



# JAVA Textbook

## *Chapter 1*

### An Introduction to Java and the Java Programming Environment



# Objectives

In this chapter, you will learn about:

- Background knowledge about Java
- Three types of Java programs
- Basic structure of a Java program
- Java development cycle



# Basics about Java

- A programming language developed by Dr. James Gosling, and introduced by Sun Microsystems in late 1995
- An object-oriented programming language
  - Modular in nature
  - Allowing the programmer to build a program from reusable parts of programs called classes, objects, and methods
- Part of an object-oriented system called the Java Standard Edition Development Kit (JDK)



# Types of Java Programs

- Java programs can be written as applications, servlets, or applets.
  - An application is a stand-alone program.
  - A servlet is a Java program that runs on a web server or application server and provides server-side processing, such as accessing a database and handling e-commerce transactions.
  - An applet is a Java program that is executed and viewed in a web browser.



# Java Is Object Oriented

- A few important concepts
  - Object: represents something in the real world
    - Attributes: data items within an object
    - Methods: tasks an object performs on its data
  - Class: a template for a group of similar objects (or, instances)

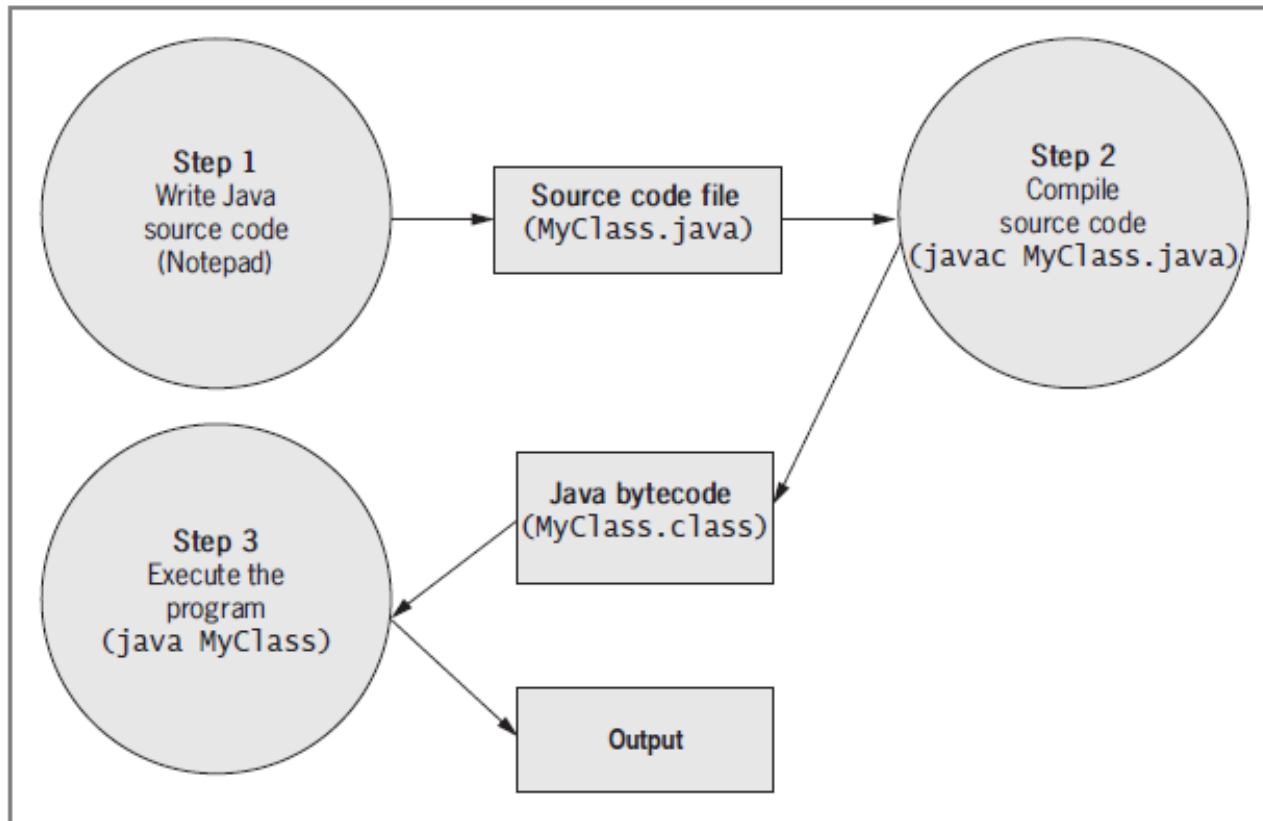
# Structure of a Java Program

```
public class HelloWorld
{
    public static void main(String args[])
    {
        System.out.println("Hello World.");
    }
}
```

**Figure 1-1** Hello World program

- Keywords
- A special method: main() method is the first method that executes when any program runs

# Java Program Development Cycle



**Figure 1-2** Java development cycle

- Compile: `javac MyClass.java`
- Execute/Run: `java MyClass`



# Summary

- Java is an object oriented programming language
- There are mainly three types of Java programs
- A Java program follows specific structures
- Developing a Java program involves three basic steps: creating a source code file, compiling the source code, and executing the resulting Java program





Thank You!