

1. Introduction



COS 126
Princeton University
Fall 2003

Robert Sedgewick
Kevin Wayne

Overview

What is COS 126?

- Broad, but technical, intro to fundamental ideas of CS.
- No prerequisites, intended for novices.

Goals.

- Demystify computer systems.
- Empower you to exploit available technology.
- Build awareness of substantial intellectual underpinnings.

Topics

➔ **Programming.** Java.

Machine architecture. Fictional computer that resembles real one.

Theory of computation. Capabilities and limitations of computers.

Applications.

- Scientific computing.
- Cryptography.
- Software systems.

The Usual Suspects

Lectures: Bob Sedgewick and Kevin Wayne.

- Tuesdays and Thursdays, 10:00 - 10:50, Frist 302.

Precepts: Paul Calamia, Donna Gabai, Shirley Gaw.

- Fridays - tips on assignments, clarify lecture material.
- Mondays - review exercises, clarify lecture material.

Staffed lab: Undergrad lab assistants.

- Friend 016, 017.
- Schedule to be posted on Web.

Grading

Programming assignments: 35%

- Can drop lowest one.

2 exams: 50%

Final project: 15%

Staff discretion. Adjust borderline cases.

Course grades. No preset curve.

The course guide incorrectly lists a final and different weights.

5

Course Materials

www.princeton.edu/~cs126

- Programming assignments.
- Lecture notes.
- Exam archive.



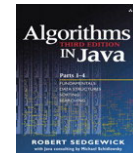
Required readings.

- Sedgewick and Wayne. *Intro to CS*.
- Harel. *What computers can't do*.

Pequod

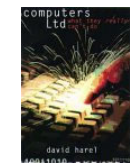


U-Store



Recommended readings.

- King. *Java Programming From the Beginning*.
- Sedgewick. *Algorithms in Java*.



6

Programming Assignments

Scientific applications.

- N-body simulation.
- Genetic sequence alignment.
- Digital signal processing of MP3 files.



YOU build tools and solve REAL scientific and commercial problems

Commercial applications.

- Data compression.
- Error-correcting codes.
- Traveling salesperson problem.

Due: Wednesdays 11:59pm via electronic submission.

Computing equipment.

- Your machine. (Linux, OS X, Unix, Windows, . . .)
- OIT machines. (Friend 016 and 017 labs).

7

What's Ahead?

Friday. First precept meets.

- Check course web page to see which precept you're in.
- If not in precept, see Kevin after class or this afternoon 1-3pm in CS 207, 35 Olden Street.

Weekend. Read sections 1.0 - 2.2 of Intro to CS.

Monday. Precept.

Tuesday. Lecture: Introduction to Java.

Wednesday. Assignment 0 due.

- Setup Java programming environment.
- For assistance, go to Friend 016 or 017.

END OF ADMINISTRATIVE STUFF

8