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Project 4

This project we were tasked with continuing to build our proficiency with C++, while implementing the use of dynamic memory allocation. I remembered DMA from CS135 and I felt it was a lot easier to use in C++, compared to C. Our program reads in a data file and takes the number of words, keys, an array of structs and then an int array that holds the sequence of how we're supposed to read the file. We also had to build our own string: copy, length and concatenation.

I decided to build everything in main and only build separate functions for my personal string library. Doing so, I was able to script the sequence that fit what I had in mind and I broke up my main into 3 sections: reading in data, deciphering the data and unallocating memory. I think that if I had spent my time better, I would've broken up each of the sections into their own functions. Although I am content with how it all came out in the end.

I had two major issues with this program that I wasn't able to fully develop. My string concatenation does not function properly and I plan on building it for future use. I realize that I depend on the internal string library too much and should know how it all works. The stringConcat function is still in my code but dormant, so I just read out each word as it discovers them. Therefore, it doesn't really save the phrase into the message dynamically allocated character array.Another Problem I ran into was deleting my dynamically allocated arrays as it will report no leaks or lost memory but it does so with errors. I isolated most of the errors down to the string copy function called within main, but was unable to determine what the issue was.

All in all, I think my main problem came from not giving myself enough time again. These programs are starting to grow in size and I don't think that I am giving them the attention that I should. Going forward, I am going to try and keep a calendar to keep myself on track. And also, making use of the SI services we are given.