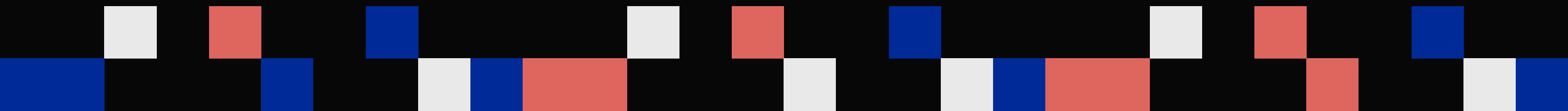


Bank Account Simulation using C

A simulation of Bank Account to perform basic operations like Deposits, Withdrawals and Transfers on the terminal. Created as part of PPS Project-Based Learning.





Bank account simulation

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Features

Our project can perform these tasks □

1. Account creation: Can create multiple accounts with sign in/out.
2. Transfers: Can transfer money between accounts.
3. Deposits: Can deposit virtual money.
4. Withdrawals: Can withdraw money virtually.
5. Balance Statement: Can view current balance.

A decorative graphic in the top-left corner consisting of a grid of colored squares. The squares are arranged in a pattern that is roughly 10 columns wide and 10 rows high. The colors used are red, blue, and white. The pattern is somewhat irregular, with some squares missing or overlapping.

Technical Overview

Our program uses an array of structures to store user data.
User data includes their name, pin, and balance.

To perform various kinds of operations, we use respective functions. Ex: CreateAcc(), login(), transactions(), etc.,

Each user is identified by array index. For example, the first user has an index 0 in the array of structure variables.

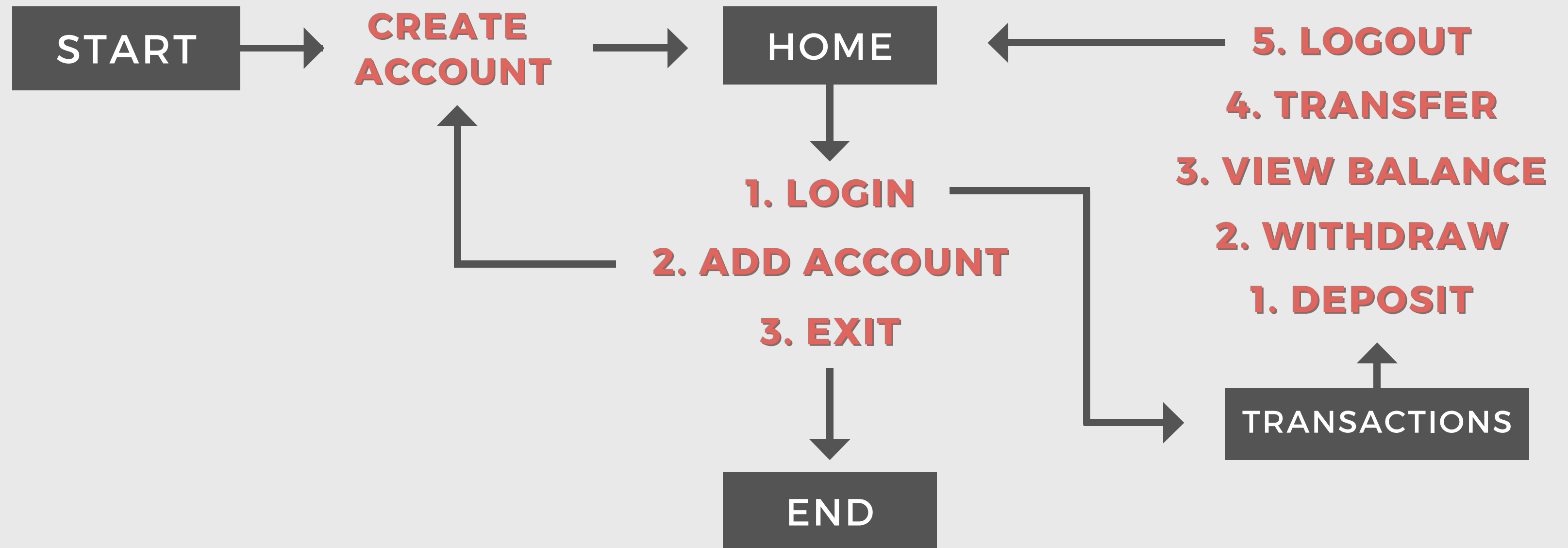
There is a hard cap of 50 users but it can be changed if required.

Algorithm

- Step 1 :** Prompt user to create a new account. Then,
- 1. Add account? Repeat from step 1
 - 2. Login? Proceed to step 2
 - 3. Exit from program. Jump to Step 4.
- Step 2 :** Display available accounts and ask to login.
- If successful, proceed to step 3.
 - If not, repeat step 2 again.
- Step 3 :** Display various transaction types and ask to select.
- Deposit/Withdraw/Check balance/Transfer
 - If asked to logout, go back to step 1.
- Step 4 :** End



Flowchart



Functions

Name	Type	Parameters	Usage
<code>main()</code>	int	none	Start
<code>CreateAcc()</code>	void	user index	To create user accounts
<code>transaction()</code>	void	user index	For transactions
<code>login()</code>	void	none	Authentication
<code>home()</code>	void	none	Main menu



Code Snippets

These are simplified snippets. Complete Source code at:
<https://github.com/ph4ni/pps-pbl>

Header files

Function
declarations

User Structure
declaration

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>

/*Function declarations*/
void CreateAcc(int a);
void transaction(int a);
void login();
void home();

/*User Structure*/
struct User {
    char name[50];
    int pin;
    float balance;
} user[50]; /*Array of 50 user accounts*/
```

main()

```
/*Global variables*/
int nos = 0;      /*Number of user accounts in use*/
int current;      /*Index of the currently logged in account*/

/*Main function*/
int main() {
    printf("|-----|\n");
    printf("|---Welcome to Virtual Bank---|\n");
    printf("|-----|\n\n");
    printf("To start using, create an account first\n");
    CreateAcc(0);
    return 0;
}
```

CreateAcc()

```
void CreateAcc(int a){

    printf("\nEnter name: ");
    scanf("%s",user[a].name);
    printf("Set 4 digit PIN: ");
    scanf("%d",&user[a].pin);

    user[a].balance = 0;//set initial balance to 0.
    nos++; //increment account count
    printf("\nAccount successfully created!\n");
    home(); //redirect to main menu
}
```

login()

```
void login(){
    int selected;
    printf("\nSelect account to login\n");
    //Display available accounts
    for(int i =1; i<=nos;i++){
        printf("%d.\t%s\n",i,user[i-1].name);
    }

    printf("\nEnter account number: ");
    scanf("%d",&selected);
    printf("\nEnter Pin to proceed: ");
    int enteredpin;
    scanf("%d",&enteredpin);

    if(enteredpin != user[selected].pin){
        printf("\nWrong PIN. Please Try Again\n\n");
    }else{
        printf("\nSucessfully authenticated!\n");
        transaction(selected); //Redirect to transaction page
    }
}
```

home()

```
void home(){
    int sec; //selection
    printf("\nSelect action to proceed\n\n");
    printf("1. Create a new account\n");
    printf("2. Login to existing account\n");
    printf("3. Exit\n");
    printf("\nEnter your selection: ");
    scanf("%d",&sec);
    if(sec == 1){
        CreateAcc(nos); //redirect to createAcc function
    }else if(sec == 2){
        login(); //redirect to login function
    }else if(sec == 3){
        exit(0); //Exit program
    }
    else{
        printf("Invalid. Try again");
        home(); //Go back to main menu
    }
}
```

transaction()

```
void transaction(int a){
    int check,anotherTransaction;
    printf("\nLogged in as %s\n",user[a].name);
    printf("\nSelect option to perform transactions\n\n");
    printf("1. Deposit\n");
    printf("2. Withdraw\n");
    printf("3. Check Balance\n");
    printf("4. Transfer Money\n5. Logout\n\nEnter option number: ");
    scanf("%d",&check);

    switch(check){
        case 1: //Deposits
        case 2: //Withdrawals
        case 3: //View Balance
        case 4: //Transfers
        case 5: //logout
    }
}
```



Output



Account Creation



```
|-----|  
|---Welcome to Virtual Bank---|  
|-----|
```

To start using, create an account first

Enter name: Alice
Set 4 digit PIN: 1234

Account successfully created!

Select action to proceed

1. Create a new account
2. Login to existing account
3. Exit

Enter your selection: 1

Enter name: Bob
Set 4 digit PIN: 4321

Account successfully created!



Deposit



Logged in as Alice

Select option to perform transactions

1. Deposit
2. Withdraw
3. Check Balance
4. Transfer Money
5. Logout

Enter option number: 1

Enter the amount to deposit in INR: ₹10000

Deposit completed! Updated balance is ₹10000.00

Do you want to perform another transaction?

Press 1 to proceed and 2 to exit to home screen

Withdrawal



Logged in as Alice

Select option to perform transactions

1. Deposit
2. Withdraw
3. Check Balance
4. Transfer Money
5. Logout

Enter option number: 2

Enter the amount to withdraw in INR: ₹3000

Withdrawal completed! Updated balance is ₹7000.00

Do you want to perform another transaction?

Press 1 to proceed and 2 to exit to home screen

Transfers

Logged in as Alice

Select option to perform transactions

1. Deposit
2. Withdraw
3. Check Balance
4. Transfer Money
5. Logout

Enter option number: 4

Select account to transfer to

2. Bob

Enter account number :2

Transferring from Alice to Bob

Enter amount to transfer : ₹3999

Transferred Successfully!

Updated balances:

Acc name	Balance
Alice	₹3001.00
Bob	₹3999.00

Check Balance



Logged in as Alice

Select option to perform transactions

1. Deposit
2. Withdraw
3. Check Balance
4. Transfer Money
5. Logout

Enter option number: 3

Available Balance: ₹3001.00

Do you want to perform another transaction?
Press 1 to proceed and 2 to exit

Exit



Logged in as Alice

Select option to perform transactions

1. Deposit
2. Withdraw
3. Check Balance
4. Transfer Money
5. Logout

Enter option number: 5
logging out...
Logged out successfully!

Select action to proceed

1. Create a new account
2. Login to existing account
3. Exit

Enter your selection: 3

Thank you for visiting us!
ph4ni@ph4ni-G41D3:~/Documents\$





Thank You for giving us this opportunity

Completing this project has taught us so many things. We would like to thank Swarna madam for giving us this opportunity.

The End