
csce750 — Analysis of Algorithms
Fall 2019 — Homework 01

Assigned: August 27

Due: September 3

This assignment covers material from the lectures on Chapters 1–3 and Appendix A, in preparation for Quiz 1. (Appendix A covers some discrete math material, mostly on simplifying summations; we will cover this at the start of class on August 29.)

Page 22: Exercise 2.1-2

Pages 41–42: Problem 2.4

Page 52–53: Exercises 3.1-1, 3.1.2 (note that b need not be an integer, and a need not be positive), 3.1-3, 3.1-4

Not in textbook: Give an example of two functions $f(n)$ and $g(n)$, for which $f(n) \notin O(g(n))$ and $g(n) \notin O(f(n))$. Prove that your answer is correct.

Page 1149: Exercises A.1-1, A.1-3 (Hint: Start with Equation A.8, then differentiate both sides.), A.1-7

Not in textbook: Find a simple formula for $\sum_{i=1}^n \log((i+1)/i)$.

Page 1156: Exercises A.2-1, A.2-2, A.2-4