CS 111 - Introduction to Computer Science

Exercise 1: Palindrome

A Palindrome is defined as a string that is the same both forwards and backwards. For example, "bob" and "otto" are both palindromes, while "hello" is not.

1. Write a method that takes in a string and returns true if the string is a palindrome, false otherwise.
2. Modify this method so that the detection is not case sensitive. For example, "Bob" and "OtTo" should now return true.
3. Modify this method so that the detection ignores spaces. For example "no lemon, no melon" should now return true.

Exercise 2: Longest subsequence

Assume that we have a string consisting only of letters. We want to find the longest subsequence where a single letter repeats. For example, in the string "abaabacccaabbbba", the longest repeating subsequence is the four b's near the end. Write a method to find the longest repeating subsequence and return it.

Exercise 3: Anagram

An anagram is a rearrangement of the letters of a word to form a new word. For example, an anagram of "listen" is "silent". Write a method to determine if a String is an anagram of another String.