**Semester Project Documentation**

**Semester Project Title:** Bank Account Management System

**Student Details**

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| **Student Name** | **Student Reg #** | **Student Degree** |
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**Main Features**

1. Account Creation
2. Deposit & Withdraw Money
3. Transfer Money Between Accounts
4. View Transaction History
5. Account Settings (Name/Password Change, Account Closure)
6. Admin Operations (Reset All Accounts)

**Types of Users**

1. Regular users. (Anybody who can go to the bank)

**Requirements Breakdown**

**Requirements of Feature #1: Account Creation**

1.1. User enters account name and password.  
1.2. A unique 4-digit account ID is auto-generated.  
1.3. The account is saved in a text file.  
1.4. A transaction history file is initialized.

**Requirements of Feature #2: Deposit & Withdraw Money**

2.1. User can deposit a specified amount into their account.  
2.2. User can withdraw a specified amount if the balance is sufficient.  
2.3. Balance is updated, and transactions are logged.

**Requirements of Feature #3: Transfer Money**

3.1. User enters a recipient's account ID.  
3.2. Balance is validated for transfer.  
3.3. Amount is deducted from the sender and added to the recipient.  
3.4. Both sender and recipient's transaction histories are updated.

**Requirements of Feature #4: Transaction History**

4.1. User can view their account's transaction history.  
4.2. Transaction history is displayed line by line.

**Requirements of Feature #5: Account Settings**

5.1. User can change their account name.  
5.2. User can change their password.  
5.3. User can close their account (deletes all account data).

**Requirements of Feature #6: Reset All Accounts**

6.1. Admin resets all user accounts.  
6.2. Deletes all associated files.

**Features to Coding Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr No.** | **Feature Name** | **Concept Used** | **Functions Created** | **Variables / Obj Created** | **Line of Code Written** |
| 1 | Account Creation | File Handling, Random Numbers | accountCreate() | accountName, accountID,  accountPassword etc. | ~40 |
| 2 | Deposit & Withdraw Money | Class & Object, File Handling | updateAccount() Done in main function. | userAmount, accountBalance etc. | ~30 |
| 3 | Transfer Money | Object-Oriented Programming | Done in main function. | recipientID, balance etc. | ~35 |
| 4 | Transaction History | File Handling | logTransaction() | transactionFile, line etc. | ~20 |
| 5 | Account Settings | String Handling, File Handling | updateName(), updatePassword() | newName, newPassword etc. | ~25 |
| 6 | Reset All Accounts | File Handling, Directories | reset() | accountIDs, file names etc. | ~20 |