

Java for beginners

Setup Environment



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Agenda

- ① Setup Environment
- ② JDK
- ③ JVM
- ④ JRE
- ⑤ Develop and run c/c++ program
- ⑥ Develop and run Java program
- ⑦ Installation of JDK on windows
- ⑧ Installation of JDK on Mac Os
- ⑨ Installation of IDE

Setup Environment

- ① Download and Install JDK 19 or 17
- ② Download and Install IntelliJ IDEA

JDK

Java Development Kit

It implements the Java Language and the Java Virtual Machine Specification and provides the Standard Edition of the Java Application Programming Interface

JDK can be installed on the following platforms:

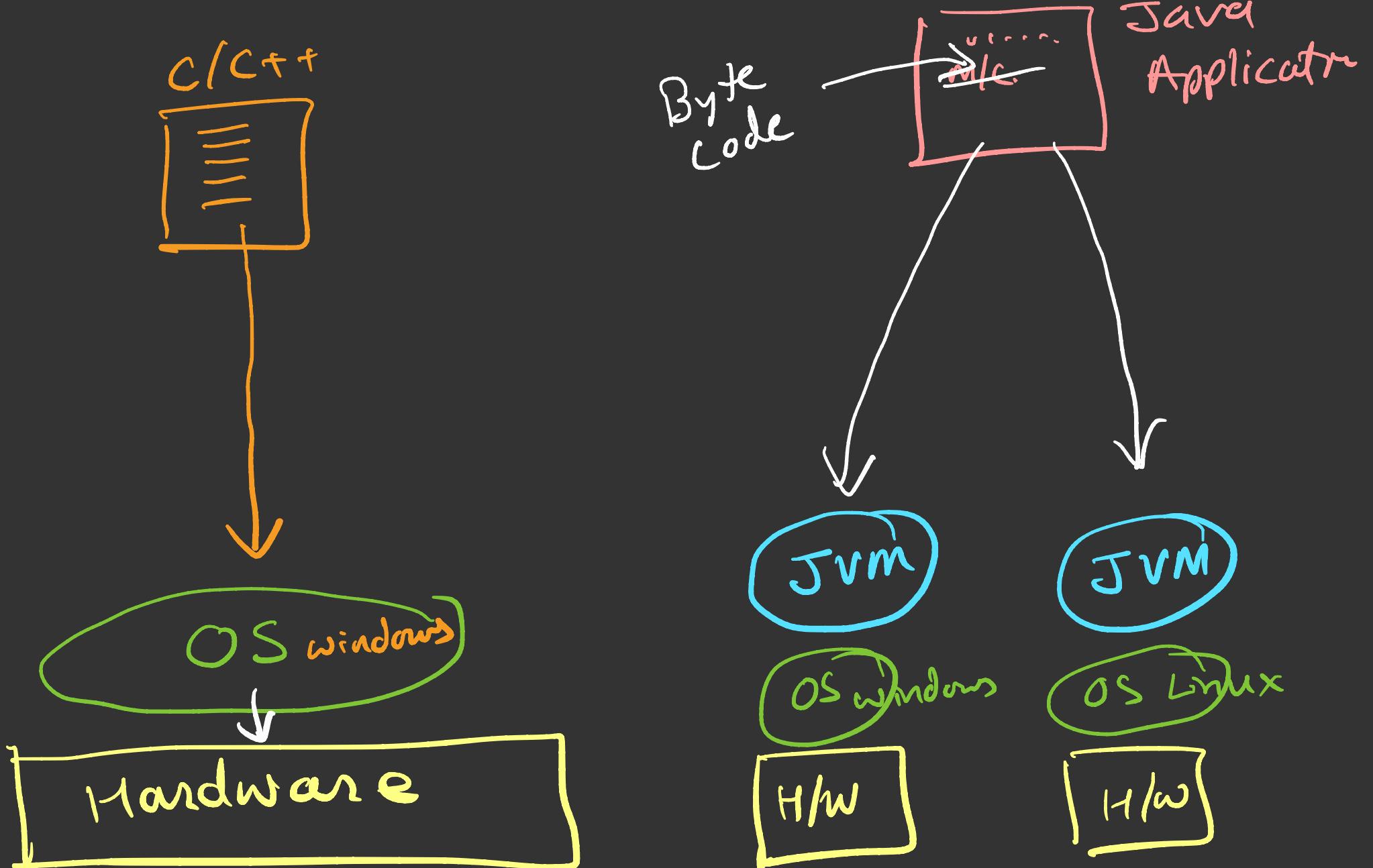
- Microsoft Windows
- Linux
- macOS

JVM

Java Virtual Machine

JVM is a software, enables a computer to run Java programs as well as programs written in other languages that are also compiled to Java byte code

JVM contains JIT compiler (Just In Time Compiler), whose job is to translate byte code into OS specific machine code



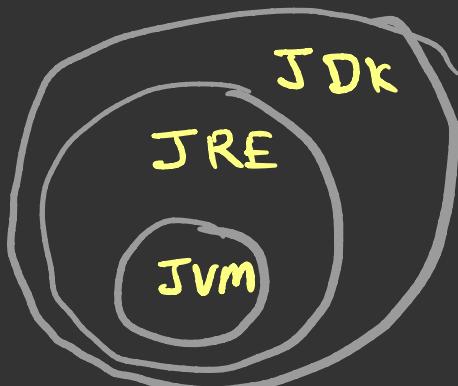
JVM contains three major components

- ① Class Loader
- ② Runtime Memory / Data Area
- ③ Execution Engine (contains JIT compiler & Garbage Collector)

JRE

Java RunTime Environment

If you want to run Java Programs, but not develop them, then download JRE and not JDK. JDK includes JRE, so if you are downloading and installing JDK, then no need to download JRE Separately.

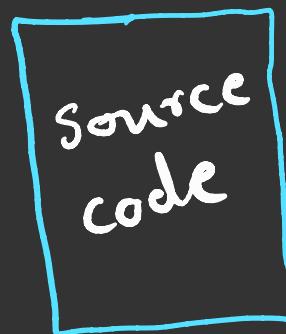


JRE contains JVM | JDK contains JRE

How to develop and run C/C++ program ?

C/C++

.C or .CPP



Build

preprocessor
Compiler
Linker

.exe



Source file

Executable (software)

Build

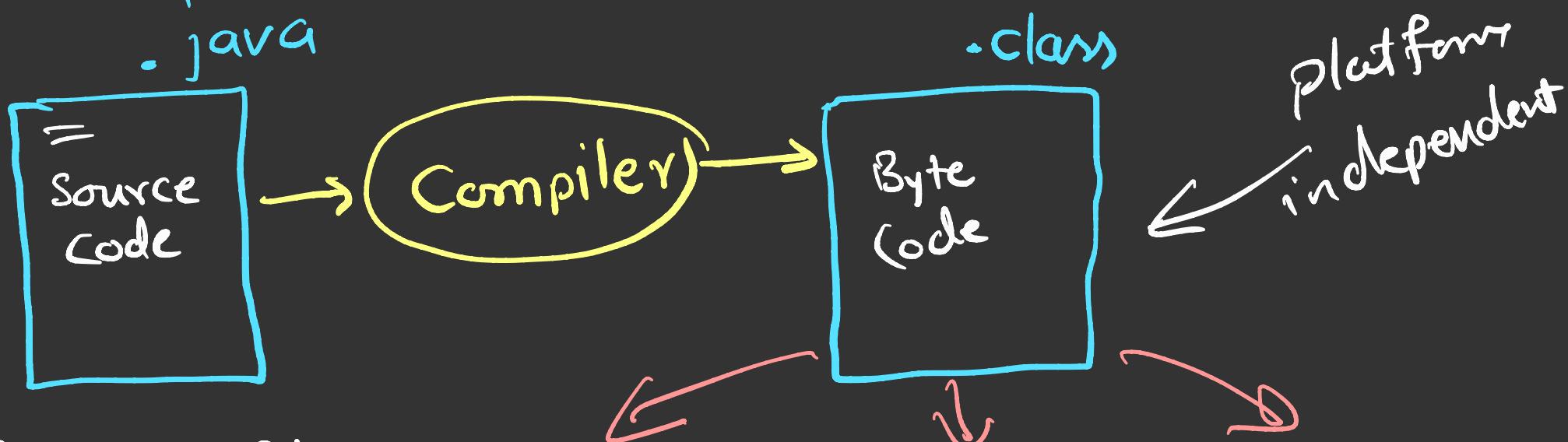
preprocessor
Compiler
Linker



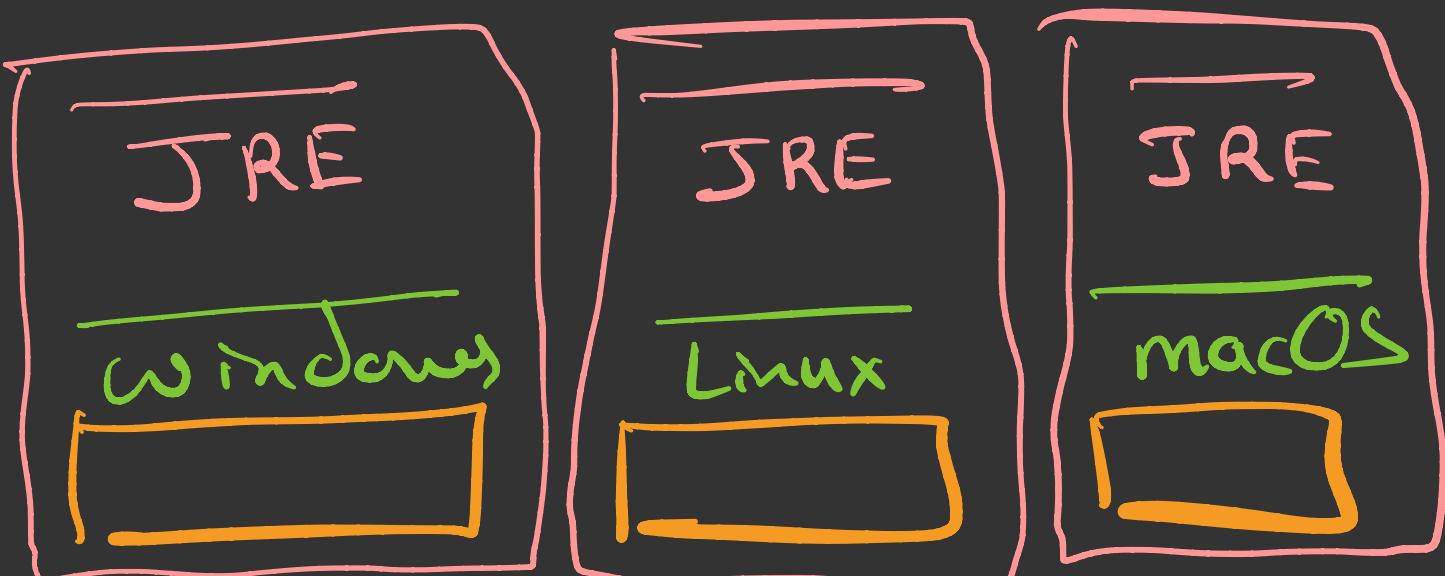
Executable

How to develop and run Java Programs?

Java



Source file



JIT Compiler

Compiler → new file
store translated code

Interpreter → ~~new file~~
translate

JIT compiler → Reads Byte code
and translate to
underlying OS specific
machine code

Installation of JDK on Windows

1. Download the JDK installer
2. Installing the JDK

Installation of the JDK on macOS

1. Download JDK.dmg or file from .tar.gz

2. Installing JDK

Double click .dmg file

Double click .pkg icon

Download and Install IntelliJ Idea

- 1 . Download community edition
2. run installer

H.W.

1. How to define a class in C++?
2. How to create an object of a class in C++?
- Imp 3. static member variables & static member functions
4. public and private
5. instance variable, static member variable, global variable, static local variable and local variable