Quiz 1 Information

Quiz 1 will be held on **Tuesday, March 10th from 7:30 P.M. to 9:30 P.M**. You will be taking the quiz in one of 2 rooms based on your LAST name: Abdulhai–Margolis in 10-250, Marsh–Zhou in 26-100.

- You are allowed to bring *one handwritten* double-sided $8\frac{1}{2}$" by 11" crib sheet of your own notes to help you with the quiz. You may not use calculators, text books, notes, or any other materials except for your crib sheet during the quiz.
- If you need special accommodations for the quiz, please email Prof. Mauricio Karchmer at *karchmer@mit.edu* with your SDS letter. You will receive a confirmation email with details by Friday prior to the exam.
- If you need to take a make up exam (only if you have a legitimate excuse), also email Prof. Karchmer as soon as possible. There will be a makeup quiz during the morning of March 11. You will receive a confirmation email with details by Friday prior to the exam.
- The quiz will cover all materials presented in problem sets (up to and including problem set 4), and all lectures and recitation materials up to and including Lecture 9 and Recitation 5. As a reminder, the topics we covered during the relevant lectures for Quiz 1 are included at the end of this handout.

Practice Exam

We will be releasing a practice exam which will be available on the course website within the next few days. This is meant to help you practice your problem solving skills in a simulated exam environment. Note that this practice exam should not be taken as a strict gauge of the difficulty level of the actual exam. Also, the actual exam may have a different format from that of the practice test.

Review Session

- There will be an optional review session held by our TAs on Sunday, March 8, 5:00 P.M.–7:00 P.M. in 32-123. The review session **will not** be recorded.
- Practice questions will be posted before the review session. Solutions will be posted after the review session for those students that cannot attend.

Exam Taking Instructions

- Please arrive on time so we can start the exam promptly. When you arrive, please sit at least one seat away from others, both on your left and your right side. Do not open the quiz booklet until directed to do so, and make sure you read all the instructions before you begin.
- Do not spend too much time on any single problem. Read them all first, and attack them in the order that allows you to make the most progress.
- The quiz will take two hours and will consist of questions adding up to 120 points. You can think of 1 point per minute. You can calibrate the time you put in each question by its number of points.
- When the quiz begins, write your name on the top of *every* page of the quiz booklet. Write your solutions in the space provided. If you need more space, write on the extra pages at the end of the exam, and refer to the extra pages in the solution space provided. Pages will be separated and scanned for grading.
- Please do not remove any pages from the quiz booklet, including the extra pages. All pages must be available for proper scanning purposes.
- When writing an algorithm, a clear description in English will suffice. Using pseudo-code is not required.
- Unless the question specifically asks for it, do not waste time re-deriving facts that we have studied. Simply cite them.

Material Covered

The following is a list of the topics covered during the relevant lectures for Quiz 1

- L01 - Intro + Interval Scheduling
- L02 - Randomized algorithms: QuickSort, Matrix product verification
- L03 - Divide and Conquer I: Median Finding, Integer Multiplication Multiplication
- L04 - Amortized Analysis I: Union-Find
- L05 - Amortized Analysis II: Self-organizing Lists and Competitive Analysis
- L06 - Hashing I - Open addressing, consistent hashing
- L07 - Hashing II - Universal and perfect hashing
- L08 - Streaming algorithms

- L09 - Divide and Conquer II: Fast Fourier Transform, Polynomial multiplication

In addition, the quiz will also cover material presented in Recitations 1-5.