

CS2600 Homework 2

Be sure to read this document carefully. You are responsible to read and understand all of these instructions. If you have questions, be sure to ask, either in class, by email, or at office hours.

Description

For this homework, you will be making a command line utility, `columnSorter`. This program will require one command line parameter, the number of a column. This program will read input data on *stdin*, saving each line it reads in a list. It will then sort the list based on the values in the indicated column, then it will write all of the data out to *stdout*.

The input data should be in the form of CSV (comma-separated-value). Each line can be divided into a number of columns, being split at commas. We have a couple of simplifications here, just to make this problem a little more manageable:

1. Every line has the same number of columns
2. All of the entries are simple values, integers or words. The text values aren't quoted, and there are no commas inside a value.

Here is a short example of some input:

```
Sam,15,banana
Julie,23,grape
Scott,12,kiwi
```

If the program was asked to sort by column 1 (the names), the output would be:

```
Julie,23,grape
Sam,15,banana
Scott,12,kiwi
```

but if the program was asked to sort by column 2 (the numbers), the output would be:

```
Scott,12,kiwi
Sam,15,banana
Julie,23,grape
```

Your program should use at least one structure, and should have at least a couple of functions.

Make sure that you have a comment line at the top of the file giving your name.

Extra credit opportunity

You can earn some extra credit by using an efficient sorting algorithm, such as heap sort or merge sort.

Collaboration vs Cheating

Recall that Cal Poly's Academic Integrity policy states that all homework should be your own work. You should not turn in someone else's work with your name on it. Since this is **not** a group project, you **cannot** work on the assignment together, turning in joint work.

However, for this homework, I will allow the following: If you get stuck, you may ask fellow students to 'look over your shoulder' to see what you are doing wrong. You can do a screen share with them, asking them to help look for a typo or some other mistake you may have made. You are free to discuss what you are working on. *But, all the typing must be your own. You cannot have other students contribute sections of your code, and you cannot type verbatim what they have written.* I reserve the right to ask you to explain any section of your code, or to recreate a portion of your code.

Grading

This homework is worth 6 points (6% of your grade for the course). Your score will be computed as follows:

- **2 points:** Your code correctly compiles, so that you have a runnable executable.
- **1 point:** Your code includes comments that explain the operation of your code.
- **1 point:** Use functions in the *string.h* library wherever possible.
- **2 points:** You have followed *all of the instructions* in the *Description* section.
- **2 points:** Completing the extra credit option.
- **-∞ points:** Cheating
- **Transfer of points:** If you do not have your name in a comment near the start of the .c file, I won't know who to give the points to, so your points might be given to someone else.

Turning In Homework

You will submit your homework to Blackboard. Your code should just be one single .c file. Attach this file to your response in Blackboard. *Note: Be sure to write your name in a comment at the start of the .c file. Otherwise, the points might go to someone else!*

Due Date

The homework is due on **Mar 2**, by the end of the day.