

Analysis of Algorithms

CS 375, Fall 2018

Homework 2

Due **AT THE BEGINNING OF CLASS** Monday, September 17

- **Reading Assignment:** From your textbook (Levitin), please read Appendix B (recurrence relations). Also, please read Wing's computational thinking paper, at

<http://www.cs.cmu.edu/afs/cs/usr/wing/www/publications/Wing06.pdf>

It directly relates to Algorithms and our course!

- Unless otherwise specified, exercises will be from Levitin and will be named on HW assignments by the Section and exercise number in the book. For instance, Exercise 2.1.9 below refers to Levitin, Section 2.1, exercise 9.
- *A general note:* When writing up your homework, please write neatly and explain your answers clearly, giving all details needed to make your answers easy to understand. Graders may not award credit to incomplete or illegible solutions. Clear communication *is* the point, on every assignment.

Exercises

1. Exercise 2.1.8
2. Exercise 2.1.9
3. Exercise 2.2.2
4. Exercise 2.2.3. For this exercise, you do not need to give a full, rigorous proof of your answers, but please give short explanations for your answers – 2–3 sentences to explain your reasoning (citing the relevant definitions when needed) for each answer should be enough, as long as it contains the main ideas.
5. Exercise 2.2.5
6. Exercise 2.2.7. For each part, if the assertion is true, say so, and if not, provide a counterexample. As with Exercise 2.2.3, there is no need to prove your answers, but please give short explanations (2–3 sentences, as above) for each answer, explaining your reasoning (e.g., how you know the assertion is true, or what makes your counterexample a counterexample).