

CPSC 230: Computer Science I
Spring 2020
Assignment 5: The Joy of Strings
Due: Friday, March 20, 2020 @ 11:59 pm

Reading

This assignment assumes you have read Chapter 4. Next up is Chapter 5 (functions), which should be read prior to the next class.

Overview

Do you know what an *alternade* is? Of course you don't, no one does! According to Wikipedia, an alternade:

“is a **word** in which its **letters**, taken alternatively in a strict sequence, and used in the same order as the original word, make up at least two other words. All letters must be used, but the smaller words are not necessarily of the same length. For example, a word with seven letters where every second letter is used will produce a four-letter word and a three-letter word.”

In most cases, the alternade is formed by looking at letters that are two spaces apart, with the first word starting at position 0, and the second from position 1. For example, the word “pained” is an alternade, because using the rules above we produce 2 words: “pie” and “and”

Your job is to write a Python program that asks the user to make one of two choices...destruct or construct.

If the user chooses destruct, prompt them for an alternade, and then output the 2 words from that alternade.

If the user chooses construct, prompt them for 2 words, and then output the alternade that would have produced those words.

You must enforce that the users enter real words...or at least not blatant non-words. So if their input contains numbers, whitespace, punctuation, etc., you should prompt them for input until correct input is provided.

****You can assume the word entered is of even length, but if you want a challenge, figure out how to implement if the length of the word is even or odd.****

If you manage to get all that done, then implement the following: the words output by your program must be in alternating case, starting with uppercase. So, for example, if you wanted to output the word “happy”, it should be displayed as “HaPpY.”

You may work in groups of 2-3.

Due Date

This assignment is due on 3-20-2020. Submit via Canvas. It should be labeled firstinitiallastname_Assignment5. Please make sure to include all the required files (README, source files). Make sure to note who you worked with.

Grading

Your program will be evaluated for correctness and elegance. In particular, you should make sure your code is properly commented and obeys standard naming conventions.