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Bank management System

**Introduction**:

Programming has always been efficient for data manipulation and interaction. Bash has been most recently used in many programming applications. Therefore, our project will have a bash in which the entire code will work. The Bank Management System is a part of the bash program we have created. Users are allowed to add, update, view, delete, and conduct transactions for users. Accounts for the users are also created inside the system itself too. This system also gives us the ability to connect to external files. Additionally, this project also allows us to update delete or add records in those external files.

**Objectives**:

* Learning to develop shell scripts slowly and in steps
* Learning to debug
* Enabling users to input
* Improve the knowledge of scripting in bash
* Familiarizing users with a database management system using bash
* Learning to manipulate data of external file
* CLI arguments processing

**Problem Statement**

The system will have the following function for the users to select from

1. Adding new users
2. Editing the current users’ information
3. Working with transactions in addition to viewing them
4. Interacting with the existing accounts and their details
5. Viewing list of customers and deleting accounts from the database

The project is a terminal system that will help us complete our assignment. We are able to code our systems with the following functions that read from a csv file created by our developing team.

**Menu Function:** the function displays the list of the options that allow the users to have wide options for selecting from the menu

**New Account Function:** this function creates new user accounts. It asks the users for input in the respective fields such as name, DOB, NID number, e-mail address, country, city, etc

**View Function:** this function allows the suers to see the banking data of the customers for example the account numbers, name and other attributes

**Edit Function:** this function helps with manipulating the existing data of the customers’ attributes.

**Transaction Function:** this function enables the users to deposit and withdraw money from and to a customer’s account

**Delete Function:** this function allows all the users to look up for specific customers using unique attributes along with deleting customer accounts.

**Challenges:**

Everything that is new to people will probably have challenges as people face them during their interactions. As this system was developed in the first course of linux we ever took, we had a handful of challenges to face. Creating diversified functions at the beginning was the foremost challenge. Writing how to take inputs or provide outputs was another challenge. Also as it was the first time we had created such as system, we didn’t find it easy to place too many outputs and inputs in the system in a way that all of them functioned.

**Solution**:

In order for these functions to work, our system has created one main menu for the users to interact with the system efficiently. It allows the users to enter, update, add, delete or view the information of the users or also close the application.

**ADD (creating accounts):** this function enables the users to create accounts for the customers by filling the entries of the system such as name, DOB, e-mail, and whatnot.

**View Account Details:** this function enables the users to search all the records of customers through IDs. Accordingly, all the search hits will be displayed specifically.

**Deleting Account:** This function enables users by allowing them to delete accounts. All these deleting abilities should be first searched by IDs and then deleted in turn.

**Updating Accounts:** this function enables the users to work with the current data of the customers account database and tables that are inside a CSV file. The users have independence to work with whatever column or row they want to work with and update them. However, they will have to first search by the user IDs, and then change the fields of the account.

**Managing Account Details:** this function enables the users to keep track of their current balance, transaction history, the money deposited or withdrew. If the users want to deposit money they will be prompted to input the amount of money they want to deposit or if they want to withdraw, the process is the same.

**Exiting the System:** this function enables the users to close the system.

**Conclusions:**

This system is at the end of the day our first project developed in Linux Bash. The system was compared to our level larger in scale. However, as the guidelines required us to create the system, we have been able to accomplish what the guidelines required. The system efficiently adds, views, deletes, updates, and manages the accounts as required. This project assisted us in understanding the development of systems in open source software. It familiarized us with the concept of bash which was a great experience as well. We hope that we can implement the knowledge we learnt from this course and the project in our future projects as we progress further in the field our Computer Science.