

CSCI 212

Object-Oriented Programming
in Java

Prerequisite: CSCI 111

variable

assignment statement

while loop

for loop

post-increment (i++)

strong typing

array

block {}

scope

function

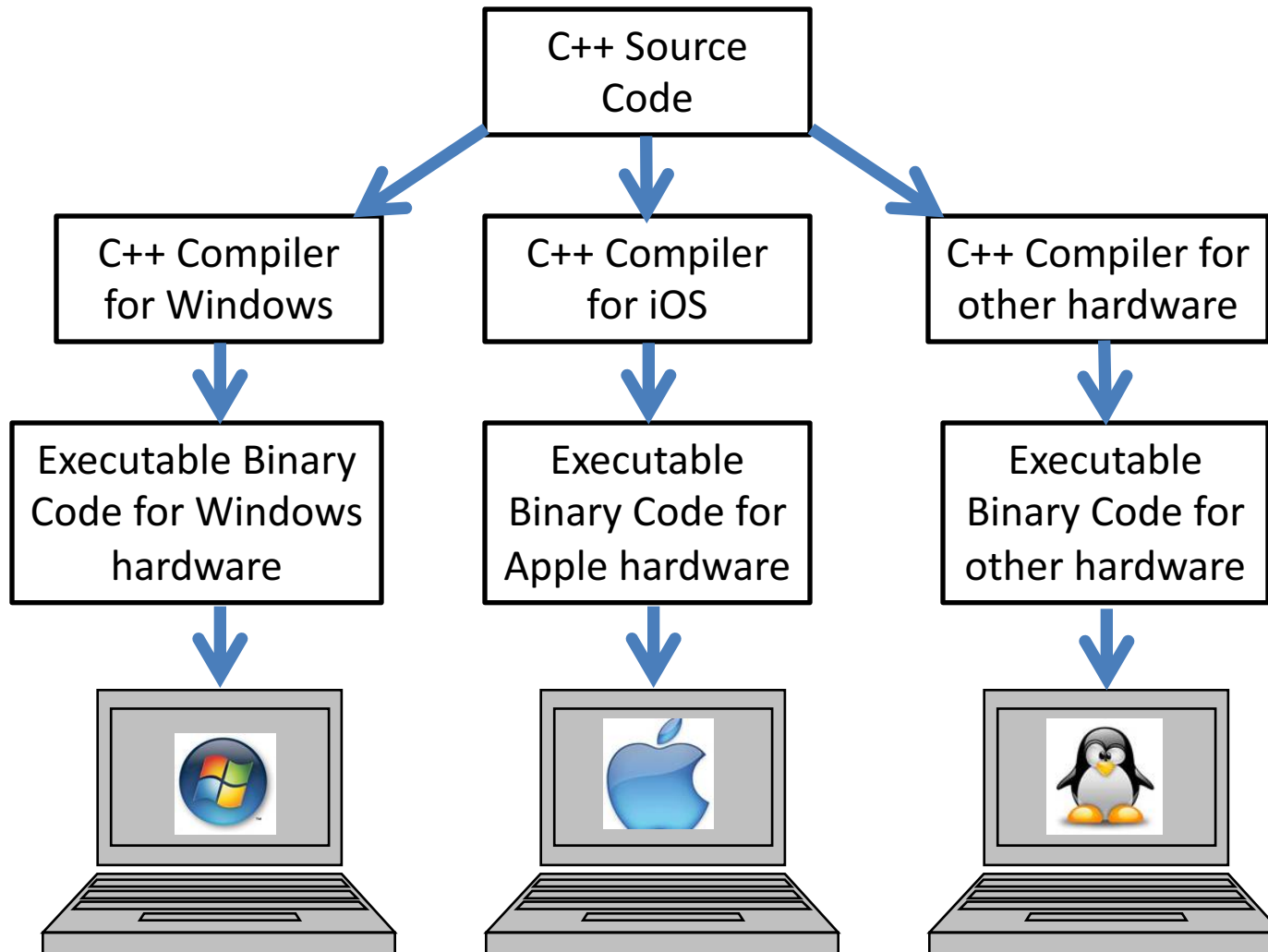
parameter

pre-increment (++i)

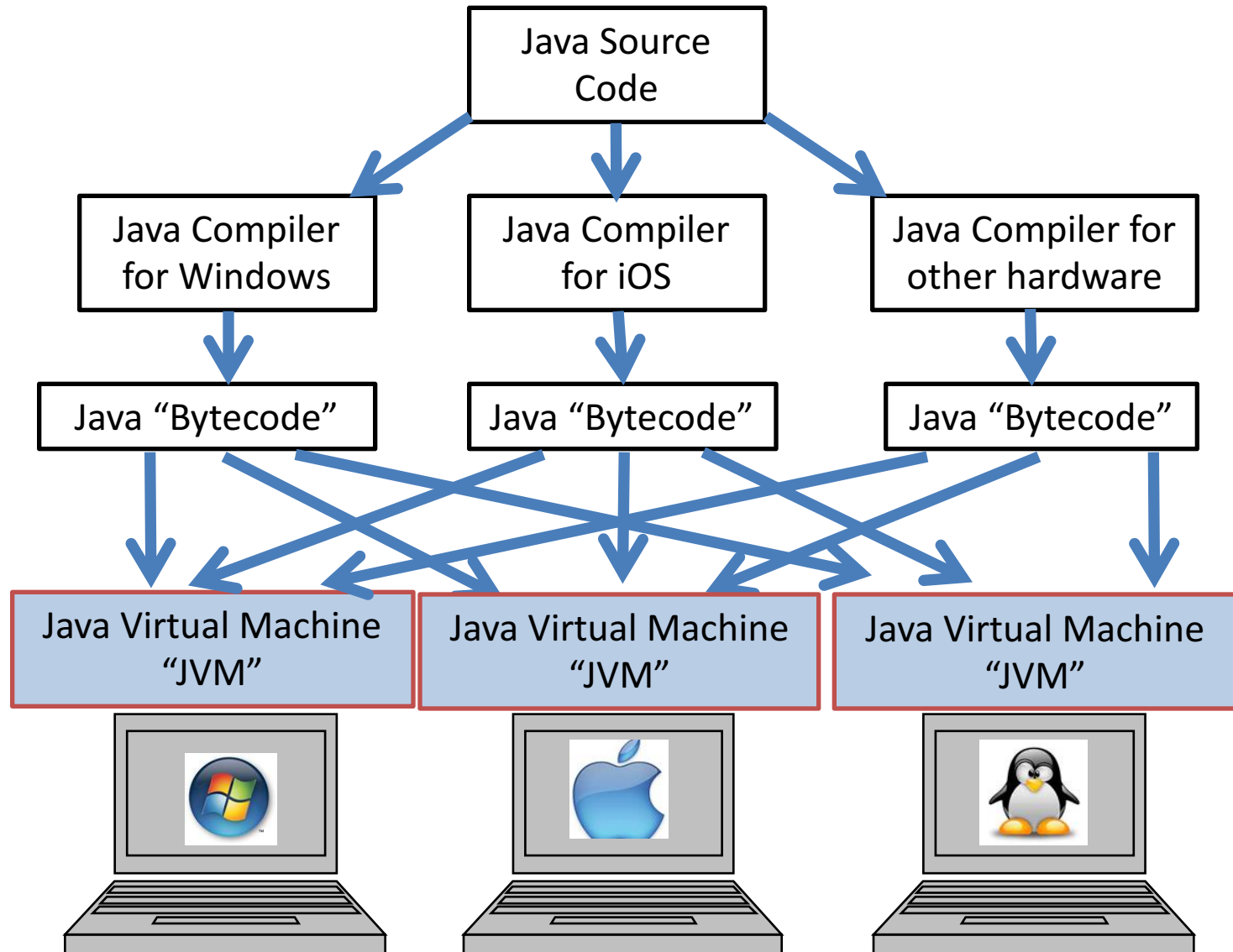
recursion

Why Java?

Write Once; Run Anywhere?



Write Once; Run Anywhere!



The JDK and the JRE

API – Application Program Interface

Class libraries (MATH, GUI, Database...)

JRE – Java Runtime Environment

JVM plus API (can *run* Java programs)

JDK- Java Development Kit

JRE plus compiler, javadoc, ...

For CSCI 212 you need the JDK

Java Source
Code

HelloWorld.java



Java Compiler
for Windows

```
>javac HelloWorld.java
```

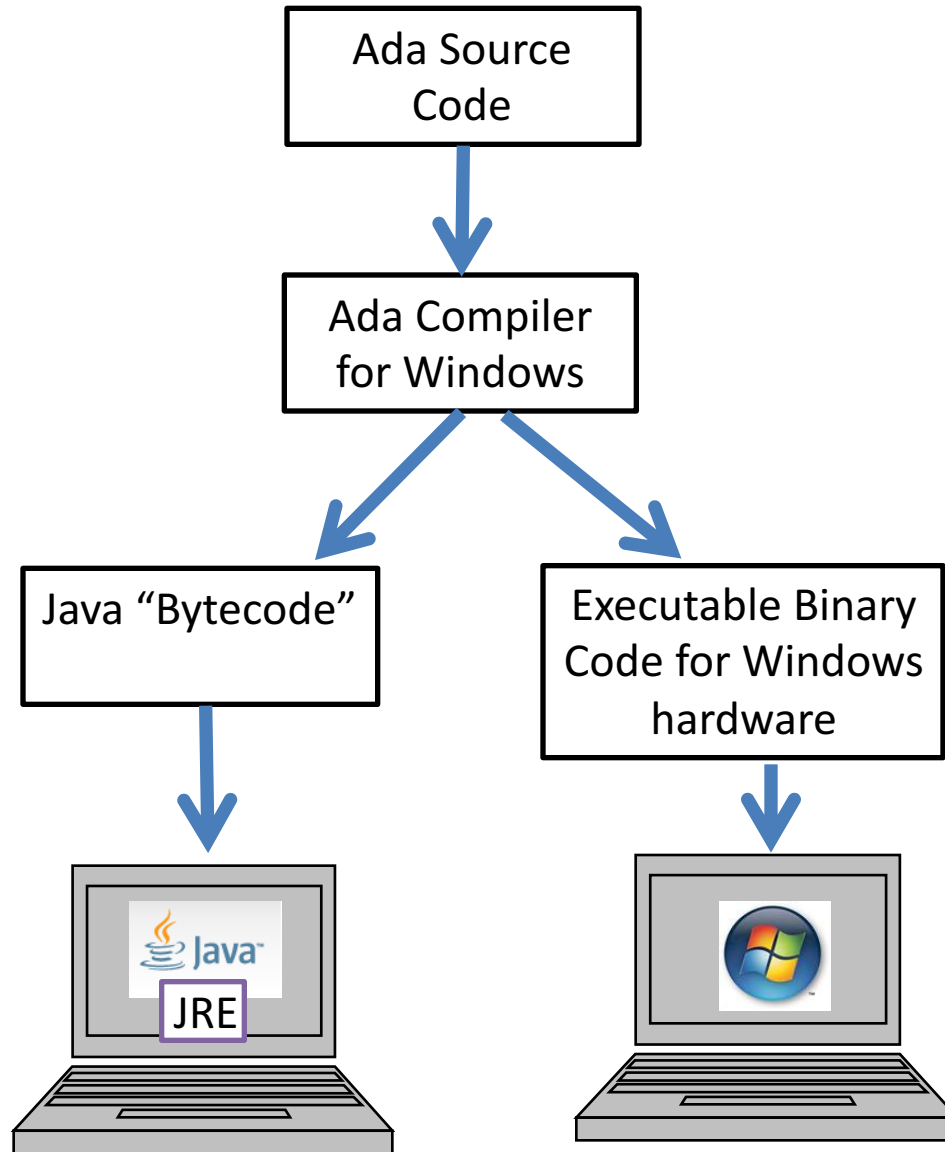


Java "Bytecode"

HelloWorld.class



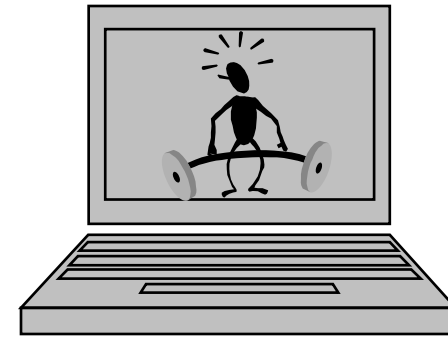
```
>java HelloWorld
```



The Java Virtual Machine ensures a program will run
the same way on any computer



*My biggest integer is
999,999,999,999,999,999!*



*My biggest integer is
999,999,999!*

When running on Native Hardware you are dependent on the machine's architecture



*My biggest integer is
999,999,999,999,999,999!*



*My biggest integer is
999,999,999!*

```
int salary = 999,999,999,999,999,999;
```

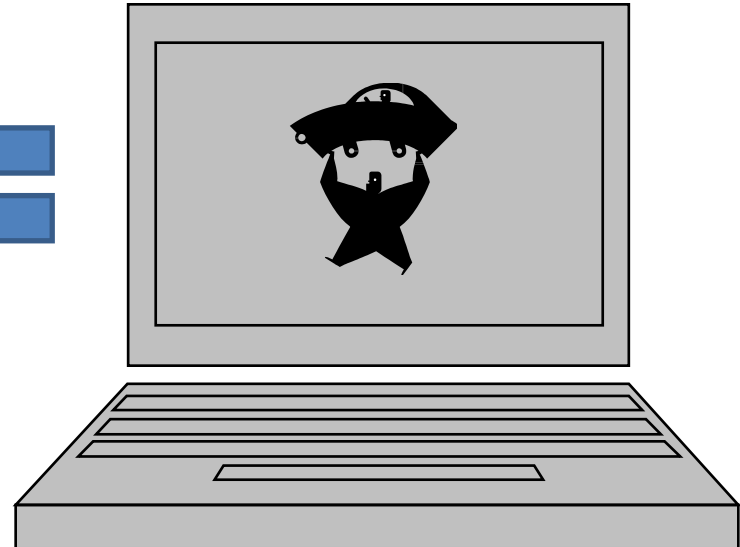
The JVM Levels the Playing Field

JVM

The biggest Java integer is 2,147,483,647



*My biggest integer is
999,999,999,999,999,999!*



*My biggest integer is
999,999,999!*

```
int salary = 999,999,999,999,999,999;
```

```
int salary = 1,999,999,999;
```

