## STACK AND QUEUE METHODS (see reference sheet for method explanation)

A. STACK
   1. For your stack, insertion occurs at the _____ (first/last).

   2. For your stack, removal occurs at the _____ (first/last).

   3. Implement the following methods for a stack according to your specifications for insertion and removal (Assume the linkedlist of elements in the stack is called elements and is already available to you):
      a. `public boolean isEmpty()`

      b. `public Object pop()`

      c. `public Object push(Object item)`

B. QUEUE
   1. For your queue, insertion occurs at the _____ (first/last).

   2. For your queue, removal occurs at the _____ (first/last).

   3. Implement the following methods for a queue according to your specifications for insertion and removal (Assume the linkedlist of elements in the queue is called elements and is already available to you):
      a. `public boolean isEmpty()`

      b. `public Object pop()`

      c. `public Object push(Object item)`

**REFERENCE SHEET** (STACK AND QUEUE METHODS)

| **LinkedList Method Summary** | |
|---|---|
| void | `addFirst(Object o)`<br>Inserts the given element at the beginning of this list. |
| void | `addLast(Object o)`<br>Appends the given element to the end of this list. |
| Object | `getFirst()`<br>Returns the first element in this list. |
| Object | `getLast()`<br>Returns the last element in this list. |
| Object | `removeFirst()`<br>Removes and returns the first element from this list. |
| Object | `removeLast()`<br>Removes and returns the last element from this list. |
| int | `size()`<br>Returns the number of elements in this list. |

| **Stack Method Summary** | |
|---|---|
| boolean | `isEmpty()`<br>Tests if this stack is empty. |
| Object | `pop()`<br>Removes the Object at the top of this stack and returns that Object. |
| Object | `push(Object item)`<br>Pushes an item onto the top of this stack. |

| **Queue Method Summary** | |
|---|---|
| boolean | `isEmpty()`<br>Tests if this queue is empty. |
| Object | `pop()`<br>Removes the Object at the front of the list and returns that Object. |
| Object | `push(Object item)`<br>Adds an item at the front of the list. |