

PIC-10A: Homework 4

Due 10/29/21 11:59pm via CCLE

Problem 1:

Write a program that reads a positive integer and display, using asterisks *, a filled right triangle (shown below) of the given side length. For example, if the side length is 5, the program should display:



Note that the fifth row prints 5 straight asterisks (there is no space before the asterisks). You can assume the user's input is always valid.

Submit your file as *hw4_1.cpp*

Problem 2:

Write a program that reads a string, and prints the most frequently occurring letter of the alphabet. If there are multiple letters that occur with the same maximum frequency, print them all in lowercase. For example, if the string is "We MIS mississippi", print *is* because *i* (or *I*) and *s* (or *S*) occur five times each, and no letter occurs more frequently. Note that we count uppercase and lowercase letters the same.

Hint: Use two strings to store the uppercase and lowercase alphabets:

- `string upperAlphabet = "ABCDEFGHIJKLMNOPQRSTUVWXYZ"`
- `string lowerAlphabet = "abcdefghijklmnopqrstuvwxyz";`

Use nested `for` loops to find the most frequency occurring letters

- The outer `for` loop runs through the alphabet.
- For each letter of the alphabet, the inner `for` loop runs through the input string and counts how many times that letter appears in the string.
- Use an `if-else if` statement to record the highest matching number and the corresponding letters.

You do not need arrays in this problem. Here is a sample dialog

Please enter a string: **We MIS mississippi 123**
The most frequently occurring letter(s): is

Submit your file as *hw4_2.cpp*