

1. Written assignment: Printed textbook 6.2 and 6.17. (Analyze your algorithm for each problem)
2. Coding assignment: Given a string  $s$  of  $n$  characters, how to make it a palindrome  $s'$  by inserting a minimum number of characters? A palindrome is a string that reads identically from left to right as well as from right to left. For example if  $s = Ab5abd$ , then we can make it a palindrome  $s' = A\textit{\underline{d}}b\textit{\underline{a}}5abd\textit{\underline{A}}$  by inserting 3 characters. There is no way to make  $s$  a palindrome by inserting 2 or fewer characters.

Design and implement an efficient algorithm for this problem. Your program should be able to read any string  $s$  and print a string  $s'$  that is a palindrome and is produced by inserting a minimum number of characters to  $s$ . Analyze the running time of your algorithm.