PROBLEMS OF THE DAY – 7

1.Count Linked List Nodes

Given a singly linked list. The task is to find the length of the linked list, where length is defined as the number of nodes in the linked list.

Examples :

Input: LinkedList : 1->2->3->4->5

Output: 5

Input: LinkedList : 2->4->6->7->5->1->0

Output: 7

Expected Time Complexity: **O(n)**

Expected Auxilliary Space: **O(1)**

2.Group Anagrams

Given an array of strings strs, group the anagrams together. You can return the answer in any order.

Example:

Input: strs = ["eat","tea","tan","ate","nat","bat"]

Output: [["bat"],["nat","tan"],["ate","eat","tea"]]

Explanation:

There is no string in strs that can be rearranged to form "bat".

The strings "nat" and "tan" are anagrams as they can be rearranged to form each other.

The strings "ate", "eat", and "tea" are anagrams as they can be rearranged to form each other.

Input: strs = [""]

Output: [[""]]

Input: strs = ["a"]

Output: [["a"]]

3.Anagram

Given two strings str1 and str2 consisting of lowercase characters. The task is to check whether two given strings are an anagram of each other or not. An anagram of a string is another string that contains the same characters, only the order of characters can be different. For example, act and tac are an anagram of each other. Strings str1 and str2 can only contain lowercase alphabets.

Examples :

Input: str1 = geeksforgeeks, str2 = forgeeksgeeks

Output: YES

Explanation: Both the string have same characters with same frequency. So, they are anagrams.

Input: str1 = allergy, str2 = allergic

Output: NO

Explanation: Characters in both the strings are not same, so they are not anagrams.

Expected Time Complexity:O(str1.size()+str2.size()).

Expected Auxiliary Space: O(Number of distinct characters).

4.Count Occurences of Anagrams

Given a word pat and a text txt. Return the count of the occurrences of anagrams of the word in the text.

Example:

Input: txt = forxxorfxdofr pat = for

Output: 3

Explanation: for, orf and ofr appears in the txt, hence answer is 3.

Input: txt = aabaabaa pat = aaba

Output: 4

Explanation: aaba is present 4 times in txt.

Expected Time Complexity: **O(N)**

Expected Auxiliary Space: **O(26) or O(256)**

5.Length of Last Word

Given a string s consisting of words and spaces, return the length of the last word in the string.

Example:

Input: s = "Hello World"

Output: 5

Explanation: The last word is "World" with length 5.

Input: s = " fly me to the moon "

Output: 4

Explanation: The last word is "moon" with length 4.

Input: s = "luffy is still joyboy"

Output: 6

Explanation: The last word is "joyboy" with length 6.