# CST 370
# Spring 2019
# Midterm (Coding)

Name: ___Christopher Holmes_____

Email: ___cholmes@csumb.edu_____

- Do not start until told to do so.
- Use your time wisely—make sure to answer the questions you know first.
- **Total points = 50**
- **Read the questions carefully.**

**Submission instruction**: zip all the files, including the files provided to you (with any updates you may have made), into a single file "midterm-coding-lastname" and submit to the Midterm coding area on iLearn.

Given the Queue.h and Queue.cpp files:

a. Add a new method GetNthQueue(N) in "Queue.cpp" that retrieves the $N^{th}$ element (from the front) of the queue (if valid). The first $(N-1)^{th}$ elements in the queue should be removed after the operation. Make changes in "Queue.h" if necessary
b. Write a separate test program "test_nth_queue" that reads a number (N) from user and utilizes the "GetNthQueueu(N)" to retrieve the $N^{th}$ element on the queue, print out the retrieved element, and also print out the contents of the queue after that. Examples of tests can be as follows:
   - Declare queue q1
   - Enqueue integers 10, 20, 30, 40 and 50 in order into q1 (use a loop)
   - Get input N (let's say N=3)
   - Retrieve $3^{rd}$ element from q1= 30
   - Contents of q1 becomes: 30, 40, 50