# CSE 333 13su Exercise 6

**out:** Monday July 8, 2013
**due:** Wednesday, July 10, 2013 by **9:00 am**.

Write a C program that accepts a filename as a single command-line argument. The program should read the file, printing the contents of the file to stdout in reverse order, character by character.

For example, consider a file name "foo.txt" that contains the following:

```
hello!
```

(including a newline character at the end.) Running the program should result in the following:

```
bash$ ./ex6 foo.txt

!ollehbash$
```

Pay careful attention to where the newline and other characters are in this output.

You will need to use several libC calls in order to do this. In particular, you should use:

- fopen, with mode "rb", to open the file
- fclose to close the file
- fseek and ftell to figure out how large the file is. (We'd suggest you "fseek(f, 0, SEEK_END);" and then "size = ftell(f);" to get the file size, in bytes.)
- fseek and fread to read the file's contents, in reverse order, byte-by-byte.
- printf, with the "%c" modifier, to print out the characters of the file one at a time.

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Your code must:

- compile without errors or warnings on CSE Linux machines (lab workstations, attu, or CSE home VM)
- have no crashes, memory leaks, or memory errors on CSE linux machines
- be contained in a single file called "ex6.c" that compiles with the command "gcc -Wall -g -std=gnu99 -o ex6 ex6.c" -- do not submit a Makefile.
- be pretty: the formatting, modularization, variable and function names, and so on must make us smile rather than cry. (Suggestion: `clint`)
- be robust: you should think about handling bogus input from the user, and you should handle hard-to-handle cases (if there are any) gracefully.
- have a comment at the top of your .c file with your name, student number, and CSE or UW email address.

You should submit your exercise using the assignment dropbox linked on the main course web page.