

STACK PUSH AND POP: These operations depend on which data structure is used to implement the stack. For example, as stack implemented using an array would have a worst case complexity of $O(n)$ for its push operation, as the array will potentially require resizing, a $O(n)$ operation. However, if the stack is implemented using a linked or doubly linked list, both the push and pop operation can be done in constant time complexity, $O(1)$, as only one memory address will need to be updated to add or remove a node.

STACK PUSH W/ QUEUE: Once again, the time complexity of these operations could vary depending on how they are implemented, but I will only evaluate for a linked list here as that is what I used. For the worst case of a push operation using queues, the entire queue would need to be dequeued and requeued. While the individual enqueue and dequeue operations run in constant time with a linked list, performing these operations for every item gives a worst case complexity of $O(n)$

STACK POP W/ QUEUE: For a linked list approach, pop operation only requires a single dequeue operation, meaning this only needs to update a couple of memory addresses, and giving a worst case complexity of $O(1)$.