

# Operating Systems: Mini Project

## Design and Development of online banking management system

### 1. Files

- a. data.c : This file creates the database file. Some credentials created are: Id:0,1,2 are admin with password as root, Id:3,4,5,6,7 are normal users with password as user, Id:8,9,10,11,12 are joint account users with password as joint. Its stores structs with the following elements:
  - id: Unique user ID of the user. Used to login.
  - name1: Name of the user (upto 100 characters).
  - name2: Name of the second user if it is a joint account (upto 100 characters).
  - password: Password chosen by the user (upto 15 characters).
  - balance: The amount present in the account.
  - type: The type of account. (Normal user, Joint, Admin.)
  - old\_id: Storing the id it had before being deleted, when an account is deleted its id becomes -1.
- b. client.c : This file facilitates clients sending requests to the server to perform certain operations and maintains user interactions.
- c. server.c : This file handles all the server operations and reflects the appropriate changes for approved client requests by updating the corresponding database files.

### 2. Features

- a. There are three different types of logins:
  - Normal user
  - Joint account user
  - Admin

When any of them log in the system identifies which kind of user they are given appropriate options they can perform.

- b. Options available for normal users and joint account user:
    - Deposit
    - Withdraw
    - Balance Enquiry
    - Password Change
    - View Details
    - Exit
  - c. Options available to admin:
    - Create Account
    - Remove Account
    - Modify Account (Cannot modify another admin account)
    - Search Account
    - Exit
3. Run Code
- a. gcc data.c -o data
  - b. gcc server.c -o server -lpthread
  - c. gcc client.c -o client
  - d. Run ./data to create the database files.
  - e. Run ./server on one terminal and multiple instances of clients by running ./client on separate terminals and interact as clients with the server.