Lab Week 3: Queue implementations

Goals:

- **Implement a Queue class using a circular array**
- **Implement a Queue class using a linked list**

Use the starter files in canvas. Make sure that you implement to the interface given there.

Make sure that each of your functions has a docstring that describes its purpose.

For both Queue implementations:

- Attempting to dequeue an item from an empty Queue will raise an IndexError
- All methods must have O(1) performance (the speed must not be affected by the size of the queue)

For the array implementation:

- Attempting to enqueue an item into a full Queue will raise an IndexError
- As with your stack array implementation, you may NOT use any of the following Python List operations:
  - append()
  - insert()
  - extend()
  - remove()
  - pop()
  - + (concatenations)
  - List slicing (e.g. some_list[2:9])

Submit the following files to Canvas:

- **queue_nodelist.py**: Contains a linked based implementation of the **Queue** class
- **queue_array.py**: Contains a linked based implementation of the **Queue** class
- **queue_nodelist_tests.py:** Contains comprehensive tests to ensure your implementation of Queue works correctly.
- **queue_array_tests.py:** Contains comprehensive tests to ensure your implementation of Queue works correctly.