01 - Exception Handling

Two types of errors:

Compile-Time errors:

- IDE/Compiler finds error; *red squiggle*
- Syntax, spelling, unreachable code, data not accessible, method parameter errors
- Code cannot be run

Run-Time errors (*aka Exceptions*)

- System finds error when code is run
- Array index out of range, out of memory, file not found, I/O error, network shutdown in middle of processing, impossible operation
- Program terminates immediately with error from system (if not handled)

Two types of **Exceptions** in Java:

Checked - The compiler / IDE will generate a compile error if code you write might cause a checked Exception. Java only. **throws** on the method signature tells compiler you know the Exception might happen so it lets you compile.

Un-Checked - The compiler / IDE will NOT generate a compiler error if you don't handle the Exception

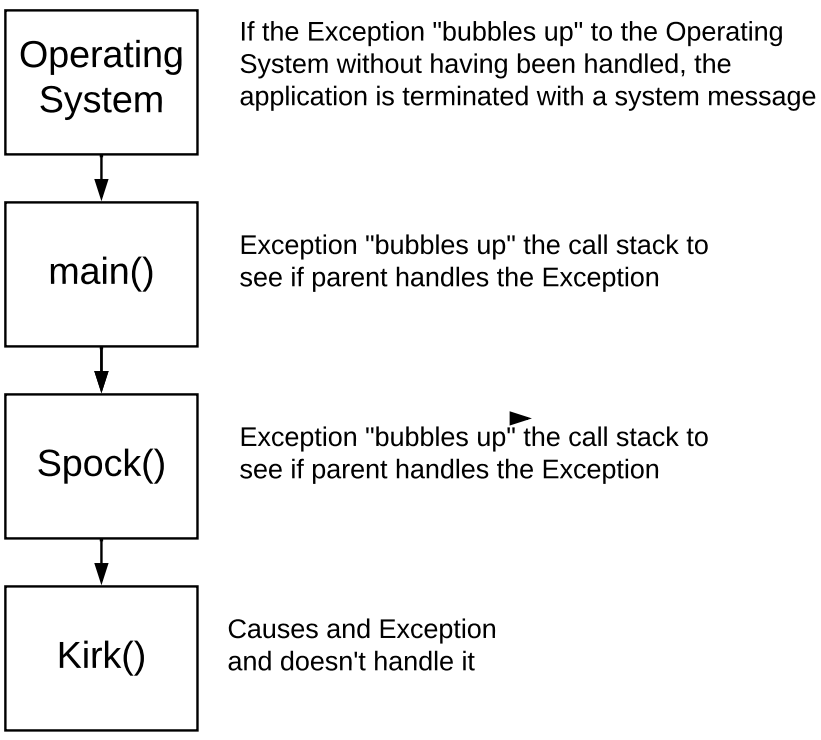
Adding `throws exception-name` to the method signature will remove the compile error. The IDE can do this for you if you right click on the error and select "*Add throws....*" option.

throws tells the compiler you realize your code may cause an Exception, but have decided how to handle.

The compiler just wants you to be sure you know you might cause an Exception.

To handle *(react or process)* an Exception, use a **try / catch** block.

Exceptions "***bubble up***" to the most recent catch block that handles the exception.



File Buffering