CS 261: Data Structures

Class Overview
Class Information

- Instructor: Sinisa Todorovic
  - [pronounced: SINISHA]
  - http://web.engr.oregonstate.edu/~sinisa/
  - sinisa@oregonstate.edu
- Office: KEC 2107
- Office Hours: W 3-3:30, Thu 2-2:30
GTAs

- **Iman Aminzahed**
  - Recitations:
    - Tue 11-11:50, COVL 218,
    - Thu 9-9:50, MFD 105
  - Office hours: W 2-2:30

- **Charles Hill**
  - Recitations:
    - Tue 12-12:50, HOV 202
    - Tue 1-1:50, WB 205
  - Office hours: Tue 2-2:30
About me...

- Ph.D. at University of Florida
- Postdoc at University of Illinois Urbana-Champaign (UIUC)
- Joined OSU in 2008
Teaching: CS 261

DATA STRUCTURE

LINEAR
  - ARRAYS
  - STACK
  - QUEUE
  - LINKED LIST

NON-LINEAR
  - TREES
  - GRAPH
Teaching: ECE 468

Digital Image Processing
Teaching: CS 556

Computer Vision
This Course

http://web.engr.oregonstate.edu/~sinisa/courses/OSU/CS261/CS261.html

- Lectures: Attendance is recommended
  - MWF 1-1:50, WNGR 151

- Recitations: Attendance is mandatory
  - Tue 11-11:50, COVL 218 (Iman Aminzahed)
  - Tue 12-12:50, HOV 202 (Charles Hill)
  - Tue 1-1:50, WB 205 (Charles Hill)
  - Thu 9-9:50, MFD 105 (Iman Aminzahed)
How to Contact Me

- Email: sinisa@oregonstate.edu
- Subject should contain: “CS261”
- If you do not have CS261 in your subject, I cannot guarantee (timely) response.
- For HW questions, use ONLY the class email: cs261-001-sp17@ENGR.ORST.EDU
If You Want to Talk to Me

• I’d be very glad to talk to you, **BUT ONLY**
  
  • During office hours, or
  
  • By appointment (scheduled via email)
Class Description

- **Textbook: Dr. Budd’s Online Textbook**
  - http://web.engr.oregonstate.edu/~sinisa/courses/OSU/CS261/CS261_Textbook.zip

- **“C Pocket Reference” by Peter Prinz and Ulla Kirch-Prinz**
  - http://oreilly.com/catalog/9780596004361/
  - http://www.amazon.com/C-Pocket-Reference-Peter-Prinz/dp/0596004362
Class Objectives

1. General-purpose data structures and algorithms for: dynamic arrays, lists, queues, stacks, heaps, trees, graphs, hash tables

2. Hands-on experience in programming in C
Prerequisites

- CS 162
- MATH 231
- Basic programming skills
- Some prior experience with Unix
Attendance of Lectures

- Regular attendance of lectures is highly recommended

- If you miss a class, you are still responsible for learning the material covered during that class.

- Do not expect a private tutorial if you skip lectures and/or recitations.
Recitations

- Attendance is mandatory

- You should come only to the recitations that you registered for. Changing the recitation time should be approved by the instructor.

- You will solve and grade worksheets, and get credit for this work.
Participation

- Come to class prepared

- You are encouraged to ask questions
Respectful Conduct

- Be on time
- Turn off cell phones
- No eating in class
Office Hours

- Aimed at additional clarifications and guidelines -- not for doing your homework.
- GTAs will not look for syntax errors and help you compile your C code.
- **Ask concrete, detailed questions!**
Grading Distribution

- 30% -- Homework
- 10% -- Worksheets
- 10% -- Midterm Exam 1
- 10% -- Midterm Exam 2
- 10% -- Midterm Exam 3
- 35% -- Final Exam
Grading Policy

- Total score formula:

  \[ \text{MIN}(100, 0.3\times\text{HW} + 0.1\times\text{WS} + 0.1\times(\text{EX1+EX2+EX3}) +0.35\times\text{FE}) \]

- Grades:
  
  - \( >90 = \text{A} \), \( >85 = \text{A-} \), \( >80 = \text{B+} \), ...
Handing in Homework

• Programming assignments submitted via TEACH by the **deadline**
  • https://secure.engr.oregonstate.edu:8000/teach.php?type=want_auth

• Make sure that your final submission
  • Compiles with gcc on Unix, and
  • Runs on Unix

• **Zero credit** if your code does not compile with gcc on Unix
Handing in Homework

• Some homework will require a code that creates new files

• Do not upload these new files via the TEACH website

• These files are supposed to be created when the TAs run your code
Handing in Homework

1. Log in to TEACH

2. Click **Submit an Assignment**

3. Choose the assignment from **List of Assignments**

4. Upload **all** required .c and .h files

5. Click **Submit**

6. **Verify** successful submission
Grading Homework

• We will grade **ONLY** homework submitted via the TEACH website

• No credit for homework on your personal computers, USB drives, e-mails, etc.,

• **Even when you can prove that it has been done before the deadline**
Program documentation

1. Identify yourself and the program at the top of the *main* file.
   /*
    *  
    *   <your name>   <date>
    *   <collaborators, description of help>
    *   <assignment Identification>
    *   <development environment>
    *
   */

2. Identify yourself and the file contents at the top of other .h and .c files.
   /*
    *  
    *   <your name>   <date>
    *   <file description>
    *
   */
Program documentation

3. Provide a description for each procedure / function.

    /*
     * <function description>
     * <input description>
     * <output description>
     */

4. Provide additional comments, e.g., logical sections of code should be commented
Handing in Homework

- When you are asked to draw a diagram,
- You may hand-draw them, and scan them, to include with your online submission
Handing in Homework

- Respect the naming convention of each required file

- gcc is case sensitive!

- We will not be able to compile your code if you do not respect the naming convention => Zero credit
Late Homework

• Full credit only with a prior approval or in the case of emergency

• Penalized by 5% for each hour after the deadline.

• Example: A submission late 2 hours and 23 minutes after the deadline will be penalized by 10%
Mistakes in Submitting Homework

• Students *quite often* accidentally submit wrong files to the TEACH web site,

• Check carefully the files you submit!
Collaboration

- You are expected to do your own work!
- OK to talk about general approaches and strategies with other students
- Do not simply let someone else tell you how to solve the problem
- Do not let someone else copy your work
Academic Honesty -- Homework

- Not Ok
  - Sharing code, solutions
  - Using code that is not yours, e.g., from Internet

- Very similar homeworks
  - Common excuse: “We worked on it together”
  - All involved students will get zero credit
Help on Assignments

- Email: cs261-001-sp17@ENGR.ORST.EDU

- See us in our office hours

Start working on your assignments early!
Exams

- 3 midterm exams and the Final Exam

- The exams are closed book

- Dates:
  - Wednesday, April 26, 1-1:50, WNGR 151
  - Monday, May 8, 1-1:50, WNGR 151
  - Friday, June 2, 1-1:50, WNGR 151
  - Thursday, June 15, 2-3:30, TBA
Makeup Policy for the Exams

• Contact the instructor at least one week in advance to arrange for an alternate date/time

• No makeup for students who miss a midterm, or final exam without an excused absence