Week 4 - Lab Session

In the previous class, we discussed file processing in C. We learned how to open, read, write, and close files using C functions. We also explored various file processing operations such as appending data to a file, reading from a file line by line, and searching within a file. We also introduced binary files. In this lab session, we will apply our understanding of binary file processing to update and delete records from our file.

Continuing our Example: Customers of a Bank

In our previous class regarding file processing, we used the example of customers of a bank to demonstrate various file processing operations. In this lab session, we will continue using this example to explore binary file processing. Specifically, we will focus on updating and deleting records from our file.

This example will allow us to apply our understanding of binary file processing to a real-world scenario, where we need to maintain and modify customer records. We will use C functions to perform these operations and explore the challenges and considerations involved in binary file processing.

For our lab session today, you will find a starter code in your respective directories. The starter code includes the necessary function declarations for updating and deleting records from our binary file. However, the function bodies are currently empty.

Your task is to fill in the function bodies to complete the update and delete functionality. The update function should allow users to modify existing records, while the delete function should allow users to remove records from the file.

Now, please take some time to examine the starter code provided. Pay close attention to the function declarations and the existing code structure. If you encounter any parts of the code that you struggle to understand or implement, do not hesitate to ask the instructor for help.

By carefully examining the code and seeking clarification from the instructor when needed, you will gain a deeper understanding of binary file processing and be able to complete the lab assignment successfully.

Once you have finished examining the code and have a full understanding of how it works, you can start coding the **updateTheFile** function. Here are the steps you need to follow:

Algorithm for updating the file:

- Your function accepts a file pointer. Do not worry about opening the file.
- Ask the accountNumber to update
- Use fseek to locate the associated record having the account number
- Read the record with fread

- Check if the record (accountNumber) is 0 or not (0 means there is no such customer) and matches with the accountNumber that has been entered
- If the above condition is true, ask the new customer information other than account number (we will not change it)
- Make sure your position is correct with fseek and use fwrite to update the record
- Return the file pointer

If you have completed the updateTheFile function, now move to the **deleteFromTheFİle** function.

Algorithm for deleting from the file

- Your function accepts a file pointer. Do not worry about opening the file.
- Ask the accountNumber
- Use fseek to locate the associated record having the account number
- Read the record with fread
- Check if the record (accountNumber) is 0 or not (0 means there is no such customer) and matches with the accountNumber that has been entered
- If the above condition is true, create an invalid customer
- Ensure your position is correct with fseek and use fwrite to write the invalid record
- Return the file pointer

After completing the above functions, compile your code and test it. Create some customers, list them, update one or two, delete some, search by account id, etc…. Ensure it runs as intended.