1. Write a C++ program that accepts both a string and a single character from the user. The program should determine how many times the character is contained in the string. (Hint: Search the string by using the find(str, int) function. This function should be used in a loop that starts the index value at 0 and then changes the index value to 1 past the index of where the char was last found.)

2. Write a C++ program that counts the number of words in a string. A word is encountered whenever a transition from a blank space to a nonblank character is encountered. The string contains only words separated by blank spaces.(Hint: use gets() to get a string with spaces.)

3. Enter a string and print whether the string is a palindrome. A palindrome is a string that reads the same backwards and forwards.

Input format.
Input as a string (no whitespace characters in the string, string length less than 100).

Output format.
If the string is a palindrome, print yes; Otherwise, output no.

Input1:
abcdedcba
Output1:
yes
Input2:
agg
Output2:
no

4. Count the number of occurrences of each letter of the input string, case – insensitive.

Input format.
The input is a string containing only 26 English letters, and the length of the string is not more than 100.

Output format.
Output the number of occurrences of each letter.

Input:
Supercaliocious
Output:
the number of a : 1
the number of c : 2
the number of e : 1
the number of i : 2
the number of l : 1
the number of o : 2
the number of p : 1
the number of r : 1
the number of s : 2
the number of u : 2

5. Count the number of occurrences of a substring in a string.

Input format.
The length of the input string should not exceed 100, and the substring should not exceed the original string.

Output format.
The number of the substring.

input.
I have a pen, I have an apple, Apple,pen.
apple
output.
The number of substrings is 1