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**Today** Fundamentals of algorithm analysis; dynamic programming. §§<sup>1</sup> 2.\*, 3.\*, 15.{2,3}. **Next class** Dynamic programming. §§ 15.4,15.5. **Reminders** Homework. Newsgroup. Reading. Coding. Practice. Don't fall behind.

- 1. List the members of your group below. Underline your name.
- 2. Prove or disprove: If  $f(n) = \Theta(g(n))$ ,  $g(n) = \Omega(h(n))$ , and  $h(n) = \omega(q(n))$  then  $f(n) = \Omega(q(n))$ .

3. Provide pseudocode for *selection sort*, using the textbook's style.

<sup>&</sup>lt;sup>1</sup>Throughout this course, section numbers such as these will, by default, refer to the textbook: Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. *Introduction to Algorithms*. MIT Press, 3rd edition, 2009.

4. Sketch the proof of correctness of the pseudocode in Question 3 using loop invariants.

5. Analyze the running time of the pseudocode of Question 3 following the method used in the textbook's analysis of insertion sort.