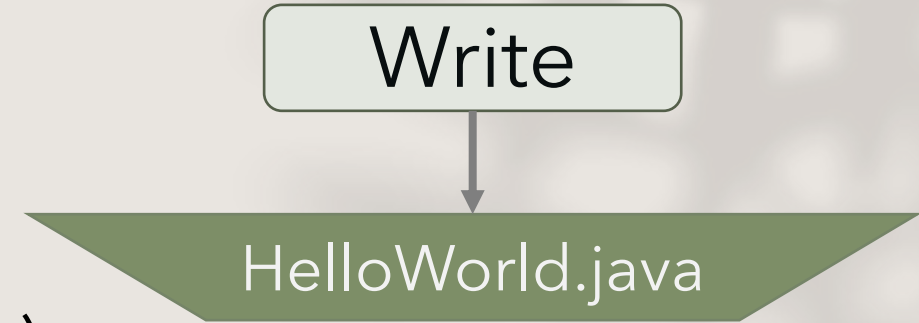


Write-Compile-Execute

Write

Write source code (instructions in a program)

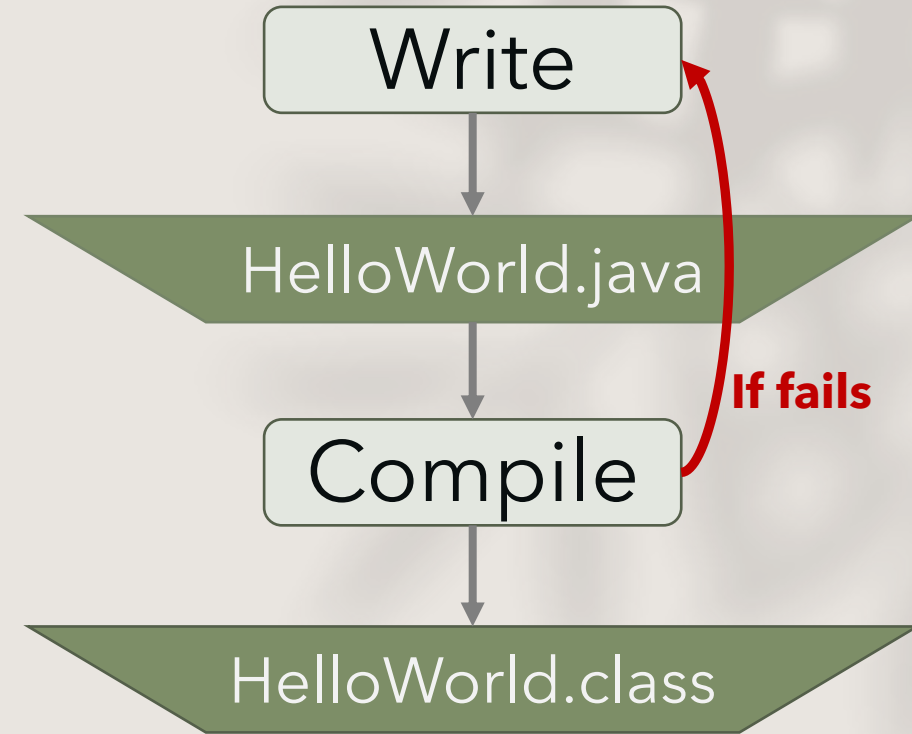
- Written using a programming language (Java)
 - Human readable
- Written within a text editor/IDE
- The file extension will be **.java**



Compile

Translates program from one language to another

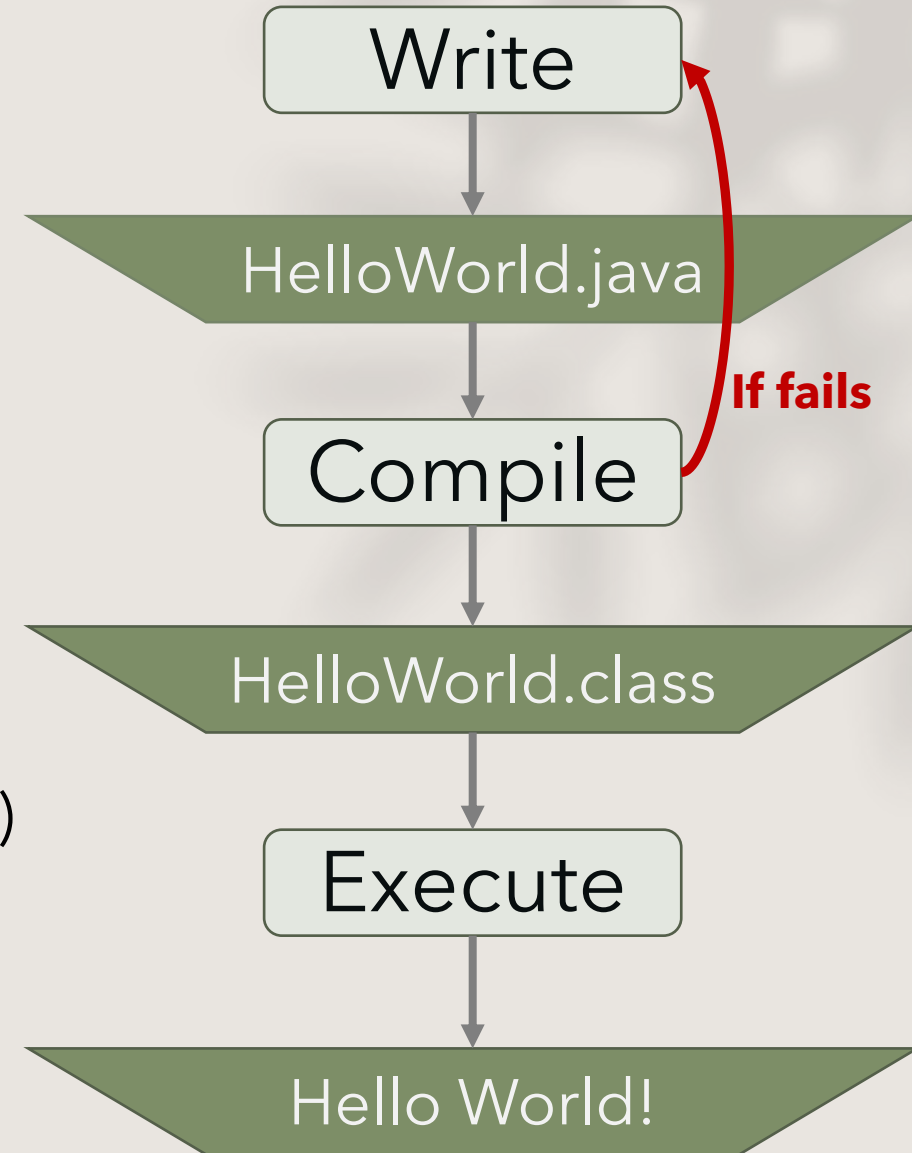
- High-level → high-level / low-level
- For Java, it translates the program to **byte-code** (computer object code), which is an **intermediate, low-level** language that can be run by many computers
- The file extension will be **.class**



Execute

Uses the **Java Virtual Machine (JVM)** to **run/interpret** the program

- **JRE**: Java Runtime Environment, a software package that provides Java class libraries, loader class, and JVM
 - **JVM**: A theoretical computer (specification) that provides a runtime environment in which java bytecode can be executed



Java Development Kit (JDK)

Contains

- Compiler
 - Translates Java to bytecode
- Interpreter – JVM
 - Translates bytecode to binary machine code (0s and 1s)
 - Carries out the instructions

Unix Commands in Terminal

- To compile

javac HelloWorld.java

where the HelloWorld.java is the file name

- To execute

java HelloWorld

where the HelloWorld is the class name

cs1101 – HelloWorld.java [lecExample]

cs1101 > lecExample > src > HelloWorld > main

Project ▾

- cs1101 ~/IdeaProjects/cs1101
 - .idea
 - lecExample
 - src
 - HelloWorld**
 - lecExample.iml
 - out
 - src
 - cs1101.iml
 - External Libraries
 - Scratches and Consoles

Make sure the java file is in the correct folder or file path

Match exactly

Click here to run

Make sure it's the correct Java file

```
1 public class HelloWorld {
2     public static void main(String[] args) {
3         System.out.println("Hello World!");
4     }
5 }
6
```

1) The cursor
2) When placing the cursor after a closing curly brace, its matching opening curly brace will be highlighted as well

Run: HelloWorld ×

/Library/Java/JavaVirtualMachines/jdk-9.0.4.jdk/Contents/Home/bin/java -javaagent:/Application
Hello World!

See output in the console/terminal

Process finished with exit code 0

The cursor is at line 4 position 6

Indentation

4:6 LF UTF-8 4 spaces

All files are up-to-date (3 minutes ago)