

```
1      try{
2          line_1;
3          throw new Exception("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     }
15     line_6;
```

- if NPE happens at line 1: [1], 3, 5, 6
- if nothing at line 1: 1, 5, caller-exception-handlers

A More Complicated Example

```
1   for(int i = 0; i < 2; i++){
2       try{
3           System.out.println("try");
4           if (i > 0) throw new Exception();
5       }
6       catch(Exception e){
7           System.out.println("catch");
8           return; //continue? break?
9       }
10      finally{
11          System.out.println("finally");
12      }
13
14      System.out.println("afterwards");
15  }
```

Putting It All Together (from Java Tutorial)

```
1 public void WriteList(){
2     PrintWriter out = null;
3
4     try {
5         System.out.println("try");
6         out = new PrintWriter(
7             new FileWriter("output.txt");
8         );
9         for(i=0;i<10;i++)
10            out.println(vector.elementAt(i));
11    }
12    catch (ArrayIndexOutOfBoundsException e){
13        System.out.println(e);
14    }
15    catch (IOException e){
16        System.out.println("IO_Exception:" + e);
17    }
18    finally{
19        if (out != null)
20            out.close();
21    }
```

throws

```
1  public double divide(int a, int b)
2      throws DivisionByZeroException
3  {
4      if (b == 0)
5          throw new DivisionByZeroException("...");
6  }
7
8  try {
9      divide(m, n);
10 }
11 catch (DivisionByZeroException e) {
12 }
```

- “warn” the component user that an exception may be thrown
- compiler helps check if someone handles it (hahaha if not)
- what gets checked? everything other than RuntimeException and Error

throws

```
1 public double divide(int a, int b)
2     throws DivisionByZeroException, LalalaException
3 {
4     if (b == 0)
5         throw new DivisionByZeroException("...");
6 }
7
8 public void caller() throws LalalaException{
9     try{
10        divide(m, n);
11    }
12    catch (DivisionByZeroException e){
13    }
14 }
```

- if the exception needs checking: caller needs to handle it (catch) or “warn” people (throws)