Welcome to CS284

• Instructor: Susan (Xueqing) Liu
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• CAs:
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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 Friday
  • Taught by CAs