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Project 4: Dynamic Arrays

For this project, we learn about the basics of pointers and their application in managing dynamic arrays. In addition, we were able to apply these skills with previous concepts in C++ such as structures, functions, and loops. From experience, I can definitely tell that utilizing pointers is efficient way to directly handle the dynamic arrays instead of actually attempting to manipulate the arrays itself.

For this project, I was having a bit of issues with the declaration of dynamic arrays instead of the structs because this was only allowed in C++11. As a result, when I compiled my code, I got a bunch of warnings in the terminal. Therefore, I had to email my professor Ersa and she said that having warnings when compiling the code is acceptable as most machines in the ECC uses C++11 instead of older versions in which this was not allowed.

Pointers allow us to directly go to the address of a variable. Thus, it allows to save valuable time when running our program. As a result, our programs are more efficient with pointers in terms of algorithm design. However, one should be very careful when using pointers since a very simple assignment mistake could lead to a wide arrange of bug issues that is potentially harmfully to the computer itself.

In this project, I was able to avoid these mistakes by double checking that I am assigning the pointers to right addresses. In other words, every one of my pointers is pointed to an array that assigned to them in the struct. In addition, the nested structures in this project allow me to get a deeper understanding of data abstraction in C++ and some object-oriented principles that will become very important as we move on into the semester. In summary, the principles I learn from this project are very valuable and I hope to continue learning them.