



Chapter 0

Introduction

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Outline

- Who Am I
- Something about programming language
- Something about Java
- About this course

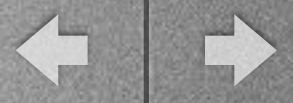


Who AM I

- 杨望
- cse.seu.edu.cn/people/wyang
- wyang@njnet.edu.cn
- 2010.3~ 东南大学
- 课程：面向对象程序设计2，信息与网络安全，计算机网络高级主题，万维网科学
- 研究兴趣：网络安全



Something about programming language

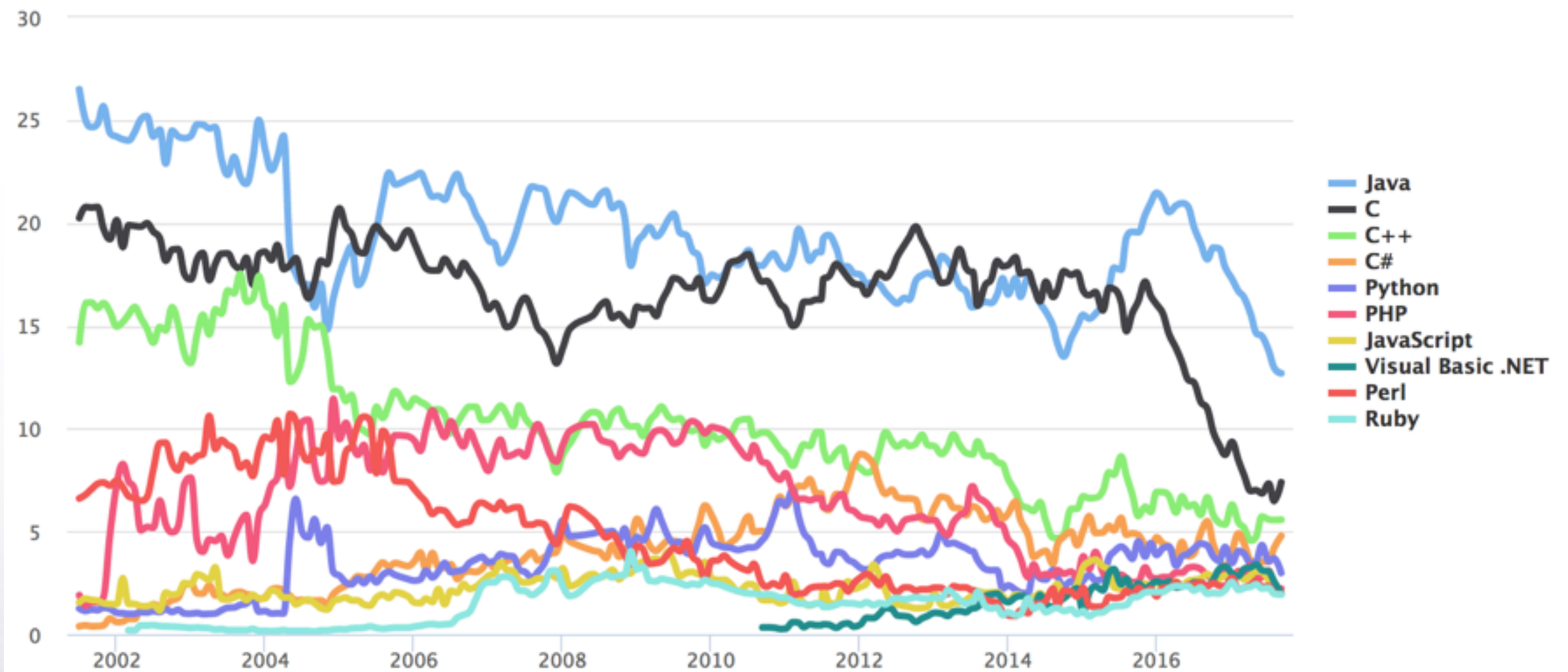


There are so many languages

Sep 2017	Sep 2016	Change	Programming Language	Ratings	Change
1	1		Java	12.687%	-5.55%
2	2		C	7.382%	-3.57%
3	3		C++	5.565%	-1.09%
4	4		C#	4.779%	-0.71%
5	5		Python	2.983%	-1.32%
6	7	^	PHP	2.210%	-0.64%
7	6	v	JavaScript	2.017%	-0.91%
8	9	^	Visual Basic .NET	1.982%	-0.36%
9	10	^	Perl	1.952%	-0.38%
10	12	^	Ruby	1.933%	-0.03%
11	18	^^	R	1.816%	+0.13%

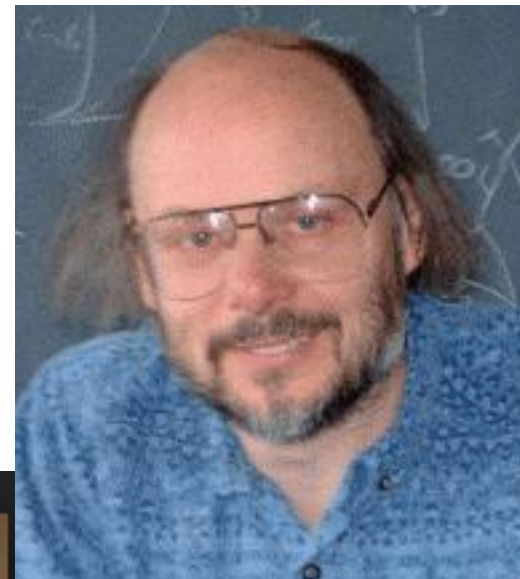


There are so many languages





What you have learn and you will learn





A person you may be interested

- 王垠
- 告别清华
- 告别康奈尔
- 告别博士
- 专长语言学研究



Learn Program Language

- 关注语义，而不是语法细节
 - 语法细节是规则，是死的；语义是你能够做的事情，是活的
 - 语法是多样的
 - 编译器会告诉你错了



Learn Program Language

- 关注个别概念，而不是整个语言
 - 掌握了概念就能在另一个语言中找到相应的，不需要立即重新学习
 - 函数，类，对象，结构，指针
- 任何语言都有好和不好的概念
 - 最好的语言是最能描述你所需要事物的语言
 - 不同的人的“最好”是不一样的
 - 如果程序员能在代码里看到他所需要的物体，效率就会提高
- 可以只使用一个语言的一部分，不需要全面了解



Learn Program Language

- 学会程序语言的基本实现
- 崇拜、畏惧或者憎恨一个语言往往是因为
 - 没有实现语言的能力
 - 如果了解如何实现语言，就可以不崇拜、不依赖、不埋怨别人



Learn Program Language

- 思考世界，而不是语言
- 语言是用来描述现实的
- 注意语言与现实的“同构”
- 现象是由自然界的规律决定的，而不是任何人
- 不符合自然规律的设计，经常有问题



Learn Program Language

- 什么是好的语言
 - 表达直接，而不是绕弯子
 - 提供足够的抽象，但不要过渡抽象
 - 提供高效的实现
 - 正确的心态
 - 承认自己的缺点，学习其他语言的优点
 - 不自称救世主，不孤芳自赏



Something about Java



What is Java

- Java technology is both
 - a programming language
 - a platform.
- At time
 - Simple
 - Object oriented
 - Distributed
 - Multithreaded
 - Dynamic
 - Architecture neutral
 - Portable
 - High performance
 - Robust
 - Secure



Java vs C++

- Similar to C++
- With different
 - Pointer vs Reference
 - Bound Check
 - Garbage Collect
 - A Virtual Machine



Java vs C++

- Pointer
 - Wild Pointer
 - NULL Pointer
- Garbage Collect
 - no Delete
 - no destructor



Java vs C++

- Bound Check

//移动且倒转内存

```
int i;
```

```
for(i=0; i<size; i++){
```

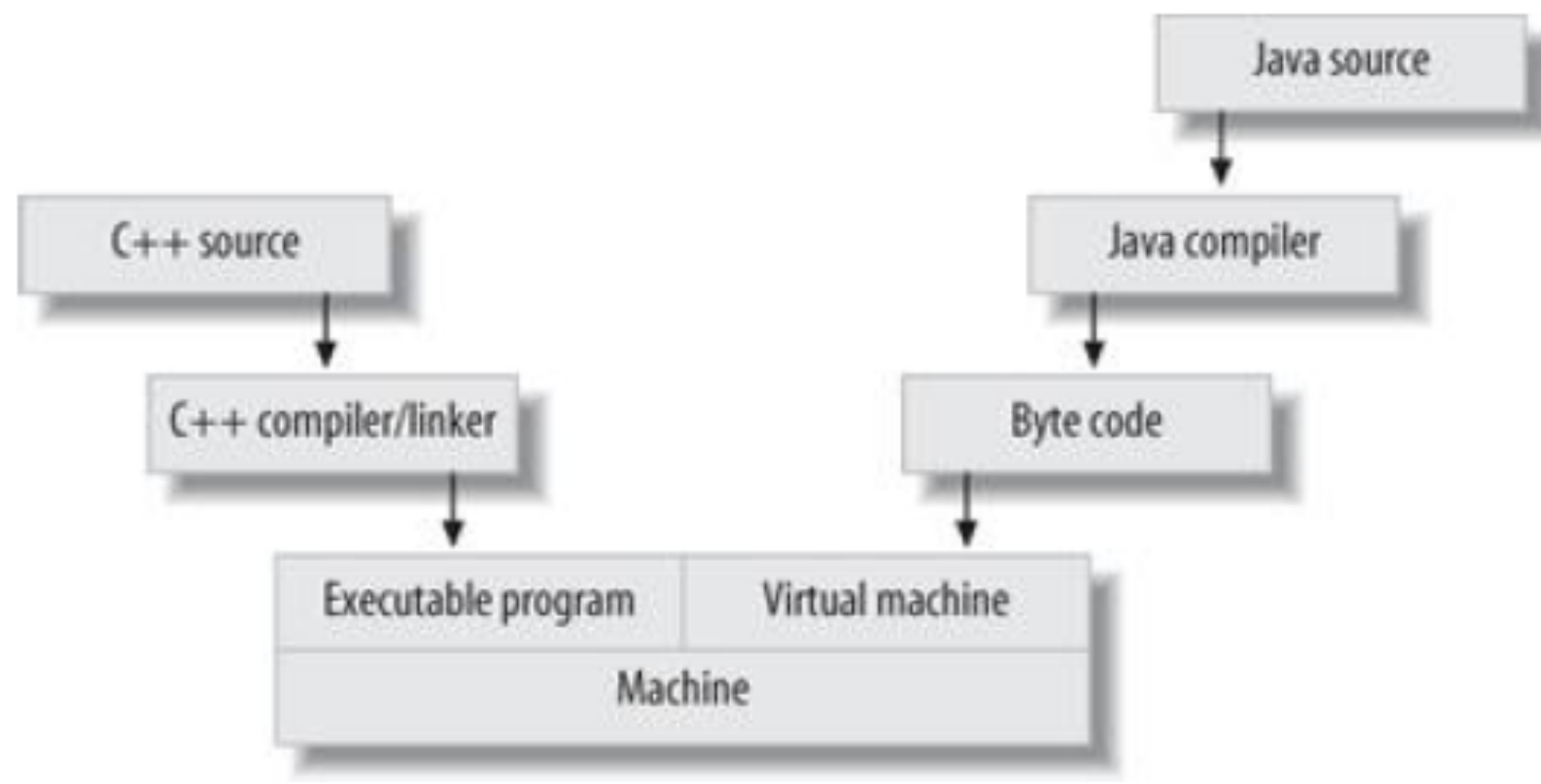
```
    to_block[size-i] = from_block[i]; // can u see the bug?
```

```
}
```



Java vs C++

- JVM
 - Write Once, Run Everywhere





About this course



Course Arrangement

Fundamental courses	Introduction, Java Fundamental
	Java OO(Class, Object, Abstract, Inheritance, Polymorphism)
	Java I/O
	Java Exception
	Java Collection
	Java Generic Type
Advanced Courses	Inside JVM
	Java & Multithread
	Java & User Interface
	Java & SQL
	Java & Socket
	Java & Structured Text
	Java & Reflection



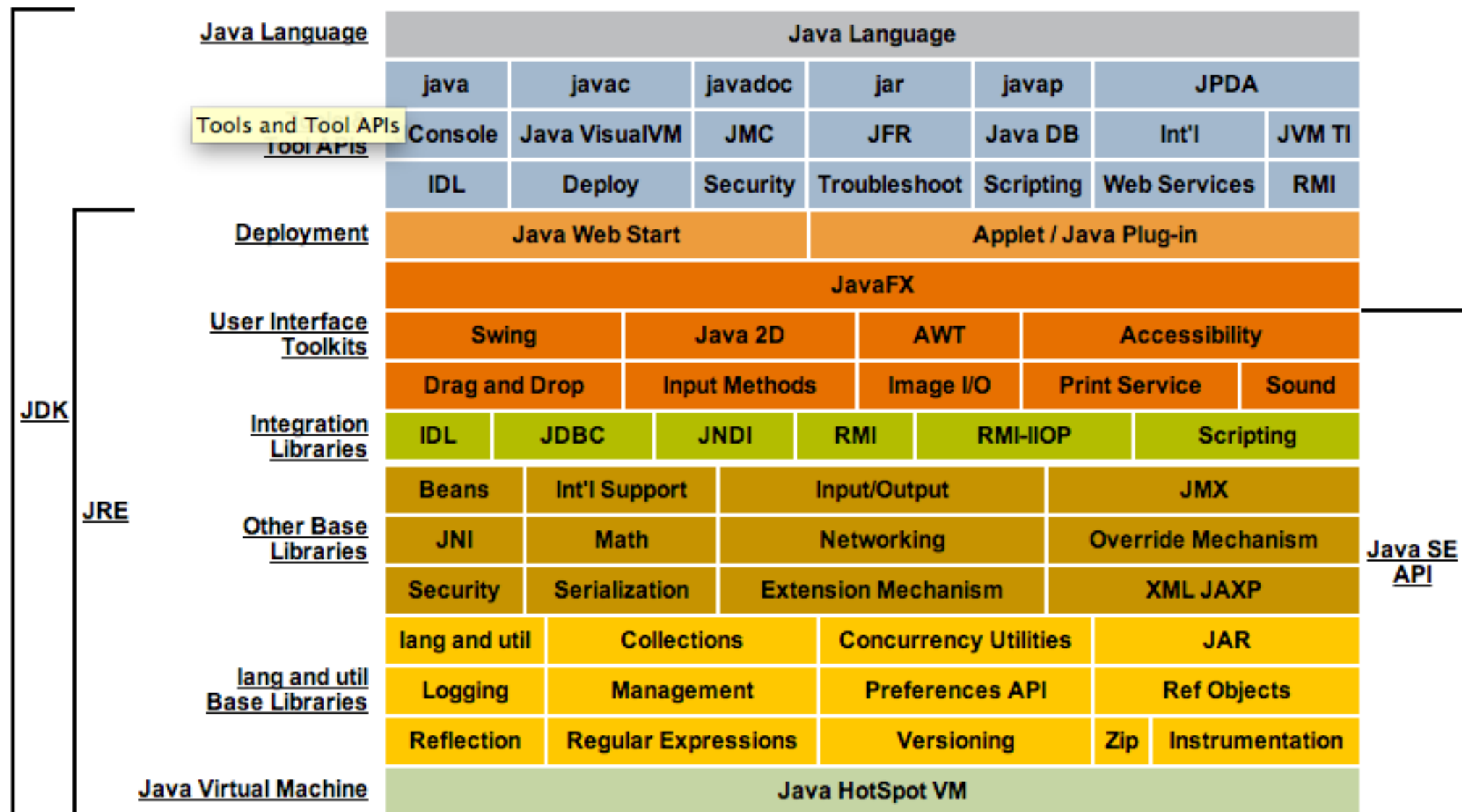
Materials

- The best textbook is Javadoc !!!
- Textbook:
 - Java Programming Language 4e
- Readings:
 - Thinking in Java
 - Head first Java
 - Better, Faster and Lighter Java
 - Beyond Java
 - Understanding the JVM





Javadoc





Contact

- 作业邮箱：
seujava_yang@163.com
- 课件下载：<http://cse.seu.edu.cn/people/wyang/>
- 办公室：学院318
- 建议：先通过邮件联系



上机

- 机房： 268
- 上机时间：
 - 单周 周三3~5
 - 双周 周二6~7



Score

- 考试: 60%
- 作业: 20%
- 平时: 20%



How to Learn

- How to study Java in a AGILE way?
 - TYPE the examples in the textbook
 - Learn to use Javadoc (practice your English)
 - Don't focus on the grammar details
 - Learn how to debug the program
 - Fully use of open-source community



Forecast

- Evolution of Java
- JDK and JRE
- Java Operating Mechanism
- Java Developing Environment
- Java Primary Data Types
- Java Basic Grammar