

**Lab 10: C Programming and LCD****Submit button.c at the end of your lab.****I. Strings in C**

A string in C is implemented as an array, so declaring a string variable is the same as declaring an array of type char. For example:

```
char str_variable[17];
```

?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

? - undefined value

Declare a string variable and initialize its values, do this:

```
char str[15]= "CSC 230 Lab 10";
```

C	S	C		2	3	0		L	a	b		1	0	\0
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

**II. Exercises**

Write a subroutine output each character in str[] to screen, one character per line.

Write a subroutine to calculate the length of str[]

Write a subroutine to copy a string to another string.

Write a subroutine to scroll its text. Print it to screen

Download lab10.c. Create a project called lab10, build and upload lab10.hex to the board. Observe what is displayed on the LCD. Now, add your subroutines to scroll the text.

**III. Exercises:** download button.c, write two subroutines (init\_buttons, button\_pressed) based on the given code in the file.

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