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Project One Documentation

**Purpose:**

The purpose of my program was to implement File I/O by having an input file with ten names and print the original order to the console. It also prints the alphabetical and length sorted two dimensional arrays to the console and two separate output files. The printing to the console is printed keeping the original order from the file and the sorting keeps the original order.

**Design:**

My design of this project was to get the bare minimum done first, then move onto the smaller details. I first implemented asking the user for their input file and then the output files. I knew that file i/o would be necessary as the names would need to be taken from a separate text file. This was stored in a two-dimensional character array. I also added another array for the position number to match the order placement from the file. To print the original output, I implemented a for loop that placed the string into the two-dimensional and printed the corresponding position number and then the string. The next part was to sort the array by length and alphabetically. I implemented a bubble sort algorithm that would take the separate functions I made to swap the positions of the strings in for loop until no more swaps were made. I also created another swap function that swapped the positions every time the strings were swapped. This was so that the strings could keep their original position number as the swaps were occurring. A change to this project that could be made would be to create a dynamically allocated array so the user could choose how many names they wanted to enter.