CS1050 – Prelab 7
Fall 2019

Concepts to Practice

- Pointers
- Strings

Description

For the prelab assignment, you need to implement a program that issues prompts for data from the user inside a function, provides information about that data, and manipulates that data.

You may not call scanf() from your main() function. You may not use the strlen() Standard C Library function at all. You must use pointer arithmetic to move through any arrays (strings are arrays) in the program – not the index operator [].

The main() function in your program should:

1. Print a message welcoming the user to Prelab 7.
2. Call a function (written by you) to get a string from the user.
3. Call a function (written by you) to get the length of the string that the user entered.
4. Print the string the user entered, as well as the length of that string.
5. Call a function (written by you) to switch the first and last characters in the string.
6. Call a function (written by you) to get the length of the modified string.
7. Print the string that has been changed, as well as the length of that string.
8. Print a message thanking the user.

Note that you may assume no string will be larger than 255 characters (256 with space for the null-terminator).

Functions You Must Write

You may write any functions you wish to implement this program. At this point in the semester, it is up to your creativity to define the prototypes and to implement the functions. However, you will need functions that do the following:

- A function that prompts the user with a specified message and then reads a string (with no spaces and no newlines in it) from the user. The function must pass this string back to the caller somehow, or…maybe the caller should provide space to store the string somehow?
- A function that returns the number of characters (not counting the null terminator) in the string that is passed in.
- A function that swaps the first character in the string with the last character (not the null-terminator) in the string.
- You are probably going to need to write a main() 😊.

```
JimR@SkullCanyon:~$ ./a.out
*** Welcome to Prelab 7 ***
Please enter a string: 0123456789
You entered: 0123456789
That string is 10 in length.
The switched string is: 9123456780
That string is 10 in length.
*** Thanks for doing Prelab 7 ***

JimR@SkullCanyon:~$ ./a.out
*** Welcome to Prelab 7 ***
Please enter a string: JimRies
You entered: JimRies
That string is 7 in length.
The switched string is: simRieJ
That string is 7 in length.
*** Thanks for doing Prelab 7 ***

JimR@SkullCanyon:~$ ./a.out
*** Welcome to Prelab 7 ***
Please enter a string: abcdefghijklmnopqrstuvwxyz
You entered: abcdefghijklmnopqrstuvwxyz
That string is 26 in length.
The switched string is: zbcdefghijklmnopqrstuvwxya
That string is 26 in length.
*** Thanks for doing Prelab 7 ***
```