CSE 101: Homework 0 (not for credit)

Due: Day 4

This assignment is designed to help both you and the instructor see that you meet the prerequisites of the class. It is also useful for you to get an idea of how homeworks will be graded.

Exercises

Kleinberg refers to the book Algorithm Design by Kleinberg and Tardos. Edmonds refers to the online book How to Think about Algorithms by Edmonds.

1. Kleinberg Chapter 2, Exercise 3. In addition, show why the ordering is correct. 20 pts.


3. Edmonds Exercise 3.9.1 (first four problems). Note the word formally (using the definition of $O$ and $\Theta$). 15 pts.


5. Kleinberg Chapter 3, Exercise 5. 15 pts.

6. Show that: 10 pts.

   - $T(n) = T(\lfloor \frac{n}{2} \rfloor) + 1$ is $O(\log n)$
   - $T(n) = 2T(\lfloor \frac{n}{2} \rfloor + 17) + n$ is $O(n \log n)$