Homework 6

Files to submit: **read_lines.c, read_lines.h**

Time it took Matthew to Complete**: 15 mins**

- All programs must compile without warnings when using the -Wall and -Werror options
- Submit only the files requested
    - Do **NOT** submit folders or compressed files such as .zip, .rar, .tar, .targz, etc
- Your program must match the output exactly to receive credit.
    - Make sure that all prompts and output match mine exactly.
    - Easiest way to do this is to copy and paste them
- All input will be valid unless stated otherwise
- Print all real numbers to two decimal places unless otherwise stated
- The examples provided in the prompts do not represent all possible input you can receive.
- All inputs in the examples in the prompt are underlined
    - You don't have to make anything underlined it is just there to help you differentiate between what you are supposed to print and what is being given to your program
- If you have questions please post them on Piazza

Restrictions

- No global variables are allowed
- Your main function may only declare variables, call other functions, and assign variables values.

For this assignment you will be writing only a single function: `read_lines.`

Specifications

1. This function has the following definition:
    1. `void read_lines(FILE* fp, char*** lines, int* num_lines).`
2. This function should read all of the lines contained within `fp` and
    1. Set each row of lines to contain one line of the file.
    2. Set num_lines to be equal to the number of lines that were in the file
3. If the file is empty `lines` should be set to NULL and `num_lines` to 0.
4. You only need to submit read_lines.c and read_lines.h
5. `read_lines.h` must contain at least the definition for read_lines but it is perfectly ok if there are more

Example

1. ./read_lines.out Makefile

```
read_lines.out: read_lines.o main.o
	gcc -g -Wall -Werror -o read_lines.out read_lines.o main.o

main.o: main.c read_lines.h
	gcc -g -Wall -Werror -c -o main.o main.c

read_lines.o: read_lines.c read_lines.c
	gcc -g -Wall -Werror -c -o read_lines.o read_lines.c

clean:
	rm -f *.out *.o
```