Structured Programming Quiz 4V1

Student Name /ID:

**Q1: What is the output of the following code:**

#include <stdio.h>

int main() {

char string[] = "C programming is cool!";

int y = 0;

char a = 'o';

char b = '\*';

printf(" %s\n", string);

for (int i = 0; string[i] != '\0'; i++) {

if (string[i] == a) {

y++;

string[i] = b;

}

}

printf(" %s\n", string);

printf("a:%c y: %d\n", a, y);

return 0;

}

Q2: Write a C function named count\_char that takes two parameters:

1. A character array (string).
2. A character to count within the string.

The function should return the number of times the specified character appears in the string.

* Do **not** use any built-in string functions.
* Implement the function separately and call it from main.
* In main, prompt the user to enter a string and a character, then call the function and display the result.

#include <stdio.h>

// Function to count occurrences of a character in a string

int count\_char(char str[], char ch) {

int count = 0;

int i = 0;

while (str[i] != '\0') {

if (str[i] == ch) {

count++;

}

i++;

}

return count;

}

int main() {

char str[100];

char ch;

// Prompt user for a string (reads until space or newline)

printf("Enter a string (no spaces): ");

scanf("%s", str);

// Prompt user for a character

printf("Enter a character to count: ");

scanf(" %c", &ch); // Space before %c skips leftover newline

// Call the function and display the result

int result = count\_char(str, ch);

printf("The character '%c' appears %d time(s) in the string.\n", ch, result);

return 0;

}