

Homework 5, ENEE641/ENME808X, Fall 2016

Due: October 31, in class.

Ex. 14.1-6, p. 307 [p. 345 in 3<sup>rd</sup> edition]

Ex. 15.2-4 and 15.2-5, p. 338-9 [Ex. 15.2-5 and 15.2-6 p. 378 in 3<sup>rd</sup> edition]

Ex. 15.4-5, page 356 [p. 397 in 3<sup>rd</sup> edition]

[Problem 15-2, p. 405 in 3<sup>rd</sup> edition]: **15-2 Longest *palindrome subsequence***

A ***palindrome*** is a nonempty string over some alphabet that reads the same forward and backward. Examples of palindromes are all strings of length 1, civic, racecar, and aibohphobia (fear of palindromes).

Give an efficient algorithm to find the longest palindrome that is a subsequence of a given input string. For example, given the input character, your algorithm should return carac. What is the running time of your algorithm?