

Cosc 4740 Program 1

Due Date: Sep 04.

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
2. *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. When turning in the program and output, use the original driver file (changes for includes name is ok).

Turning in the Assignment:

"Hard" copy/Email:

- Submit an email to instructor with the subject: program #1
- Email includes:
 - Your Name, cosc 4740 a repo name (see github and below for your repo name), Section #. Statement of help.
 - Attach a file with the output of the driver.

Soft copy:

1. Use this link to create your repo https://classroom.github.com/a/LBj_ydO9
2. Use the git_checkin_requirements document to check in the assignment to the repo. This is 10 points of 50. Failure to read directions is not an excuse.
3. Edit the readme.md file, add the following:
 - Name
 - How to compile the code, if there is no makefile.
 - List anything that doesn't work (that you know of)
4. Lastly ensure everything has uploaded to the github website and not just the local repo.

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