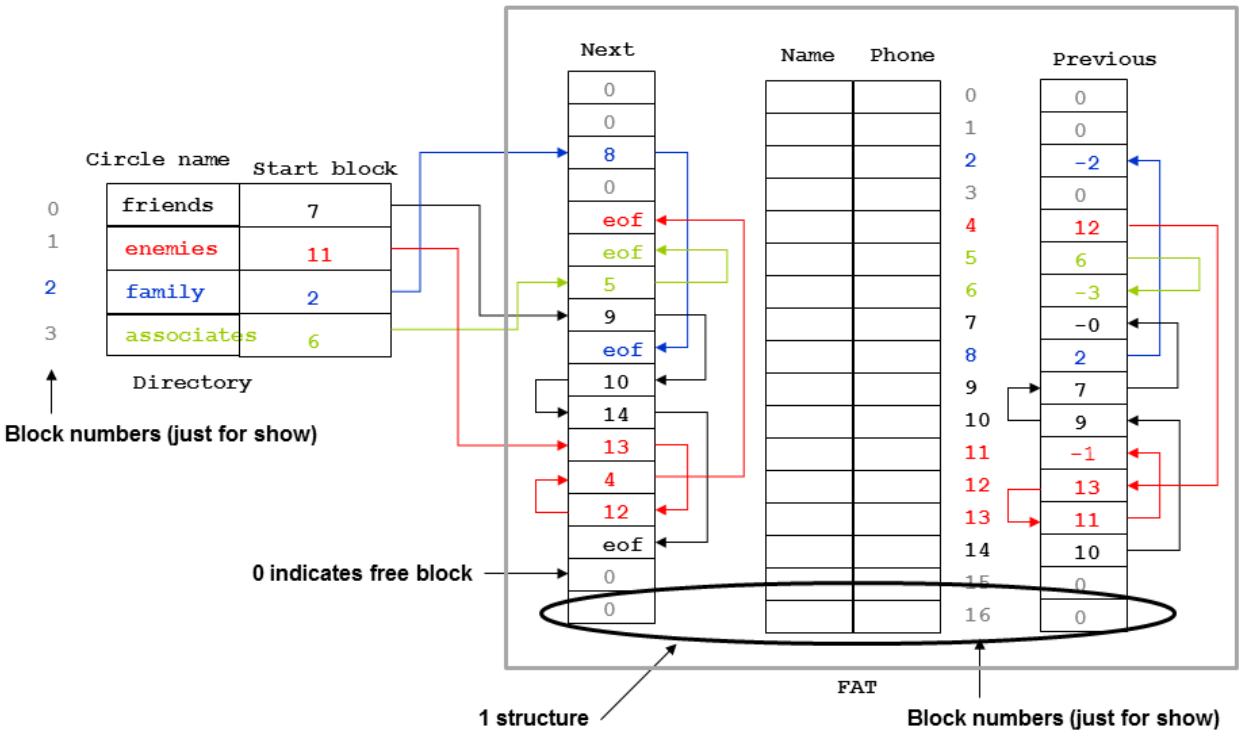
HF-7 CS230 20 points Due: Monday, October 29

It's that spooky time of year when the dead walk the Earth, things go bump in the night, and the Centers for Disease Control (CDC) recognizes the need for zombie preparedness (http://www.cdc.gov/phpr/zombies.htm). See also http://www.cdc.gov/phpr/_media/cymkPrint/11_225700_A_Zombie_Final.pdf

Like the CDC, we computer scientists must also plan for dire times. We may even be forced to behave as the 'Cycle Sluts' did in the cult classic 'Chopper Chicks in Zombietown' (http://en.wikipedia.org/wiki/Chopper_Chicks_in_Zombietown). A movie that yours truly even tried out for a part in (as a zombie, not a chopper chick), but I digress.

Regardless, in such dire times, we may be forced to rely upon our circle of friends to get us through. Assuming that you actually have a circle of friends and that your friends and family are not the same and that you probably have a list of business associates (dentist, car insurance agent, etc) and that you may even have a list of former friends (that you want to avoid like the plague - because all they want is to borrow money, or have become zombies!) you might find that a doubly-linked FAT would prove useful to manage your circle of friends. So, for this homefun assignment, let's write one! Just in case the end really is nigh…

Note the figure below:



* For what we are about to code next, we must enter quietly into the realm of genius.

Our directory (an array of structs) must contain a string (char[42]) for the name of the "circle" and and int pointing to the starting point in the FAT. You can fix the directory at length 10 (no need for malloc/calloc).

Our FAT (an array of structs) must contain two strings (char[42] and char[8]) for the name of the person, their phone number, and two ints pointing to the next block and the previous block. Note in the figure that a negative previous block tells you what entry in the **directory** you should refer too. You can fix the FAT at length 100 (no need for malloc/calloc).

* Compile! Do you hear me? Give my code... LIFE!

To populate your circle of friends open the hw7.data file and read in the contents. The file format is as follows:

circle_membership name phone_number op_code

The circle_membership will be a string. The name will be a string. The phone number will be a string (e.g. 7774013). The op_code will be a character ('a', 'd', 'q'), where 'a' indicates that you should add this person to the FAT (and possibly add the circle_membership to the directory), 'd' indicates that you should delete this person from the FAT (and possibly the circle_membership from the directory), 'q' indicates a query and means that you need to traverse the list and find all other persons who belong to this person's circle_membership and print their names and phone numbers.

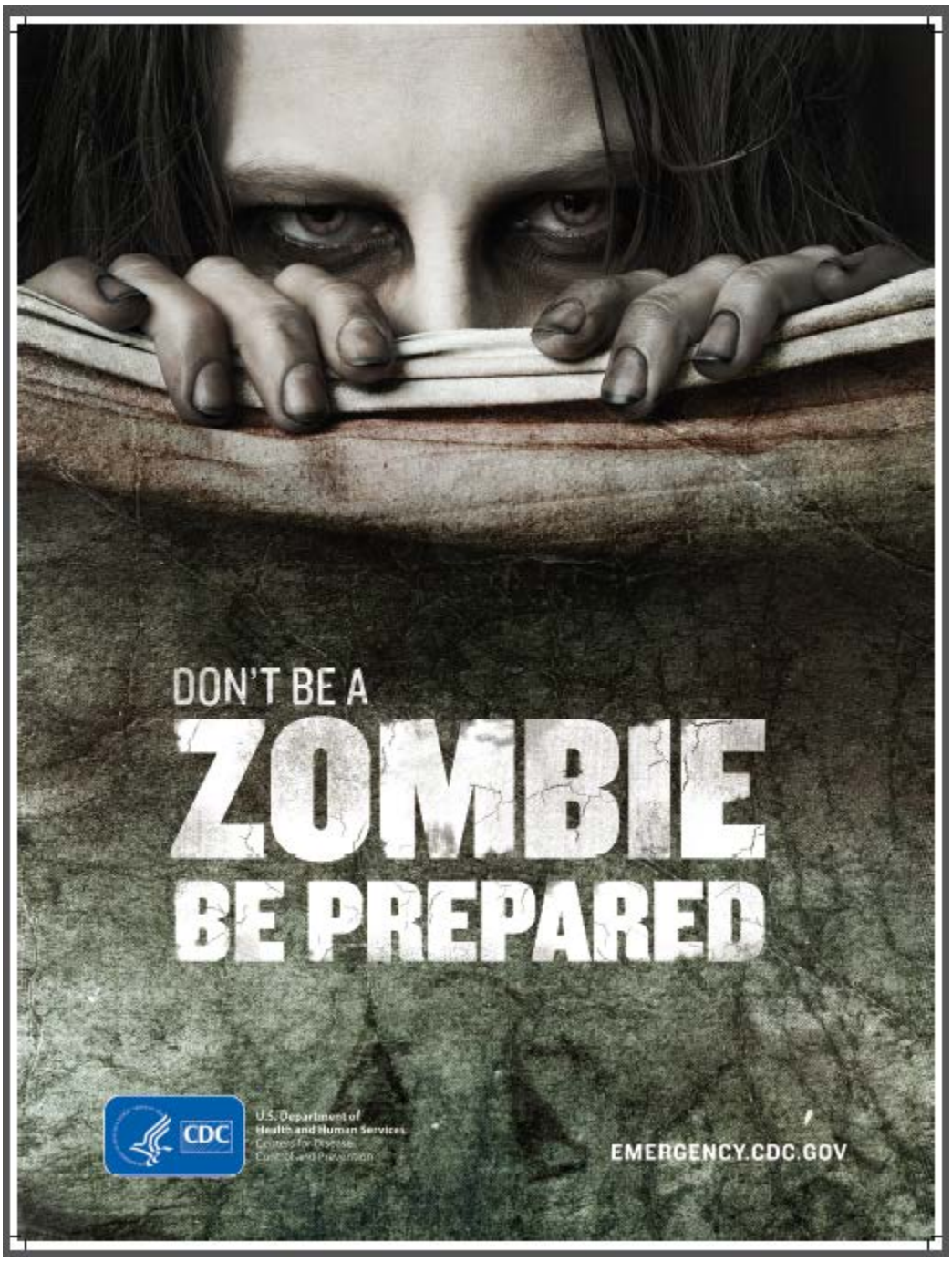
* Ah! You do not know the weight and length of the assignment you bear yourself! It is as full and as long as HW6 and you will labor on it these next fourteen eves. It is a wondrous assignment. Ohhhh, it is a ponderous assignment!

<u>REQUIREMENTS:</u>
1. Your program must run in Streibel 115/109 or on Gandalf.aero.und.edu.

2. Your full name must appear as a comment at the beginning of your program.

3. Your source code must be named hw7-yourname.c

3. Email your source (subject hw7-yourname) to [redacted]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