Lecture 3. Introduction to Java Programming

About Java

- Developed at Sun Microsystems which was purchased by Oracle in 2010

- General-purpose & powerful programming language.

- Used for developing software that run on mobile, desktop and servers

- Machine independent

Java Language Specification

(Java语言规范)

The syntax and semantics of Java (Java的语法和语义)

syntax → like the grammar in English

semantics → like the meaning in English

API(应用程序编程接口)

Application programming interface

Also known as a 'library'

Contains predefined Java code that we can use to develop Java programs
(包含我们可以用来开发 Java 程序的预定义 Java 代码)

→ Faster and easier development process | no need to write everything from scrach

Editions of Java(Java 的版本)

Java comes in three editions

- **Java Standard Edition (SE) <标准版>:** develop applications that run on desktop (开发在桌面上运行的应用程序)

- **Java Enterprise Edition (EE) <企业版>:** develop server-side applications (开发服务器端应用程序)

- **Java Micro Edition (ME) <微型版>:** develop applications for mobile devices (开发移动设备应用程序)

We will use **Java SE**. Because it is the fundation of all other edition.

JDK(Java开发套件)

Java development kit

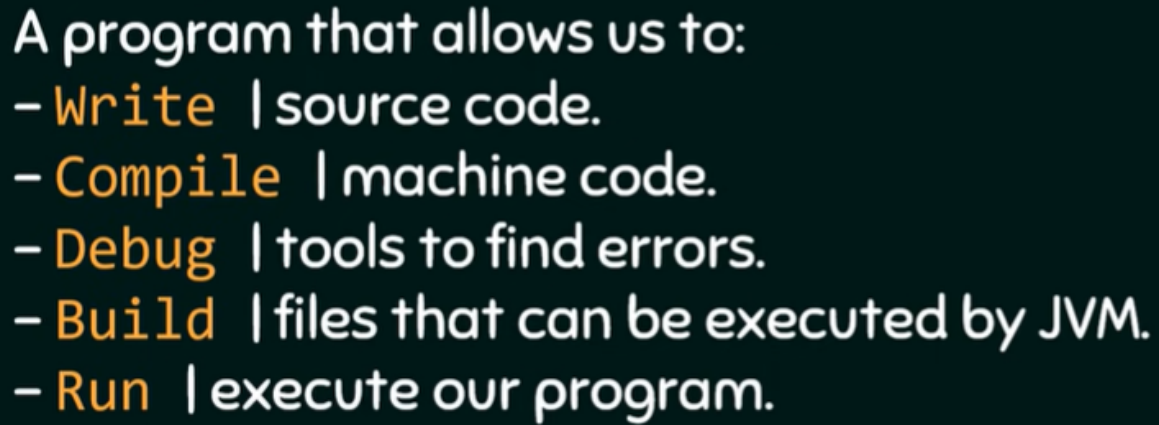Set of programs that enable us to develop our programs.

Contains JRE (Java Runtime Environment) that is used to run our programs.

JRE & JDK cintain JVM (Java Virtual Machine — Java虚拟机).

JVM execures our Java programs on different machines.→ Java is independent

IDE

Integrated development environment (集成开发环境)

→ Development is faster and easier.

Popular Java IDEs: NetBeans, Eclipse, **IntelliJ IDEA** …