

**Purpose:** The purpose of this project was to continue the progression on node based and array based items. This project we had to create array and node based items for stacks, and queues. For the stacks, the idea was to create a list with the first item added to the list as the “bottom” and the newest added item the “top.” For the queues, the idea was different; there was two variables in which we had to set, front and rear. With the queue, we used the idea of “first in, first out” so when going to dequeue our items, the object in the “front” would be removed, and when going to enqueue, we would add the item to the “rear” as that would be the last item to come out being the newest.

**Design:** The way I went about the array based lists was I decided to draw a picture and show where each variable would be needed to move/point in order to have a good idea about how to do it. For the node based items, I relied a lot on referring to our previous assignment, and also drawing pictures really helped clear up any confusion I had about when and why I may have needed a temp node based item to copy, or move things. In general, I found this project much easier than the lists.

**Problems:** The only main issue I had was going to test the items. After getting a test driver the day before, I ran into many issues and random things would happen with my functions that took me a while to figure out.

**Things to change:** There isn’t much that I would change for this project, I felt as though I did this the best possible way; at least the best possible way that made sense to me, however, I would like to see if after understanding what’s going on in the program to then see if I can shorten some of my functions, and increase the readability of my code.