

# Analysis of Algorithms

CS 375, Fall 2018

Homework 17

Due **AT THE BEGINNING OF CLASS** Wednesday, November 28

- **Reading Assignment:**

- From your textbook (Levitin), please read Chapter 11 (you can skip Sections 11.2 and 11.4).
  - Also, from CLRS, please read Chapter 25.2, Chapter 16 up to Section 16.2, and Chapter 23.
- Please note that any exercise from CLRS (rather than from Levitin) will be explicitly marked below as “CLRS Exercise,” and I will give a page number on which the exercise can be found in the CLRS 3rd edition (electronically available through Colby’s library). Exercise numbers not marked as being from CLRS are from Levitin, as usual.
  - *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. CLRS exercise 25.2-1 (pg. 699).
2. 9.2.1, part b. Show your work: To show that you understand Kruskal’s algorithm, show the order in which each edge is added and, for each added edge, give a very brief (1 sentence or less is fine!) explanation of the reasons behind choosing that edge.
3. Please read CLRS exercise 16-1 (pg. 446–447), and then do only parts 16-1.c (explain what makes your answer correct, as usual) and 16-1.d (explain your algorithm and its complexity bound, as usual).