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Object Oriented Programming (JAVA)

Lecture 3

Buzzwords [1/3]

Simple

Secure

Portable

Object-oriented

Robust

Multithreaded

Architecture-neutral

Interpreted and High performance

Distributed

Dynamic

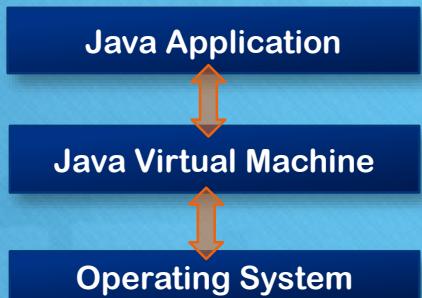
Buzzwords [2/3]

- **Simple:**
 - Easy for professional programmers
 - Java inherits C and C++ syntax and several features
- **Secure**
 - Applets in java doesn't allow the downloaded application to access other computer programs
 - But Active X controllers may harm your computer and security risk
- **Object Oriented:**
 - Based on OOP Concepts 99.9% are objects in Java (Except Primitive datatypes)
- **Robust:**
 - Reliable on variety of Systems
 - Strictly typed language
 - Memory Management
 - Exception Handling

Buzzwords [3/3]

○ Portable:

- WORA
- JVM



○ Architecture Neutral

- Supports Different Operating Systems

- WORA

○ Multithread

- Allows you to write a program that can perform many things simultaneously.

○ Interpreted and High performance

- Java Bytecode

○ Distributed

- Internet, with TCP/IP also RMI(Remote Method Invocation)

○ Dynamic

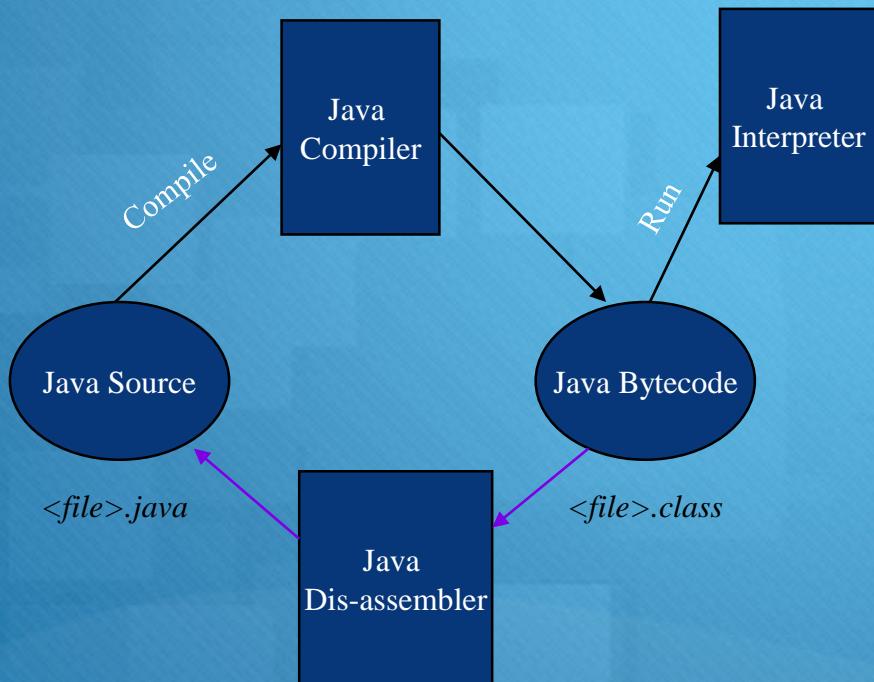
- Dynamic updating, small fragments of bytecode maybe dynamically updated on running system.

JDK, JRE and JVM

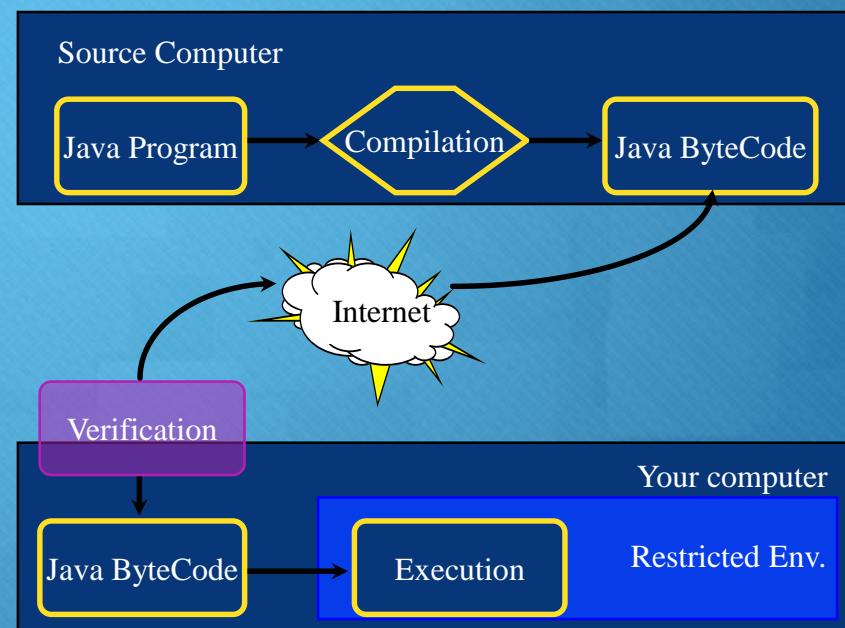
- JVM is used to convert bytecode into machine code, and JVM includes all libraries needed.
- JRE is needed only to run a program. JRE also includes JVM.
- JDK is used by developers and contains both JRE and JVM
- ***JDK contains the JRE which contains JVM.***

Java Development Kit

o Java Development Kit



o Prepare and Execute



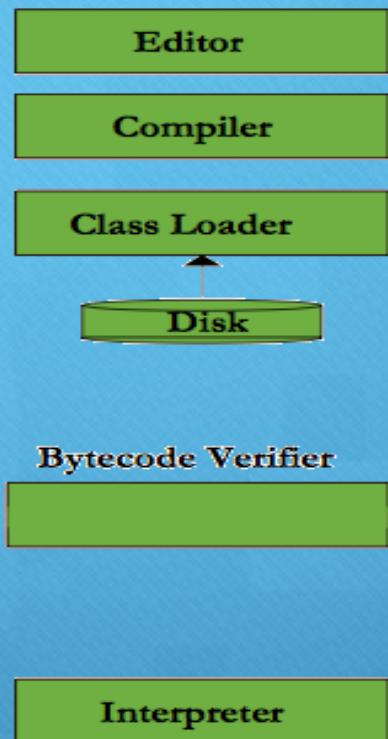
JDK Editions

- **Java Standard Edition (J2SE)**
 - J2SE can be used to develop client-side standalone applications or applets.
- **Java Enterprise Edition (J2EE)**
 - J2EE can be used to develop server-side applications such as Java servlets and Java ServerPages.
- **Java Micro Edition (J2ME)**
 - J2ME can be used to develop applications for mobile devices such as cell phones.

Development & Execution

PHASES

- Edit
- Compile
- Load
- Verify
- Execute



Week Review

- PP vs. OOP
- History of Languages
- Buzzwords (Simple, Secure Portable, OO, robust, multithread, architecture-neutral, interpreted and High Performance, Distributed, Dynamic)
- Resources: JDK, Eclipse, Notepad, path setting
- Hello World discussion
- Java Development Kit
- Compile and Run Program

Questions?



Thanks...