Cosc 4740 Program 1

Due Date: Sept 06 at 5pm

Goal: A programming warm-up and learn git exercise.Grade: 50 points.Writing in C++ and it must be able to be compiled and run on the department linux systems.

QueueArray Class: To be used in Homework #2

Implement a variable sized generic **QueueArray** class that implements an array of queues, and exports the following functions:

- 1. *int* **Enqueue**(*type* item, *int* index): Enqueues *item* in the queue of array index *index*. Returns 1 if *item* is successfully enqueued; -1, if *index* is out of range; 0, otherwise
- type Dequeue(): Dequeues an item from the first non-empty queue in the array, *i.e.*, from the non-empty queue at the lowest numbered index in the array. Returns the dequeued item, if there is at least one item in the queue array; 0 otherwise.
- *3. int* **Qsize**(*int* index): Returns the number of items in the queue at array index *index*; -1, if index is out of range.
- *4. int* **Asize**() : Returns the size of the array.
- 5. *int* **QAsize**(): Returns the total number of items stored in the array of queues.
- 6. *type** **Qstate**(*int* index): Copies all items stored in the queue at array index *index* in an array. Returns a pointer to this array; NULL, if index is out of range.

Implement the **QueueArray** class in such a way that an example **QueueArray** object *intqueue* consisting of an array of 10 integers queues may be constructed using the following statement:

QueueArray <int> *intqueue* (10); //c++ version.

Write or use my driver file for testing. Your file is to be called, queue_array.h When turning in the program and output, use the original driver file (no changes will be needed to the file).

Turning in the Assignment: (a hard copy and soft copy)

Hard Copy:

- A cover page
 - Your Name, cosc 4740
 - a repo name (see github and below for your repo name),
 - LAB Section #
 - Statement of help. (not okay leave blank)
- Print the output of the driver.

Soft copy:

- 1. Use this link to create your repo <u>https://classroom.github.com/a/q0xi6mZJ</u>
- 2. Edit the readme.md file, add the following:
 - o Name
 - How to compile the code if there is no makefile.
 - List anything that doesn't work (that you know of)
- 3. Lastly ensure everything has been uploaded to the github website and not just the local repo.

Code will be graded on correctness, comments, and coding style.

A note, there is a file the repo called, git_checkin_suggestion.txt. It is a suggestion of how you would properly test and check in the code. It is not a requirement.