Welcome to CS 280!

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Course goals

Produce well-rounded computer scientists who can:

▶ Categorize well-known, classic problems
▶ Work effectively in small teams to solve

Additional benefits

▶ Increase your programming skills
▶ Help you prepare for job interviews

Our ulterior motive

▶ Prepare teams for upcoming contests!
Weekly schedule

Before class
▶ Read the textbook, etc.

During class
▶ Discuss concepts (30 min)
▶ Live contest! (75–90 min)
▶ Debrief / discuss solutions

After class
▶ Complete solution, add to portfolio
▶ Practice and submit other problems
Grade requirements

Participation  50%
   ▶ Weekly programming contests
   ▶ Individual prep and practice

Portfolio  50%
   ▶ Top 10 problems solved
   ▶ Difficulty and variety

Other credit
   ▶ UVa problems solved outside class
   ▶ Does not make up for being absent
Today’s Skill

Testing from the command line
Sample problem

Text Roll (Problem A, ACM 2013)

Algorithm
1. Read number of lines
2. Check stopping state
3. Read each text line
4. Compute final position

Questions
- Where do you get the input?
- What do you have to store?
I/O redirection

Never test your code interactively!

- Time consuming
- Error prone
- Hard to redo

Instead

1. Create sample.in and sample.out files
2. java Main < sample.in > Main.out
3. diff sample.out Main.out

Let’s see how you did...
Today’s Contest

Here we go!
Contest logistics

All programs use standard in/out
  ▶ Don’t need to validate the input
  ▶ Read until EOF or special value

Example judging responses:
  ▶ Correct :-)
  ▶ Wrong Answer / Output Format Error
  ▶ Incomplete Output / Excessive Output
  ▶ Run-Time Error / Time-Limit Exceeded

Ranking
  ▶ Number of problems solved
  ▶ How many minutes it took