

COEN 11 Lab 8

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. Copy the contents of lab2 into a new file: ***cp lab7.c lab8.c***
4. Edit lab3: ***vi lab8.c***
5. Compile the file: ***gcc -o lab8 lab8.c***
6. To create an empty file: ***touch data.txt***
7. Test your file: ***./lab8 data.txt***
8. After exiting your program, check the file contents: ***cat data.txt***

Requirements

Create 2 new functions, which call recursive functions:

void back_lists (void) ~ prints the list backwards by calling backward_list (recursive) function with the head node(s) as parameter.

void back_names (void) ~ prints all the names in the list backwards by calling the backward_name (recursive) function. This function has a while loop and each node's group name is sent to the recursive function.

The new functions would also print a statement if the list is empty, similar to the list function.

Other functions:

quit() ~ calls the save_all function, and then calls the delete_list (recursive) function with the head node(s) as parameter.

Create 3 recursive functions:

void backward_list (NODE *) ~ recursive function which calls the same function with the next element in the linked list, and then prints the name and size of each group.

void backward_name (char *) ~ recursive function which calls the same function with the next character in the name, and then prints it one character at a time.

void delete_list (NODE *) ~ recursive function which calls the same function with the next element in the linked list, and then calls the free function for each group.

Make sure to have an exit condition in the recursive functions, so that it doesn't go into infinite loop.

Note: If you are using Lab 6, make sure to use 'for' loop for multiple lists, and call the recursive functions with each list's head.

When Submitting the Code...

Add comment at the top of the page with...

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

Make sure there is proper code alignment and comments.

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

Helpful Resources

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

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

C: https://www.tutorialspoint.com/c_standard_library/index.htm

Terminal commands:

<https://cheatography.com/davechild/cheat-sheets/linux-command-line/>

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

