Homework Assignment 4

This assignment is due by Thursday March 15 (in class). Assignments should be handed in before the class begins.

**Problem 1**: Solve exercises 16.2-3 (page 384), 23.1-2 (page 566), 23.2-8 (page 574), 24.3-2, 24.3-8 (page 600), and 35.3-1 (page 1038) in the textbook.

**Problem 2**: Given two strings (sequences of letters) $x = x_1x_2 \ldots x_n$ and $y = y_1y_2 \ldots y_m$ 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 $adbfcef$ as well as of $aabc$. But $abc$ is not a subsequence of $bbacdcba$.

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.