

Welcome to Java Programming



Why do I want to take this course?

- I want to major in EE/CSE. ECE122 is a requirement.
- Java is hot in Job market. It is useful for my career.
- My friends are taking this course.
- I am just curious...

ECE122 Course Web Site

- Syllabus
- Office Hours. Contact info.
- Lab, Quiz, Exam & Homework problem sets and answers
- Announcements

Lecturers and TAs

- Lecturers

John Zhang, Chris Hoffmann

- TAs

Claudiu Fatu

Teng Fei

Richa Prasad

Sarma Vangala

JianHong Xia

Grade Composition

- 3 exams. 15%, 15%, 30%
- 4 quizzes. 2.5% each
- 7 labs. 4% each. 5% each for the last two labs.

Textbook

- “Head First Java”, Kathy Sierra & Bert Bates. O’ Reilly
- “Java™2: A Beginner’s Guide”, Herbert Schildt

What is a Computer?

- A device that computes.
- Has Hardware and Software.
- Hardware is the physical device.
- Software is the program that controls the function of the hardware and directs its operations.
- Software is written in a Programming Language.

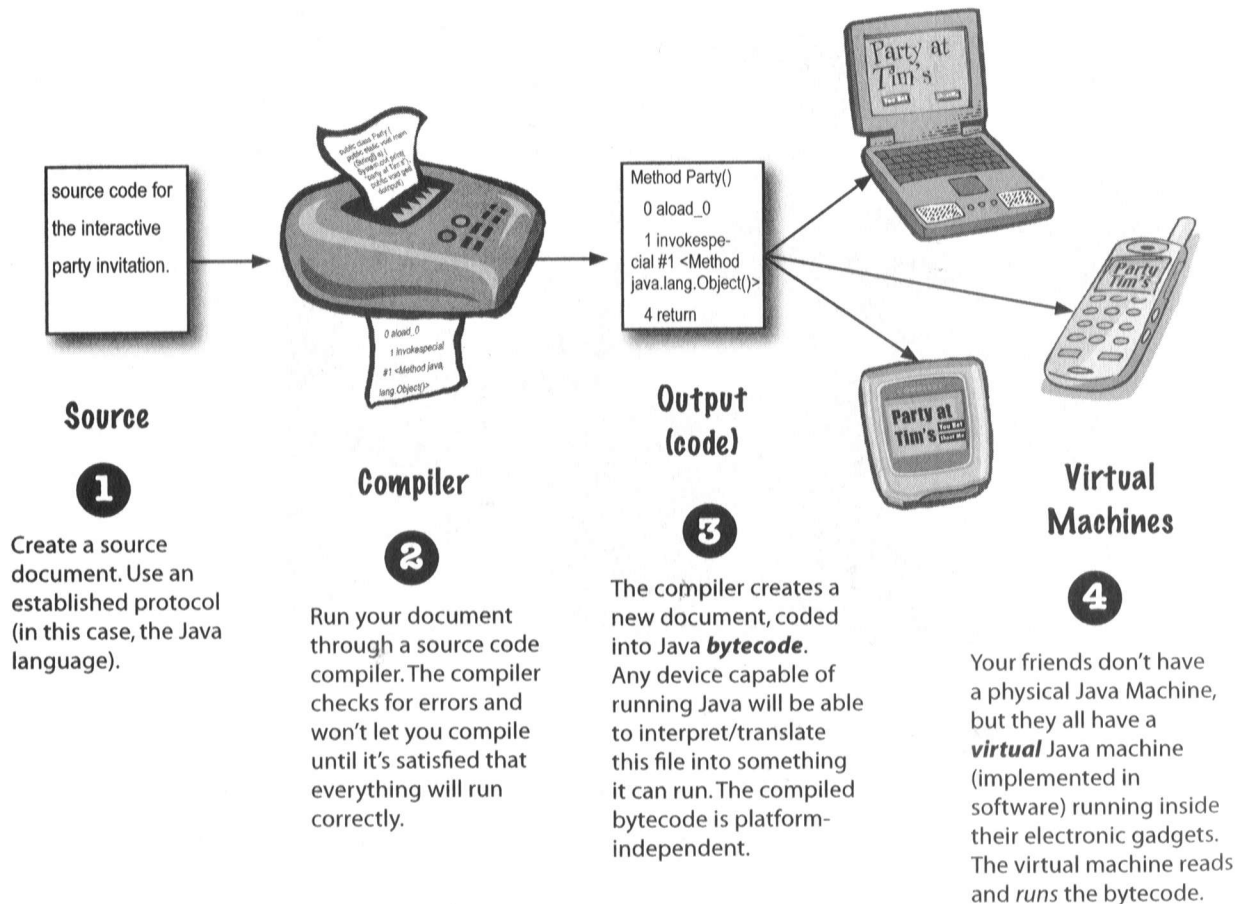
What is Programming Language?

- A programming language is a high level language that contains instructions that controls a computer' s operations.
- Examples: Java, C++, C, Visual Basic, ...
- Compiling. A programming language needs to be translated into a low level machine code before execution on a computer.

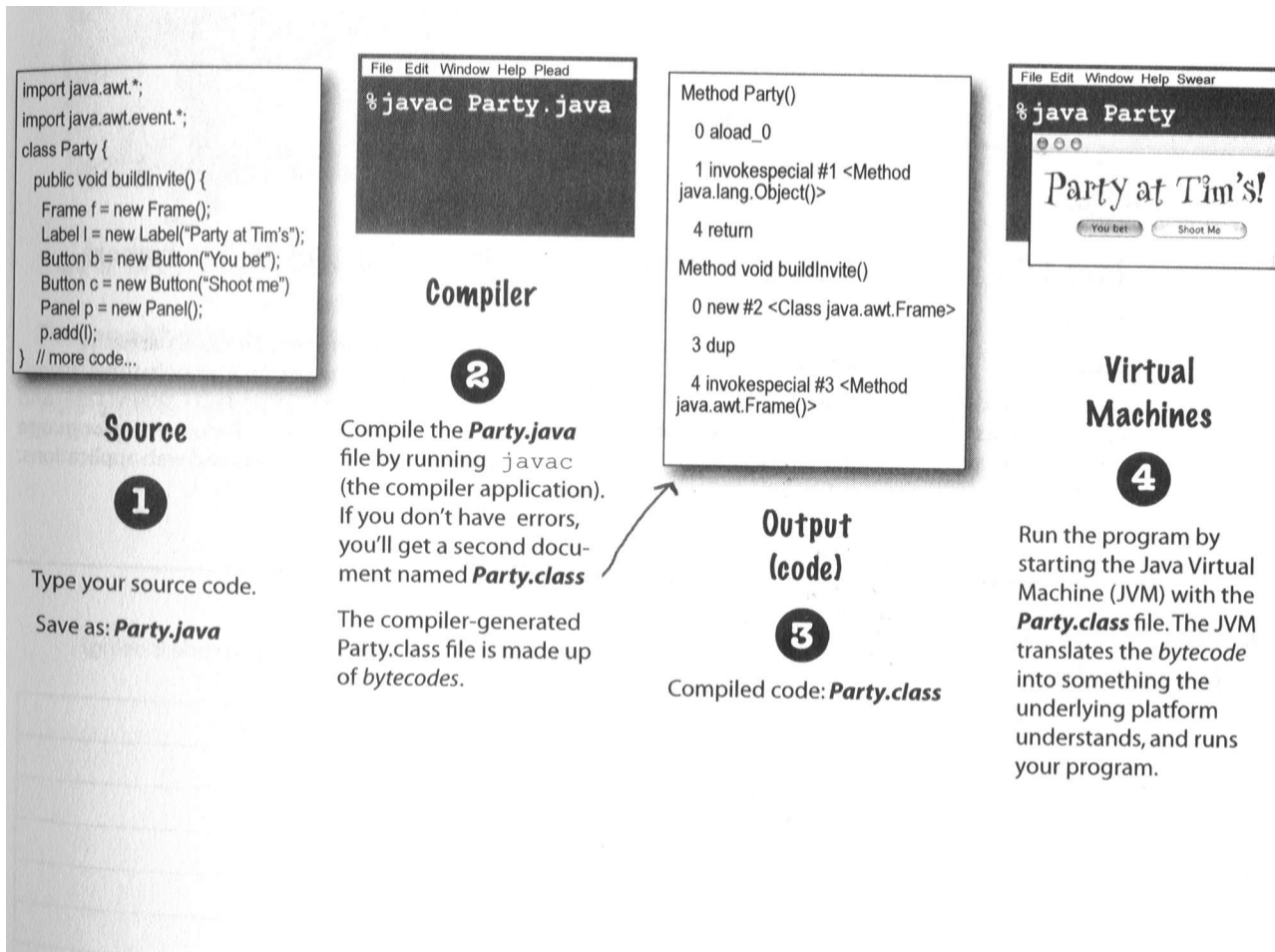
What is Java Programming Language?

- Simple
- Object-oriented. Objectville vs. procedureland
- Platform Independent
- Safe. No pointers. Live in virtual machine.
- Multi-threaded
- Garbage collected

How Java Works – 1



How Java Works—2



Two most important web sites

- www.javasoft.com
- www.google.com

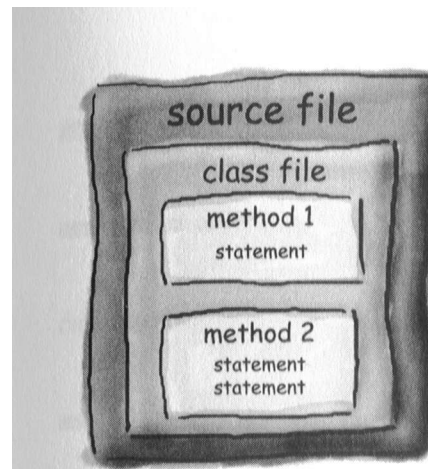
Three most used Java command

- `javac` -- Compile java source code into Byte code.
- `java` -- Run a Java application.
- `jar` -- Archive files.

Eclipse – Java IDE

- Eclipse. Java Individual Development Environment.
- Free download from www.eclipse.org

Java Code Structure – 1

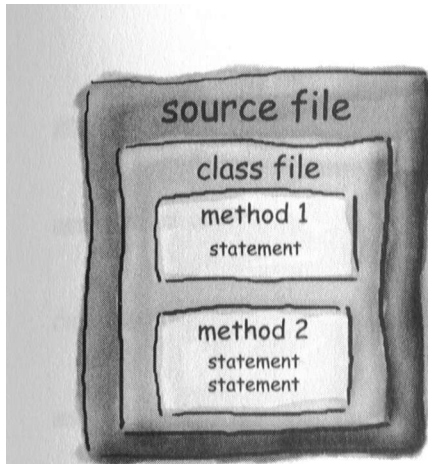


Put a class in a source file.

Put methods in a class.

Put statements in a method.

Java Code Structure-2



```
public class Dog {  
  
  
  
  
  
  
  
  
  
}
```

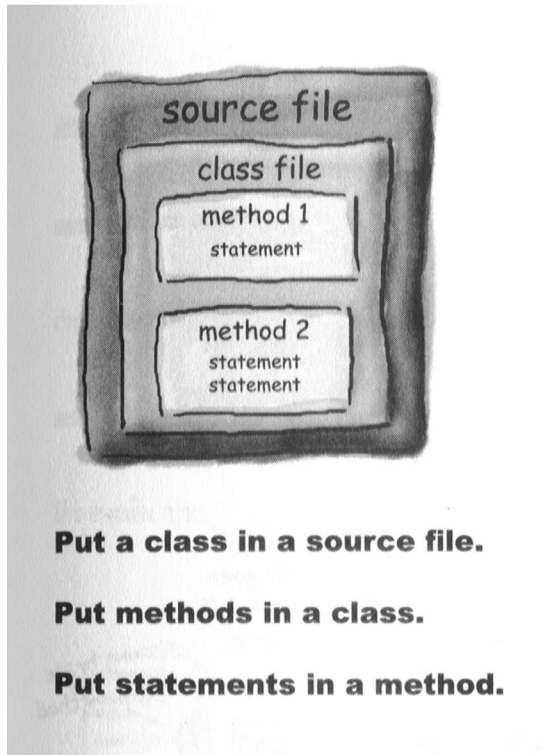
a class

Put a class in a source file.

Put methods in a class.

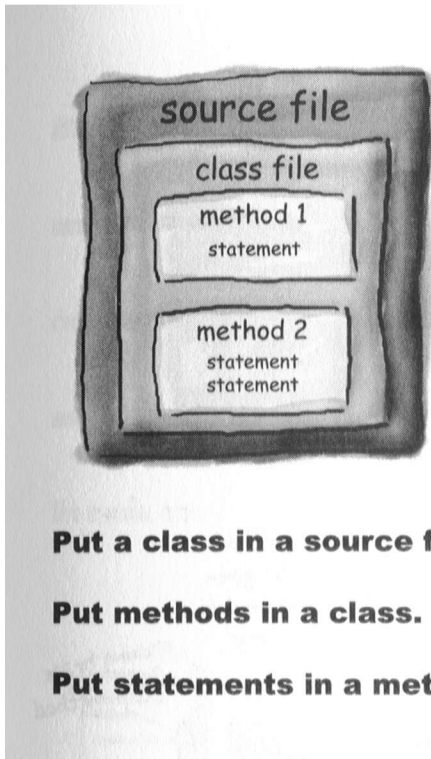
Put statements in a method.

Java Code Structure – 3



```
public class Dog {  
  
} a class
```

```
public class Dog {  
    void bark() {  
  
    }  
} a method
```



```
public class Dog {  
  
} a class
```

```
public class Dog {  
    void bark() {  
  
    }  
} a method
```

```
public class Dog {  
    void bark() {  
        statement1;  
        statement2;  
    }  
} statements
```

Your First Cup of Java-1

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

Your First Cup of Java-2

- Save the source code to “ HelloWorld.java”
- Compile the source code into Byte code: `javac HelloWorld.java`
- Run the Byte code: `java HelloWorld` or `java -classpath . HelloWorld`

Good Programming Practice

- Start with a working Java program, modify it, break it, learn what you have broken it, then fix it. Learn Java through lots of hands on exercise.
- Use Eclipse to help you to learn.
- Use Blank lines and space characters to enhance program readability
- By Convention, always begin a class name' s identifier with a capital letter and start each subsequent word in identifier with Capital letter. E.g. HelloWorld, PersonalProfile, etc.
- Whenever you write a opening left brace, {, immediate write a closing right brace, }.
- Indent the content between { and }

Common Programming Errors

- Java is case sensitive. Pay attention to the Keyword, Identifier. E.g. most of the keywords are lowercases. E.g. “ class” , “ public” , “ main”
- Java source file name should be the public class name plus “ .java” . E.g. “ HelloWorld.java”
- It is an error that braces do not come in matching pairs. { and }

Introduction to Eclipse

Reading Assignment

- “Head First Java” chapter one.