

Lab 3

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What did you learn from doing this lab?

- My biggest take away from this lab is the use of arrays in C++. Specifically, I learned the importance of passing arrays from function to function as a parameter, instead of having a function return an array. First off C++ warns you against doing this, but also it makes it difficult to track the size of the returned array. This is another lesson that I learned, that it is extremely important to always be aware of an array's size. This is because you can access outside of the bounds of the array, and as such have unintended consequences on items in memory.

What did you find challenging about the lab?

- My biggest challenge for this lab was not a single thing, it was more or less the fringe cases in testing my implementation. I did not have much of an issue finding general solutions to the requirements, however fringe cases seemed to always poke a hole in my plans. For instance, I spent more time than I should have on the function that gets the width of the horizontal axis, because I could not figure out why when the frequency was a multiple of 10, the axis was 10 units too long. Another challenge that I had was ensuring that functions were as cohesive as possible. While the pseudocode provided great structure, I still spent much time deliberating over how to best split up responsibilities so that each function had a clear singular task.

What would you recommend changing if this lab is reused in future years?

- There is not much that I would change from this lab. I believe the requirements are very clear, and there are many input and output examples so that students know what is expected of their final program. Furthermore, I really appreciated the structure lent by the pseudocode which made designing my program much easier. The thing I would change however is possibly giving a short lesson on the coding standard prior to the introduction of this first C++ lab. The reason for this is while I found the coding standard to be comprehensive, I would enjoy more visual examples as well as possible explanations as to why the syntax is the way that it is.