**Stacks, Queues, and List Notes**

**Stacks**

* FILO – first thing in will be the last thing out
* LIFO – the last thing in will be the first thing out
* Order 1 efficiency
* Behaviors
  + Top – Can only see top item of stack at all times
  + Pop - Items can be removed from only one end of the structure
  + Push - Items can be added onto only one end of the structure
  + isEmpty – Stack contains no items
  + isNotEmpty –Stack contains items

**Queues**

* FIFO – First thing in will be the first thing out
* LILO – Last thing in will be the last thing out
* Order 1 efficiency
* Behaviors
* First - Access to first element in the queue
  + Enqueue – Element is inserted at the back of the queue
  + Dequeue – Element is removed, accessed, or modified from front of the queue
  + isEmpty – Queue contains no items
  + isNotEmpty –Queue contains items

**Lists**

* AIAO – Anything in can be removed at any time or in any order
* Order N efficiency
* Behaviors
  + Locate - Access any element on the list
  + Add – Adds an item to the list
  + Remove – Removes an item from the list
  + isEmpty – List contains no items
  + isNotEmpty – List contains items