CIS 200 Lab Exercise XI Fall 2016

**Queues**

In this lab you will use 2 queues to simulate a stack. You are restricted to ONLY use the following queue operations empty, front, pop and push.

**template<class T>**

**class Stack**

**{**

**public:**

**Stack(); // create an empty stack**

**bool empty(); // returns true if the stack is empty**

**void push(T item);// adds item to the top of stack**

**void pop( );// removes an item from the stack**

**T top( );// returns at the top of the stack**

**private:**

**queue<T> items; // holds the items you push (in reverse)**

**queue<T> aux; // helpful for pop and top**

**}**

1. Implement the Stack above using only the queue operations front, empty, pop, and push.
   1. You can write a size function.
2. Create a driver program that pushes 1 – 10 into a Stack<int> and then pops them out (printing each one as it is popped)

And then pushes "cat", "dog", "frog", "fish" into a Stack<string> and then pops them out (printing each one as it is popped)

Submit a well commented program in a word document.

Include some examples output (commented out at the bottom)