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Lab Section: 1108

**Project 1**

The purpose of this program was to take a file supplied by the user, and read in all the data from it, print it to the terminal, and then use functions to sort this data to be printed to an output file. The file supplied by the user has to be opened within the function called readNames(). In this function the file is opened, and data transferred into a two-dimensional array to store the names supplied. After said data has been transferred it is then printed to the terminal to see the original order. Once the original order has been shown a function takes in the names array to sort it alphabetically and then by length. Each time the names have been sorted they are printed to the terminal. After sorting the names and printing them to the terminal, the sorted names are transferred to an output file.

The most challenging aspect of this project was getting the names to print to the output file correctly. I spent most of my time trouble shooting the print to file function and the read names function. It would print the alphabetically sorted names to the file, but then for the length sort it would only print junk. I could not figure out why it was printing junk, because both array sizes were sufficient to hold the data provided. I ended up trying different array lengths for the output file and I made some interesting discoveries. If I made the file larger, it would just populate it with more junk until the file was full. If I shortened the file, and it messed with the output to the terminal. I did not think either of these outcomes would happen just from changing the parameter of length to the file. I then played around with the idea of printing the length and alphabetical sorted data to separate output files, but after reading the project pdf I decided to use only one output file.

To compile this code I used the C++03 standard as stated in the lecture slides. If I had more time, I would have attempted to figure out a way to only use functions and have only function calls in the main program. I had a lot of trouble trying to find a way to have the right print outs when using the same functions, such as print to terminal. Print to terminal ends up being used in three different functions calls, that each have a different message printed out before them. I would most likely have to write separate print to terminal functions if I had wanted to go that route.