Course: Experiential Learning
Course Code: DA1001

BANK MANAGEMENT SYSTEM

By

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Under the guidance

of

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Certificate

This is to certify that the project titled **"BANK MANAGEMENT SYSTEM"** is a record of the bona fide work done by **SIDDHI JAIN** submitted for the partial fulfilment of the requirements for the completion of the Experiential Learning (DA1001) course in the Department of CSE under SCIT at Manipal University Jaipur, during the academic session July-November 2021.

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Abstract

Bank Management System is our project for EL. This system is developed mainly for overcoming the drawbacks that exist in the manual banking system. The people first have to fill up the form personally to withdraw or deposit cash and then the employee has to go through a series of files and documents to find that person's account details and then update it. Sometimes while updating some errors are also made while writing.

In our system, one can register on a virtual bank server that holds the overall information and then they are provided the facility to update virtually without any rummaging and writing. The facilities included are cash withdrawing, cash depositing, checking the balance, closing an account, creating a new account, checking the list of account holders. The system works on database management built on server. The server collects all the information provided by the user and then writes them in text file. Each and every time user makes any update, the text in file gets updated. File handling has been effectively used for each feature on this project.

Introduction

C++ (pronounced "see plus plus") is a general-purpose programming language. C++ is regarded as a mid-level language, as it comprises a combination of both high-level and low-level language features. It is a statically typed, free-form, multi-paradigm, usually compiled language supporting procedural programming, data abstraction, object-oriented programming, and generic programming.

Dr. Bjarne Stroustrup developed C++ in 1979 at Bell Labs as an enhancement to the C programming language and named it "C with Classes". In 1983 it was renamed to C++. Enhancements started with the addition of classes, followed by, among other features, virtual functions, operator overloading, multiple inheritance, templates, and exception handling. The C++ programming language standard was ratified in 1998 as ISO/IEC 14882:1998, the current version of which is the 2003 version, ISO/IEC 14882:2003. A new version of the standard (known informally as C++0x) is being developed.

IMPORTANT CONCEPTS OF C++ USED IN THE PROJECT

Functions

Using functions we can structure our programs in a more modular way, accessing all the potential that structured programming can offer to us in C++.
A function is a group of statements that is executed when it is called from some point of the program. The following is its format:
type name (parameter1, parameter2, ...) { statements }
where:
type is the data type specifier of the data returned by the function.
name is the identifier by which it will be possible to call the function.

parameters (as many as needed): Each parameter consists of a data type specifier followed by an identifier, like any regular variable declaration (for example: int x) and which acts within the function as a regular local variable. They allow to pass arguments to the function when it is called. The different parameters are separated by commas.
statements is the function's body. It is a block of statements surrounded by braces { }.

Arrays

An array is a series of elements of the same type placed in contiguous memory locations that can be individually referenced by adding an index to a unique identifier.
That means that, for example, we can store 5 values of type int in an array without having to declare 5 different variables, each one with a different identifier. Instead of that, using an array we can store 5 different values of the same type, int for example, with a unique identifier.
A typical declaration for an array in C++ is:
type name [elements];

Pointers

A pointer is a variable that holds a memory address,usually the location of another variable in memory.
The declaration of pointers follows this format:
type * name;
where type is the data type of the value that the pointer is intended to
point to.

Classes & Objects

A class is a way to blind the data describing an entity and its associated functions together.An object represents an identifiableentity with some characteristics and behaviour.A single class named ‘Directory’ has been used in the code. It consist of private data members and public functions.A single global object has been used.

Data File Handling

Files help in storing information permanently.In C++,file input/output facilities are implemented through the header file’fstream.h’.It defines certain classes that help one perform file input and output.Almost all the concepts of Data File Handeling have been used.The two most common
functions ‘read &amp; write’ have been used.Functions like ‘fail’,’good’
and ‘eof’ have also been used.
ofstream: Stream class to write on files
ifstream: Stream class to read from files
fstream: Stream class to both read and write from/to files.
These classes are derived directly or indirectly from the classes istream, and ostream. We have already used objects whose types were these classes: cin is an object of class istream and cout is an object of class ostream. Therfore, we have already been using classes
that are related to our file streams. And in fact, we can use our file streams the same way we are already used to use cin and cout, with
the only difference that we have to associate these streams with physical files.
In order to open a file with a stream object we use its member function open():
open (filename, mode);

class default mode parameter
ofstream ios::out
ifstream ios::in
fstream ios::in | ios::out

When we are finished with our input and output operations on a file
we shall close it so that its resources become available again. In order
to do that we have to call the stream&#39;s member function close().

File streams include two member functions specifically designed to input and output binary data sequentially: write and read. The first one (write) is a member function of ostream inherited by ofstream. And read is a member function of istream that is inherited by ifstream. Objects of class fstream have both members. Their prototypes are:
write (memory_block, size);
read (memory_block, size);

Literature review

“Bank Management System” is online banking system which is developed in order to organize the present banking system. Since manual banking itself is a huge system a separate system is required for proper management of the database of the banks.

In past days, this similar of project has been already developed with some similar featuresand platform. For example, various reputed banks in Ahmedabad are concurrently using similar type of system allowing the employees to enjoy being a banker. Many banks have allowed similar type of practices for accurate management of bank account holder’s details. In comparision those systems are sophisticated as well.

Some of people have done similar types of tasks related to banking management system. They are all accurate and reliable, but need some modification. The technique we will use will be similar to the techniques used by earlier investigators with improvements. But the main objective of this project is to implement it on small scale banking which is not providing this kind of facility to the banks. So, by allowing the banks to use this facility, they would be able to save lots of time and labour work when needing to update an account. Also providing the ease to perform various tasks. So, we hope our project to be useful in some manner.

We are going to add different functions to perform different functions:

- intro():

This function is used to display the introductory screen of the project.

- write_account() :

The function in this bank management system project in C++ asks the user for the personal details required for opening an account like Account Number, Account Holder's Name, Account Type and the Amount and then writes all these details in the file.

- display_sp(int) :

The function is used to display the balance details and other info of the account holder. The user is asked to enter the Account number so as to know about the balance Details.

- Modify_account(int) :

The function is used to modify account record of file. In case, the user wants to change any of the pre-existing details, this function is called and the account number is passed as argument.

- delete_account(int) :

The function is used for deleting the record from the file. All the data corresponding to the account number passed as an argument is deleted from the file.

- display_all():

The function is used to display the balance details and other information of all the account holders.

- deposit_withdraw(int,int)

The function is used for depositing and withdrawing amount from the account. The Account number and the Amount are the arguments of the function.

Acknowledgements

My foremost and profound gratitude goes to **Mr.Harish Sharma** his proficient and enthusiastic guidance and encouragement. The suggestions given undoubtedly helped in supplementing my thoughts in the right direction for attaining the desired objective.

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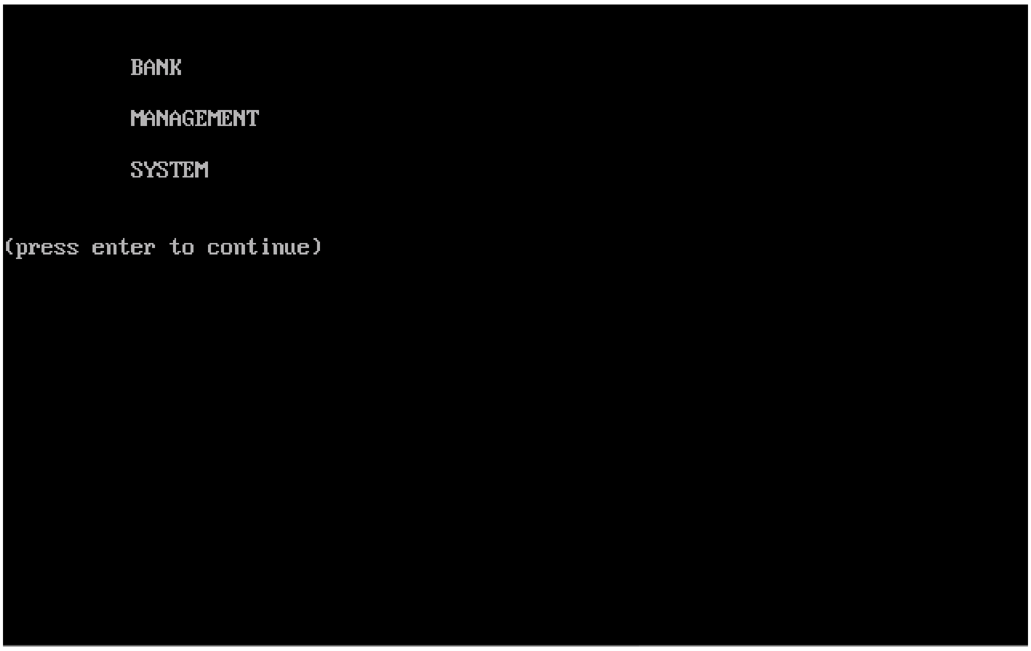
Siddhi Jain

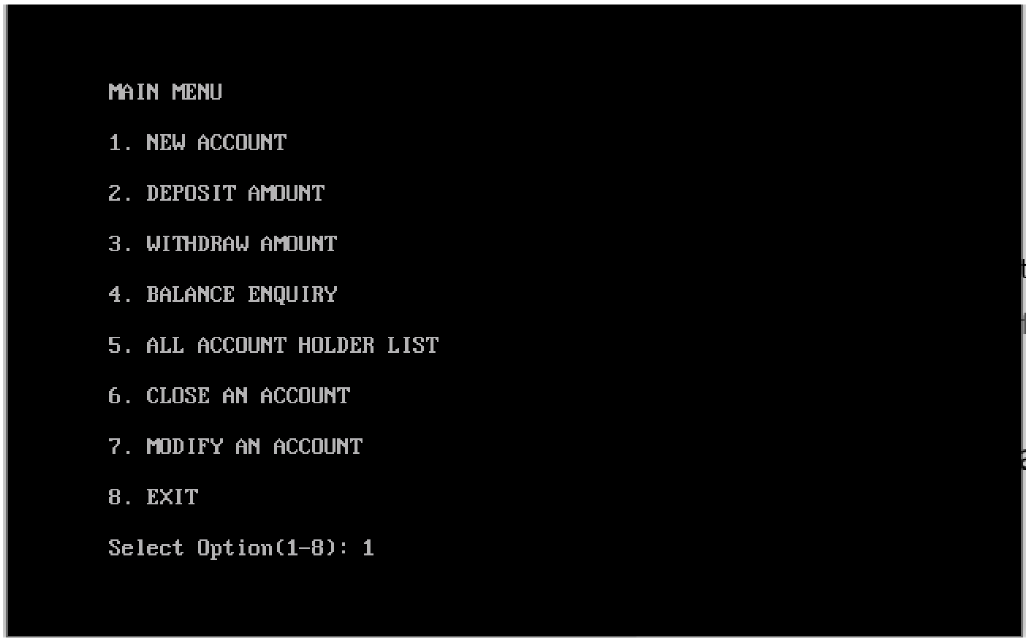
Results and Discussions

1) Entry Screen



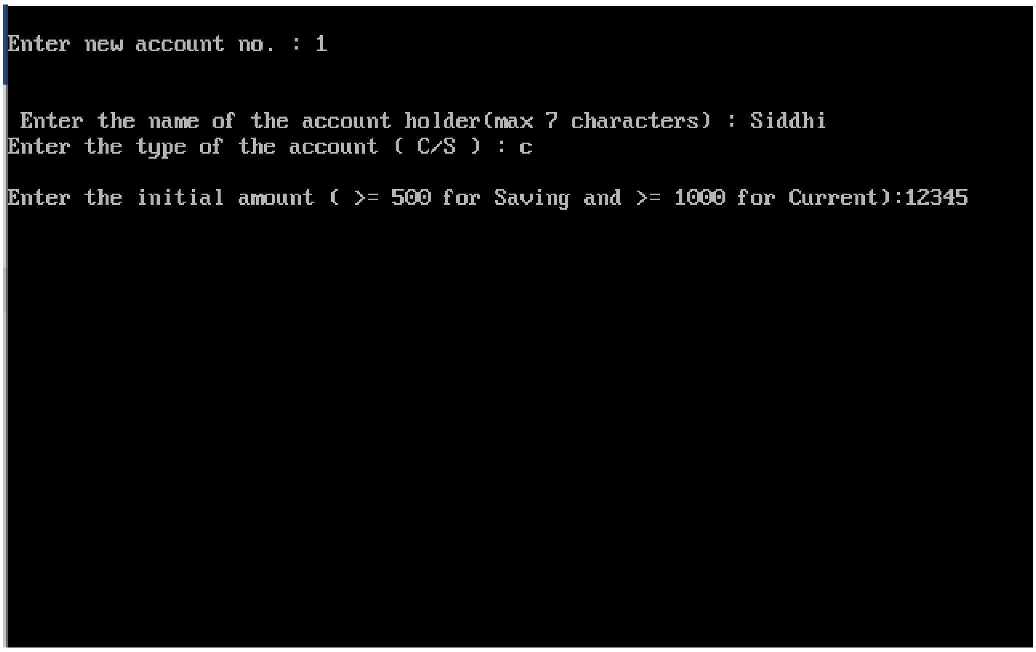
```
          BANK

          MANAGEMENT

          SYSTEM

(press enter to continue)
```

2) Menu Bar



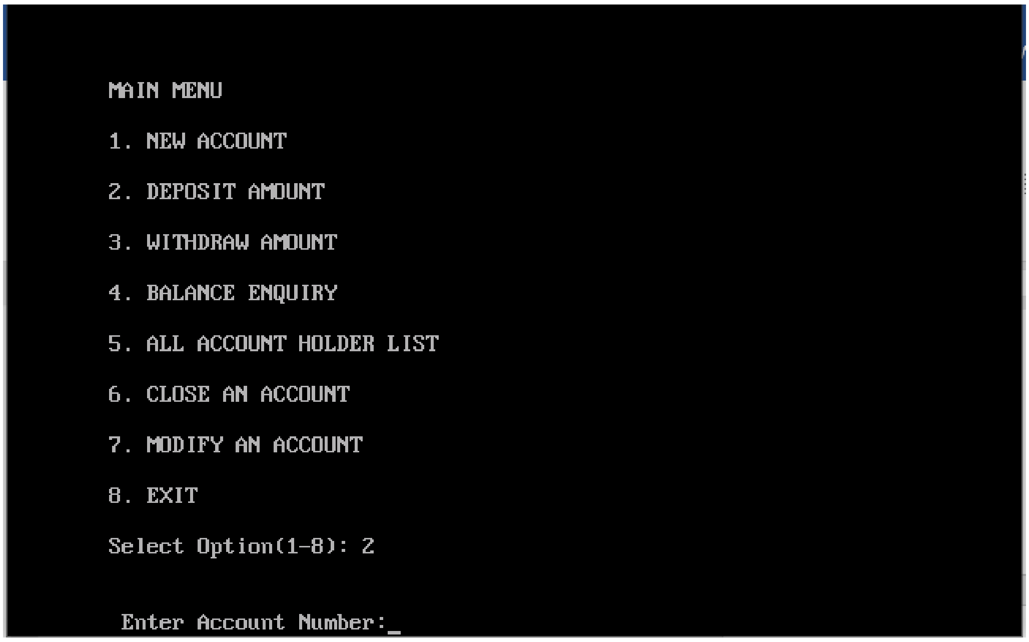
```
        MAIN MENU

        1. NEW ACCOUNT

        2. DEPOSIT AMOUNT

        3. WITHDRAW AMOUNT

        4. BALANCE ENQUIRY

        5. ALL ACCOUNT HOLDER LIST

        6. CLOSE AN ACCOUNT

        7. MODIFY AN ACCOUNT

        8. EXIT

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

3) New Account

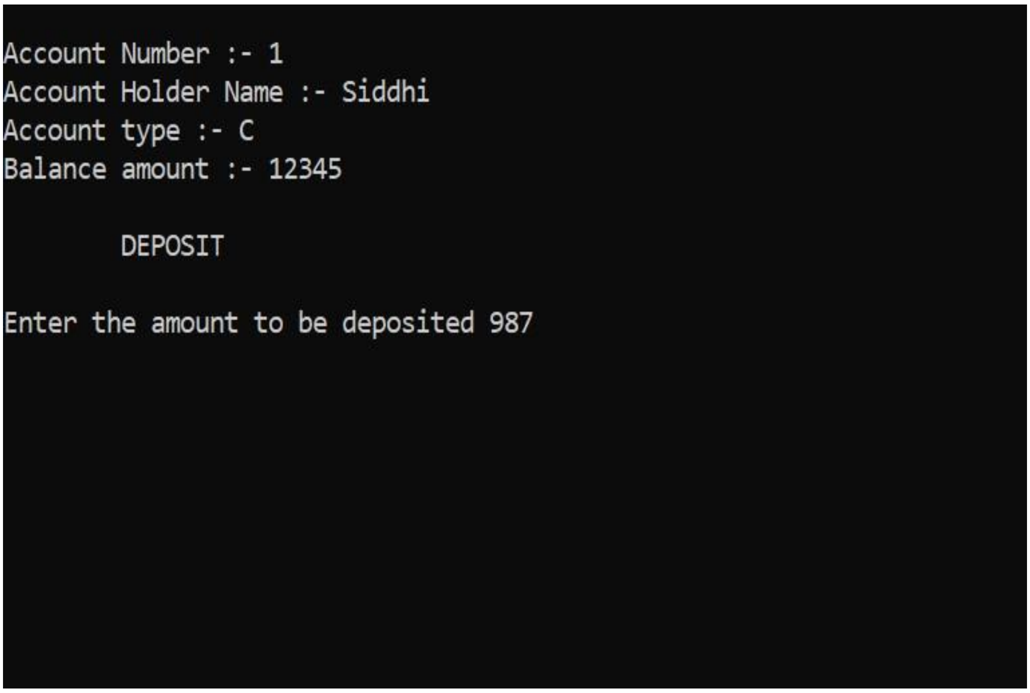


```
Enter new account no. : 1


 Enter the name of the account holder(max 7 characters) : Siddhi
Enter the type of the account ( C/S ) : c

Enter the initial amount ( >= 500 for Saving and >= 1000 for Current):12345
```

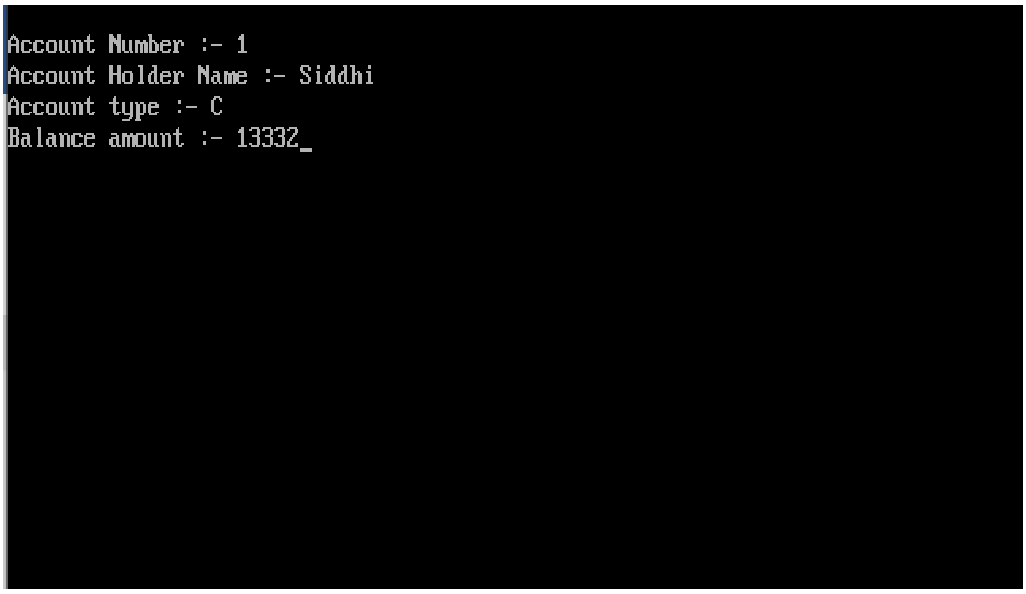
4) Deposit



```
        MAIN MENU

        1. NEW ACCOUNT

        2. DEPOSIT AMOUNT

        3. WITHDRAW AMOUNT

        4. BALANCE ENQUIRY

        5. ALL ACCOUNT HOLDER LIST

        6. CLOSE AN ACCOUNT

        7. MODIFY AN ACCOUNT

        8. EXIT

        Select Option(1-8): 2


         Enter Account Number:_
```

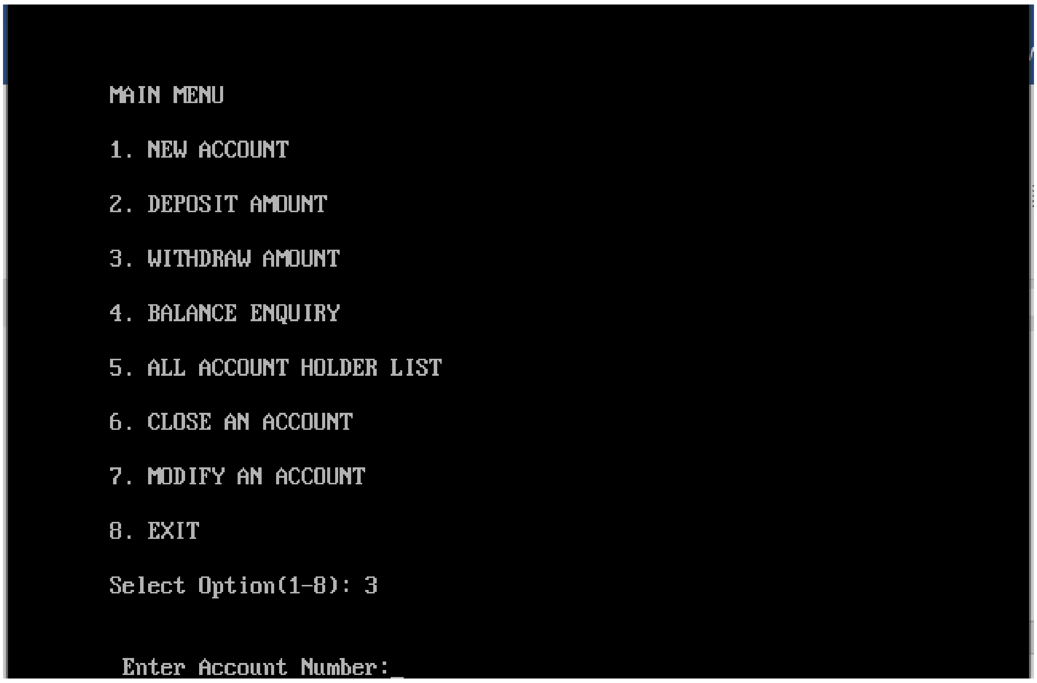


```
Account Number :- 1
Account Holder Name :- Siddhi
Account type :- C
Balance amount :- 12345

        DEPOSIT

Enter the amount to be deposited 987
```

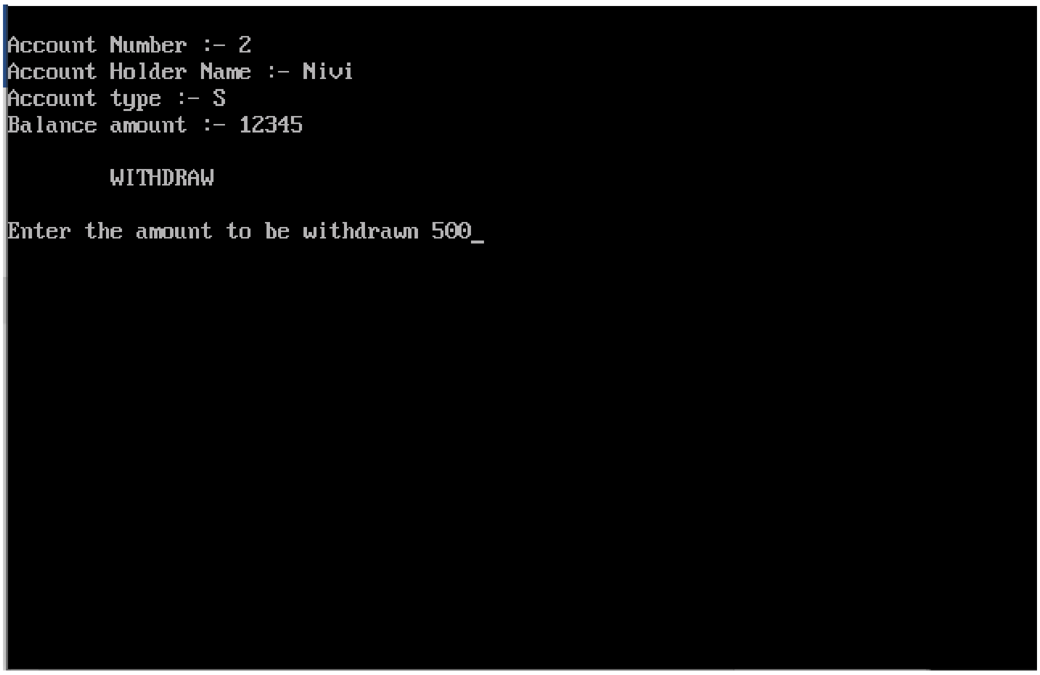


```
Account Number :- 1
Account Holder Name :- Siddhi
Account type :- C
Balance amount :- 13332_
```

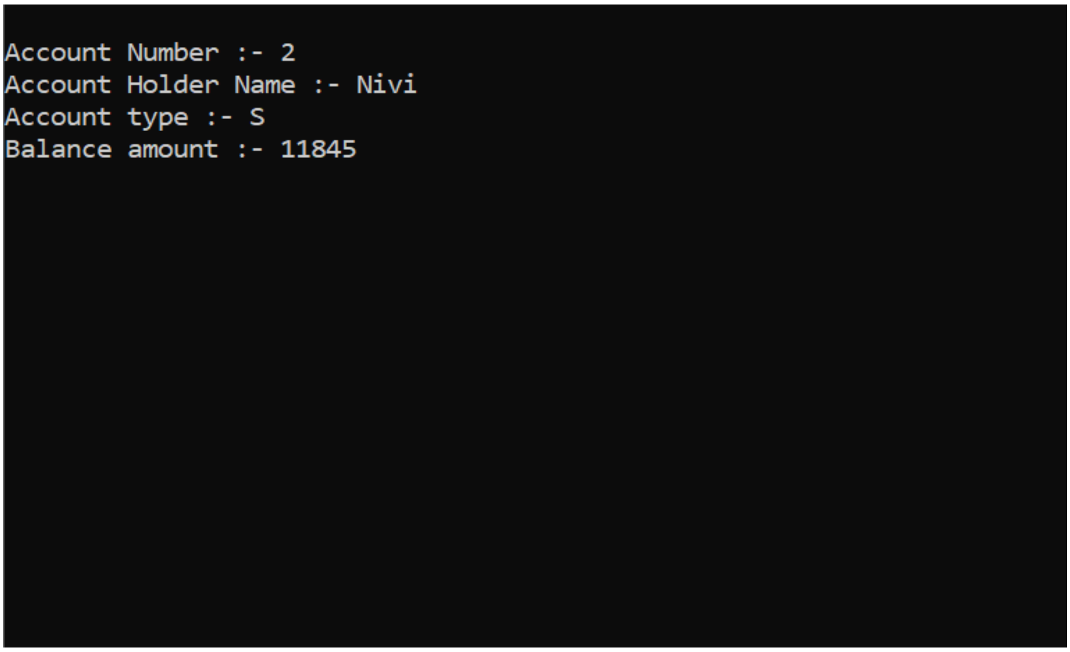
5) Withdraw



```
        MAIN MENU

        1. NEW ACCOUNT

        2. DEPOSIT AMOUNT

        3. WITHDRAW AMOUNT

        4. BALANCE ENQUIRY

        5. ALL ACCOUNT HOLDER LIST

        6. CLOSE AN ACCOUNT

        7. MODIFY AN ACCOUNT

        8. EXIT

        Select Option(1-8): 3

         Enter Account Number:_
```

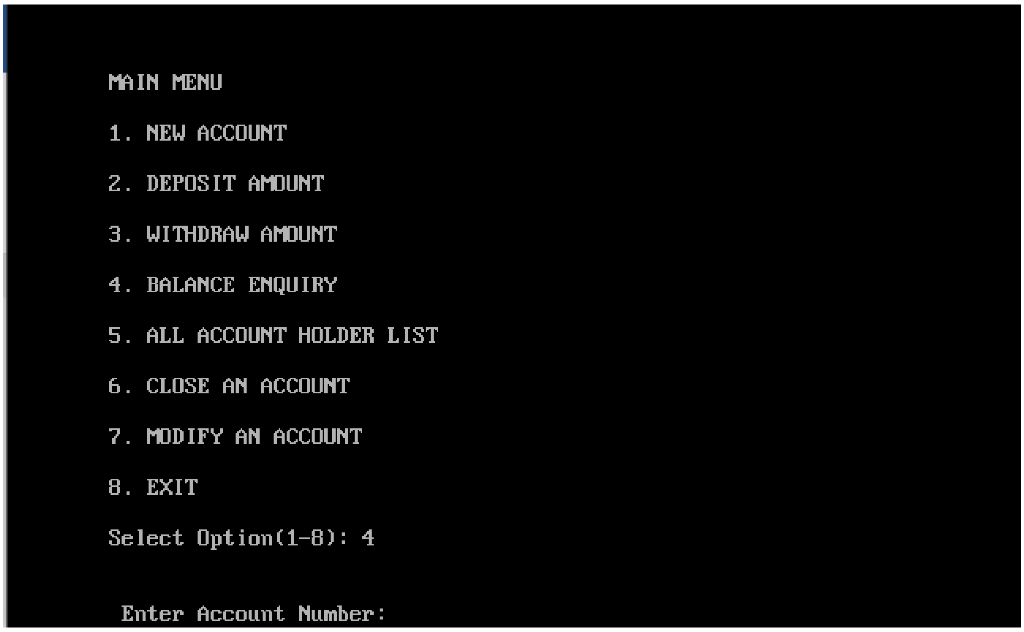


```
Account Number :- 2
Account Holder Name :- Nivi
Account type :- S
Balance amount :- 12345

        WITHDRAW

Enter the amount to be withdrawn 500_
```

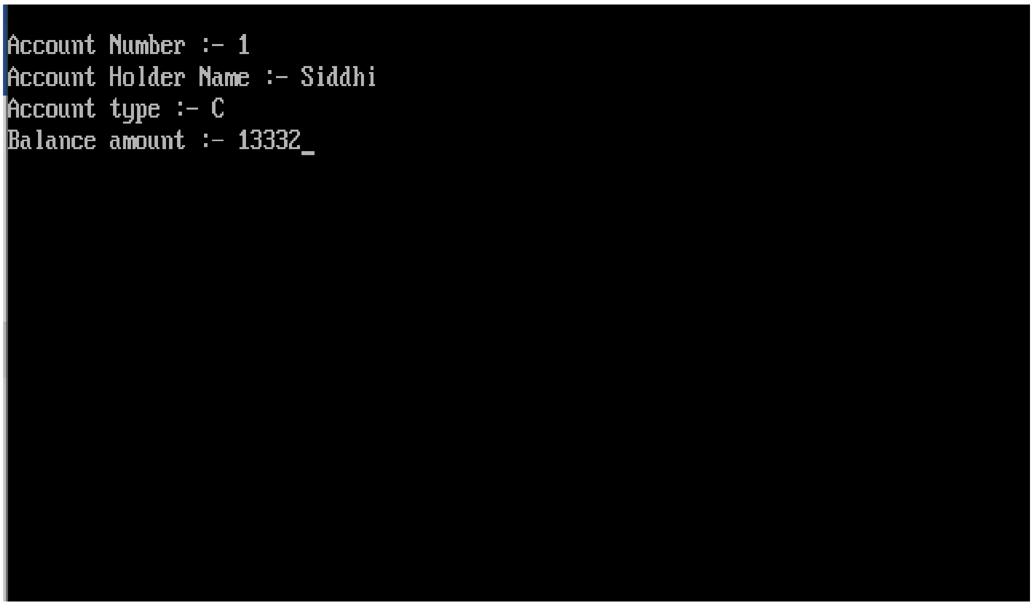


```
Account Number :- 2
Account Holder Name :- Nivi
Account type :- S
Balance amount :- 11845
```

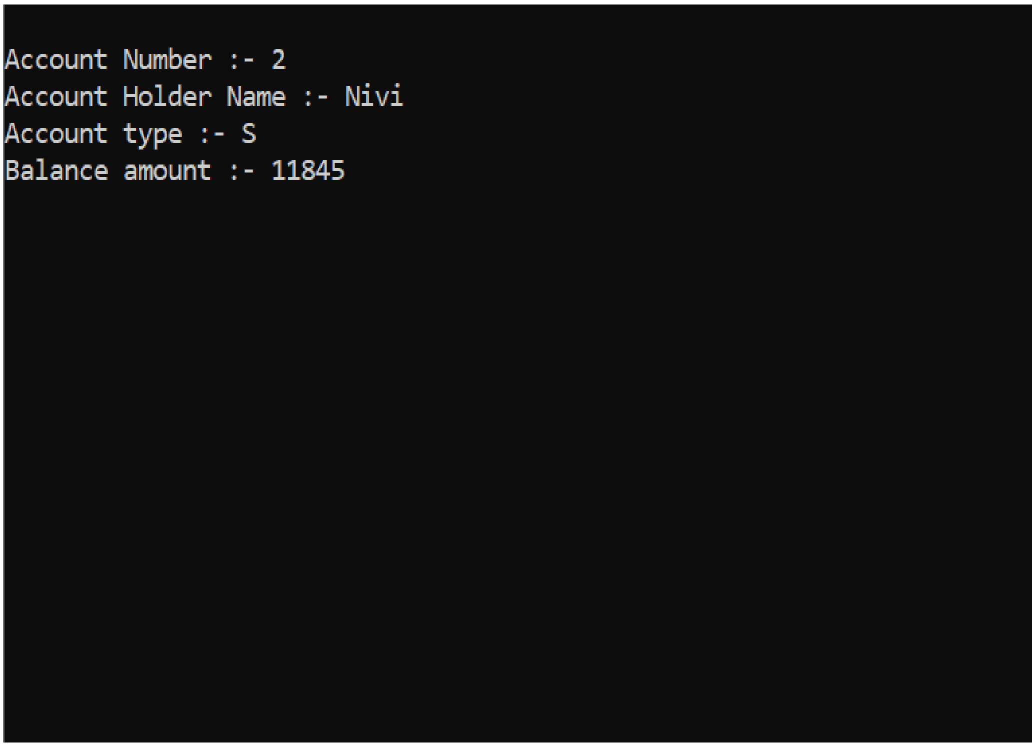
6) Balance Enquiry



```
        MAIN MENU

        1. NEW ACCOUNT

        2. DEPOSIT AMOUNT

        3. WITHDRAW AMOUNT

        4. BALANCE ENQUIRY

        5. ALL ACCOUNT HOLDER LIST

        6. CLOSE AN ACCOUNT

        7. MODIFY AN ACCOUNT

        8. EXIT

        Select Option(1-8): 4

         Enter Account Number:
```

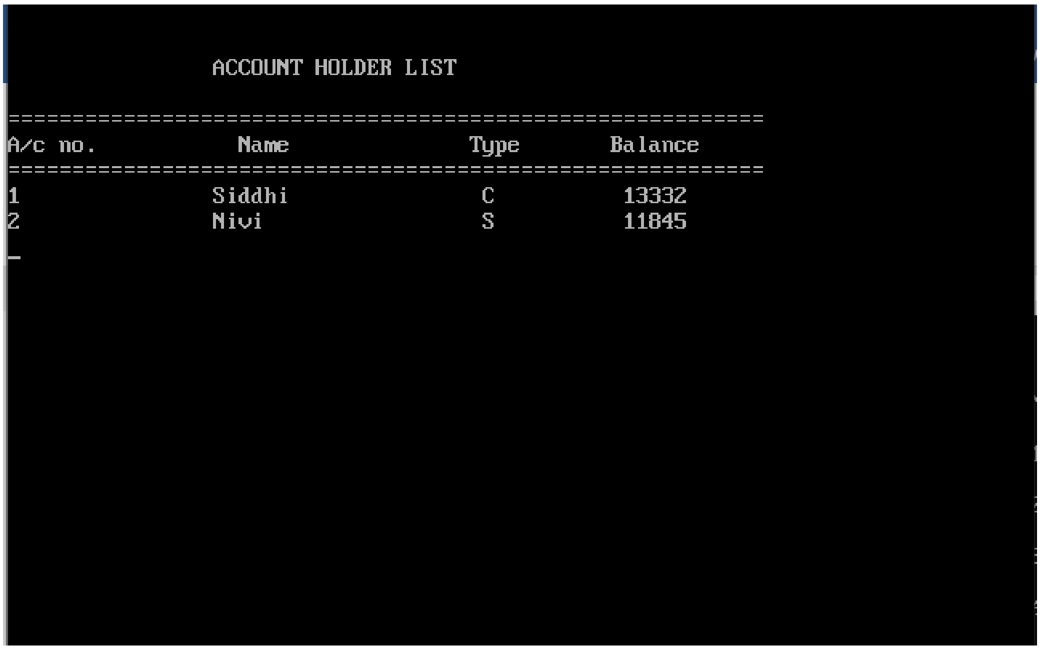


```
Account Number :- 1
Account Holder Name :- Siddhi
Account type :- C
Balance amount :- 13332_
```



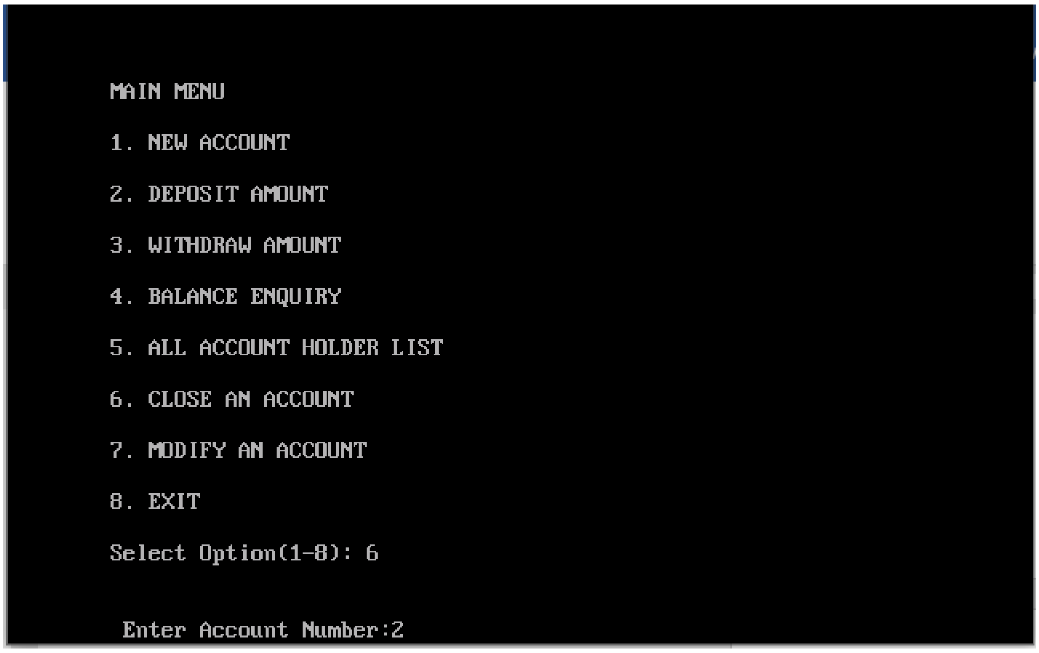
```
Account Number :- 2
Account Holder Name :- Nivi
Account type :- S
Balance amount :- 11845
```

7) Account Holder’s List



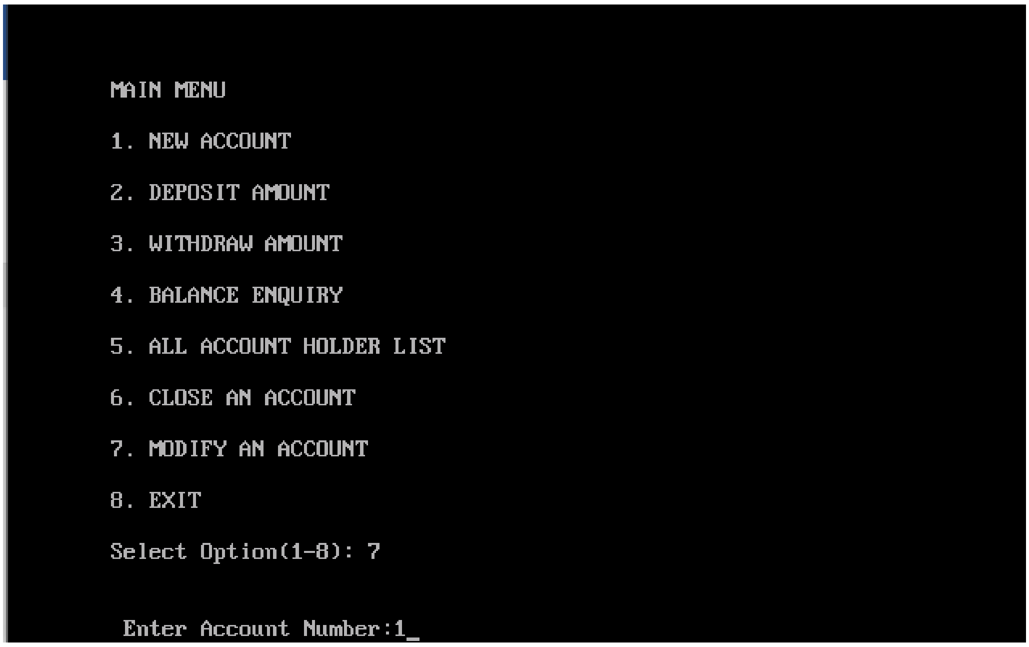
```
                ACCOUNT HOLDER LIST

===========================================================
A/c no.            Name                Type        Balance
===========================================================
1                Siddhi                 C           13332
2                Nivi                   S           11845
_
```

8) Close An Account

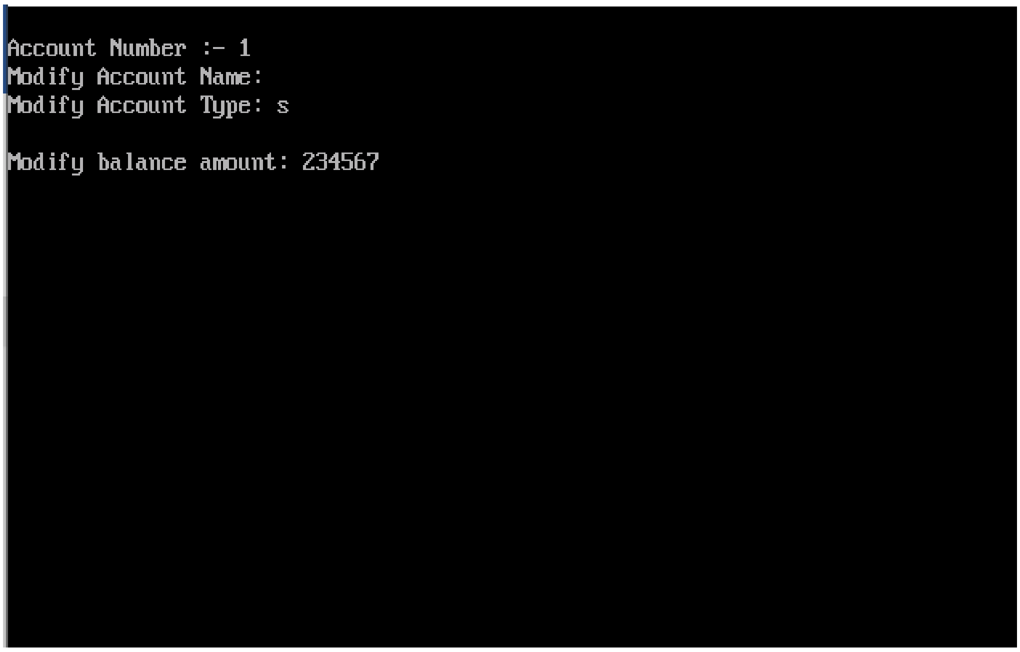


```
        MAIN MENU

        1. NEW ACCOUNT

        2. DEPOSIT AMOUNT

        3. WITHDRAW AMOUNT

        4. BALANCE ENQUIRY

        5. ALL ACCOUNT HOLDER LIST

        6. CLOSE AN ACCOUNT

        7. MODIFY AN ACCOUNT

        8. EXIT

        Select Option(1-8): 6


         Enter Account Number:2
```

9) Modify An Account

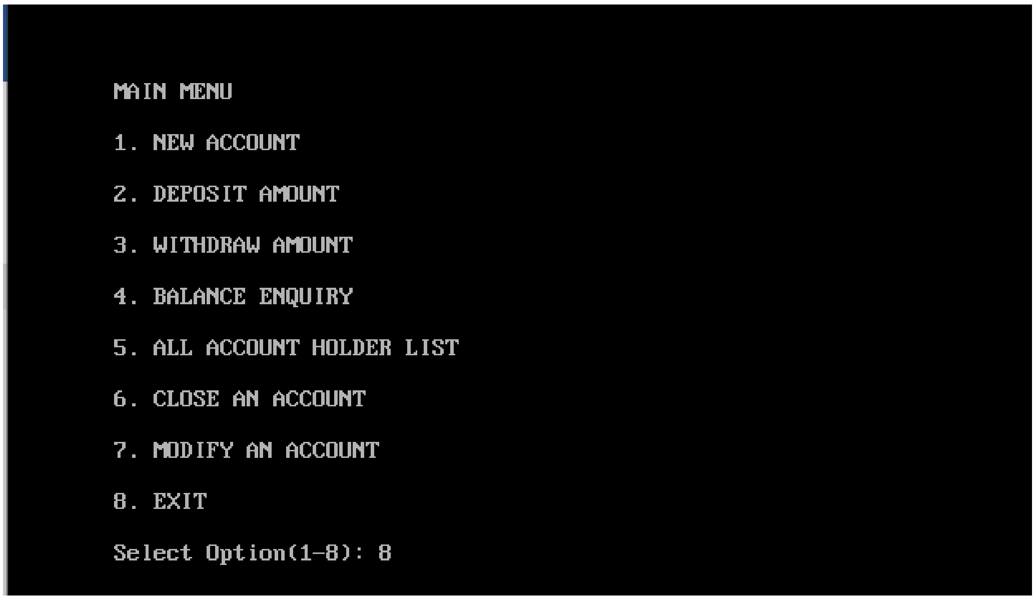


```
MAIN MENU

1. NEW ACCOUNT

2. DEPOSIT AMOUNT

3. WITHDRAW AMOUNT

4. BALANCE ENQUIRY

5. ALL ACCOUNT HOLDER LIST

6. CLOSE AN ACCOUNT

7. MODIFY AN ACCOUNT

8. EXIT

Select Option(1-8): 7


 Enter Account Number:1_
```



```
Account Number :- 1
Modify Account Name:
Modify Account Type: s

Modify balance amount: 234567
```

10) Exit



```
MAIN MENU

1. NEW ACCOUNT

2. DEPOSIT AMOUNT

3. WITHDRAW AMOUNT

4. BALANCE ENQUIRY

5. ALL ACCOUNT HOLDER LIST

6. CLOSE AN ACCOUNT

7. MODIFY AN ACCOUNT

8. EXIT

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

Conclusions

We know that general knowledge is a big abstract for every country. And it is very necessary to provide the Bank Management , so it is important to make a proper program which efficiently handles all the information and is user friendly.

- This project is time saving as it saves the time of the workers as well as customers.

- It is also storage saving .Previously all the work was done manually and required a lot of time. Large amount can be stored in a single hard disk and make it easy for the user to store data for future retrieval. The storage enhancement provide benefit in the form of cost saving. Complicated calculations can be done more easily. Optimal utilization of resources can be done.

References

References used in the study :

1. John Paul Mueller, Jeff Cogswell, C++ all-in-one for dummies, Third Edition
2. Sumita Arora, Computer Science with C++, **(2017)**, Eleventh Edition, Dhanpat Rai & Co.