

PROJECT TITLE : BANK MANAGEMENT SYSTEM
PROJECT TYPE : MINI PROJECT
PROGRAMMING LANGUAGE: C++

INTRODUCTION

The **Bank Management System** is the **Desktop Application** for maintaining a person's account in a Bank. The System provides the access to the customers to create an account, deposit/withdraw the cash from his/her account, also to all accounts present.

AIM

To develop a software for **Solving Financial applications of a customer** in banking environment in order to nurture the needs of an end banking user by providing various ways to perform banking tasks. Also, to enable the user's workspace to have additional functionalities which are not provided under conventional banking software.

PROBLEM STATEMENT

Keeping track the all activities in their regards on paper and error. It is also efficient and a time consuming process of observing continuous increase in number of client visiting the bank. Recording and maintaining all the client record highly unreliable, inefficient and error prone.

The problem facing the current manual system is difficult **to update in maintain, inconsistent data insecurity, difficult to impose different various data files and difficult to data backup.**

It is against this backdrop that automated database system (Filing) is being developed to address the problem.

BENEFITS OF THE PROPOSED SYSTEM

The bank management system is an application for maintaining a person's account in a bank.

The system provides the access to the customer to create an account, deposit or withdraw the cash from this account. The following documentation provides the specification of the system.

Features

- Create an Account
- Deposit Cash
- Withdraw Cash
- Search an Account details by using their account Number
- Display List of All Customers
- Update Bank Account
- Balance Enquiry
- Close Account

The System has created using Objected Oriented Concepts with the help of C++ programming Language.

APPRECIATION

I appreciate you. You truly care about your students. You made this easy to understand.

I feel so blessed to have a teacher like you who not only pushes me towards achieving my goal but also supports me in every step. Today I celebrate you for being selfless, devoted, hardworking, and the wisest person in the classroom. I am grateful to be your student.

CLASS DIAGRAM

// Under maintenance will upload soon. Insha Allah!

Reason: Drawn on copy. Not properly on UML tools.

```
/*
    :::::::::::::: INTERNATIONAL ISLAMIC UNIVERSITY, H-10 ISLAMABAD ::::::::::::::

Project Supervisor: Dr. Muhammad Nadeem
Created by: Liaquat Ali Khan
Project Title: Bank Management System
Project Type : Mini Project

Compiled on: 23 December, 2023
Time of Compilation: 3:00 PM

Programming Language: C++
Approach: Object Oriented Approach

*/

// Header Files
#include<iostream>
#include<fstream>
#include<cctype>
#include<iomanip>
using namespace std;

////////// Class Bank_Account //////////
class Bank_Account
{
    int Money_Deposit;
    char type;
    int acno;
    char name[70];
public:
    void report() const;
    int retMoney_Deposit() const;
    void create_Bank_Account();
    void dep(int);
    int retacno() const;
    void Display_Account() const;
    void Updation();
    char rettype() const;
    void draw(int);
};

////////// Updation //////////
void Bank_Account::Updation()
{
    cout << "\n\tBank_Account No. : " << acno;
    cout << "\n\tUpdation Bank_Account Holder Name : ";
    cin.ignore();
    cin.getline(name, 50);
    cout << "\n\tUpdation Type of Bank_Account : ";
    cin >> type;
    type = toupper(type);
    cout << "\n\tUpdation Balance Total-Money : ";
    cin >> Money_Deposit;
}

////////// Create Account //////////
void Bank_Account::create_Bank_Account()
{
    system("CLS");
    cout << "\n\tPlease Enter the Bank_Account No. : ";
    cin >> acno;
    cout << "\n\n\tPlease Enter the Name of the Bank_Account holder : ";
    cin.ignore();
    cin.getline(name, 50);
}
```

```

cout << "\n\tPlease Enter Type of the Bank_Account (C/S) : ";
cin >> type;
type = toupper(type);
cout << "\n\tPlease Enter The Starting Total-Money : ";
cin >> Money_Deposit;
cout << "\n\n\tBank_Account Created..";
}

////////// Display_Account //////////
void Bank_Account::Display_Account() const
{
    cout << "\n\tBank_Account No. : " << acno;
    cout << "\n\tBank_Account Holder Name : ";
    cout << name;
    cout << "\n\tType of Bank_Account : " << type;
    cout << "\n\tBalance Total-Money : " << Money_Deposit;
}

int Bank_Account::retacno() const
{
    return acno;
}

char Bank_Account::rettype() const
{
    return type;
}

////////// report //////////
void Bank_Account::report() const
{
    cout << acno << setw(10) << " " << name << setw(10) << " " << type << setw(6) <<
Money_Deposit << endl;
}

void Bank_Account::dep(int x)
{
    Money_Deposit += x;
}

void Bank_Account::draw(int x)
{
    Money_Deposit -= x;
}

int Bank_Account::retMoney_Deposit() const
{
    return Money_Deposit;
}

////////// Prototypes //////////
void write_Bank_Account();
void display_sp(int);
void display_all();
void delete_Bank_Account(int);
void Money_Deposit_withdraw(int, int);
void Updation_Bank_Account(int);

int main()
{
    char ch;
    int num;
    do
    {
        system("CLS");
        cout << "\n\n\t:t::::::::::::::::::\n"
<< "\t\t\t\t\tBANK MANAGEMENT SYSTEM"
<< "\n\t:t::::::::::::::::::\n"
<< setw(28)<<"\t :: MAIN MENU ::"
<< "\n\t\t1. NEW Bank_Account"
<< "\n\t\t2. Money_Deposit Total-Money"
<< "\n\t\t3. WITHDRAW Total-Money"
<< "\n\t\t4. BALANCE ENQUIRY"
<< "\n\t\t5. ALL Bank_Account HOLDER LIST"

```

```

        << "\n\t\t6. CLOSE AN Bank_Account"
        << "\n\t\t7. Updation AN Bank_Account"
        << "\n\t\t8. EXIT"
        << "\n\n\t\tSelect Your Option (1-8): ";
    cin >> ch;

    switch (ch)
    {
    case '1':
        write_Bank_Account();
        break;
    case '2':
        system("CLS");
        cout << "\n\n\tPlease Enter The Bank_Account No. : "; cin >> num;
        Money_Deposit_withdraw(num, 1);
        break;
    case '3':
        system("CLS");
        cout << "\n\n\tPlease Enter The Bank_Account No. : "; cin >> num;
        Money_Deposit_withdraw(num, 2);
        break;
    case '4':
        system("CLS");
        cout << "\n\n\tPlease Enter The Bank_Account No. : "; cin >> num;
        display_sp(num);
        break;
    case '5':
        display_all();
        break;
    case '6':
        system("CLS");
        cout << "\n\n\tPlease Enter The Bank_Account No. : "; cin >> num;
        delete_Bank_Account(num);
        break;
    case '7':
        system("CLS");
        cout << "\n\n\tPlease Enter The Bank_Account No. : "; cin >> num;
        Updation_Bank_Account(num);
        break;
    case '8':
        system("CLS");
        cout << "\n\n\tBrought To You By code-projects.org";
        break;
    default: cout << "\a";
    }
    cin.ignore();
    cin.get();
} while (ch != '8');
return 0;
}

////////// BANK_ACCOUNT //////////

void write_Bank_Account()
{
    Bank_Account ac;
    ofstream outFile;
    outFile.open("Bank_Account.dat", ios::binary | ios::app);
    ac.create_Bank_Account();
    outFile.write(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
    outFile.close();
}

```

```

////////// DELETE_ACCOUNT //////////
void delete_Bank_Account(int n)
{
    Bank_Account ac;
    ifstream inFile;
    ofstream outFile;
    inFile.open("Bank_Account.dat", ios::binary);
    if (!inFile)
    {
        cout << "File could not be open !! Press any Key...";
        return;
    }
    outFile.open("Temp.dat", ios::binary);
    inFile.seekg(0, ios::beg);
    while (inFile.read(reinterpret_cast<char*> (&ac), sizeof(Bank_Account)))
    {
        if (ac.retacno() != n)
        {
            outFile.write(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
        }
    }
    inFile.close();
    outFile.close();
    remove("Bank_Account.dat");
    rename("Temp.dat", "Bank_Account.dat");
    cout << "\n\nRecord Deleted ..";
}

void display_sp(int n)
{
    Bank_Account ac;
    bool flag = false;
    ifstream inFile;
    inFile.open("Bank_Account.dat", ios::binary);
    if (!inFile)
    {
        cout << "File could not be open !! Press any Key...";
        return;
    }
    cout << "\n\tBALANCE DETAILS\n";
    while (inFile.read(reinterpret_cast<char*> (&ac), sizeof(Bank_Account)))
    {
        if (ac.retacno() == n)
        {
            ac.Display_Account();
            flag = true;
        }
    }
    inFile.close();
    if (flag == false)
        cout << "\n\n\tBank_Account number does not exist";
}

void display_all()
{
    system("CLS");
    Bank_Account ac;
    ifstream inFile;
    inFile.open("Bank_Account.dat", ios::binary);
    if (!inFile)
    {
        cout << "File could not be open !! Press any Key...";
        return;
    }
    cout << "\n\n\t\tBank_Account HOLDER LIST\n\n";
    cout << "::::::::::::::::::::::::::::::::::::::::::::::::::\n";
    cout << "A/c no.          NAME          Type    Balance\n";
}

```

```

    cout << "::::::::::::::::::::::::::::::::::::::::::::::::::::::::::\n";
    while (inFile.read(reinterpret_cast<char*> (&ac), sizeof(Bank_Account)))
    {
        ac.report();
    }
    inFile.close();
}

void Updation_Bank_Account(int n)
{
    bool found = false;
    Bank_Account ac;
    fstream File;
    File.open("Bank_Account.dat", ios::binary | ios::in | ios::out);
    if (!File)
    {
        cout << "File could not be open !! Press any Key...";
        return;
    }
    while (!File.eof() && found == false)
    {
        File.read(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
        if (ac.retacno() == n)
        {
            ac.Display_Account();
            cout << "\n\n\tPlease Enter The New Details of Bank_Account" << endl;
            ac.Updation();
            int pos = (-1) * static_cast<int>(sizeof(Bank_Account));
            File.seekp(pos, ios::cur); //fncallat1353
            File.write(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
            cout << "\n\n\tRecord Updated";
            found = true;
        }
    }
    File.close();
    if (found == false)
        cout << "\n\n\tRecord Not Found ";
}

void Money_Deposit_withdraw(int n, int option)
{
    int amt;
    bool found = false;
    Bank_Account ac;
    fstream File;
    File.open("Bank_Account.dat", ios::binary | ios::in | ios::out);
    if (!File)
    {
        cout << "File could not be open !! Press any Key...";
        return;
    }
    while (!File.eof() && found == false)
    {
        File.read(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
        if (ac.retacno() == n)
        {
            ac.Display_Account();
            if (option == 1)
            {
                cout << "\n\n\tTO Money_DepositSS Total-Money";
                cout << "\n\n\tPlease Enter The Total-Money to be Money_Deposited: ";

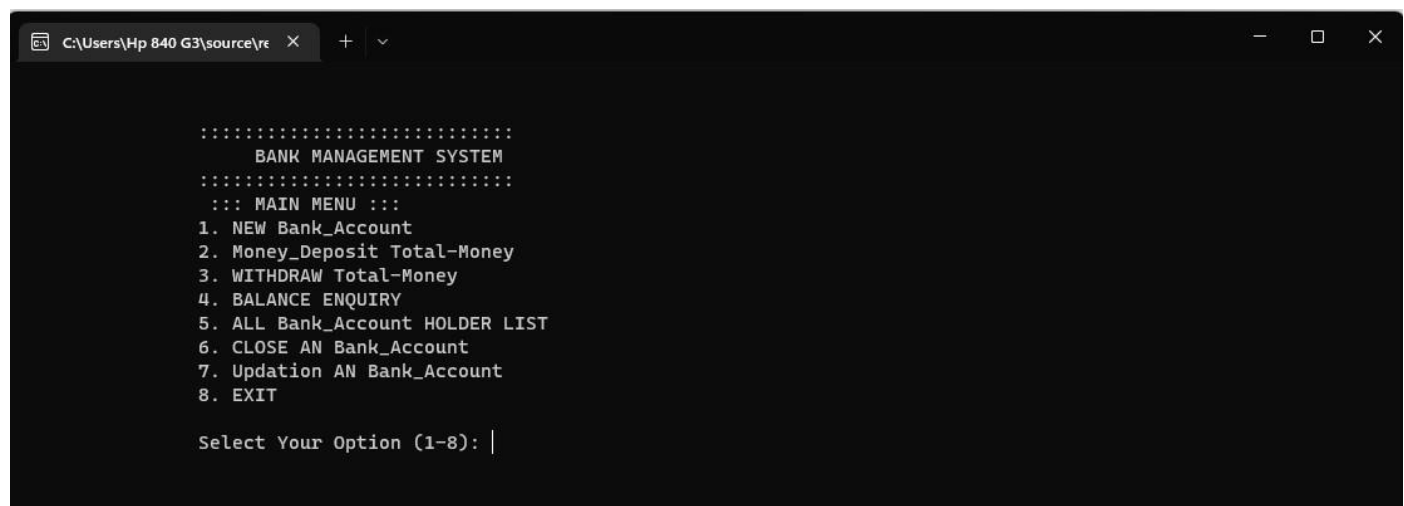
                cin >> amt;
                ac.dep(amt);
            }
            if (option == 2)
            {
                cout << "\n\n\tTO WITHDRAW Total-Money";
                cout << "\n\n\tPlease Enter The Total-Money to be withdraw: ";
                cin >> amt;
                int bal = ac.retMoney_Deposit() - amt;

```

```
        if (bal < 0)
            cout << "Insufficiency balance";
        else
            ac.draw(amt);
    }
    int pos = (-1) * static_cast<int>(sizeof(ac));
    File.seekp(pos, ios::cur); //fn1353
    File.write(reinterpret_cast<char*> (&ac), sizeof(Bank_Account));
    cout << "\n\n\tRecord Updated";
    found = true;
}
}
File.close();
if (found == false)
    cout << "\n\n\tRecord Not Found ";
}
```

OUTPUT:

Menu



```

C:\Users\Hp 840 G3\source\rc X + v

::::::::::::::::::::::::::::
      BANK MANAGEMENT SYSTEM
::::::::::::::::::::::::::::
::: MAIN MENU :::
1. NEW Bank_Account
2. Money_Deposit Total-Money
3. WITHDRAW Total-Money
4. BALANCE ENQUIRY
5. ALL Bank_Account HOLDER LIST
6. CLOSE AN Bank_Account
7. Updation AN Bank_Account
8. EXIT

Select Your Option (1-8): |
```

New Bank Account



```

C:\Users\Hp 840 G3\source\rc X + v

Please Enter the Bank_Account No. : 4324

Please Enter the Name of the Bank_Account holder : Liaquat Ali

Please Enter Type of the Bank_Account (C/S) : C

Please Enter The Starting Total-Money : 20000

Bank_Account Created..|
```


Deposit Money

```
C:\Users\Hp 840 G3\source\re X + v

Please Enter The Bank_Account No. : 4324

Bank_Account No. : 4324
Bank_Account Holder Name : Liaquat Ali
Type of Bank_Account : C
Balance Total-Money : 20000

TO Money_DepositSS Total-Money

Please Enter The Total-Money to be Money_Deposited: 5000

Record Updated|
```

Result after depositing Rs. 5000/-

```
C:\Users\Hp 840 G3\source\re X + v

Bank_Account HOLDER LIST

::::::::::::::::::::::::::::::::::::::::::::::::::::=====
A/c no.    NAME          Type  Balance
::::::::::::::::::::::::::::::::::::::::::::::::::::=====
4324      Liaquat Ali      C    25000
|
```

Withdraw Money

```
C:\Users\Hp 840 G3\source\re X + v

Please Enter The Bank_Account No. : 4324

Bank_Account No. : 4324
Bank_Account Holder Name : Liaquat Ali
Type of Bank_Account : C
Balance Total-Money : 25000

TO WITHDRAW Total-Money

Please Enter The Total-Money to be withdraw: 3000

Record Updated|
```

Displayed after Withdrawing Rs. 3000/-

```
C:\Users\Hp 840 G3\source\re X + v

Bank_Account HOLDER LIST

::::::::::::::::::::::::::::::::::::::::::::::::::::=====
A/c no.    NAME          Type  Balance
::::::::::::::::::::::::::::::::::::::::::::::::::::=====
4324      Liaquat Ali      C    22000
|
```

Updated Account Details

```
C:\Users\Hp 840 G3\source\re X + v

Please Enter The Bank_Account No. : 4324

Bank_Account No. : 4324
Bank_Account Holder Name : Liaquat Ali
Type of Bank_Account : C
Balance Total-Money : 25000

Please Enter The New Details of Bank_Account

Bank_Account No. : 4324
Updation Bank_Account Holder Name : Liaquat Ali Khan

Updation Type of Bank_Account : S

Updation Balance Total-Money : 56000

Record Updated|
```

Result after updating record

```
C:\Users\Hp 840 G3\source\re X + v

Bank_Account HOLDER LIST

::::::::::::::::::::::::::::::::::::::::::::::::::::=====
A/c no.    NAME          Type  Balance
::::::::::::::::::::::::::::::::::::::::::::::::::::=====
4324       Liaquat Ali Khan      S 56000
|
```

Close An Account

```
C:\Users\Hp 840 G3\source\re X + v

Please Enter The Bank_Account No. : 4324

Record Deleted ..|
```

Enquiry after closing an account

```
C:\Users\Hp 840 G3\source\re X + v

Please Enter The Bank_Account No. : 4324

BALANCE DETAILS

Bank_Account number does not exist|
```

THANK YOU

