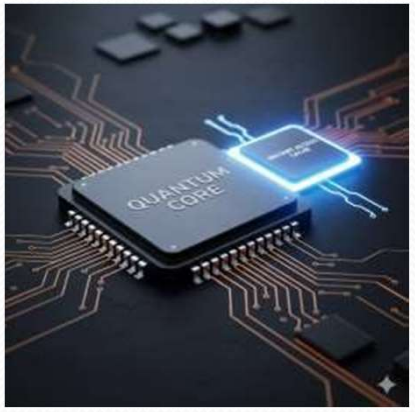
SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35

Department of Computer Science & Engineering

23ITT202 – Object Oriented Programming

I B.E CSE/ II SEMESTER

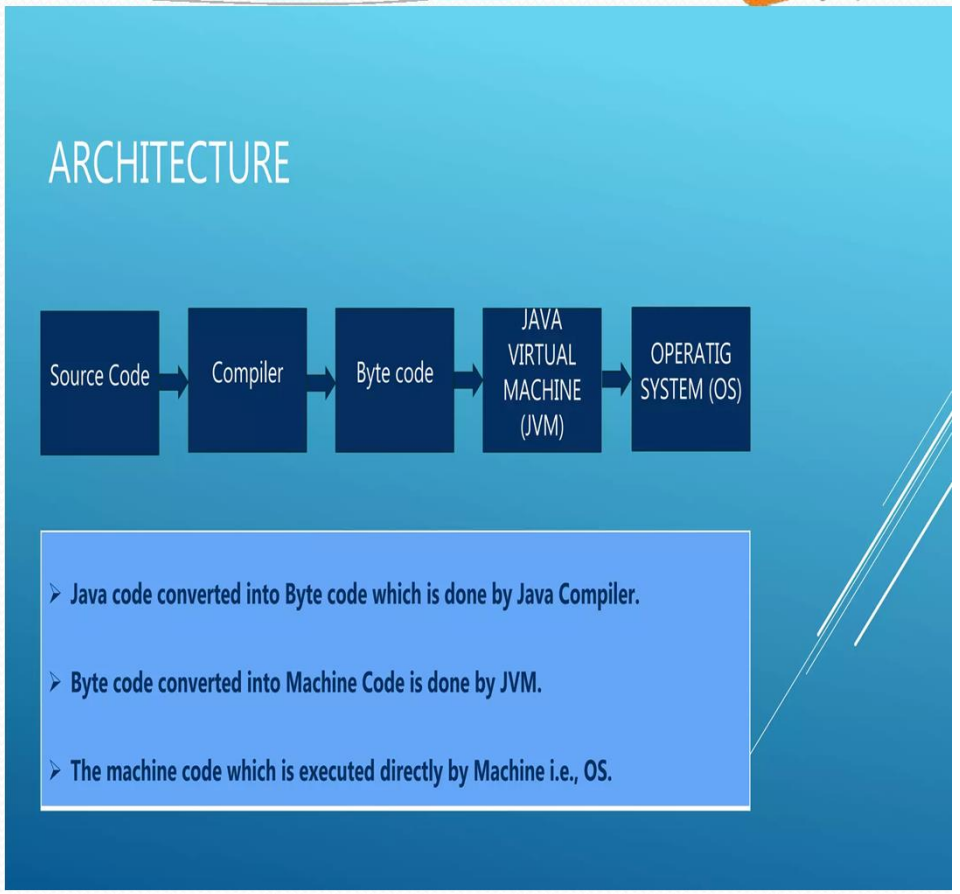


UNIT I :Introduction To OOPS

Topic 2 : Java Architecture

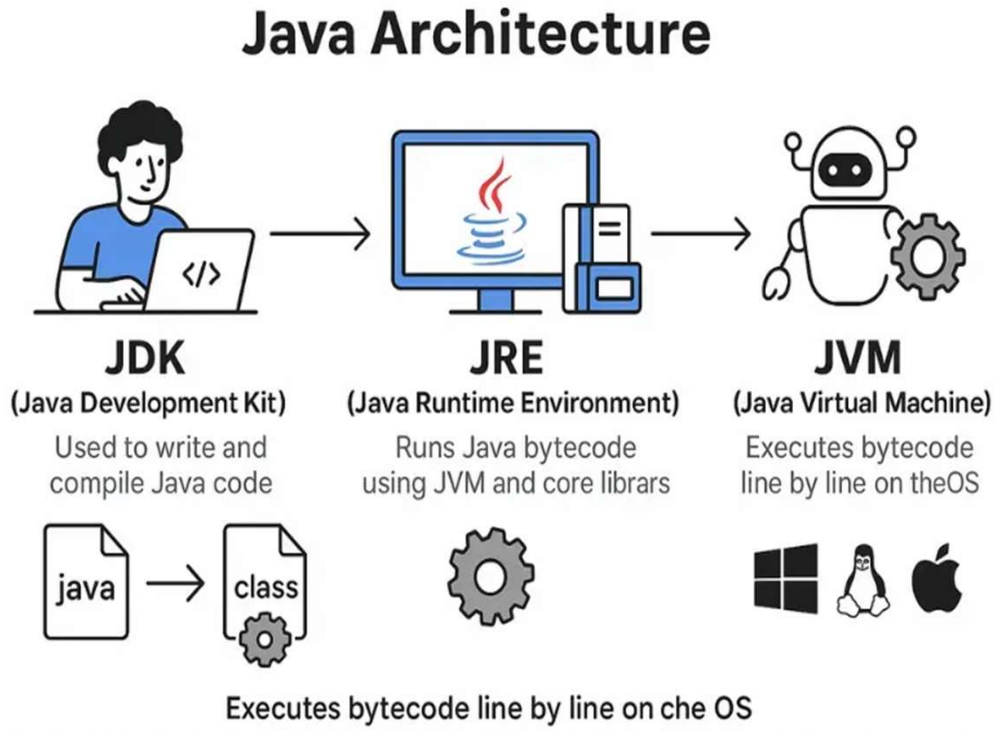
Java Architecture

- Java Architecture refers to the structure that enables Java applications to be platform-independent meaning, you can write code once and run it anywhere.
- Java Architecture combines the process of compilation and interpretation.
- The code written in Java, is converted into byte codes which is done by the Java Compiler.
- The byte codes, then are converted into



Components of Java Architecture

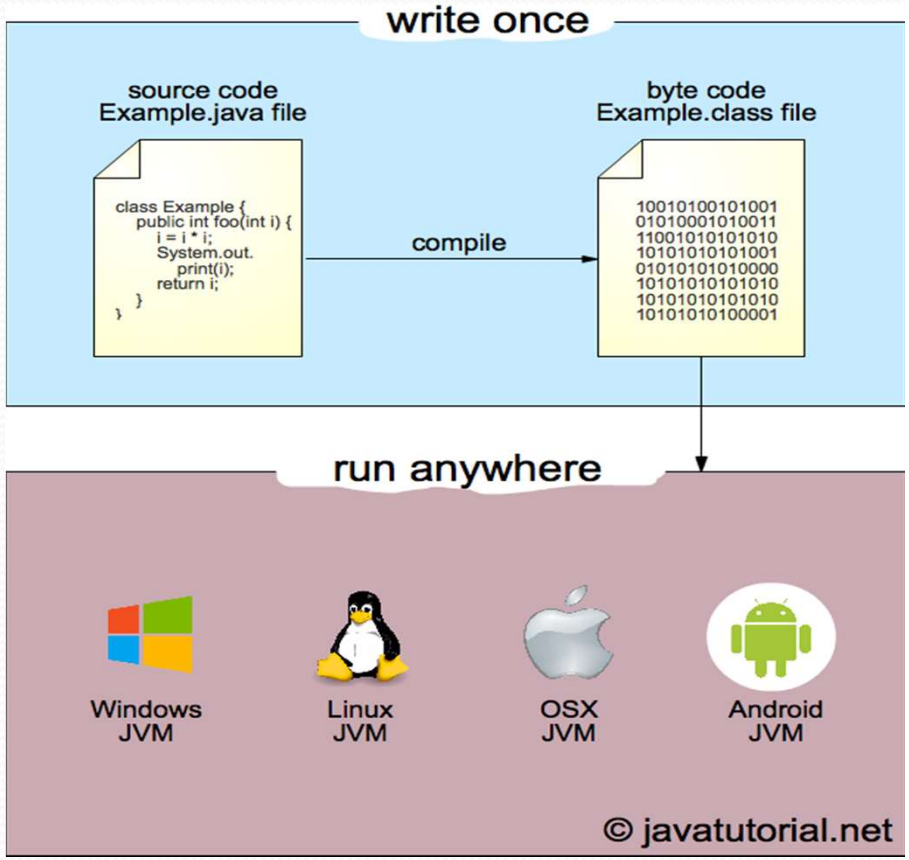
1. Java Virtual Machine(JVM)
2. Java Runtime Environment (JRE)
3. Java Development Kit (JDK)



JVM

- It is a Java platform component that provides an environment for executing Java programs.
- JVM interprets the bytecode into machine code
- JVM performs the following functions:

1. Loads the code
2. Verifies the code
3. Executes the code
4. Provides runtime environment



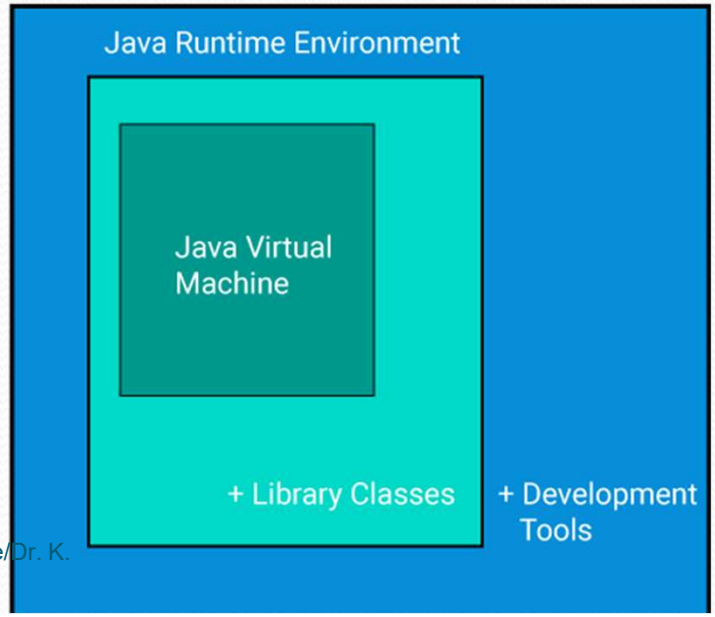
Java Runtime Environment

- The JRE software builds a runtime environment in which Java programs can be executed.
- The JRE is the on-disk system that takes your Java code, combines it with the needed libraries, and starts the JVM to execute it.
- The JRE contains libraries and software needed by your Java programs to run.
- JRE is a part of JDK.

Java Development Kit:

- The Java Development Kit (JDK) is a software development environment used to develop Java applications and applets. It contains JRE and several development tools, an interpreter/loader (java), a compiler (javac), an archiver (jar), a documentation generator (javadoc) accompanied with another tool.

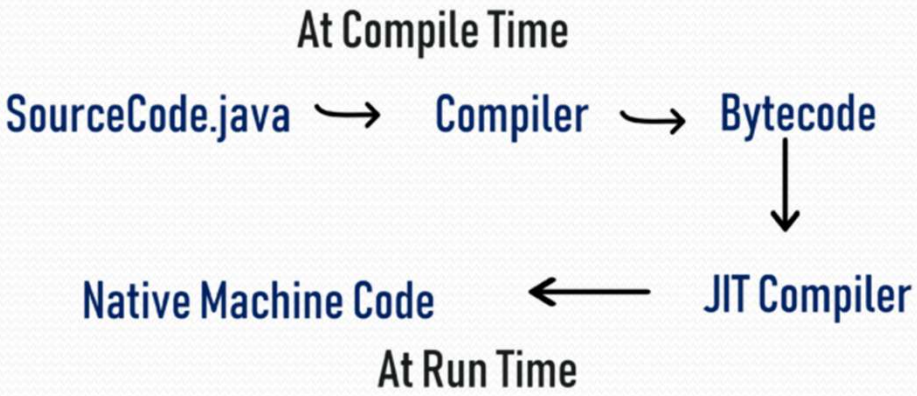
- JDK =JRE+Development Tools
- JRE = JVM + Library Classes



Development Tools

- **java** : it is the launcher for all the java applications.
  javac : complier of the java programming languages.
  javadoc: it is the API documentation generator.
  jar: creates and manage all the JAR files.

Java is platform independent



sample.java → javac (sample. class) → JVM(sample.obj) → final output

Assessment

1. **What is Java architecture?**
2. **List the components of Java architecture**
3. **What is JIT?**
4. **What is JVM?**
5. **What is JDK?**
6. **What is JRE?**

References

- https://www.geeksforgeeks.org/java/java-data-types/
- https://docs.oracle.com/javase/tutorial/java/nutsandbolts/datatypes.html
- https://www.w3schools.com/java/java_data_types.asp


Thank
You