Object Oriented Programming (OOP) using JAVA

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Programming language:

- Special purpose: HTML
- General purpose: C/C++/JAVA
- Structural oriented: PASCAL
- Object oriented: C (just for abstraction principle), C++/JAVA
- High level: C/C++/JAVA
- Low level: Assembly language

Original Java Source: Sun Microsystems

First Java Release: January 1996 (JDK 1.1)

In version 1.2, there was a major change in the platform and was therefore renamed (rebranded) as Java 2 → Full name: Java 2 Software Development Kit, abbreviated to Java 2 SDK or J2SDK.

Version 1.5 was released in 2004 as J2SDK 5.0 in which “1.” and “2” have been dropped from the official name. Furthermore, the development kit reverted back to the name "JDK" instead of "Java 2 SDK".

The full name of the latest Java edition is Java SE Development Kit 8 and abbreviated to JDK 8. It was launched in March 2014.

Bytecode (standardized machine code) and Object code

JVM: Java virtual machine

Platform independent

Just-In-Time compilers

Compilation command: `javac file_name.java` → output file_name.class (not executable)
Run-time command: `java file_name`
**Principles of object-oriented programming (OOP):**

- Abstraction
- Encapsulation
- Polymorphism
- Inheritance

JDK has a huge number of packages. However, each package has a collection of classes and interfaces.

**Java Integrated Development Environments (IDEs):**

- Eclipse
- NetBeans
- BlueJ
- X-Code
- TextPad

**In JAVA, everything must be declared inside a class. There is no:**

- Pointers
- Global variables / functions
- Structures
- Union
- Operator overloading
- Preprocessors commands

**Java has advanced programming techniques:**

- Exception handling
- Garbage collection (memory management)
- Threads and multithreading
- I/O streams
- GUI (Graphical user interface)