COEN 11 Lab 10

Steps

1. Open up Terminal and connect to the Linux computers:
   ssh -l username linux.dc.engr.scu.edu
2. Go to COEN 11 directory: ***cd coen11***
3. Make a new directory: ***mkdir lab10***
4. Copy the contents of lab9 into 3 new files:
   a. ***cp lab9.c main.c***
   b. ***cp lab9.c list.c***
   c. ***cp lab9.c files.c***

Steps (cont)

5. Make a header file and makefile
   a. ***touch lab10.h***
   b. ***touch makefile***
6. Compile the file: ***make lab10***
7. To create an empty file: ***touch data.txt***
8. Test your file: ***./lab10 data.txt autosave.bin 12345***
9. After exiting your program, check the file contents: ***cat data.txt***

Requirements

Split up lab 9 into 3 files: main.c files.c and list.c. Each file will be responsible for their respective functionalities. The header file will be included in every file, and should contain all structure definitions and function declarations as needed.

For encryption, modify your main function so that it passes the key from the third command line argument to your save_all and read_all functions. Use atoi(argv[3]) to get the key as an integer. You should perform encryption before writing to the data file and decryption before inserting into your list.

Your makefile will contain your gcc command to compile your code. Make sure that you add all the proper flags to your makefile so it compiles correctly with threading.

You will turn in a zip file containing a .h file, main.c, files.c, list.c, and a makefile. Do not include the executable in your submission.

When Submitting the Code...

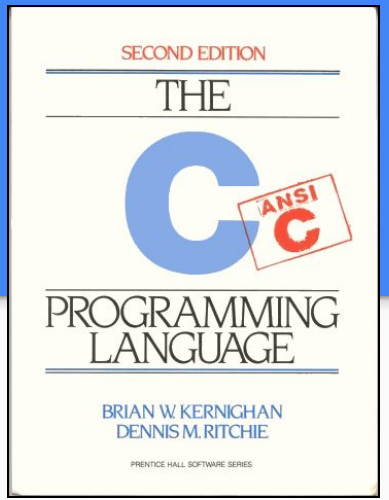
Add comment at the top of the page with…

- Your name
- Course title
- Lab number
- Lab time and date

```
/* Emma Allegrucci
 * COEN 10
 * Lab 5
 * Monday 2:15pm
 */
```

Make sure there is proper code alignment and comments.

Helpful Resources



*** “The C Programming Language, 2nd Edition” ***

C: https://devdocs.io/c/

Terminal commands:
https://cheatography.com/davechild/cheat-sheets/linux-command-line/

Vim commands: https://vim.rtorr.com/

Threads: https://www.geeksforgeeks.org/multithreading-c-2/