# COP-4338 Systems Programming

Programming Assignment 5:
PART II

Due Date: July 29 at 11:59 PM

In this assignment, you are asked to write a program that converts a file format to another. It should support the following formats:

- *.csv* (comma separated values) file: stores tabular data in plain text. Each line of the file represents a table row containing one or more cells separated by commas.
- *.tl5* file: stores tabular data in plain text. Each line of the file represents a table row containing one or more cells separated by '|' character. Each cell is 5-characters long and contains a left-aligned string. If the string stored in a cell has $n < 5$ characters, the rest of it will be filled with spaces; i.e. there will be $5 - n$ extra space characters in the field *after* the string. However, if a string with more than 5 characters is supposed to be placed in a cell, only its first 5 characters is stored in the cell.

## 1 50% Bonus Part

As the bonus part, the program must support the following formats specified below:

- *.tr9* file: stores tabular data in plain text. Each line of the file represents a table row containing one or more cells separated by '|' character. Each cell is 9-characters long and contains a right-aligned string. If the string stored in a cell has $n < 9$ characters, the rest of it will be filled with spaces; i.e. there will be $9 - n$ extra space characters in the cell *before* the string. However, if a string with more than 9 characters is supposed to be placed in a cell, only its last 9 characters is stored in the cell.
- *.tc9* file: stores tabular data in plain text. Each line of the file represents a table row containing one or more cells separated by '|' character. Each cell is 9-characters long and contains a center-aligned string. If the string stored in a cell has $n < 9$ characters, the rest of it will be filled with spaces; i.e. there will be $\lfloor \frac{9-n}{2} \rfloor$ extra space characters in the cell *before* the string and $\lceil \frac{9-n}{2} \rceil$ extra space characters in the field *after* it. However, if a string with more than 9 characters and odd length is supposed to be placed in a cell, only its middle 9 characters is stored in the cell. In the case that the length of original string is even and greater than 9, its middle 8 characters must be stored in the cell (plus an extra space character).

## 2 Program Input

Assume that user first enters the name and address of a file which he/she wants to convert. Then, the program gets the name and address of the file in which the user wants to store the result of format conversion.

## 3 Program Output

Your program must print out a message showing whether the file conversion is successful. It also must halt with an error message if the file format is not consistent with the filename extension.

## 4 Submissions

You need to submit a *.zip* file compressing the C source file(s) related to the assignment (*.c* files) and a readme file specifying which of the following conversions are supported by your program:

| from/to | csv | tl5 | tr9 | tc9 |
|---|---|---|---|---|
| csv | Y/N | Y/N | Y/N | Y/N |
| tl5 | Y/N | Y/N | Y/N | Y/N |
| tr9 | Y/N | Y/N | Y/N | Y/N |
| tc9 | Y/N | Y/N | Y/N | Y/N |