CSCD 240
Lab 13

I have provided an **<u>unchangeable</u>** cscd240Lab13.c file. Your task is to write the functions.

The structure will contain:

char *street;
char *city;
char *state;
int zip;

The menu portion will contain:

1) Print the array sorted by street
2) Print the array sorted by city
3) Print the array sorted by state then city then by zip
4) Print the array sorted by zip
5) Quit

You must verify range for the menu.

The input will come from a file, name entered by the user. I have provided all the code for opening the file.

The sorts, stated above, come from calling qsort passing as the 4th parameter the function pointer to the proper compare function. You will need to write the compare functions – NOTE: the compare functions are each passed two Address objects as const void *.

There is no hidden agenda, just trying to get you to work with structures that contain pointers, and function pointers.

<u>To Turn In</u>

Submit a zip file of the Lab13 folder
- Containing your C files and H file(s).
- My Makefile
- Containing an output capture from running your program named cscd240Lab13out.txt.
- Containing a valgrind run to ensure you are not leaking memory named cscd240Lab13val.txt

Your zip named your last name first letter of your first name lab13.zip (Example: steinerslab13.zip)

Note: For the sample run below, I shortened the menu prompts. Your prompts will not be this short

Please enter the name of the input file input.txt

1 - 5 (5 to Quit) 1
123 Anywhere
Spokane WA 99223

2910 Sudlow
Glendive MT 59301

305 Caravan
Billings MT 59105

318 NW St
Washington DC 10280

319F CEB
Cheney WA 99004

500 Sprague Ave
Spokane WA 99201

6405 Colton
Billings MT 59106

1 - 5 (5 to Quit) 2
305 Caravan
Billings MT 59105

6405 Colton
Billings MT 59106

319F CEB
Cheney WA 99004

2910 Sudlow
Glendive MT 59301

123 Anywhere
Spokane WA 99223

500 Sprague Ave
Spokane WA 99201

318 NW St
Washington DC 10280

1 - 5 (5 to Quit) 3
318 NW St
Washington DC 10280

305 Caravan
Billings MT 59105

6405 Colton
Billings MT 59106

2910 Sudlow
Glendive MT 59301

319F CEB
Cheney WA 99004

500 Sprague Ave
Spokane WA 99201

123 Anywhere
Spokane WA 99223

1 - 5 (5 to Quit) 4
318 NW St
Washington DC 10280

305 Caravan
Billings MT 59105

6405 Colton
Billings MT 59106

2910 Sudlow
Glendive MT 59301

319F CEB
Cheney WA 99004

500 Sprague Ave
Spokane WA 99201

123 Anywhere
Spokane WA 99223

ssteiner@cscd-linux01:~/cscd240s13/Lab13$

==1904== HEAP SUMMARY:

==1904==   in use at exit: 0 bytes in 0 blocks

==1904==   total heap usage: 23 allocs, 23 frees, 958 bytes allocated

==1904==

==1904== All heap blocks were freed -- no leaks are possible

==1904==

==1904== For counts of detected and suppressed errors, rerun with: -v

==1904== ERROR SUMMARY: 0 errors from 0 contexts (suppressed: 0 from 0)

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