



Banking Record System

PROJECT.

For

GEN_26 team.



Our project is divided into 3 parts:

1-Admin Part:

It contains correct username and password of admin who can do any operation from these operations.

He can (add account – close account – modify account – list of all recorded accounts)

We will explain each operation and how could be implemented later!

2-User part:

It contains all information of each user or client recorded in our bank by using array of Structure.

The information of each client composed of his (username-password-ID-job-gender-age-balance).

Each client can do any operation from these operations (show or know his record balance – withdraw amount – deposit amount – transfer to another account)

And we will explain each operation and how could be implemented later!

3-Log out:

After doing all your operations even you are Admin or User you can log out from your account and our bank saving any data you have changed or modified in our system.



Before explaining any function, we used an array of structure to record all of the information about each recorded client and any new client added by the admin.

-Then we will explain and show all functions that we used in our project.

-We used 11 functions in our project to make it more organized and easier!

1- Create clients

It contains all information about each client.

```
Miscellaneous Files (Global Scope)
1  #include <iostream>
2  #include<string>
3  using namespace std;
4  int length = 4;
5  struct Account
6  {
7      string user_name;
8      string pass_word;
9      float balance = 0;
10     string id;
11     string gender;
12     int age;
13
14     string job;
15 };
16
17 Account users[10000]; ///index = i;
18
19 void createClients()//(function of recorded clients)
20 {
21     string names[4] = { "menna", "nour", "habiba", "mayar" };
22     string passwords[4] = { "2020", "2021", "2022", "2023" };
23     float balances[4] = { 10000, 8000, 20000, 15000 };
24     string UserId[4] = { "100","101","102","103" };
25     string UserGender[4] = { "Female","Female","Female","Female" };
26     int UserAge[4] = { 19,18,20,30 };
27     string UserJob[4] = { "Teacher","Doctor","Dentist","Vet" };
28     for (int i = 0; i < 4; ++i)
29     {
30         Account& user = users[i];
31         user.user_name = names[i];
32         user.pass_word = passwords[i];
33         user.balance = balances[i];
34         user.id = UserId[i];
35         user.gender = UserGender[i];
36         user.age = UserAge[i];
37         user.job = UserJob[i];
38     }
39 }
40
```



2- Find user

By using this function when client using his recorded username and password he will enter the system successfully so, this function can test the username and password of this client and search for it, so it will test if this data existed or not.

```
40
41 int findUser(string username, string password) //(function of find the user recorded)
42 {
43     int userIndex = -1;
44     for (int i = 0; i < length; i++)
45     {
46         if (username == users[i].user_name && password == users[i].pass_word)
47         {
48             userIndex = i;
49             break;
50         }
51     }
52     if (userIndex >= 0)
53         cout << "login successfully" << endl;
54     else
55         cout << "Wrong password or username" << endl;
56     return userIndex;
57 }
58
```

3- Add account function

Admin can use this function to add a new account in our bank and add all information about it.

We used an array contains 10000 index which enable admin to add many accounts as he like.

```

File Edit View Git Project Build D...
C:\Users\Basma\source\repos\Project10\Debug\
basma
Enter password:
2462002
FCIS
Login successfully
Choose your operation:
1-Add new account
2-Modify account
3-Close account
4-List all accounts
Please Enter Your Choice:1
Enter User Name : sama
Enter Password :
3434
Enter Balance :
50000
Enter His Job :
doctor
Enter His Age :
20
Enter His Gender :
femel
Another operation?,press 1
1-continue
2-Log out

57
58
59 void addUser() //(function of adding anew account)
60 {
61     cout << "Enter User Name : ";
62     cin >> users[length].user_name;
63     cout << "Enter Password : " << endl;
64     cin >> users[length].pass_word;
65     cout << "Enter Balance : " << endl;
66     cin >> users[length].balance;
67     cout << "Enter His Job : " << endl;
68     cin >> users[length].job;
69     cout << "Enter His Age : " << endl;
70     cin >> users[length].age;
71     cout << "Enter His Gender : " << endl;
72     cin >> users[length].gender;
73     length++;
74 }
75 void listAllAccounts() //(function of all recorded accounts)

```

4-Modify an account function

Admin can use this function to modify a recorded account by using its ID, so if the function find the entered id it will show all the information of this user and modify any part he wants to change.



```

Enter User Name : basma
Enter Password : 20200
Enter His Job :student
Enter His Age :39
Enter His Gender :femel
Another operation?,press 1
1-continue
2-Log out
1

Choose your operation:
1-Add new account
2-Modify account
3-Close account
4-List all accounts
Please Enter Your Choice:4

Users in the system :
Id   User Name   Password   Balance   Gender   Job       Age
100  basma       20200     10000     femel    student   39
101  nour        2021      8000     Female   Doctor    18
102  habiba      2022      20000    Female   Dentist   20
103  mayar       2023      15000    Female   Vet       30

Another operation?,press 1
1-continue
2-Log out

void modifyAllAccounts(string id) //(function of modifying any recorded account)
{
    int index = -1; //return the value of i
    bool check = false;
    while (!check)
    {
        for (int i = 0; i < length; i++)
        {
            if (id == users[i].id)
            {
                index = i;
                check = true;
                break;
            }
        }
    }
    if (index < 0)
    {
        cout << "Wrong Id, Please Enter correct one!" << endl;
        cin >> id;
        for (int i = 0; i < length; i++)
        {
            if (id == users[i].id)
            {
                index = i;
                check = true;
            }
        }
    }
}

```

```

    }
    if (check)
    {
        cout << "Enter User Name : ";
        cin >> users[index].user_name;
        cout << "Enter Password : ";
        cin >> users[index].pass_word;
        cout << "Enter His Job : ";
        cin >> users[index].job;
        cout << "Enter His Age:(Enter Integer number!) : ";
        cin >> users[index].age;
        cout << "Enter His Gender :";
        cin >> users[index].gender;
        break;
    }
}

```

5-Close account function

Admin can use this function to close any recorded account by entering account id and searching for this account and delete all information about this client.

3-Close account

4-List all accounts

Please Enter Your Choice:3

Enter User's Id:100

Another operation?,press 1

1-continue

2-Log out

1

Choose your operation:

1-Add new account

2-Modify account

3-Close account

4-List all accounts

Please Enter Your Choice:4

Users in the system :

Id	User Name	Password	Balance	Gender	Job	Age
101	nour	2021	8000	Female	Doctor	18
102	habiba	2022	20000	Female	Dentist	20
103	mayar	2023	15000	Female	Vet	30

Another operation?,press 1

1-continue

2-Log out

```

}
void closeAccount(string id) //(function of closing any recorded account)
{
    int index = -1;
    bool check = false;
    while (!check)
    {
        for (int i = 0; i < length; i++)
        {
            if (id == users[i].id)
            {
                index = i;
                check = true;
                break;
            }
        }
        if (index < 0)
        {
            cout << "Wrong Id,Please Enter correct one!" << endl;
            cin >> id;
            for (int i = 0; i < length; i++)
            {
                if (id == users[i].id)
                {
                    index = i;
                    check = true;
                }
            }
        }
    }
}

```

No issues found

```

users[index] = {};
for (int i = index; i <= length - 1; i++)
{
    users[i] = users[i + 1];
}
length -= 1;
break;
}
}
}
}

```

6-List of all accounts function

Admin can use this function to see or check all data of each recorded accounts



```

void listAllAccounts() //(function of all recorded accounts)
{

```

```

    cout << "\nUsers in the system : " << endl;

```

```

    cout << "Id" << " " << "User Name" << " " << "Password" << " " << "Balance" << " " << "Gender" << " " << "Job" << " " << "Age" << endl;

```

```

    for (int i = 0; i < length; i++)
    {

```

```

        cout << users[i].id << " " << users[i].user_name << " " << users[i].pass_word << " " << users[i].balance << " " << users[i].gender << " " << users[i].job << " " << users[i].age << endl;
    }
}

```

```

1:Admin
2:User
Please Enter Your Choice:1
Enter username:
basma
Enter password:
2462002

```

```

login successfully

```

```

Choose your operation:

```

```

1-Add new account

```

```

2-Modify account

```

```

3-Close account

```

```

4-List all accounts

```

```

Please Enter Your Choice:4

```

```

Users in the system :

```

Id	User Name	Password	Balance	Gender	Job	Age
100	menna	2020	10000	Female	Teacher	19
101	nour	2021	8000	Female	Doctor	18
102	habiba	2022	20000	Female	Dentist	20
103	mayar	2023	15000	Female	Vet	30

```

Another operation?,press 1

```

```

1-continue

```

```

2-Log out

```


7-Deposit amount function

User can use this function to add an amount to his recorded balance by using addition operation on the balance.

```
Enter username:
nour
Enter password:
2021
login successfully
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:1
Current Balance: 8000
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:3
How much are you going to deposit?
500
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:1
Current Balance: 8500
Another operation?, press 1
1-continue
2-Log out
```

```
void Deposit(float& balance) //menna
{
    float amount;
    cout << "How much are you going to deposit?" << endl;
    cin >> amount;
    balance += amount;
}
```

8-Withdraw amount function

User can use this function to subtract an amount from his recorded balance by subtraction operation on the balance.

```
Enter username:
nour
Enter password:
2021
login successfully
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:1
Current Balance: 8000
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:2
How much are you going to withdraw?
500
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry 2. Withdraw Amount 3.Deposit AmountBalance Enquiry 4.Transfer
Please Enter Your Choice:1
Current Balance: 7500
Another operation?, press 1
1-continue
2-Log out
```

```
154 }
155 void Withdraw(float& balance) //menna
156 {
157     float amount;
158     cout << "How much are you going to withdraw?" << endl;
159     cin >> amount;
160     balance -= amount;
161 }
162 void useMain(std::string& std::string&)
```


9- Transfer account to another account function

User can use this function to transfer amount of his money to another account by using the ID of the account that he wants to transfer to and entering the amount he wants to transfer.

```
// **BONUS**
void transfer(int userindex) //( function of transferring account to another account)
{
    string id;
    int index = -1;
    float money;
    bool check = false;
    cout << "Enter The Id Of The User That You Want To Transfer:";
    cin >> id;
    while (!check)
    {
        for (int i = 0; i < length; i++)
        {
            if (id == users[i].id)
            {
                index = i;
                check = true;
            }
        }
    }
    if (index < 0)
    {
        cout << "Wrong Id, Please Enter correct one!" << endl;
        cin >> id;
        for (int i = 0; i < length; i++)
        {
            if (id == users[i].id)
            {
                index = i;
                check = true;
            }
        }
    }
    if (check)
    {
        cout << "How Much do you want to transfer:";
        cin >> money;
        if (money <= users[userindex].balance)
        {
            users[index].balance += money;
            users[userindex].balance -= money;
            break;
        }
        else
        {
            cout << " Sorry, your balance is not enough to transfer!" << endl;
        }
    }
}
```

```
1:Admin
2:User
Please Enter Your Choice:2
Enter username:
nour
Enter password:
2021
login successfully
Choose your operation:
1.Balance Enquiry      2. Withdraw Amount      3.Deposit AmountBalance Enquiry      4.Transfer
Please Enter Your Choice:4
Enter The Id Of The User That You Want To Transfer:100
How Much do you want to transfer:1000
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry      2. Withdraw Amount      3.Deposit AmountBalance Enquiry      4.Transfer
Please Enter Your Choice:1
Current Balance: 7000
Another operation?, press 1
1-continue
2-Log out
```

10- Admin function

This function contains the correct username and password of admin and his functions or operations he could use to implement any operation he wants to do.

```

}
cout << "Another operation?,press 1 " << endl;
cout << "1-continue" << endl << "2-Log out" << endl;
cin >> answer;
if (answer == 2)
{
    string username;
    string password;
    bool verifiedAdmin = true;
    int choice;
    cout << "1:Admin" << endl;
    cout << "2:User" << endl;

    cout << "Please Enter Your Choice:";
    cin >> choice;
    if (choice == 1)
    {
        adminMain(username, password, verifiedAdmin);
    }
    if (choice == 2)
    {
        userMain(username, password);
    }
}
}

```

```

void userMain(std::string&, std::string&);
void adminMain(std::string& username, std::string& password, bool& verifiedAdmin) //(function of Admin)
{
    cout << "Enter username:" << endl;
    cin >> username;
    cout << "Enter password:" << endl;
    cin >> password;
    if (username != "basma" || password != "2462002")
    {
        cout << "\nWrong" << endl;
        verifiedAdmin = false;
    }
    else
    {
        verifiedAdmin = true;
        cout << "\nlogin successfully" << endl;
    }
    if (verifiedAdmin == true)
    {
        int answer = 1;
        int op;
        string id;
        while (answer == 1)
        {
            cout << "\nChoose your operation: " << endl;
            cout << "1-Add new account" << endl << endl
                << "2-Modify account" << endl << endl
                << "3-Close account" << endl << endl
                << "4-List all accounts" << endl << endl;
            cout << "Please Enter Your Choice:";
            cin >> op;
            if (op == 1)
            {
                addUser();
            }
            else if (op == 2)
            {
                cout << "Enter the user's Id:";
                cin >> id;
                modifyAllAccounts(id);
            }
            else if (op == 3)
            {
                cout << "Enter User's Id:";
                cin >> id;
                closeAccount(id);
            }
            else if (op == 4)
            {
                listAllAccounts();
            }
            else {
                cout << "invalid operation" << endl;
            }
            cout << "Another operation?,press 1 " << endl;
        }
    }
}

```

11- User function



This function contains:

1-Find user function.

(To test the entered username and password and compare it with the correct recorded username and passwords).

2-Transfer amount of money from account to another account.

3-Deposit amount.

4-Withdraw amount.

```
(Global Scope)
void userMain(std::string& username, std::string& password) //(function of USER)
{
    cout << "Enter username:" << endl;
    cin >> username;
    cout << "Enter password:" << endl;
    cin >> password;
    int userIndex = findUser(username, password);
    if (userIndex >= 0)
    {
        float& balance = users[userIndex].balance;
        float deposit, withdraw;

        int op;
        int answer = 1;
        while (answer == 1)
        {
            cout << "Choose your operation: " << endl;
            cout << "1.Balance Enquiry    2. Withdraw Amount    3.Deposit AmountBalance Enquiry    4.Transfer" << endl;
            cout << "Please Enter Your Choice:";
            cin >> op;
            if (op == 1)
                cout << "Current Balance: " << balance << endl;
            else if (op == 2)
                Withdraw(balance);
            else if (op == 3)
                Deposit(balance);
            else if (op == 4)
                else if (op == 3)
                    Deposit(balance);
                else if (op == 4)
                    transfer(userIndex);
                else
                    cout << "Invlaid operation" << endl;
                    cout << "Another operation?," << " press 1" << endl;
                    cout << "1-continue" << endl << "2-Log out" << endl;
                    cin >> answer;
                    if (answer == 2)
                    {
                        string username;
                        string password;
                        bool verifiedAdmin = true;
                        int choice;

                        cout << "1:Admin" << endl;
                        cout << "2:User" << endl; cout << "Please Enter Your Choice:";
                        cin >> choice;
                        if (choice == 1)
                        {
                            adminMain(username, password, verifiedAdmin);
                        }
                        if (choice == 2)
                        {
                            userMain(username, password);
                        }
                    }
                }
            }
        }
    }
}
```

```
Enter username:
nour
Enter password:
2021
login successfully
Choose your operation:
1.Balance Enquiry    2. Withdraw Amount    3.Deposit AmountBalance Enquiry    4.Transfer
Please Enter Your Choice:1
Current Balance: 8000
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry    2. Withdraw Amount    3.Deposit AmountBalance Enquiry    4.Transfer
Please Enter Your Choice:2
How much are you going to withdraw?
5000
Another operation?, press 1
1-continue
2-Log out
1
Choose your operation:
1.Balance Enquiry    2. Withdraw Amount    3.Deposit AmountBalance Enquiry    4.Transfer
Please Enter Your Choice:1
Current Balance: 3000
Another operation?, press 1
1-continue
2-Log out
2
```

Finally Main function

It contains 3 functions:

1-Admin function.

2-User function.

3-Create clients' function.



```
aneous Files | (Global Scope) | userMain(std::string & use
int main()
{
    createClients();
    cout << "\t\t\t\t\t" << "*****BANKING RECORD SYSTEM*****" << endl;
    cout << "_____ " << endl;

    string username;
    string password;
    bool verifiedAdmin = true;
    int choice;
    cout << "1:Admin" << endl;
    cout << "2:User" << endl;
    cout << "Please Enter Your Choice:";
    cin >> choice;
    if (choice == 1)
    {
        adminMain(username, password, verifiedAdmin);
    }
    else if (choice == 2)
    {
        userMain(username, password);
    }
    else
    {
        cout << "DNE" << endl;
    }
    return 0;
}
```



Thanks For Your Time!

GEN_26 team.