

Week 07 (Wednesday)

I have distributed an exercise to everyone's CVS repository called Lab08. **THIS EXERCISE WILL NOT BE SUBMITTED, NOR WILL IT BE GRADED.** There is no handout, but you will demonstrate the functionality of it, and there are comments in the code distribution that are also helpful.

The exercise contains a class called Queue, which the students will complete. (Much of it is already provided.) There are also two other classes that are finished (MyTableModel and QueueDemo). When the student has finished writing the Queue class, they can run the main method in the QueueDemo class to run a GUI that demonstrates how their Queue works.

I have provided a working solution of the Queue class on dropbox. Obviously, do not distribute this to the students. Before class, please prepare a finished example of the exercise by simply copying the code from my solution into the Queue class on your computer. Run the GUI on the screen and talk to students about how the circular array works. (I talked about circular arrays being used as queues during the lecture, but did not show this cool demo). To put a value into the queue (enqueue), type it into the box on the right and press "enter". To remove a value from the queue (dequeue), press the button. Spend a few minutes demonstrating the GUI and be sure to demonstrate and discuss the following:

- How the array gets resized (we are doubling it when it is full, and moving everything to the front).
- How the values can "wrap around" when some removes have taken place, and the headIndex goes beyond the end of the array.
- Talk about how the headIndex goes back to 0 when the last element has been removed