

Introduction to Java

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What We Have Done

- NOP to POP to OOP
- Java/OOP considered “basic knowledge” like C

一個印尼地名和生產的咖啡

- (wikipedia) Java (Indonesian: Jawa) is an island of Indonesia and the site of its capital city, Jakarta.
- (wikipedia) Java coffee is a coffee produced on the island of Java. In the United States, the term "Java" by itself is slang for coffee generally.

From Java (coffee) to Java (language):
(folklore) programmers drink coffee when brainstorming

What is Java (1/4)?

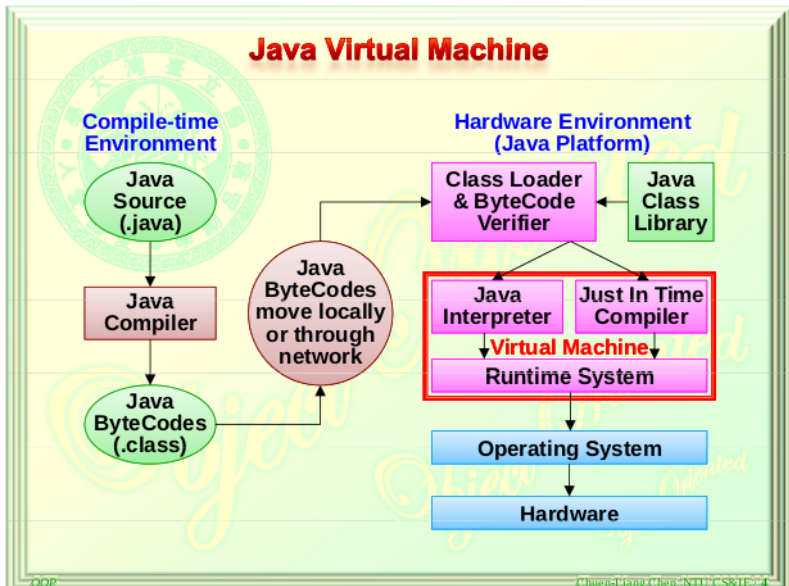
a cross-platform language

- (1991) a Sun project called Green for consumer electronics (J. Gosling)
- target:
 - device with limited power/resources
 - devices of different types
- Java (Oak) solution (to the second task):

text code →(compiler)→ byte code
⇒ virtual machine on your TV
⇒ virtual machine on your cellphone
⇒ virtual machine on your washing machine
⇒ virtual machine on your Sony DVD player
⇒ virtual machine on your Panasonic DVD player

Compile once, run everywhere!

“not only a language, but also a virtual platform by itself”



What is Java (2/4)?

a Internet-targeted language

- (1995) Java and HotJava browser announced
- along with the Internet development

text code → (compiler) → byte code
⇒ virtual machine in the HotJava browser
⇒ virtual machine on your Windows system with
either Netscape or Firefox or IE or chrome
⇒ virtual machine on your Linux system
⇒ virtual machine on your MacOS

- **applet**: a special miniature application in Java suitable for browsers

arguably, most important factor for early success

What is Java (3/4)?

a popular platform on mobile phones

- (wikipedia) Java ME (Micro Edition): Specifies several different sets of libraries for devices which are sufficiently limited that supplying the full set of Java libraries would take up unacceptably large amounts of storage.

text code →(compiler)→ byte code
⇒ virtual machine on your Nokia phone
⇒ virtual machine on your SE phone
⇒ virtual machine on your Motorola phone
⇒ virtual machine on your BENQ phone

regaining popularity nowadays

- Oracle claims 3 billion mobile phones run Java
- Google Android SDK based on Java

fully
an object-oriented language

- more structured
- more modular
- ...

will discuss more later

Your Java Environment

- JRE (Java Runtime Environment): for users, JVM + basic libraries
- JDK (Java Development Kit): JRE + compilers + ...
— `jdk-7u15-windows-i586.exe` or other platform
- Document — `jdk-7-doc.zip`
- some editions:
 - **SE: Standard Edition**
 - EE: Enterprise Edition
 - ME: Micro Edition

will provide some references on course webpage