

Java

Programming Language - medium of communication between human and machine

Types of PL

low - language understandable by machine. Ex - binary(0,1)

mid - which has a few keywords called mnemonics. Machine understands then using assembler - it is a software that can convert mnemonics into machine understandable language.

high -

platform dependency - the executable file if made on Mac OS then it can only run on Mac OS not on windows or Linux.

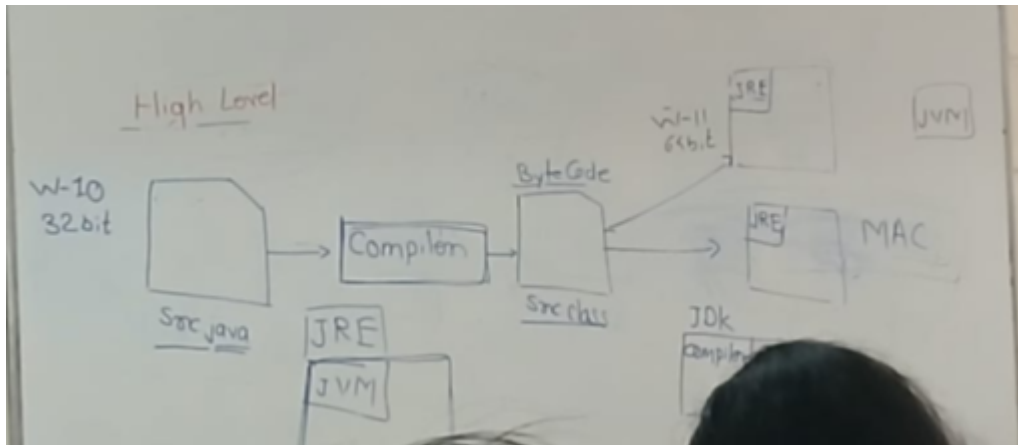
src.java --- compilation --- **byte code** (src.class)--- jvm(Java virtual machine) --- **0101**

JRE - java runtime environment(jvm will already be present and some libraries)

JDK - Java development kit(compiler, libraries and JRE)

Java is both compiled and interpreted

when we want to make an application we need both compiler and JRE so we download a JDK



Work of Java compiler - convert Java code into Byte code

Java compiler will create a file with extension **.class**.

execute this byte code using JVM. Only understandable by JVM.

JVM will convert it into machine understandable language.

JRE will provide all the necessary things to run a java program.

JIT - Just in time compiler

Features of Java

- Platform independent
- Secure(because we can't get the memory access-address of an object)
- Multi threaded
- Object oriented programming
- Robust

Structure of Java program

class **classname**{ declaration or initialization}

create source file

javac - filename.java

java classname

A byte code file will be created

execute the byte code

The main method is not required to create a class file

class name and filename should be the same, it is a convention not a rule.

Introduction to main method

```
class Demo{  
    public static void main(String [ ] args) {  
        System.out.println("What?");  
    }  
}
```

50 + keywords

class keyword is used for creating a class

class name should always start with a capital letter

If your class name is a combination of more than 1 word, than 1st letter of every word should be a capital letter.

Identifier - name given to the java component to identify them

identifier can't start with a numeric value, _ and \$ are allowed

