Data Structure

CS 284 C
Instructor: Susan Liu
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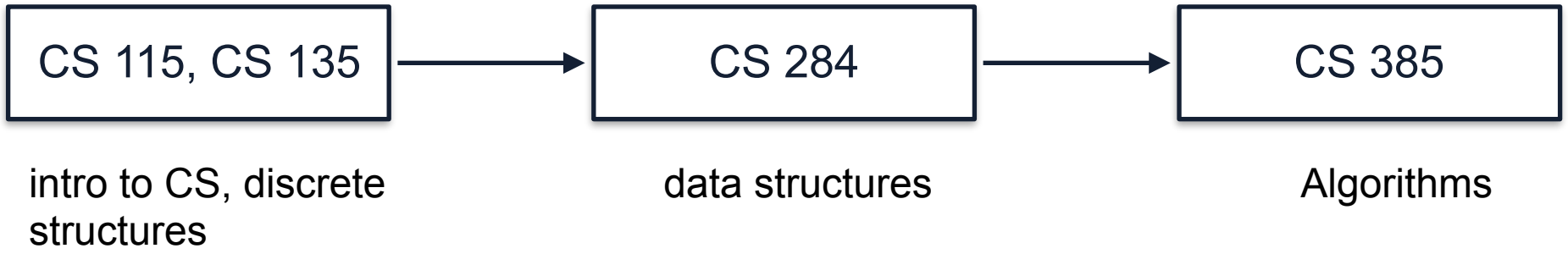
Welcome to CS284

- **Instructor**: Susan (Xueqing) Liu
- **Email**: xliu127@stevens.edu
- **CAs**:
  - Revathy Ramasundaram rramasun@stevens.edu
  - Joshua N. Schmidt jschmid3@stevens.edu
  - Bhagyesh Patel bpatel91@stevens.edu

What is Data Structure?



- How many have taken CS 115? CS 135?
- Familiar with Python?
- Familiar with Java?

What is Data Structure?

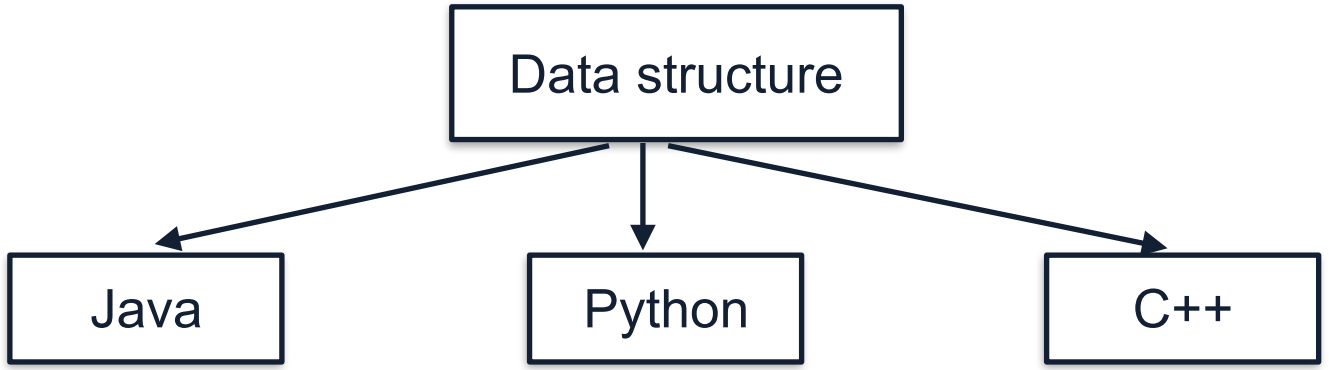
- Data structures are ways to **organize** information in a computer memory, making it efficient to **store**, **update** and **retrieve** information

- By the end of this semester, you will
  - Have a general understanding on data structure, OOP, algorithm efficiency
  - Solve many LeetCode - **Medium** and some LeetCode - **Hard** problems

Overview of CS 284

- Java basic
- Abstract data type
- Object-oriented programming
- Software life cycle
- Algorithm complexity
- big-O notation
- Collections, list, stack, queue
- Trees
- Sets and Maps
- …

Learning Data Structure using Java

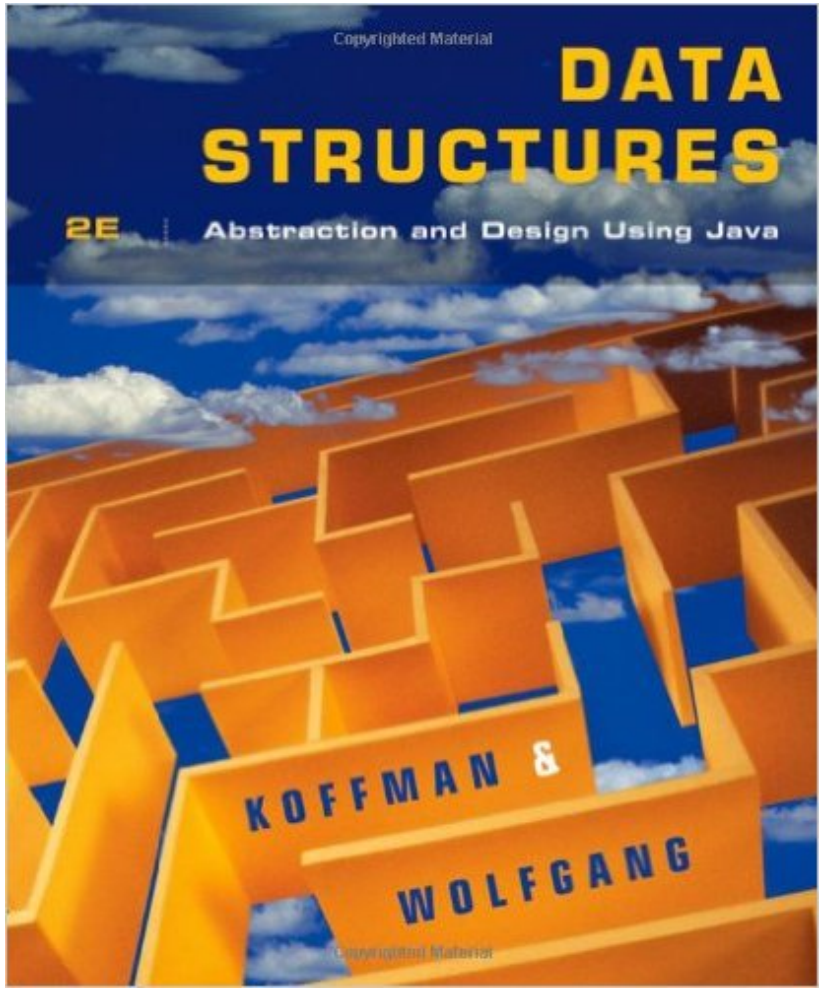


- Advantage using Java
  - Popular for building industry systems, e.g., Android
  - Good teaching example for object-oriented programming

Textbook

- Data structures, Koffman and Wolfgang 2010

- http://www.r-5.org/files/books/computers/algo-list/test-dev/Elliot_B_Koffman_Paul_A_T_Wolfgang-Data_Structures-EN.pdf

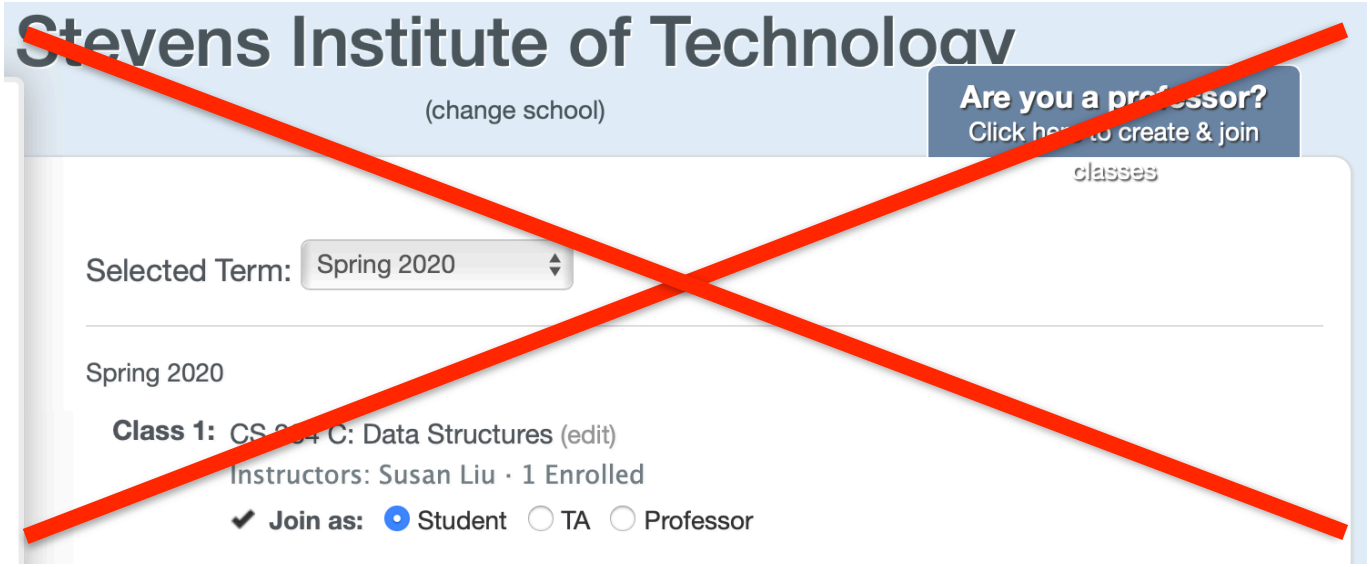


Questions

- Susan’s office hour: 1:30 - 3:30 Wed (starting Jan 29)

- CAs’ office hours:
  - Joshua: Mon 1-2
  - Revathy: Wed 4-5
  - Bhagyesh: Mon 1-2

- Office hours > ~~Piazza~~ > email



Final Grade Calculator

- Homework (30%)
- In-class quiz (10%)
- Midterm (20%)
- Endterm (20%)
- Final (20%)

Homework

- 5 HWs, 1st HW due on Feb 12 11:59pm

- **Late policy**:
  - < 24 hours - 90%, < 48 hours - 70%, > 48 hours - 0 point
  - Sick/Emergency - email

- Mostly coding problems
  - 0 point if not compile
  - 0 point if plagiarism is detected

In-class Quizzes

- 10 in-class quizzes, the day(s) of quiz is not certain
- You can have 2 absence
- Your final score for quiz is the average over the 8 highest scores

Exams and Recitations

- Three exams
  - Midterm - first half semester (Week 8)
  - Endterm - second half semester (Week 15)
  - Final - entire semester (Week 16)

- Recitations
  - Every Wednesday
  - Taught by CAs