Hi everyone,

Here are quick heads-ups on activities for this week.

0. The mid-term exam is a week from Thursday; that is, Thursday, February 27, after the Mardi Gras break. It will cover everything we have done from the beginning of the semester and will also include everything that we do this week. I will send you guidelines for the exam by the end of the week. Additionally, in the coming days, I will say more about the exam.

1. Programming project # 1 is due tomorrow, before midnight.

2. On Tuesday, we will complete our discussion on AVL trees. I will discuss deletion in an AVL tree. We will also give a proof showing that insertion, deletion and searching in an AVL tree are all Theta(lg n) by showing that the height of an AVL tree is Theta(lg n), where n is the size of the tree (number of nodes that the tree contains).

3. The third programming project will be assigned on Tuesday. This will be our second data structures program. Since our mid-term exam is around the corner, I don't expect you to make substantial progress on the project before the exam so the due date reflects this. It will be due on March 10. This gives you enough time to complete the project after the exam.

4. I continue to hold office hours. Come by if you have questions or ask those questions during the SI sessions, whichever works best for you.

5. Your graded homework 1 and evaluation rubrics for project 0 are available in my office for pickup.

6. On Thursday, we will discuss dynamic programming. Many DP algorithms are recursive. To fully understand how recursion works, we will discuss box method diagramming. We will also discuss space and time complexities of one or two elementary recursive algorithms. We will then discuss dynamic programming and the use of memoization and tabulation in implementing DP solutions to problems. We will discuss the discrete and continuous knapsack problems and show and explain why the continuous knapsack problem can be solved by a greedy algorithm while the discrete (0/1) version of the problem can be solved using dynamic programming.

Regards,

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