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Project 10 Doc

The purpose of this program is going to learn how to template a program. First we had to code the program and then convert it into a template. So the core of the program was very similar to the program of last projects. We were using stacks, and only had m\_top instead of front and back. So basically, we were only working with the m back. The array stack was straight forward like the last project. In the parameterized constructor I would allocate the amount that was given and set them all equal to that value. Then the copy and the operator = would set the m top to the other m top and then set the values based on that amount that was set. The top would just return what was a the m top location. The push would increase the m top and add the value to the top of it. Then the pop would just decrease the size which would get rid of that value. Then full and empty would check if the m\_top was 0 or a 1000. Then the clear would just set m top back to 0. The serialize would print out all the data for the corresponding data and it would get called by the operator <<. The node class was similar in that we had to all the same things, but you had to move backwards in the array because you only had one variable that kept track of the size. Because of that we needed to transverse the stack with only m\_top and m\_next. The node class to move around the stack you had to move the the next node and check if that it was empty. So everything was based off getting around inside the node. The template was different for the node because of the memory allocation. Every time you made a new node, you had to template it.

I would say that some of the difficulties that I had with this project was mostly due to templating. I definitely tried to overcomplicate a lot of things. In the parameterized constructor I tried to make size t a template along with Datatype, and I couldn’t figure out how to template with two different types. Then I had some trouble with the friend functions. I realized that there had to be forward declarations for them. If I had some more thing, I think that there would be easier was for me to write some of the functions. I still am not sure if the clear functions should do something or just set the variable to null or 0.