Java Exceptions

When executing Java code, different errors can occur: coding errors made by the programmer, errors due to wrong input, or other unforeseeable things.

When an error occurs, Java will normally stop and generate an error message. The technical term for this is: Java will throw an **exception** (throw an error).

Java try and catch

The `try` statement allows you to define a block of code to be tested for errors while it is being executed.

The `catch` statement allows you to define a block of code to be executed, if an error occurs in the try block.

The `try` and `catch` keywords come in pairs:

Syntax

```
try {
  //  Block of code to try
}
catch(Exception e) {
  //  Block of code to handle errors
}
```

Consider the following example:

This will generate an error, because **myNumbers[10]** does not exist.

```
public class MyClass {
  public static void main(String[ ] args) {
    int[] myNumbers = {1, 2, 3};
    System.out.println(myNumbers[10]); // error!
```

```
  }

}
```

The output will be something like this:

```
Exception in thread "main"
java.lang.ArrayIndexOutOfBoundsException: 10
        at MyClass.main(MyClass.java:4)
```

Run example »

If an error occurs, we can use `try...catch` to catch the error and execute some code to handle it:

Example

```
public class MyClass {

  public static void main(String[ ] args) {

    try {

      int[] myNumbers = {1, 2, 3};

      System.out.println(myNumbers[10]);

    } catch (Exception e) {

      System.out.println("Something went wrong.");

    }

  }

}
```

The output will be:

```
Something went wrong.
```

Run example »

Finally

The `finally` statement lets you execute code, after `try...catch`, regardless of the result:

Example

```
public class MyClass {

  public static void main(String[] args) {

    try {

      int[] myNumbers = {1, 2, 3};

      System.out.println(myNumbers[10]);

    } catch (Exception e) {

      System.out.println("Something went wrong.");

    } finally {

      System.out.println("The 'try catch' is finished.");

    }

  }

}
```

The output will be:

```
Something went wrong.
The 'try catch' is finished
```