

Homework Assignment 4

This assignment is due by Tuesday March 10 (in class). Assignments should be handed in *before the class begins*.

Problem 1: Solve exercises 16.2-3 (page 384), 16.3-2, 16.3-4 (page 392), 23.1-2, 23.1-3 (page 566), 23.2-8 (page 574), and 35.3-1 (page 1038) in the textbook.

Problem 2: Given two strings (sequences of letters) $x = x_1x_2 \dots x_n$ and $y = y_1y_2 \dots y_m$ we say that x is a subsequence of y if the letters in x appear in y in the same order, although not necessarily consecutively. For example abc is a subsequence of $adbffcef$ as well as of abc . But abc is not a subsequence of $bbacdcb$.

Develop an $O(n + m)$ (greedy) algorithm to decide whether x is a subsequence of y . Prove your algorithm correctness and analyze its run time.