Homework 4: File I/O and fscanf

**Assigned**: February 14th, 2018 **Due**: February 21st, 2018

Make a subdirectory "hw4" of your cs240 folder for this assignment. Copy the starter files from /courses/cs240/s18/kamaral/GROUP/hw4 to your hw4 subdirectory.

**Part 1: I/O Redirection**

Write a program in direct1.c which reads from standard input a line and then outputs that line immediately to standard output. This is like what we did in echo.c from Homework 2, but with an entire line instead of a single character.

Then, write another program called direct2.c which reads from standard input every line until end of input and outputs them to standard output. Everything that goes in should come out exactly as it was.

Compile both programs and run them on the input files copied from the group directory.

The direct1 program should be run, redirecting input1.txt to standard input and redirecting output to output1.txt.

The direct2 program should be run, redirecting input2.txt to standard input and redirecting output to output2.txt.

To make sure that your directN programs aren’t adding any weird characters, you can use the Linux command diff to compare the input and output files.

For example, diff input2.txt output2.txt

**Part 2: Reading Numbers from a File**

Write a program in sum.c which reads each number from the sum.txt file adds them all together and outputs the total to result.txt. Do NOT use redirection for this. Use the built-in file functionality of stdio.h.

The numbers in sum are separated by spaces and newline characters with no real consistency between which are used. However, you can be sure that the only non-whitespace characters are numbers.

The answer in result.txt should be 45.

**Part 3: Memo File**

In memo.txt give a few sentences about anything interesting you learned while doing this homework. If you were pretty confident in your understanding of the material already, write a few sentences about your experiences in writing the programs for this homework.

**Turning in the Assignment**

For this assignment, the .c files weren’t written for you ahead of time. You should know how to construct the main file at this point and you should know how to add your name to the comments. Follow that same structure within your future source files going forward.

Follow the same process you have been for the last couple of assignments. There are additional things to include in the typescript within each part that should be followed, but otherwise the same as before. At this point, you’re responsible for understanding the procedure. In words, it’s “Show the folder, cat the files, compile the code, run the code, and put that all in a typescript.”

In your hw4 folder, there should be the following deliverables:

* directN.c
* directN
* inputN.txt (these were given to you)
* outputN.txt
* sum.c
* sum
* sum.txt (this was given to you)
* result.txt
* memo.txt
* typescript

Make sure to include your name in the comments of the source files.

I do NOT need a hardcopy.