

Algorithm Design and Analysis

CS 376, Spring 2023

Smaller Assignment 2

Due **BY THE BEGINNING OF CLASS** Monday, February 13

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

CS376_SA2_<userid>.pdf

where <userid> is replaced by your Colby userid—for example, my file would be called CS376_SA2_eaaron.pdf. **Please be sure to give your full userid, including the numbers representing your class year.**

To submit this assignment, place the properly named file in your `Private` directory in your CS376 file space on `filer`. **Please make sure all Problem Set and Smaller Assignment submissions are to your Private folders!**

- *A general note for CS376:* When writing up your homework, **explain your answers clearly and thoroughly**, giving all details needed to make your answers easy to understand. Clear communication *is* the point, on every assignment.

Unless explicitly specified otherwise, answers in CS376 should be accompanied by explanations; as part of this, in general, when you present an algorithm, give an accompanying correctness argument. Answers without convincing explanations that show command of the relevant concepts may not receive full credit. Please feel free to ask me any questions about explanations that might come up!

Exercises

1. Let L be an *LList* with all integer values that is known to be non-empty. Write a recursive algorithm to return the minimum integer in L .

Input: LList L
Output: The minimum value in L

What did you decide the base case for your algorithm should be? (Note: There is more than one reasonable answer to that question!) Explain your reasoning for that decision (a sentence or so should be sufficient), and prove your algorithm correct.