

CSCD 240

Lab 17

I have provided an **unchangeable** cscd240Lab17.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.

The input will come from a file, name entered by the user. You must ensure the file opens.

The sorts, stated above, come from calling selectionSort passing as the 3rd parameter the function pointer to the proper compare function. You will need to write the compare functions and the selectionSort – NOTE: the compare functions are each passed 2 Address objects.

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

To Turn In

Submit a zip file of the Lab17 folder

- Containing your C files and H file(s).
- My Makefile
- Containing an output capture from running your program named cscd240Lab17output.txt.
- Containing a valgrind run to ensure you are not leaking memory named cscd240Lab17Val.txt

Your zip will be named your last name first letter of your first name lab17.zip (Example: steinerslab17.zip)

ssteiner@cscd- linux01:~/cscd240s17/Lab17\$./lab17	6405 Colton Billings MT 59106	319F CEB Cheney WA 99004
Please enter the name of the input file input.txt	319F CEB Cheney WA 99004	500 Sprague Ave Spokane WA 99201
1 - 5 (5 to Quit) 1		
123 Anywhere Spokane WA 99223	2910 Sudlow Glendive MT 59301	123 Anywhere Spokane WA 99223
2910 Sudlow Glendive MT 59301	123 Anywhere Spokane WA 99223	1 - 5 (5 to Quit) 4 318 NW St Washington DC 10280
305 Caravan Billings MT 59105	500 Sprague Ave Spokane WA 99201	305 Caravan Billings MT 59105
318 NW St Washington DC 10280	318 NW St Washington DC 10280	6405 Colton Billings MT 59106
319F CEB Cheney WA 99004	1 - 5 (5 to Quit) 3 318 NW St Washington DC 10280	2910 Sudlow Glendive MT 59301
500 Sprague Ave Spokane WA 99201	305 Caravan Billings MT 59105	319F CEB Cheney WA 99004
6405 Colton Billings MT 59106	6405 Colton Billings MT 59106	500 Sprague Ave Spokane WA 99201
1 - 5 (5 to Quit) 2		
305 Caravan Billings MT 59105	2910 Sudlow Glendive MT 59301	123 Anywhere Spokane WA 99223
1 - 5 (5 to Quit) 5 all done		

```

ssteiner@cscd-linux01:~/cscd240s17/Lab17$
==1904==
==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)
ssteiner@cscd-linux01:~/cscd240s17/Lab17$

```