Advanced Programming

COEN 11, Fall 2014

Lab 6: Array of Linked Lists

Restaurant Waiting List with categories

Now your restaurant waiting list has 4 ranges of group sizes
- 1-2
- 3-4
- 5-6
- Greater than 7

Implementation
To implement it use an array of linked lists:
- One list per range
- Use a switch to select the list

Menu
The waiting list is created interactively with the following commands (menu):
- 1 name number – insert a node with the name and number of people specified in the corresponding list
- 2 table_size – show and delete the oldest node with number <= table_size from the best list (start from the closest and move up)
- 3 – print the list for each range: name and number, from oldest to newest
- 4 – quit

Functionality
- Do not allow names to repeat
- Check all the lists before inserting
- Keep your lists in the oldest-to-newest order
- Always insert a new entry at the end of the appropriate list
- Use Tail pointers to make it more efficient
- To show the lists:
  - traverse each list using pointers
- To sit a group:
  - traverse each list, from the closest to the smallest range,
  - change pointers to eliminate the node,
  - free the node at the end

Requirements
- Array of lists

➢ No global variables
➢ Names cannot repeat
➢ Free all the nodes before quitting (destroy array of linked lists)

Extra Credit

Add a command to change the size of a group for a reservation.