CS231 Data Structures

Homework 06 Circular Queue (Array Based)

C++ Plus Data Structures 6/e

[Homework Section on Moodle]

Homework 06 - Circular Queue

- Download, read, and **carefully** follow the instructions attached to this assignment.
- The test driver and some other scaffolding are provided in the .zip file attached to this assignment.

Assignment

Deliver a working implementation of the Queue Data Structure using a circular array-based approach.

You must give proper acknowledgement of your sources and demonstrate an understanding of any code that you reuse by adding appropriate comments.

Requirements

Your implementation must be based on the project folder "scaffolding" for this assignment from your instructor. You may not change the Queue.hpp file without permission from your instructor.

You must implement an automated regression test in the given main-test.cpp file. This test should clearly identify all of the test cases covered by your test. The test program must automatically check for the correct results or, at minimum, clearly output the results of the test by using the ToString() methods.

Your implementation must compile, run, pass your automated regression tests, and terminate normally.

Grading Rubric

Grade	Criteria
Zero	no work submitted
D-	work does not demonstrate sufficient effort
C	Test program covers all the basic test cases, compiles, runs, does not crash, and terminates normally.
A	The Queue Class is thoroughly tested, all test cases pass without error, code is well commented and demonstrates an understanding of the implementation.

Submitting Your Work

Submit a well structured project folder that is structured and organized exactly as shown below. This should match what we have done for previous project homework.

```
CircularQueueArray
    appl
```

```
    ItemType.cpp
    ItemType.hpp
    main-test.cpp
lib
    Queue.cpp
    Queue.hpp
Makefile
```

- Compress the content of this folder into a single .zip file.
- You must "make clean" the project before you compress it.
- Your zip file must be named:

```
CS231-HW06-Queue-Yourlastname.zip
```