

Core Java

- JVM, JRE, JDK

→ Java is a platform independent?

JVM: Java Virtual Machine

- Converts bytecode to machine understandable language.
- It is a Abstract Machine (that doesn't visible).
- It has runtime to execute program exists physically.

→ JRE → contains [JVM + Class Libraries] Java
 [Java runtime environment] used to execute the program
 with help of JVM and libraries in it.

- It contains . of Java plugin and Java web start

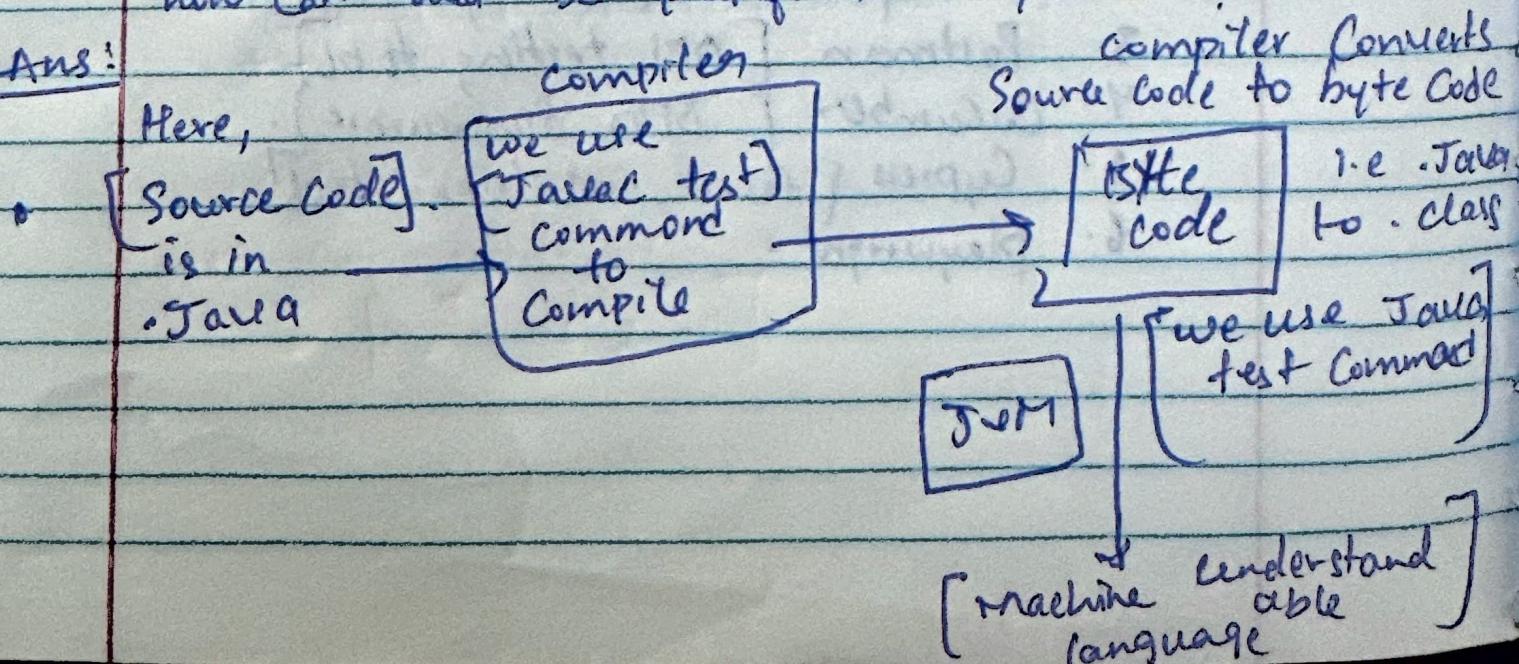
→ JDK → [Java development kit]
 [JRE + Dev tools]

Dev tools are debugger, compiler and Javadoc
 that helps to develop Application and also it
 contains Applet viewer.

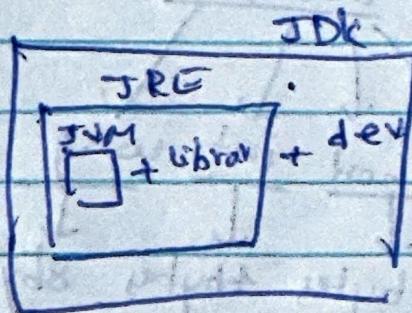
[Q] →

where JVM, JRE, JDK are platform dependent.
 how can Java be platform independent?

Ans:



- Since Source Code is not directly Converted into executable format like C language.
- That's, it uses Compiler so Source Code will be converted to Byte Code and JVM converts Byte Code to machine understandable language without depending on the platform.



Data types

Primitive: Fixed range value data types

boolean (1 bit)

true false

Numerical

integral

char

- store a specific character (or) a letter (a, b, c, -)

In Java, it takes 2 bytes

(-128 to 127)

byte

8 bits

short

2 bytes

int

4 bytes

long

8 bytes

Floating Point

float

4 bytes

double

8 bytes

decimal point

7 digits

point 2

15 digits

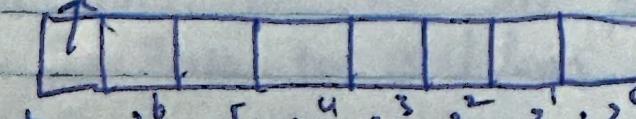
point 2

10 digits

1 byte (8 bits) → range: -128 to +128.

-128 → 127
Total 256.

1st bit is a signed bit



$$64 + 32 + 16 + 8 + 4 + 2 + 1$$

$$= 127$$

we can write as range in

$$= [-2^7 \text{ to } 2^7 - 1]$$

ASCII → 255 characters

In Java, it stores ASCII characters and wide range of characters from different languages

Non-Primitive : No Specific range

↓

String

↓

class

↓

Array.

collection of elements
of same data type

object
represents
sequence of
characters