Name: Bibek Dhungana

Lab 5 out

Code:

```c
/*
AUTHOR: BIBEK DHUNGANA
FILENAME: lab5.c
DATE: 03/06/2021
SPECIFICATION: This program takes string input from the user and print total number of alphabets,
               digits, lowercase alphabets, upper case alphabets and vowels.
FOR: CS 1412 Programming Principle 2 Section 504
*/


/*including all the required libraries*/
#include <stdio.h>
#include <string.h>
#include <ctype.h>

/*defining maximum size for the character array*/
#define SIZE 100

/*function prototype for alphabetCount*/
int alphabetCount(char myString[]);

/*function prototype for digitCount*/
int digitCount(char myString[]);

/*function prototype for lowerAlphabetCount*/
int lowerAlphabetCount(char myString[]);

/*function prototype for upperAlphabetCount*/
int upperAlphabetCount(char myString[]);

/*function prototype for vowelAndConsonantCount*/
void vowelAndConsonantCount(char myString[], int* vowelCount, int* consonantCount);

int main(void) {

	/*initializing all the required variables*/
	char myString[SIZE];
	int totalAlphabetCount;
	int totalDigitCount;
	int totalLowerAlphabetCount;
	int totalUpperAlphabetCount;
	int vowelCount = 0;
	int consonantCount = 0;
```

```
	/*input string from the user*/
	printf("Input the string:");
	fgets(myString, SIZE, stdin);

	/*calling alphabetcount function*/
	totalAlphabetCount = alphabetCount(myString);

	/*calling the function digitCount function*/
	totalDigitCount = digitCount(myString);

	/*calling the function lowerAlphabetCount*/
	totalLowerAlphabetCount = lowerAlphabetCount(myString);

	/*calling the function upperAlphabetCount*/
	totalUpperAlphabetCount = upperAlphabetCount(myString);

	/*calling vowelAndConsonatCount function*/
	vowelAndConsonantCount(myString, &vowelCount, &consonantCount);

	/*printing the result*/
	printf("\nThe total number of alphabets:%d\n", totalAlphabetCount);
	printf("The total number of digits:%d\n", totalDigitCount);
	printf("The total number of lower case alphabets:%d\n", totalLowerAlphabetCount);
	printf("The total number of upper case alphabets:%d\n", totalUpperAlphabetCount);
	printf("The total number of vowels:%d\n", vowelCount);
	printf("The total number of consonants:%d\n", consonantCount);

	return 0;
}

/*
* NAME:alphabetCount
* INPUT PARAMETER: char[]
* OUTPUT PARAMETER: N/A
* RETURN TYPE: int
* SPECIFICATION: This function takes character array as argument and return
*                total number of alphabets.
*/
int alphabetCount(char myString[]) {
	int i = 0;
	int count = 0;
	while (myString[i] != '\0') {
		if (isalpha(myString[i])) {
			count++;
		}
		i++;
	}

	return count;
}

/*
*
* NAME:digitCount
* INPUT PARAMETER: char[]
* OUTPUT PARAMETER: N/A
* RETURN TYPE: int
```

```
* SPECIFICATION: This function takes character array as argument and return
*                total number of digits.
*/

int digitCount(char myString[]) {
	int count = 0;

	for (int i = 0; myString[i] != '\0'; i++) {
		if (isdigit(myString[i])) {
			count++;
		}

	}
	return count;
}

/*
* NAME:lowerAlphabetCount
* INPUT PARAMETER: char[]
* OUTPUT PARAMETER: N/A
* RETURN TYPE: int
* SPECIFICATION: This function takes character array as argument and return
*                total number of  lower case alphabets.
*/

int lowerAlphabetCount(char myString[]) {
	int i = 0;
	int count = 0;
	while (myString[i] != '\0') {
		if (isalpha(myString[i])) {
			if ((myString[i] >= 'a' && myString[i] <= 'z')) {
				count++;
			}

		}
		i++;
	}
	return count;
}

/*/*
* NAME:upperAlphabetCount
* INPUT PARAMETER: char[]
* OUTPUT PARAMETER: N/A
* RETURN TYPE: int
* SPECIFICATION: This function takes character array as argument and return
*                total number of alphabets.
*/

int upperAlphabetCount(char myString[]){
	int i = 0;
	int count = 0;
	while (myString[i] != '\0') {
		if (isalpha(myString[i])) {
			if ((myString[i] >= 'A' && myString[i] <= 'Z')) {
				count++;
			}
```

```
			}
			i++;
		}
		return count;;
}

/*
* NAME:alphabetCount
* INPUT PARAMETER: char[]
* OUTPUT PARAMETER: int*vowelsCount , int* consonantsCount
* RETURN TYPE: void
* SPECIFICATION: This function takes character array as argument and calculate
*                total number of vowel and consonant in the given string
*/
void vowelAndConsonantCount(char myString[], int* vowelsCount, int* consonantsCount) {

		for (int i = 0; myString[i] != '\0'; i++) {
			char a = myString[i];
			if (isalpha(a)) {
				if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u') {
					(*vowelsCount) = (*vowelsCount) + 1;
				}
				else {
					(*consonantsCount) = (*consonantsCount) + 1;
				}

			}
		}
}
```

OUTPUT