(1) Java is case sensitive

(2) Everything in java is must be present inside the class
public class A {
}

(3) To run any java program it require two step process
(i) Compilation
(ii) Execution

(4) Compilation is two step process
(i) checks the java program against java library
i.e checking for correctness of the syntax and if it is not correct then compiler gives compilation error.
(ii) If the program is correct then convert that into byte-code

(5) Byte code is not a machine level language or low level language rather it is an intermediate language that JVM can understand.

(6) Byte code is JVM Independent → Byte code can run anywhere.

(7) JVM is platform Dependent

(8) The extension of byte code is .class

(9) Javac is the compiler which would be present in Java_HOME\bin

(10) The work of JVM is to execute the byte code plus resource management

(11) Java can run anywhere but it should have a JVM First it is tried on Microsoven.

JVM → class loader
Byte code Verifier
Security Manager
Garbage Collector
Line by Line Code executor Engine :

JVM is responsible for run java program line by line

① Java is platform Independent

② Write Once & run anywhere

C program

Operating System + Processor → Platform.

a+b=(1+2)=3

↓

Compiler

↓

allocate M-1 / Memory -2 / -3 → Assembler (Machine level code) → Execute on Processor → Processor

Output - ③

1+2

↓

Compiler → Compiler

↓

Assembler

↓

Execute on Processor → Processor

app.c

{

a=1

b=2

c=a+b

}

Source Code

Program

↓

Compiler

↓

Assembler [Dependent on Processor]

↓

processor (Intel)

Ex: add, or ad can understand Assembler.

C-program always platform dependent

Java

1+2

↓

Compiler

↓

Assembler → Allocate ①

M - ②

add -

Res - ③

Assembly level code can

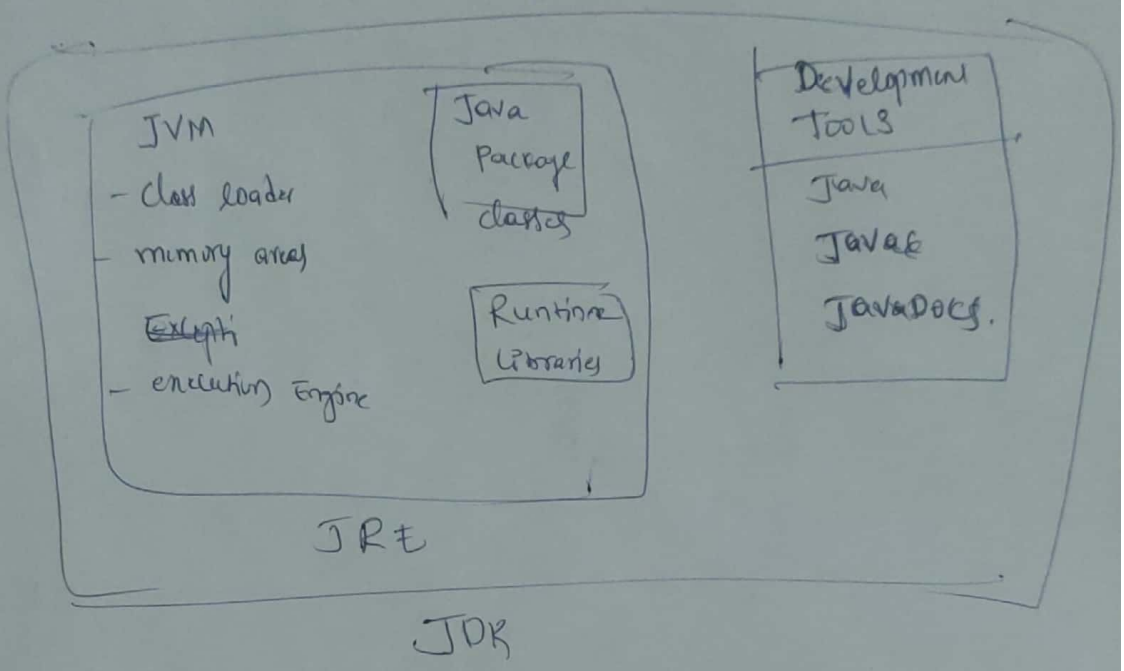
① Same assembly level code can't be run on all the processor. It is processor dependent

P.T.O

Java

↓ 1995 - Sun Microsystem

→ Oracle corporation.



JDK → To develop Java program is JDK is require & run

JRE → To execute Java program JRE is enough

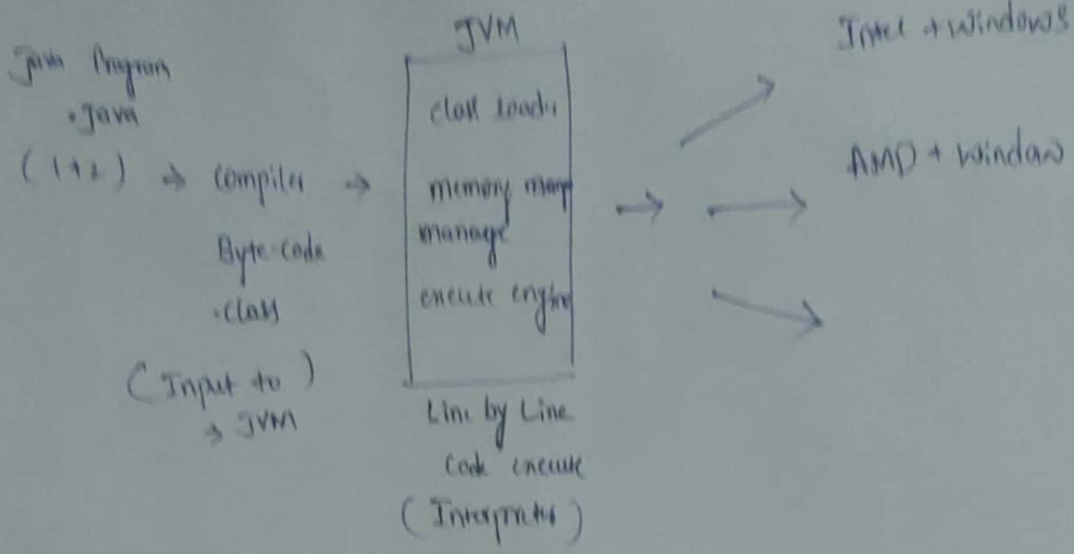
JVM - IS a interpretor Execute line by line code

JVM is platform dependent.

JVM is responsobile for run line by line Java program

JVM + Library classes + Development Tools

JDK provides to develop java & run program it.



JVM convert byte code to machine level language & run/execute line by line on the

(1) (2) (3) (4)

Java features

1) Simple
2) Object - Oriented
3) Platform - Independent
4) Secure
5) High performance
6) Multithreading
7) Robust