# Advanced Programming
# COEN 11

Lab 6

# **Lab 6**

- Waiting List with 4 ranges of group sizes
  - 1-2
  - 3-4
  - 5-6
  - Greater than 6
- Use an array of linked lists
  - One list per range

# Lab 6

- The waiting list is created interactively with the following commands
  - 1 name number – insert a node with the name and number of people specified in the corresponding list
  - 2 opening – show and delete the oldest nodes that fit the opening, smallest first
    - Do not traverse lists with sizes larger than the opening
  - 3 – print the list for each range: name and number, from oldest to newest
  - 4 size – print the entries that have group <= size
    - Do not traverse lists with groups larger than the size
  - 0 – quit

# Lab 6

- 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
  - Have tail pointers
- To show the lists
  - Traverse each list using the the pointers
- To remove entries
  - Traverse each list, from the smallest to the largest range
  - Change pointers to eliminate the node
  - Free the node at the end

# Lab 6

- Requirements
  - Define a struct list
    - Head and Tail
  - Array of struct list
    - Heads and tails need to be initialized
  - Free all the nodes before quitting
    - New function for option zero

# **Lab 6**

- Extra Credit
  - Add an option to change the size of a group for a reservation
    - 5 name old_size new_size
      - Traverse the right list searching for name

# End

Lab 6