Quiz 1 Information

Quiz 1 will be held on **Tuesday, March 14th from 7:30 P.M. to 9:30 P.M**. Students with last names in range **Agrawal - Tian, please go to 26-100** and **everyone else please go to room 1-190** for the exam.

- 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. Debayan Gupta at *debayan@mit.edu* with your SDS letter.
- The quiz will cover all materials presented in psets 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.

Review Sessions

- There will be an optional *meta*-review session held by our first two lecturers on Friday, March 10, 7:00 P.M.–9:00 P.M. in 34-101.
- There will be an optional review session held by our TAs on Saturday, March 11, 7:00 P.M.–9:00 P.M. in 34-101.

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.

- You will have 120 minutes to earn a maximum of 120 points. 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.
- 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 scratch pages at the end of the exam, and refer to the scratch 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 scratch 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 - Divide and Conquer I: Median Finding, Integer Multiplication
- L03 - Divide and Conquer II: Fast Fourier Transform, Polynomial Multiplication
- L04 - Amortized Analysis I: Union-Find
- L05 - Amortized Analysis II: Self-organizing Lists and Competitive Analysis
- L06 - Greedy Algorithms: Minimum Spanning Tree
- L07 - Network Flows I: Residual Graph, Augmenting Paths, Max-Flow Min-Cut Theorem
- L08 - Network Flows II: Ford-Fulkerson Algorithm, Scaling Algorithm, Bipartite Matchings
- L09 - Linear Programming, LP Duality