

UNI CS 3430

Operating Systems

Project 0 – C Warm-Up (Due 1/23 at 11:59pm)

Assignment Weight:

This assignment is worth 4% of your total class grade (20pts).

Assignment Description:

This project must be completed individually (no partners).

Before you begin, be sure your name is at the top of the program and there are at least 3 comments in the code. If either of these things are missing, points may be deducted.

After completing Lab 0 and the C tutorial, log onto the class Linux server (student.cs.uni.edu) and write a small C program called “text2triangle” that:

- a. Asks for a sentence (max 80 characters) or “quit” to quit.
- b. Uses a helper function to print a right triangle of each letter in the sentence with the spaces removed. (It is ok if the last line of the triangle is not a full line.) In other words, first print a line with one character, print the next line with one more character than the previous line, and repeat that pattern until you run out of non-space characters.
- c. Goes back to step a. (e.g. starts the program again).

For example, if the program is called triangle2text, you should be able to run it like this:

```
$> ./text2triangle
Please enter the sentence or quit: What is going on?
W
ha
tis
goin
gon?

Please enter the sentence or quit: ^#####
^
##&&&
####

Please enter the sentence or quit: quit
Exiting!
```

Hints:

- Try to make your output look exactly like mine above.

- You will have to look up how to ask for input! Look up fgets() using the man pages with this command on the student server:

man fgets

You will want to be sure to include the right libraries at the top of your program to use with fgets. The libraries needed will be shown at the top of the man page.

- Quotes matter. Single quotes go around a single character. Double quotes go around a string. Strings are really just character arrays, so don't be afraid to index into them.
- Do not use static or global variables to implement the assignment.

I will assign a zero to your submission grade if:

- The code does not compile.
- You submit a C++ program instead of a C program.
- You submit a binary without the actual source code.

The submission grading rubric is as follows (points out of 20 total):

Project element	Points
Correctly prompts for a sentence or quit	2.5
Prints a triangle in a helper function (not main)	5
Program restarts automatically	2.5
Does not print spaces	2.5
Program quits on exit	2.5
Name on top, at least 3 comments, good coding style (indentation, variable names, etc)	5

Submission Instructions:

Please submit a single file called text2triangle.c to the “Project Submissions” area on the eLearning website. It is your responsibility to be sure that the project file has been uploaded correctly by the deadline.