

## CSCE 240 Project 5

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For this project, the goal was to expand on our chat bot in a way that we would be able to store the sessions created during the time that the user was to use the program. In specific, we were instructed to save each session and store them under the date and time that the session was taking place. For my understanding of the project, I would say I learned quite a bit about how time and date work, how to store and review material that was stored in a csv file, and how to separate the variables and data recovered.

Initially I ran into many difficulties and things in which I was confused about before I was able to solve the issues I had. One of the main issues I encountered when working on the project was the issue of how to count the number of inputs and outputs that were going to the csv file. This was accomplished by initially creating a global variable that would add 1 to each (outputnum and inputnum) but soon I realized this would not work as the program would do things in the background and count them without printing anything to the screen so I had to get rid of this. The fix for this problem was to add the lines to a txt file as we were instructed to do and then just count the number of lines in which the computer would print a statement and the user would type something. Another difficult problem was how to store the variables in the csv file. This was solved by taking in each number and the heading into a string and separating them by using a comma. Finally the biggest and more tedious issue was being able to save everything within a file with a date. This was solved by initializing the time and date first in main and then carrying that file name throughout the entire program.

All in all, I have learned quite a bit about saving date mechanisms, built int std::methods and most importantly how csv files work and would be helpful for viewing large amounts of data in one place.

### Extra Credit

For this program, I used Ayden Owen's method for reading a file to make sure I would get the right number of values when breaking up the user and cpu variables. Ayden used my methods for saving date and time in his project so he would be able to consistently make new files with the right time and dates.