

The background features a light gray circuit board pattern with various traces and circular components. A solid dark gray horizontal band runs across the middle of the image, serving as a backdrop for the text.

CMSC 131

Fall 2018

Announcements

- Project #4 has been posted
 - Variable names may be short, IF they match formula in commenting.
 - Example: “This add method will compute the sum: $(a+bi) + (c + di)$...”
- You must write JUnit tests (they are being graded)
 - Try to test as many cases as possible
 - Try to make your code perfect before submitting!
 - Commenting and decent variable names are NOT required in your JUnit tests (for this assignment)

Exceptions

- What is an “exception”?

In Java:

1. When something unexpected occurs, we “throw” an exception
 - Demonstrate with TriangleCalculator.java
2. JVM looks for “handler”
 - Looks in current method. If not found, pops this frame off the call stack and looks in the next one. Etc.

If “handler” is found it runs.

If “handler” is never found, program terminates.

How does a “Handler” Look?

```
try {  
    <Code that might throw an exception>  
} catch(ExceptionClass e) {  
    <Put handler here>  
}
```

Common Types for Exceptions

- NullPointerException
- ArithmeticException
- IllegalArgumentException
- RuntimeException (plain vanilla one)
- Many others
- You can create your own!

Examples

- RandomTriangleMaker.java
- CalorieCounter.java

Observations

Where are exceptions thrown?

- In code you have written
- In code written by someone else that you are calling
- By the JVM itself, internally

Why is this better than just returning an “error code”?