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The purpose of this project is to create and properly use structs with array, work with pointers, do some pointer arithmetic, passing the values, by reference and address. We must create a program that will assist users to rent cars and make it financially easier for them to decide. Here, we are given a text file(Cars.txt) that consist of the year, make, model, price, and availability to a car. My program will read in and store it in an array of structs.

I started with creating a menu using a do while loop and switch statement where the user will enter numbers 1-7 with each number containing their desired options. I have implemented a string length, compare, copy, and concatenating function (all are used in pointers) but did not use throughout the program because my program seems to be functional without it. The other functions I did use though, work flawlessly:

**int txtinput(RentalCar string[5], int i);**

This function returns an integer of 0 if the user enters a non-valid input file name as to why I made the return type an integer. Inside I’ve declared a string that will contain the file name and an input stream variable so that acts as a lever to open that file name. If it doesn’t open, it will of course return 0. Once it is opened, it will extract everything from the program by using the extraction operator, it will extract the contents of struct which I've called string

**void txtoutput(RentalCar string[5], int i);**

This function returns to nothing since the user can type whatever output file name they want. I’ve declared an output stream variable which also acts as a lever to open the name of the output file name. Once it is opened, it will extract everything from the program by using the extraction operator, it will extract the contents of struct which I've called string.

**void display(RentalCar string[], int i);**

This function also returns to nothing since it’s function is to display the contents of Car.txt. I’ve made a for loop where I initialize the struct array to print out the contents element by element.

**void swapstruct(RentalCar \*string1, RentalCar \*string2);**

This function will swap two strings. I’ve declared a struct pointer temporary variable that will acts as a storage for when I swap two strings.

**void sortstruct(RentalCar string[]);**

This function will sort the list of cars in ascending order according to their prices. I did a while loop from when one price[element #] is higher than the other { swap the first place to second place } sort of in a bubble sort matter. I called the function swapstruct to swap them and this time, I add the ‘&’ since I'm swapping its’ addresses.

**void pricestruct(RentalCar string[], int days);**

In this function, I started with a for loop that will iterate each element in the struct array and every time each of the availability hits true, it will multiply by the number of days the user enters. It then iterates and only prints out the ones that are available aka the one that are labeled as true in boolean.

**void checking(RentalCar string[], int check);**

In this function, I started with a while loop that checks if a car is not available. So the number the user enters, applies to the numbered element of that car. While the user input doesn’t happen to be ‘true’, it will print NOT AVAILABLE and ask the user which car again. If it DOES happen to be ‘true’ it entails its’ availability so I use cout to print the struct array but stated “RENTED” .