1a) None developed (due to inability to complete later milestones)

b) Ctype Library:

void getCountryAllCaps(struct Person\* ptrPerson)

void passwordChecker(struct UserLogin\* ptrUserLogin);

c) None developed (due to inability to complete later milestones)

d) None developed (due to inability to complete later milestones)

2. Two components that I enjoyed developed in the assignment were making a function to convert the country string from lowercase to capital case, which was the function getCountryAllCaps, and the checking to see if the user’s password met the recommended details of a password, which was done in the function passwordChecker. I enjoyed creating the function getCountryAllCaps, since the process to create the function was quite simple. The function only contained a for loop that would look at the characters in the country string in the person struct and would then convert any lowercases to upper case by using the function isupper from the ctype library, and then using the function putchar to replace the lowercase characters with uppercase characters. The modified string would then be returned with the pointer to the Person structure. The second feature that I enjoyed creating was the function passwordChecker, this function mainly used the functions provided by the ctype library, such as isupper, islower, isdigit, etc. To make this function work, I asked the user to enter a new password, and would then pass the string in the password to the function with the use of a pointer to the UserLogin structure. After that, a for loop will look through the string and if any of the characters in the string met the requirements for the password, then the value of the count variable would be increased by one. Once the for loop finished looking through the password, I then compare the value in the count variable with what the length of the password should be, and if the number in the count variable is less than what the length of the password is then the error statement would be printed out. This were the two components I enjoyed working on.

3. Two components that I did not enjoy developing were creating a function to view the status of tickets and creating a function that would automatically generate an account number for the user. I did not really like developing a function that would handle the information from a ticket, mainly because of the amount of information I had to make it display. I did not really mind creating the parameters for the function, since I could have it take in a pointer to the Account structure and an integer to show if a ticket is active or closed. I just did not like having to display the subject line, account number, author, etc. Since, I had to make sure that all of the information was properly being passed through and not being affected by the pointer, because I had a similar problem like that with assignment 1. The other feature I did not like developing was a function to have the program automatically generate an account number based on the highest account number in the Account structure. It took me a while to figure out how I could accomplish this task, I knew that I could use the function rand to generate the number, but it took me some time to figure out how to make it generate an account number based on the increment of the highest account number that is currently there. (I never actually created these functions due to my problem with milestone 1. I am just assuming that I wouldn’t like developing these features, since they already sounded slightly complex to create)

Written paragraph for issue experienced in the code

The problem I faced with creating my code for this assignment, was initializing a 2D array that had to hold twenty messages and an undefined number of characters. While I did create the required array, I was not able to get it to work properly and kept on receiving an error message whenever I attempted to build the code on Visual Studio, which would show an error on both my header file and the source code that was provided. I attempted to find a solution to this problem I had by looking up the error message and number on Microsoft’s website for Visual Studio, to see what the reason for the error could be, and looked at websites like Stack Overflow to see if anyone had a similar problem like me and what the fix was. In addition, I tried looking back at readings that were provided about the topic and watched a few videos to see how to properly declare a 2D array. Despite the measures I took to find the solution, I was unable to find any kind of fix to my problem. This left me with a broken segment in my code that left me unable to complete any later parts of the assignment two. I even tried rewriting my code and redownloaded the files off GitHub, in case the files were not properly downloaded, but I unable to fix the problem. However, I did test out some of the functions I created in milestone one a separate source code and saw that they were working the way they should be. While I didn’t get to test the functions, I created on the actually source code for the assignment, the tests I did in the separate file helped me to learn how different function libraries work and how I could use the functions in the ctype and string libraries to help me in the future.

Series of paragraphs not needed, I left them anyways.

Throughout the milestones for assignment two, I faced quite a few difficulties with creating my code. Three of the difficulties I faced were learning how to use and take advantage of functions in the ctype and string libraries, learning how to initialize a 2D array and creating my own functions. While I was able to figure out most of these problems, some I was unable to fix.

Firstly, one of the main things that I had trouble with when creating my code for this assignment was learning how to take advantage of and use the functions that are provided by the ctype and string libraries. The reason why I had a hard time with the functions that are offered by these libraries, was mainly due to me trying to figure out where the functions could be used. For example, with milestone one, I used the ctype library to check if the user’s password meets the standards for the program. While I did know which functions could be used to accomplish the task, I wasn’t quite sure how I would properly use them within the code. However, after reviewing some of our readings provided on the library, and watching some YouTube videos that covered the topic, I was able to gain an understanding of how I could take advantage of the ctype library. I also followed these steps to gain a proper understanding of the string library for when I had to use it for milestone two. Following these steps helped me to overcome the problem I faced with understanding how to use these libraries in the assignment, which allowed me to have a better understanding of how I could use the functions provided in the libraries for future assignments or work.

Secondly, one of the other problems I faced was learning how to create a 2D array. This was my biggest difficulty, since it is related to milestone one. In milestone one I had to create a 2D array that would hold 20 messages and an undefined number of characters. While I did create the array, I was not able to get to working properly and kept on receiving an error message whenever I attempted to build the code on Visual Studio, that would show both on my header file and the source code. I attempted to find a solution to this problem I had by looking up the error message on Microsoft’s website to see what could be causing it and looking at websites like Stack Overflow to find a potential fix. I also tried looking back at readings that were provided about the topic and watched a few videos to see how I would properly declare a 2D array. Despite the measures I took to find a fix, I was unable to find any kind of solution to my problem, which left me with a broken segment in my code. This left me unable to complete any later parts of the assignment, even when I tried rewriting my code and my shortly trying to work on milestone two, I was unable to fix the problem.

Lastly, one of the final big problems I faced was learning how to create my own functions. Since we had the freedom to create our functions to be used, it took me some time to figure out how exactly I wanted to make my functions. For example, in milestone one a function I created named, getStringAllCaps, was made to convert any lowercases in the country string of the account array to capital cases. The process to create the function was quite simple since it just used the function putchar and ctype function toupper to accomplish the required task. I mainly struggled with decided on how I wanted to pass the parameters into the function and if I wanted to return something from it. I first decided on passing a string into the function and returning a string from it to the country string from the person structure once the function finished running. However, I eventually decided that it would probably be more efficient for me to pass a pointer of the country string into the function and have it only return something from the pointer to the person structure, in this case I should have name the function getCountryAllCaps for a better understanding. Regardless, having the freedom to create my own functions helped me gain an idea of how I would want to be making my own functions for the future and what tasks I would want them to accomplish.

In conclusion, the difficulties I faced such as learning how to use and take advantage of the ctype and string libraries, creating 2D arrays, and creating my own functions. Have proved to be problems that I have learning from. I learned how to properly use functions from the libraries that were for the assignment, got a personal lesson on how I could be creating my functions, and while I did not find a solution for my 2D arrays problem. I did learn how 2D array’s can be initialized, which should hopefully help me in the future for when ever need to use them again. With these difficulties that I came across, I learned quite a bit from assignment two that should hopefully help in any kind of code that I create in the future, whether it being in school or out of school.