Analysis of Algorithms
CS 375, Fall 2022
Smaller Assignment 5
Due **BY THE BEGINNING OF CLASS** Monday, November 21

- This Smaller Assignment will be **graded on effort**: Make a demonstrable, strong effort to solve the problems and explain your answers thoroughly—including, if you were not able to solve an exercise, what progress you made, what was left unsolved, and what made it hard to solve—and submit your work on time, and you will receive full credit!

- For this Smaller Assignment, the standard file naming conventions apply: Please submit your typewritten answers in a PDF file named

    `CS375_SA5_<userid>.pdf`

  where `<userid>` is replaced by your Colby userid (your full userid, including class year) and submit it to your `SubmittedWork` folder in your Google drive space for this course.

- *A general note for CS375:* As always, please present answers cleanly and **explain them clearly and thoroughly**, giving all details needed to make your answers easy to understand; typed-up (rather than handwritten) answers are especially appreciated. Graders may not award full credit to incomplete or illegible solutions. Clear communication *is* the point, on every assignment.

  In general in CS375, unless explicitly specified otherwise, answers without explanations may not receive full credit. Please feel free to ask me any questions about explanations that might come up!

Exercises

1. CLRS Exercise 15.4-1 (pg. 396). This exercise is intended to give you practice with the algorithm in Section 15.4. As part of your answer, please show the table constructed (see Figure 15.8) for this example; for this exercise, no additional explanation of your work is needed—a correctly completed table will suffice.

   To make life easier for your graders, please use $X = \langle 1, 0, 0, 1, 0, 1, 0, 1 \rangle$ on the vertical axis (left side of table) and $Y = \langle 0, 1, 0, 1, 1, 0, 1, 1, 0 \rangle$ on the horizontal access (top of table).

   Also, please note that there may be more than one LCS of X and Y. For this assignment, give the one that results from the algorithm and the table it generates.