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// Included: Recursion Extra Credit

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// Extra Credit #1

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// CMPR 121

// =======================

#include <iostream>

using namespace std;

/\*================ FUNCTION PROTOTYPE ===================\*/

int countChar(char[], char, int, int);

/\*================ FUNCTION PROTOTYPE ===================\*/

/\*================ GLOBAL VARIABLES ===================\*/

const int SIZE = 30;

/\*================ GLOBAL VARIABLES ===================\*/

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=== MAIN FUNCTION BEGINS ===

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// Program to find the number of times a character appears in a word or phrase

int main(){

char letter = '\0'; // Letter to store

char words[SIZE] = "\0"; // Size of array

int index = 0; // Incrememt through the array

int letterCounter = 0; // Stores number of a character

// Enter a word or phrase

cout << "Enter a word or phrase: ";

cin.getline(words, SIZE);

cout << endl;

cout << "Enter a letter: ";

cin >> letter;

letterCounter = countChar(words, letter, index, SIZE);

cout << endl << endl;

cout << "The letter " << "\"" << letter << "\"" << " in " << words << " appears " << letterCounter <<

"times." << endl << endl;

return 0;

}

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=== MAIN FUNCTION ENDS ===

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=== CODE OUTPUT ===

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AI-generated content may be incorrect.

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=== CODE OUTPUT ===

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=== HELPER FUNCTION BEGINS ===

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// Function that returns the number of times a character appears in a string

// Example:

// Word = mercedes

// Letter = e

// e appears in mercedes => 3 times.

int countChar(char arr[], char letter, int index, int SIZE){

// convert character string arrays all to lower case characters

for (int i = 0; i < SIZE; i++)

{

arr[index] = tolower(arr[index]);

}

// Base case

// If array's index is equal to null

// return

if (arr[index] == '\0')

{

return 0;

}

else if (arr[index] == tolower(letter))

{

return 1 + countChar(arr, letter, index + 1, SIZE);

}

else{

return countChar(arr, letter, index + 1, SIZE);

}

}

/\*

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=== HELPER FUNCTION ENDS ===

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