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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:

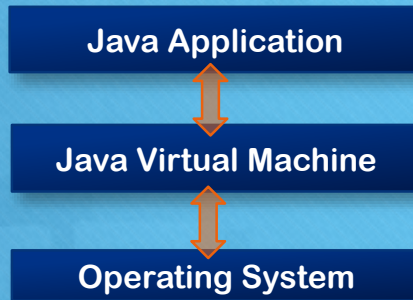
- Reliable on variety of Systems
- Strictly typed language
- Memory Management
- Exception Handling



# 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.

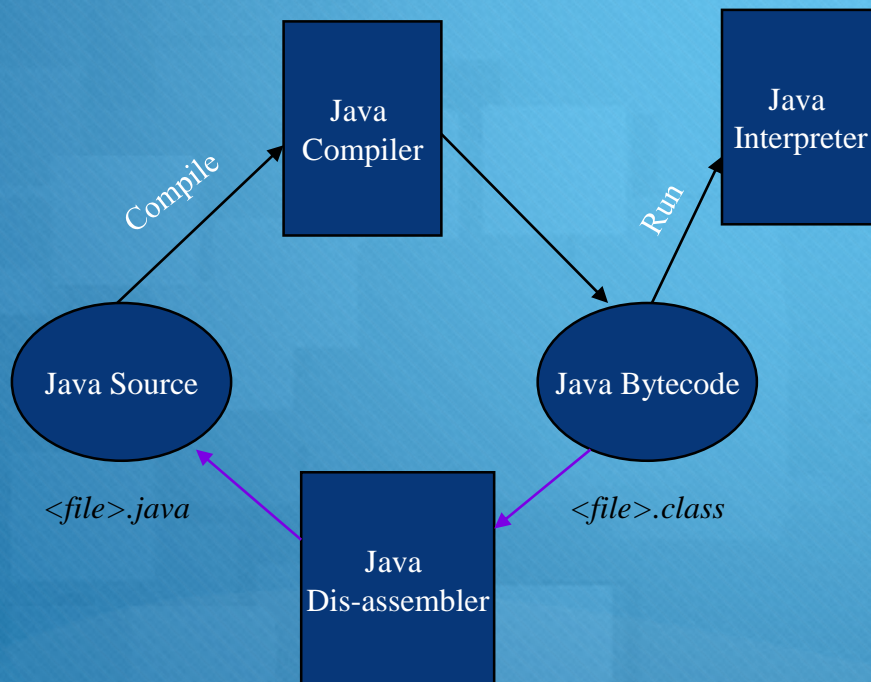


# JDK, JRE and JVM

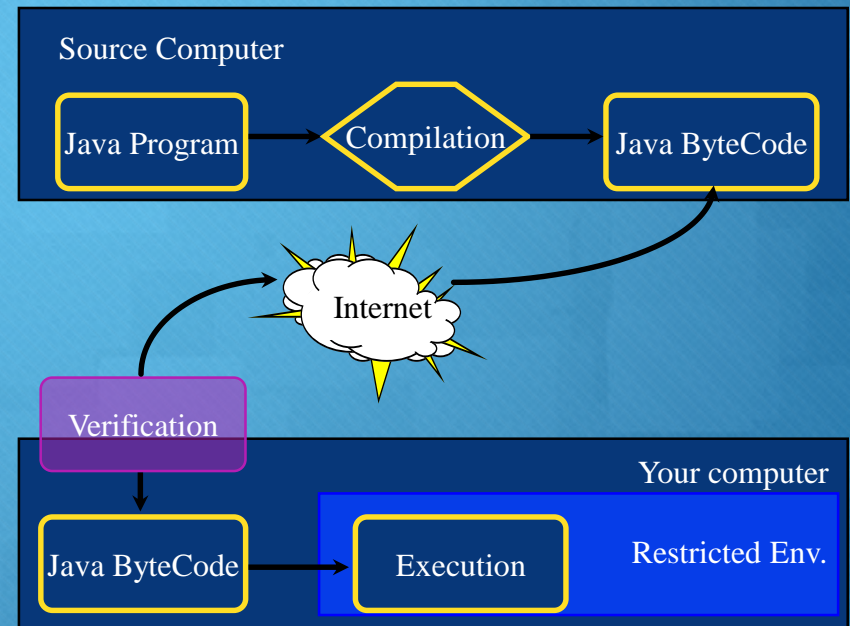
- JVM is used to convert bytecode into machine code, and JVM includes all libraries needed.
- JRE is needed only to run a program. JRE also includes JVM.
- JDK is used by developers and contains both JRE and JVM
- ***JDK contains the JRE which contains JVM.***

# Java Development Kit

## Java Development Kit



## Prepare and Execute





# JDK Editions

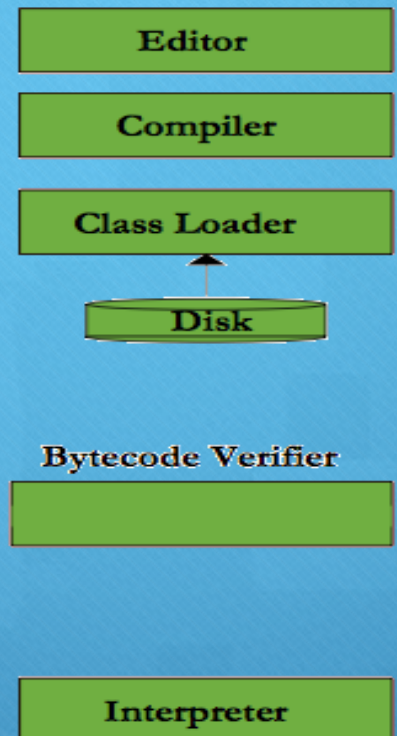
- **Java Standard Edition (J2SE)**
  - J2SE can be used to develop client-side standalone applications or applets.
- **Java Enterprise Edition (J2EE)**
  - J2EE can be used to develop server-side applications such as Java servlets and Java ServerPages.
- **Java Micro Edition (J2ME)**
  - J2ME can be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



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Thanks...