HW 1 - CSCE350

Q1
Left is top of stack, right is bottom, stack is s, s = [] at start
1. push(a) s=[a]
2. pop() return a, s=[]
3. push(b) s=[b]
4. push(c) s=[c,b]
5. pop() return c, s=[b]
6. push(d) s=[d,b]
7. pop() return d, s=[b]
8. push(e) s=[e,b]
9. pop() return e, s=[b]
10. pop(), return b, s=[b] FINAL

Q2
Left is front of queue, right is end, queue is q, q = [] at start
1. enqueue(a) q=[a]
2. enqueue(b) q=[a,b]
3. dequeue() return a, q=[b]
4. enqueue(c) q=[b,c]
5. enqueue(d) q=[b,c,d]
6. enqueue(e) q=[b,c,d,e]
7. dequeue() return b, q=[c,d,e]
8. dequeue() return c, q=[d,e]
9. enqueue(f) 1=[d,e,f] FINAL

Q3
See question-3.cpp

Q4
My solution involves first collecting user input for the number of lockers and number of passes. Then my solution involves going through a nested loop in which the outer loop iterates from 1 to the number of passes. the inner loop iterates over the lockers and toggles them based on the pass number. If the pass number is two, every other locker is toggled.

It has been a little while since I have done c++ programming so I had a lot of syntax errors at the start, as well as some errors in compiling my program. However once I refered to old coursework for general syntax help as well as adapting an old makefile, I was able to solve the issue.

I have included a makefile within the zip file. It will allow you to execute "make run" in the directory of the zip file to compile and run the code.