CSE110
Practice Problems

Problem 1: Mysterious Anagram

Your code will take two strings **A** and **B** from the user. The strings will only contain lower case letters from ‘a’ to ‘z’. Now print “Yes” if string B is an anagram of string A, otherwise print “No”.

An anagram is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once. [Wikipedia]

Sample Input 1	**Sample Output 1**
care race	Yes
Sample Input 2	**Sample Output 2**
heart earth	Yes
Sample Input 3	**Sample Output 3**
nice price	No
Sample Input 4	**Sample Output 4**
cat dog	No

Problem 2: I hate Vowel

Your code will take a string from the user as an input. Now, you have to check if the string contains any vowel. If the string contains any vowel then you have to remove those vowels, and print that string consisting of only consonants.

Sample Input 1 apple	**Sample Output 1** ppl
Sample Input 2 running	**Sample Output 2** rnnng
Sample Input 3 classroom	**Sample Output 3** clssrm
Sample Input 4 xyz	**Sample Output 4** xyz

Problem 3: Capital-Small-Capital

Write a Python program to Capitalize the first character of each word in a String [You cannot use the
built-in upper() function]

Sample Input:

I love python programming

Sample Output:

I Love Python Programming

Problem 4: Again Palindrome

You will take a string as input from the user. Now you have to print how many characters you have to change in the given string to make the string a palindrome.

A palindrome is a word, number, phrase, or other sequence of characters which reads the same backward as forward, such as madam or racecar. Wikipedia

Sample Input 1 madam	**Sample Output 1** 0
Sample Input 2 abaa	**Sample Output 2** 1
Sample Input 3 abcdea	**Sample Output 3** 2
Sample Input 4 a	**Sample Output 4** 0

Note:

Sample 1 and Sample 4 are already palindrome, so we don't have to change any character. In sample 2, in "abaa", we have to change 'a' in the third position to 'b' and make it "abba", which is a palindrome. Since, we have to change only a single character, the answer is 1.

Problem 5: Count them All

You will take a string from the user. Now, you have to print the occurrence of each character of the string in lexicographical order. All the characters will be given in capital letters.

Sample Input 1 XXABCXAB	**Sample Output 1** A = 2 B = 2 C = 1 X = 3
Sample Input 2 BBAAAAB	**Sample Output 2** A = 4 B = 3
Sample Input 3 PPC	**Sample Output 3** C = 1 P = 2
Sample Input 4 Z	**Sample Output 4** Z = 1

Problem 6: UB02

You will be given a number **N.** N denotes the total number of elements in the list. In the next line, there will be N elements separated by space.

Please note, all the inputs will be taken from the user. The value of N will be at least 2.

Now you have to find out the second maximum number from the list.

Sample Input 1 6 5 6 13 2 9 7	**Sample Output 1** 9
Sample Input 2 5 1 4 3 4 2	**Sample Output 2** 4
Sample Input 3 3 9 10 12	**Sample Output 3** 10

Problem 7: Binary to Decimal

You will take a list from the user as an input which contains only 0's and 1's. Now, you have to convert the list into a Decimal number.

Sample Input 1 [1,0,1,1]	**Sample Output 1** 11
Sample Input 2 [1,0]	**Sample Output 2** 2
Sample Input 3 [0,0,1,1,1]	**Sample Output 3** 7
Sample Input 4 [1,0,1]	**Sample Output 4** 5

Problem 8: The Imposter

You will take a list from the user of an input which will contain positive integers. You have to find out the first non repeating element from the list and print that number.
If there is no such non repeating element, then print -1.

Sample Input 1 [5,2,5,7]	**Sample Output 1** 2
Sample Input 2 [5,2,7,1,1,8,5,7,2]	**Sample Output 2** 8
Sample Input 3 [5,5,5,1,5]	**Sample Output 3** 1
Sample Input 4 [1,1,8,8,8]	**Sample Output 4** -1

Note:

In sample 1, element 2 and 7 are both non repeating. However, since element 2 appeared first in the list, the output is 2.

In sample 2, 8 is the only non repeating element.

In sample 4, there's no non repeating element. Therefore, the output is -1.

Kabbya Kantam and Md. Saiful Islam