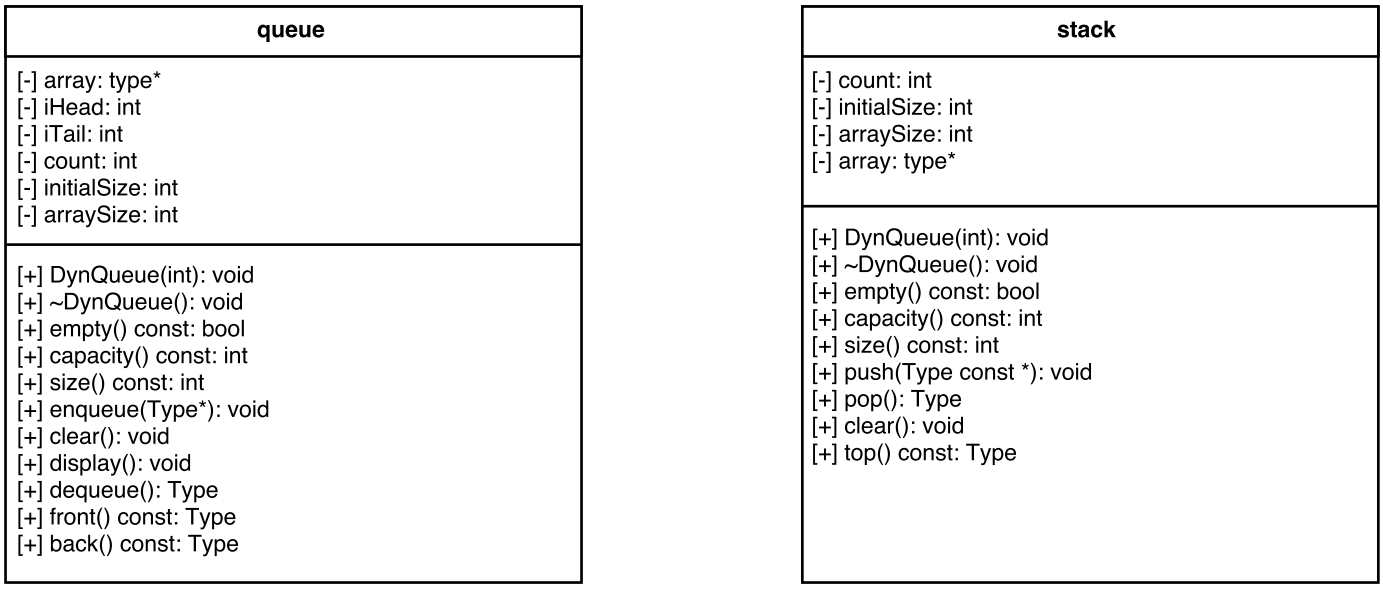
UML DIAGRAM



Class stack is an ADT that stores information in a Last-in-first-out fashion, the last item to be pushed on to the stack is the first item to be popped from the stack. The stack uses an array thats initialized when the object is first created and is resized when the array is full or a certain amount of free space is in the array. Before popping an element or getting the top element the array must be checked to see if its empty or not otherwise throws an underflow error.

Class queue is an ADT that stores information in a First-in-First-out fashion, the oldest item to be queued into the queue has first priority to be dequeued. The queue uses an array that is also initialized when the object is first created and is continuously resized throughout the program when the array is full or a certain amount of free space exists in the array. The head of the array is kept track with iHead and the tail of the array is kept track with iTail, iHead and iTail are both incremented by modulo of the current array size. Front, back, and dequeue all throw underflow errors if the queue is empty so the queue must be checked first to see if it isnt empty.