





The main program has been written for you and is called `main.c`. It reads a file of names, shuffles the names, and creates a variable of type ***alist***. The main program then asks the user for the names of the victims in order until the game is over (until there is just one player left alive), calling functions of the `assassin_list` to carry out the tasks involved in administering the game.

Your `assassin_list` will keep track of two different lists: the list of those currently alive and the list of those who are dead. Each is to be stored in a linked list. I am requiring you to use my node struct which is called `anode` (`assassin_node.h`). The ***anode*** struct has three data fields: one for the name of the person, one for the name of the killer and a “next” field to keep track of the next value in the list.

For this particular program, it can be convenient to store the kill ring in what is known as a “circular” linked list. Normally lists have the value “null” stored in the next field of the last node of the list. Such lists are known as “null terminated” lists. In a circular list, the final element stores a reference to the first element in the list. The assassin task involves a circular chain of targets, so this can be a convenient structure to use. It can also lead to infinite loops and other problems.

You will probably want to write your own testing program. When your code is in good shape, you can use the main program to make sure it works properly. A log of execution for program appears at the end of this write-up. Your program should exactly reproduce the format and general behavior demonstrated in the log, although you won’t exactly recreate this scenario because of the “shuffling” of the names that main performs.

In terms of correctness, your program must exhibit the behavior in the executable. In terms of style, I will be grading on your use of comments, good variable names, consistent indentation and good coding style to implement these operations.

**Submission Instructions:** Submit the code on Canvas under Assignment 3 Submission link as ***assassin\_list.c***.

### **Log of execution (user input underlined)**

Current kill ring:

```
Bobby Warner is stalking Joe Martin
Joe Martin is stalking Ruth Martin
Ruth Martin is stalking Tad Martin
Tad Martin is stalking Phoebe Wallingford
Phoebe Wallingford is stalking Erica Kane
Erica Kane is stalking Anita Santos
Anita Santos is stalking Jackson Montgomery
Jackson Montgomery is stalking Bobby Warner
```

Current graveyard:

next victim? Joe Martin

Current kill ring:

```
Bobby Warner is stalking Ruth Martin
```

Ruth Martin is stalking Tad Martin  
Tad Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Erica Kane  
Erica Kane is stalking Anita Santos  
Anita Santos is stalking Jackson Montgomery  
Jackson Montgomery is stalking Bobby Warner  
Current graveyard:  
Joe Martin killed by Bobby Warner

next victim? Joe Martin  
Joe Martin is already dead.

Current kill ring:  
Bobby Warner is stalking Ruth Martin  
Ruth Martin is stalking Tad Martin  
Tad Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Erica Kane  
Erica Kane is stalking Anita Santos  
Anita Santos is stalking Jackson Montgomery  
Jackson Montgomery is stalking Bobby Warner  
Current graveyard:  
Joe Martin killed by Bobby Warner

next victim? Tad Martin

Current kill ring:  
Bobby Warner is stalking Ruth Martin  
Ruth Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Erica Kane  
Erica Kane is stalking Anita Santos  
Anita Santos is stalking Jackson Montgomery  
Jackson Montgomery is stalking Bobby Warner  
Current graveyard:  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Bobby Warner

Current kill ring:  
Ruth Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Erica Kane  
Erica Kane is stalking Anita Santos  
Anita Santos is stalking Jackson Montgomery  
Jackson Montgomery is stalking Ruth Martin  
Current graveyard:  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Erica Kane

Current kill ring:

Ruth Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Anita Santos  
Anita Santos is stalking Jackson Montgomery  
Jackson Montgomery is stalking Ruth Martin

Current graveyard:

Erica Kane killed by Phoebe Wallingford  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Anita Santos

Current kill ring:

Ruth Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Jackson Montgomery  
Jackson Montgomery is stalking Ruth Martin

Current graveyard:

Anita Santos killed by Phoebe Wallingford  
Erica Kane killed by Phoebe Wallingford  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Menaka Abraham

Unknown person.

Current kill ring:

Ruth Martin is stalking Phoebe Wallingford  
Phoebe Wallingford is stalking Jackson Montgomery  
Jackson Montgomery is stalking Ruth Martin

Current graveyard:

Anita Santos killed by Phoebe Wallingford  
Erica Kane killed by Phoebe Wallingford  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Phoebe Wallingford

Current kill ring:

Ruth Martin is stalking Jackson Montgomery  
Jackson Montgomery is stalking Ruth Martin

Current graveyard:

Phoebe Wallingford killed by Ruth Martin  
Anita Santos killed by Phoebe Wallingford  
Erica Kane killed by Phoebe Wallingford  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner

next victim? Ruth Martin

Game was won by Jackson Montgomery

Final graveyard is as follows:

Ruth Martin killed by Jackson Montgomery  
Phoebe Wallingford killed by Ruth Martin  
Anita Santos killed by Phoebe Wallingford  
Erica Kane killed by Phoebe Wallingford  
Bobby Warner killed by Jackson Montgomery  
Tad Martin killed by Ruth Martin  
Joe Martin killed by Bobby Warner