

Harrisburg University of Science & Technology

CISC 610 Data Structures & Algorithms

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Assignment 6: String Algorithms

You have been provided with the following string matching algorithms: [Boyer_Moore.py](#), [Brute_force.py](#), [KMP_matcher.py](#), and [Rabin_Karp.py](#). Using any of these algorithms, I want you to find the word(s) that have:

1. Longest Continual Substring of:
 - Vowels
 - Consonants
2. Longest Continual Prefix of:
 - Vowels
 - Consonants
3. Longest Continual Suffix of:
 - Vowels
 - Consonants

Example: ["Hello", "World", "Face","Asthma", "Spring", "Because", "Thorough", "Sequoia"]. In this list of strings, "Sequoia" has the longest substring of consecutive vowels. "Asthma" has the longest substring of consecutive consonants. "Asthma" Also has the longest prefix of consecutive vowels. "Spring" has the longest prefix of consecutive consonants. "World" has the longest suffix of consecutive consonants and "Sequoia" has the longest suffix of consecutive vowels. Your word file is going to be a long excerpt from "Lorem Ipsum" text found in [lore_ipsum.txt](#). If there are multiple words that tie in any criteria, return **ALL** words that tie. You can assume that the only characters in the file will be standard English letters, no numbers, special characters, or characters with diacritic marks.

Your submission should be accompanied by a 8 minute walk-through of your code. This analysis should include your decision making process, the logic behind you code, an your original thoughts that went into the decision making on why your code is written and performs in the manner in which you have written it. If you can not adequately explain how your code functions, it is difficult to believe that you created it yourself as it is inherently difficult to make that which you don't understand.

All video submissions must:

- Be narrated by your own voice - Silent submissions will not be considered
 - If you need accommodations regarding your voice recording, reach out to me **BEFORE** the due date of the assignment
- Capture your screen to include the source code and other assets required by the assignment if necessary for the comprehension of your explanation.

Your submission should include:

- A link to your YouTube/Loom Video upload submitted as a [.txt](#) file or as a submission comment **OR** a video file ([.mp4](#) preferred).
- **AND**
- Your code project (source code, resource files, etc.) unzipped.
- If necessary, provide a README file if an explanation is required to execute your code.