10.Palindrome

#include <stdio.h>

#include <stdbool.h> // Include for using boolean type

bool is\_palindrome\_recursive(const char\* str, int start, int end) {

// Base cases:

if (start >= end) {

return true; // Single character or empty string is a palindrome

}

if (str[start] != str[end]) {

return false; // Not a palindrome if characters don't match

}

// Recursive call: check the remaining substring

return is\_palindrome\_recursive(str, start + 1, end - 1);

}

bool is\_palindrome(const char\* str) {

int len = strlen(str);

return is\_palindrome\_recursive(str, 0, len - 1); // Call the recursive function with start and end indices

}

int main() {

char str[100];

printf("Enter a string: ");

scanf("%s", str);

if (is\_palindrome(str)) {

printf("%s is a palindrome.\n", str);

} else {

printf("%s is not a palindrome.\n", str);

}

return 0;

}