**Assignment 7**

**Queue ADT**

**Array Implementation (Circular Queue)**

**Description**

Write a Queue class that uses an array for the underlying data structure. Therefore, this implementation should be a circular queue.

**Class Methods**

Canonical functions - The constructor will take one parameter that will be the size of the queue.

Enqueue - Puts the data item at the end (tail) of the queue.

Dequeue - Removes and returns the data item at the front of the queue.

Front - Returns a reference to the data at the front of the queue. This will allow the consumer to modify the element at the front of the queue.

Size – Returns the number of items currently in the queue.

isEmpty - Returns true if the stack is empty.

isFull - Returns true if the queue is full.

**Stipulations**

1. You must use the array class you created in Assignment 1.
2. You must throw exceptions for both Underflow and Overflow conditions.
3. The queue will remain a fixed size.