**Quiz 4**

# Deadline: Due at 9:15AM on Apr 4, 2024

# Write a C program to reverse the words of a given string using a stack data structure. You are not allowed to use any built-in functions or libraries for reversing the words.

**Requirements**

* Your program should accept the input and output file path as a command-line arguments. e.g ./a.out input.txt output.txt
* The input file should contain the string whose words need to be reversed. The string may contain alphanumeric characters, punctuation, and spaces.
* The output file will store the reversed string with the words reversed.
* Parse the input string to separate words based on spaces.
* Ensure proper handling of punctuation and special characters.
* Test your program with various input files containing different strings.

**Restrictions**

* You are not allowed to write any additional **printf** statement anywhere in the file.
* Your program should not print anything to the console.
* If you have any doubts, ask me.

**Example**

Here is an example of the input file:

>input.txt

Hello, world! Welcome to the lab.

E

The E at the end specifies the end of file.

Here is the output of running the input file through your program.

>output.txt

lab. the to Welcome world! Hello,

**How to Compile and Run**

* The Makefile for quiz4 is provided.
* The Makefile is supposed to work with quiz4.c, input.txt, output.txt and ref.txt files so, make sure to save the files accordingly.
* Run the following command in vs code Terminal.

make

It should compile the code without any errors.

make convert\_input

It should convert the input.txt file to unix encoding.

make run

It should run the compiled code.

make convert\_output

It should convert the output.txt file to unix encoding.

* Run the following command to delete the out file.

make clean

* Run the following command to check the output with provided reference file.

make check

* You are not supposed to make any changes in the Makefile.

**Grading**

The quiz must be done in Unix environment. There will be no corner case inputs. Any grading failure due to not following instructions will result in 0.

* (1 point) Correct submission including first and last names with ANumbers at top of your code.
* (6 point) Correct solution to the problem. Three test cases will be used.

**Submission**

* You must submit only one .c file named: quiz4.c (case sensitive) to learning hub.
* Make sure to update your A number. Look at the top of quiz4.c and write your name with A number including leading 0’s.