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CS 283: Systems Programming

H4 – Homework 4: FILE I/O

1. General Description of Assignment

This assignment follows the following specifications.

Within a subdirectory, you have several files some of which (with an extension .txt) are plain text.

* Search within each of these files for a string specified as the first parameter, for example abcde.
  + If the file does contain the string (abcde), the program should replace the string everywhere with another string specified as the second parameter, for example xyz.
  + If the first string (abcde) does not exist within the file, the program should insert it (abcde) immediately before a string specified as a third parameter, for example pqrst.
  + If the third string (pqrst) does not exist, your program should do nothing.
* Print a log of your program's activities to stdout.

This process is done for all regular files with the file extension .txt in the

directory indicated by the path in the first command line argument. Each file

is read into a character buffer, the string is manipulated, and then the

string is written back to the buffer.

1. Hardware/Software Used

This assignment was developed on a mac running Mac OS Sierra, but was tested on tux.

1. Review

Overall, this assignment was not extremely difficult, though I did have some trouble. I was having some trouble using malloc to manually allocated char arrays for the manipulation of the strings. I learned a lot about the allocation of arrays and how to manipulate strings. I also got more familiar with the c high level file i/o as I had not used the fopen, fread, fwrite and fclose commands before this homework.

1. Improvements

I don’t think there are any real improvements that can be made to this assignment. The purpose was to gain some experience using the tools mentioned, and this assignment successfully fulfilled that purpose. I now have a better understanding of these tools and will be able to use them in assignments in the future.