

ICS-211 Lab

Assignment 6

The CircularArrayQueue Class

- It is a generic class
- Implemented with arrays
 - The queue is a fixed size (i.e., it can fill up)
 - All operations must be $O(1)$ (i.e., don't "shift" elements in array to add/remove)
 - Need to handle wrap-around
- Class needs a constructor that allows size of queue to be specified
- The add and offer methods are similar
 - Base code is the same
 - Difference is when queue is full, one throws an exception while the other returns boolean
 - Similarly, peek/element and poll/remove follow the same pattern
 - The point is...no need to duplicate code (be a good s/w engineer)

Testing

- Tests for CircularArrayQueue
 - A JUnit template has been provided as a starting point
 - It is not complete (and won't compile)
 - There are some comments to provide hints
 - The tests are not necessarily exhaustive (depends a lot on how you implement tests)
- Tests for Foodland simulator
 - JUnit template also provided
 - Not complete (may have compiler and/or logic errors)
 - More difficult to test w/ JUnit since we're dealing w/ console output
 - Can easily test to make sure simulation terminates.
 - You can redirect console output and check for expected text