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.