Computer Science
Dartmouth College

Computer Science 31
Algorithms

Winter 2013

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Administrative Details

Homework

Homework assignments will be given out once a week. There will be a homework given out each Wednesday and it will be due at the *beginning* of class the following Wednesday. A few important notes on the homework assignments:

- **Start early:** Some problems will be hard and are not typically solved in one sitting. Start early and let the ideas come to you over the course of a few days.
- **Be rigorous:** CS 31 is a theory course, and so mathematical rigor will be expected in your solutions.
- **Be concise:** Express your solution at the proper level of detail. Long, verbose answers are strongly discouraged. Give enough details to clearly present your solution, but not so many that the main ideas are obscured.
- **You can discuss with others:** Some of the problems will be difficult, and it will often be helpful to discuss them with others. Feel free to form study groups. However, the idea is for everyone to understand the problems and experience working through the solutions, so you *may not* simply "give" a solution to another classmate. In particular, each student *must* write up his or her own homework solutions and *must not* read or copy the solutions of others. If you work with others on a problem, you *must* note with whom you discussed the problem at the beginning of your solution write-up.
- **Work on your own before talking to others:** Although, as I said above, you can discuss the homework problems with others, you will learn the most by first trying out each problem on your own. Make as much progress as possible on your own before you meet with your study group.

Late Submission Policy

Any homework submitted late carries an *immediate 20% penalty* (unless you have a very good excuse and have discussed it with me in advance), and an additional 10% penalty per calendar day after that. No homework will be accepted after the next homework is due, or after the final. In this course, if you do not do homework on time, you will soon find yourself overwhelmed, so please be regular with your work.

For any late submission, it is the *student's resposnsibility* to ensure that the grader receives the homework. Please do not just put your late submission in a mailbox. Make sure you personally see the grader receiving your late submission and timestamping it.

The late submission policy for the finals is simple, and drastic. **A final exam submitted after the deadline will be returned ungraded and will earn zero credit**. So please don't do that!

Homework Grading

Each homework problem will be worth 7 points, even though some problems may be harder than others. Our grading guidelines are as follows.

- **7 points:** A mathematically correct and concise solution that is written well. Contains no errors other than perhaps small spelling mistakes and minor grammatical errors.
- **6 points:** A basically correct solution but with one of the following small flaws.
    - One or two small typos that makes the solution technically wrong.
    - A proof that is missing one or two minor steps of reasoning.
    - A mathematically correct solution but with grammatical errors that make parts of its hard to read or confusing. This includes not writing in complete sentences.
    - An otherwise correct solution that is a bit longer than necessary.
- **5 points:** A mostly correct solution with more than a minor flaw. For example
    - Minor flaws in two or three places, as above.
    - Mathematically correct solution but with poor grammar throughout.
    - A correct solution that is much longer than necessary (e.g., writing two full pages when half a page would have sufficed).
- **4 points:** A solution that is on the right track but has a big mistake somewhere. To get this score, the problem must require at least two major ideas and the mistake cannot be in the more/most important idea.
- **3 points:** An attempted solution that has some of the important ideas required but with a mistake in the most important idea.
- **2 points:** An attempted solution that solves only a easy special case of the problem, where solving the full problem would require much more sophisticated idea(s).
- **1 point:** An answer that would qualify for 2 points except that it has typos or small errors.
- **0 points:** An answer that does not make useful progress towards a solution, or is a solution to something other than what was asked.

In all cases too many typos, flaws in grammar or excessive length (as indicated under "6 points" and "5 points" above) may cause 1 or 2 points to be taken off.

Challenge Problems

Working Together and the Honor Principle

Students are encouraged to work together to do homework problems. Groups who work well together in class should consider working together to do homework. What is important is a student's eventual understanding of homework problems, and not how that is achieved.

The honor principle applies to homework as follows. What a student turns in as a homework solution is to be *his or her own understanding* of how to solve the problem. The following are the only sources that may be consulted in *learning* how to solve homework problems.

- Any materials handed out in class or posted on the course website.
- Textbooks on algorithms (not limited to the official textbook for this course).
- The student's own course notes.
- The course notes of other students, but not drafts or final versions of solutions to problems.
- General-purpose encyclopedic websites such as Wikipedia and MathWorld. However, online solutions to any problems/exercises on the course's subject material may not be consulted.

Additionally, at this *learning* stage, discussion with fellow students is encouraged. Discussion with the course staff is also encouraged, but only after the student has made an attempt to solve the problem on their own.

While preparing the *final draft* of homework solutions to be handed in, more restrictive conditions apply. At this stage, the following are the only sources that may be consulted.

- Any materials handed out in class or posted on the course website.
- Textbooks on algorithms (not limited to the official textbook for this course).
- The student's own course notes.

In all cases, **students must state what sources they have consulted, with whom they have collaborated, and from whom they have received help.**

The honor principle applies to quizzes and exams as follows. **Students may not give or receive assistance of any kind on an exam from any person, including the professor**. Specific rules for each exam will be announced close to the time of that exam.

Students with Disabilities

Students with disabilities enrolled in this course and who may need disability-related classroom accommodations are encouraged to make an appointment with the professor to discuss the matter, by Apr 8, 2013. All discussions will remain confidential, although the Student Accessibility Services office may be consulted to discuss appropriate implementation of any accommodation requested.