Homework Assignment 7
Due Date: Monday, March 14, 2022 at 11:59 pm **Total Points:** 15 pts

The purpose of this assignment is to give you the opportunity to practice and apply the knowledge gained from today's class to solve real problems. This ultimately will allow you to learn how to write python functions, use string methods to manipulate strings

Please follow the instructions below to complete your assignment task:

1. Make sure you already have both python 3.5 + and/ or any IDE of your choice installed on your computer. If not, please refer to today's lecture slide and follow the instructions in the URL link on the slide to download and install the software.

a. Write a user-defined function called char_index that returns the index values of each occurrence of the character ''r" in the string below as a list (i.e., store each index value in a list and the function should return the list). Display the returned list along with the following text: "This index values of each occurrence of character 'r' in the string are", + [returned list]. Save program file with the name **charind_lastname.py**

> "Mango banana apple pear Banana grapes
> strawberry Apple pear mango banana
> Kiwi apple mango strawberry"

(please refer to the text file fruits.txt on canvas and copy the above string directly from the file to avoid indentation issues/discrepancies)

b. Write a user-defined function to count the total number of vowels and consonants found in the string above. **E.g., vowels found – 21, consonants found – 6**

c. Write a user-defined function to count the number of vowels detected by the character in the string above. **E.g., A – 3, E – 4, I – 3, O – 5, U – 2**

d. Write a user-defined function to alternate all the uppercase characters to lowercase and vice versa in the string above. E.g., mANGO BANANA ......

e. Take screenshots of the results displayed for your program in (a-d) above. Submit the screenshot along with your program file i.e., **charind_lastname.py,** and in a zipped folder