

COP 3502 Suggested Program Edits: Stacks, Queues

- 1) Update evalpostfix.c such that you error check for valid input - break out of the loop after the first invalid token is entered. If the stack size is more than 1 at the end, detect this also and mark as invalid.
- 2) Change the main of queuell.c so that instead of hard-coding enqueues and dequeues, you randomly generate 100 enqueues or dequeues, with a probability of 60% of an enqueue happening and a 40% probability of a dequeue happening. Guard against a dequeue from an empty list and print out appropriate information so you know the simulation is working properly.
- 3) Change queuell.c so that the node struct stores inside of it another struct, instead of just an integer. Write your own main to test that the code still works.
- 4) Add prints to queue.c to prove that when the queue doubles capacity, the values get copied so that the front of the queue goes back to index 0. Create your own test case where the queue doubles size when the front of the queue is not at index 0.
- 5) Solve the elevator problem on Kattis using one of the posted queue classes by implementing a BFS. The link to the problem is here: <https://open.kattis.com/problems/elevatortrouble>.