CSI 333 – Programming at the Hardware-Software Interface  
SQUPT, Spring 2019

**Project 2**

The total grade for the assignment is 100 points.

You must follow the programming and documentation guidelines (see file *Programming Assignments Requirements and Recommendations.docx*).

**Due date: 11:59pm Sunday, April 7, 2019**

# Description

You are required to write a C program

* whose input is an existing text file with a name specified in a command line as the first argument,
* whose output is a new text file with a name specified in a command line as the second argument; requirements to the new text file are given below.

**Input and output files should have extension .txt but only names of the files are specified in a command line.**

Example: suppose the executable version of your program is named p2.out. The program will be executed by a command line of the following form

p2.out inputfile outputfile

In this case file inputfile.txt must exist, outputfile.txt will be created.

Requirements for the output text file:

* The output file should have copy of each line of the input file in the same order of lines.
* Each line of the output file should consist of the same words as the corresponding line in the input file but ordered backward.

In the input file lines do not exceed 255 characters including new line character, and all words are separated by one or more spaces (' ') or by horizontal tab ('\t').

In the input and output files, each line ends with new line character (‘\n’). In the output file words should be separated by single space.

The outline of your C program is as follows.

1. Read command line arguments and check the correctness.
2. Create a new file named second argument + “.txt”.
3. Proceed with converting input file lines into output file lines.
4. Stop and print out "Finished." once finish reading and writing the files.

Thus, each time your program is executed, it should handle just one input file.

Suggestion: Use fflush(stdout) after each call to printf.

# Data to test your program

Important Note: Some sample inputs that can be used to test your programs are given below. However, you should remember that when we compile and run your source files, we will use other data. Just because your programs work for the sample inputs given below, you shouldn't assume that they will work for all inputs. Therefore, you should test your programs thoroughly with other input files.

|  |  |
| --- | --- |
| **Input File** | **Output File** |
| Beside an assault scenario.  When will a friendly cube?  The precedent.  This percent abides without an arm.  The recipe multiplies.  The provoking football. | scenario. assault an Beside  cube? friendly a will When  precedent. The  arm. an without abides percent This  multiplies. recipe The  football. provoking The |

# Example of program execution

The following examples assume that the executable version of the program is in the file p2.exe (if Windows).

> p2.exe file1 file2

Finished.  
>

# Submission

You must perform submissions as directed by your co-instructor.

*Ignoring any of the following rules will result in penalty or even ZERO grade for the project!*

Submission should include:

* A file named as directed by your co-instructor with source code for the project. More details will be given in your lab classes.
* Screenshot with program output.

At the top of your source code file the following information must appear in the form of comments:

* 1. Course code and title (i.e. “CSI 333. Programming at the Hardware-Software Interface”),
  2. Semester (e.g., Spring 2019),
  3. The name of your lab classes supervisor,
  4. Your class (e.g., ZR170102),
  5. Your student ID,
  6. Your pinyin name.

Make sure that your programs compile and produce correct results on the lab machines. Programs that cause compiler or linker errors on these machines will NOT receive any credit.

# Project Grading

Program will be graded by co-instructors. The total grade for this assignment is 100 points, with 90 points for correctness and 10 points for structure/documentation.