RNS Institute of Technology, Bengaluru – 98

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Department of Information Science and Engineering

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Data structures Laboratory-18CSL38

Mini Project Evaluation

Project Title	BANKING SYSTEM		
USN	1RN19IS122	1RN19IS123	1RN19IS124
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Abstract

The purpose of this mini project is in fulfillment of the requirements of customer using the bank for payment. The programing language used to develop the project is C. The data structure used is doubly linked list.

The domain "Banking System" keeps the day to day Tally record as a complete Banking. It can keep the information of Account opening, Deposit, Withdraw and display the transaction report, Individual account opening and editing details. The exciting part of this project is it displays transaction reports, Statistical summary of all accounts.
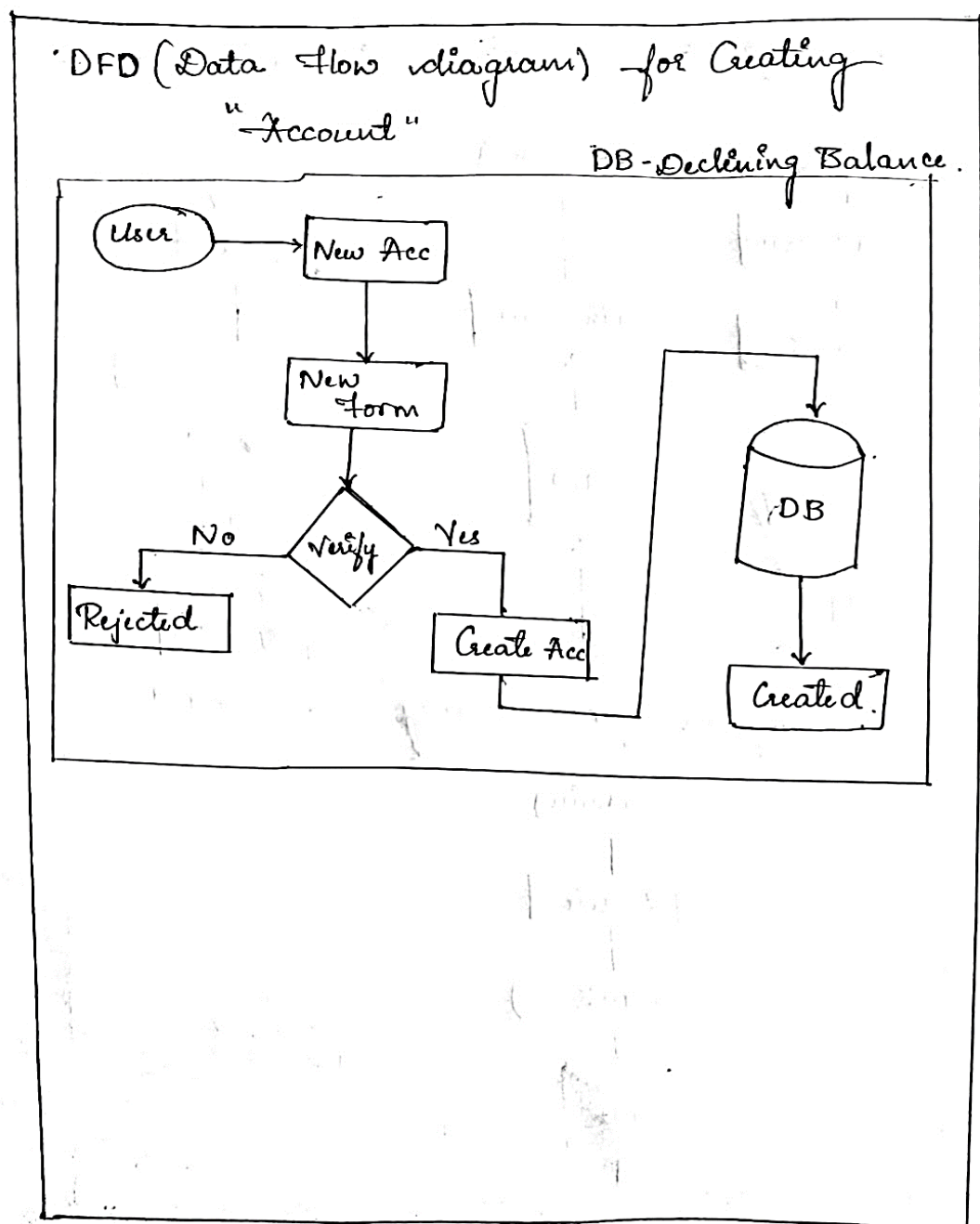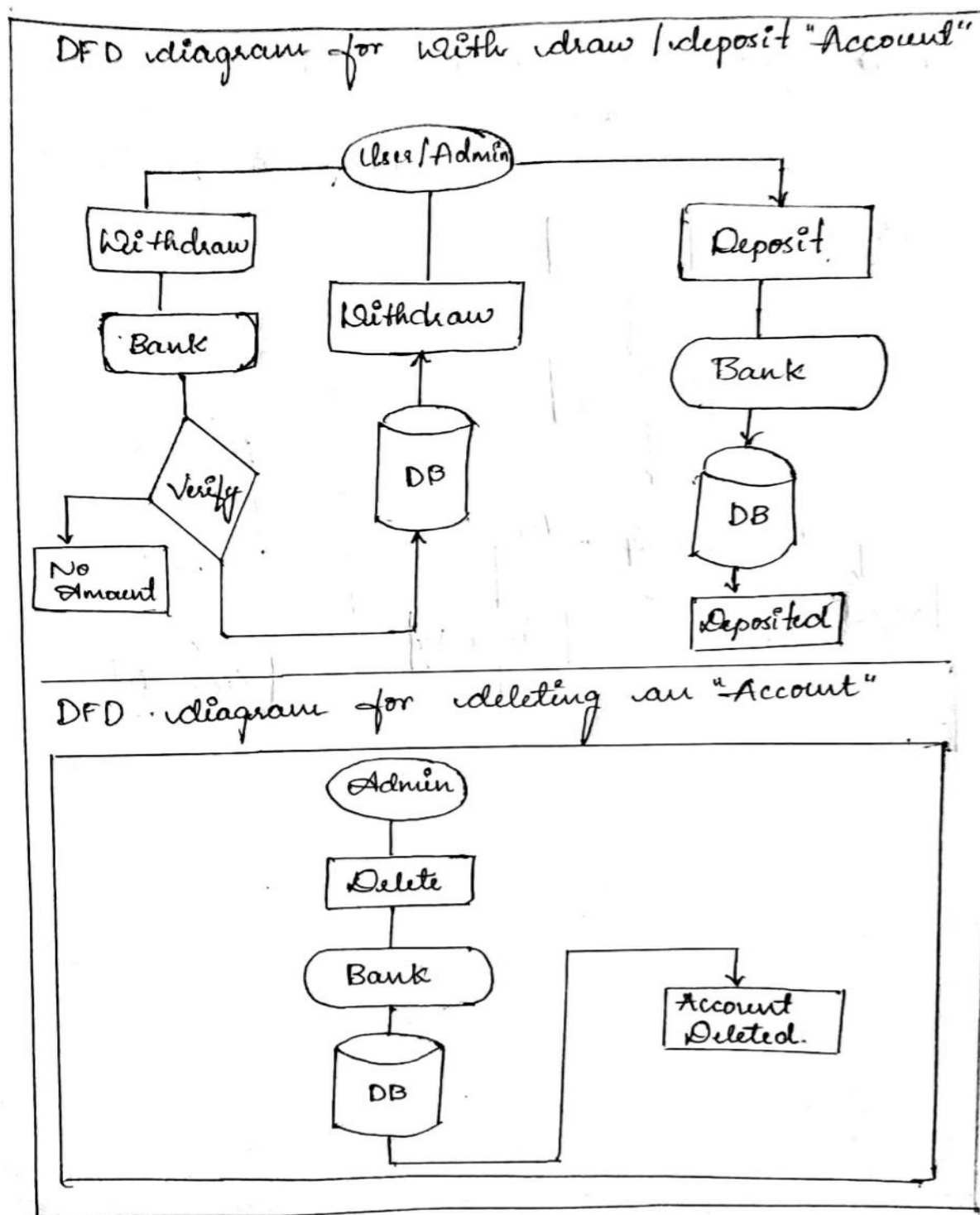
Introduction

This program will be provided as toll to the bank. The bank has been working for account information, withdrawal (through cash/cheque) and deposit amount. In this program you can keep record for daily banking transactions.

The objective is to prepare the program that can maintain data and provide a user friendly interface for retrieving customer related details just in few seconds, so it is not time consuming process. No paper work required and can be implemented further.

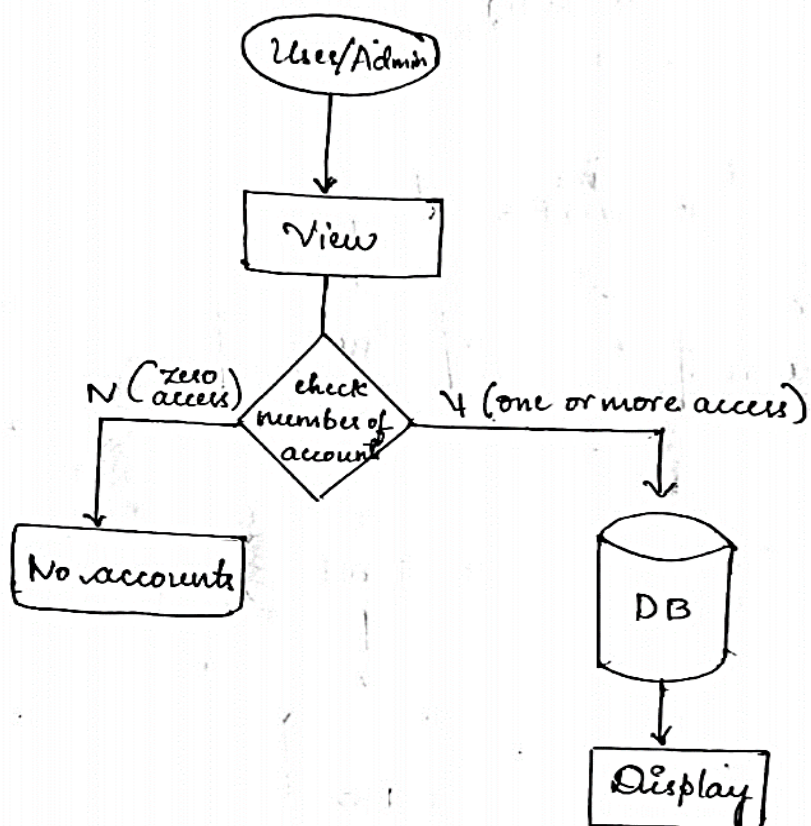The program should also facilitate the addition of new customer account , deletion of account and modification of existing customer account and show all.

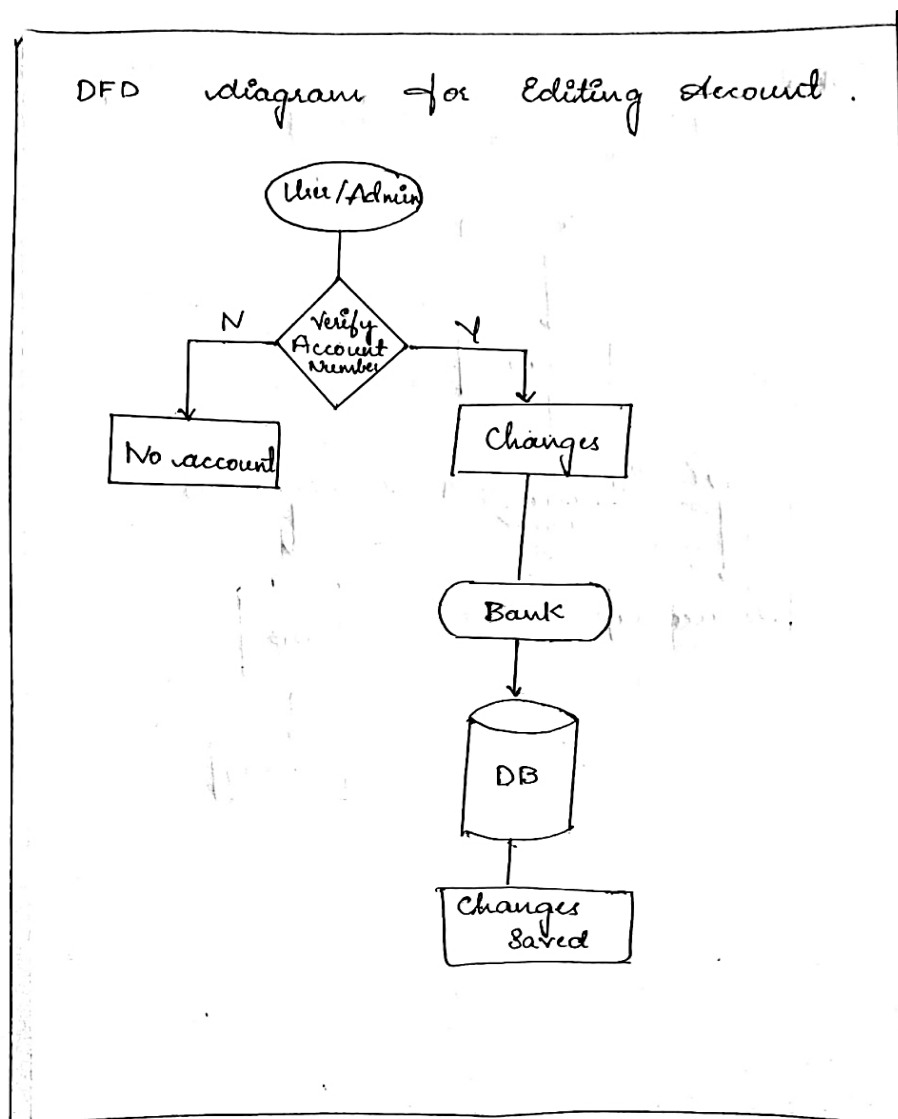## Description about the project work

DFD (Data Flow diagram) for Creating "Account"

DB - Declining Balance.

DFD diagram for with draw / deposit "Account"

DFD diagram for deleting an "Account"

DFD diagram for displaying the Entire
list of accounts

DFD diagram for Editing Account.

Node (structure)

Variables declared:

Char types:
Fname(first name)
Lname(last name)
Acc_no(account number)
Address
Citizenship (aadhar number)
Phone(mobile number)

Int types:
Age

Float types:
Amt(amount/balance)

Pointer variables:
First(head)
Last(tail)
Temp(pointer1)
Temp1(pointer2)
Prev
Next

Functions:
1] **create()**
 Step1: input account number (8digits).
Step2: verify whether it's 8 digits and no alphabets in between and store it.

Step3: input first name and last name, age, address and store it.
Step4: input aadhar number (12 digits).
Step5: verify whether its 12digits and no alphabets and store it.
Step6: input phone number (10 digits).
Step7: verify whether it's 10 digits and no alphabets and store it.
Step8: input amount to deposit.
Step9: return.
2] **insertatfirst()**
Step1: calls create() function and input values.
Step2: if first == NULL
     Then
     first=temp
     last=first
     else
     first-> prev= temp
     Temp->next=first
     First=temp
Step4: return.
3] **display()**
Step1: if first == NULL
     Then
     Print no accounts.
     Else
     While(temp!= NULL)
     Print the list of accounts.
     temp= temp->next
     End while.
Step2: return.
4] **edit()**
Step1: input account number to edit.
Step2: verify account number for existence.
     True-> goto step3 to 6.
     False-> print 'no accounts' return.
Step3: print options { 1. to edit name
                   2. To edit age
                   3. To edit address
                   4. To edit phone number
                   5. To edit aadhar number}
Step4: input choice.
Step5: input values to be changed.
Step6: verify input then value are changed and saved.
Step7: return.
5] **depositamt()**
Step1: input account number
Step2: verify account number
     If it exits then
     Goto step3
     Else print 'account number does not exist'
     Return.
Step3: print 'account details and balance'.
Step4: input amount to deposit.
Step5: balance updated.
Step6: print 'account details and new balance'.
Step7: return.
6] **withdrawamt()**
Step1: input account number.
Step2: verify account number
     If it exits then
     Goto step3

Else
Print 'account number does not exit'
Return.
Step3: print 'account details and balance'.
Step4: input amount to withdraw
Step5: if amount > balance
Print 'insufficient balance …. Retry'
Goto step4
Else
Balance = balance – withdraw
Step6: print account details and new balance.
Step7: return.
7] delaccfront()
Step1: if first == NULL
Print 'no account to delete'.
Return.
Step2: if temp-> next == NULL
Print account details that is deleted.
Free(temp)
First= null
Else
First=temp->next
Print account details that is deleted.
Free(temp)
First->prev= NULL.
Step3: return.
8] delaccend()
Step1: if first == NULL
Print 'no of account to delete'
Return.
Step2: if temp->next == NULL
Print account details that is deleted.
Free (last)
Last= temp1
Last-> next = NULL
Step3: return
9] delacc()
Step1: if first == NULL
Print 'no of account is delete'
Return
Step2: if temp-> next == NULL
Print account details to be deleted
Free (temp)
First = NULL
Return.
Step3: input account number is deleted
Step4: verify account number
True-> goto step5
False-> print 'account does not exist'
Return.
Step5: while(temp!= NULL)
If (temp ->prev== NULL)
Calls dellaccfront()
Break;
Else
Print account details to be deleted.
Tmp-> prev-> next= temp->next
Temp-> next-> prev= tenp-> prev
Free(temp

Break;
Temp= temp-> next
End while.
Step6: return.
10] **main()**
Step1: print menu
Step2: print choice { 1.create number of new account
2. Add another account
3. View accounts list
4. Edit account
5. Deposit amount
6. Withdraw amount
7. Delete account
8. Exit}
Step3: input choice
Step4: while(1)
Step5: switch(choice)

case 1: input value of n
for i=0 to i<n
call insertatfirst()
i++
end for
break;
case 2: insertatfirst()
break
case 3: display()
break
case 4: edit()
break
case 5: depositamt()
break
case 6: withdrawamt()
break
case 7: delacc()
break

case 8: exit(1)

default: print 'Incorrect choice'

end while

Step6: End.

Results

```
                    CUSTOMER BANKING ACCOUNTS MANAGEMENT SYSTEM

                        WELCOME TO THE MAIN MENU

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                    Enter your choice:1
Enter the value of n : 5
                        ADD RECORD

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter 8 digit account number:1000000f
Wrong Input...
 Try again

Enter 8 digit account number:10000001

Enter first name:Rushwanth

Enter last name:K

Enter the age:19

Enter the address:3758,10thcross,blore-78

Enter the Aadhar number(12 digits): 111122223333

Enter the phone number(10 digits): 9876543211
Enter the amount to deposit:Rs.45000
                        ADD RECORD

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter 8 digit account number:10000002

Enter first name:Rohith

Enter last name:HK

Enter the age:19

Enter the address:467,42ndcross,blore-01

Enter the Aadhar number(12 digits): 555566667777

Enter the phone number(10 digits): 9090888777

Enter the amount to deposit:Rs.60000
                        ADD RECORD

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter 8 digit account number:10000003

Enter first name:Rutvick

Enter last name:S

Enter the age:20

Enter the address:46,15thcross,nelmangla

Enter the Aadhar number(12 digits): 333300009999

Enter the phone number(10 digits): 9877654421

Enter the amount to deposit:Rs.50000
                        ADD RECORD

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.
```

```
Enter 8 digit account number:10000004

Enter first name:Rahul

Enter last name:RK

Enter the age:20

Enter the address:378,1stmain,blore-26

Enter the Aadhar number(12 digits): 454566662332

Enter the phone number(10 digits): 98273
Wrong Input...
 Try again

Enter the phone number(10 digits): 9827300011

Enter the amount to deposit:Rs.65000
                      ADD RECORD

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter 8 digit account number:10000005

Enter first name:Sandeep

Enter last name:N

Enter the age:25

Enter the address:1221,6thmain,blore-85

Enter the Aadhar number(12 digits): 1212676788
Wrong Input...
 Try again

Enter the Aadhar number(12 digits): 121267678899

Enter the phone number(10 digits): 9088765522

Enter the amount to deposit:Rs.30000
```

```
        1.Create N number of new accounts
        2.Add another account
        3.View accounts list
        4.To Edit account details
        5.Deposit amount
        6.Withdraw amount
        7.Delete account
        8.Exit



        Enter your choice:3
ACC. NO.      NAME        AGE    AADHAR No.     ADDRESS               PHONE        BALANCE

10000005      Sandeep N   25     121267678899   1221,6thmain,blore-85 9088765522   Rs.30000.000000

10000004      Rahul RK    20     454566662332   378,1stmain,blore-26  9827300011   Rs.65000.000000

10000003      Rutvick S   20     333300009999   46,15thcross,nelmangla 9877654421  Rs.50000.000000

10000002      Rohith HK   19     555566667777   467,42ndcross,blore-01 9090888777  Rs.60000.000000

10000001      Rushwanth K 19     111122223333   3758,10thcross,blore-78 9876543211 Rs.45000.000000


        1.Create N number of new accounts
        2.Add another account
        3.View accounts list
        4.To Edit account details
        5.Deposit amount
        6.Withdraw amount
        7.Delete account
        8.Exit



        Enter your choice:2
            ADD RECORD
**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.
```

```
Enter 8 digit account number:10000006

Enter first name:Yuvan

Enter last name:S

Enter the age:30

Enter the address:489,8thcross,blore-02

Enter the Aadhar number(12 digits): 345312227890

Enter the phone number(10 digits): 9887700123

Enter the amount to deposit:Rs.83000


            1.Create N number of new accounts
            2.Add another account
            3.View accounts list
            4.To Edit account details
            5.Deposit amount
            6.Withdraw amount
            7.Delete account
            8.Exit



            Enter your choice:3
```

ACC. NO.	NAME	AGE	AADHAR No.	ADDRESS	PHONE	BALANCE
10000006	Yuvan S	30	345312227890	489,8thcross,blore-02	9887700123	Rs.83000.000000
10000005	Sandeep N	25	121267678899	1221,6thmain,blore-85	9088765522	Rs.30000.000000
10000004	Rahul RK	20	454566662332	378,1stmain,blore-26	9827300011	Rs.65000.000000
10000003	Rutvick S	20	333300009999	46,15thcross,nelmangla	9877654421	Rs.50000.000000
10000002	Rohith HK	19	555566667777	467,42ndcross,blore-01	9090888777	Rs.60000.000000
10000002	Rohith HK	19	555566667777	467,42ndcross,blore-01	9090888777	Rs.60000.000000
10000001	Rushwanth K	19	111122223333	3758,10thcross,blore-78	9876543211	Rs.45000.000000

```
            1.Create N number of new accounts
            2.Add another account
            3.View accounts list
            4.To Edit account details
            5.Deposit amount
            6.Withdraw amount
            7.Delete account
            8.Exit



            Enter your choice:4

**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter acc no. to edit details
3425345

Account number does not exist.


            1.Create N number of new accounts
            2.Add another account
            3.View accounts list
            4.To Edit account details
            5.Deposit amount
            6.Withdraw amount
            7.Delete account
            8.Exit



            Enter your choice:4
```

```
**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter acc no. to edit details
10000001
        1.To edit name
        2.To edit age
        3.To edit address
        4.To edit phone number
        5.To edit Aadhar number
        Enter your choice 2

Enter new age: 23

 Changes Saved.



                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                 Enter your choice:4


**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter acc no. to edit details
10000003
        1.To edit name
        2.To edit age
        3.To edit address
        4.To edit phone number
        5.To edit Aadhar number
        4.To edit phone number
        5.To edit Aadhar number
        Enter your choice 4

Enter new phone number(10 digits): 9000011117

 Changes Saved.


                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                 Enter your choice:4


**IMPORTANT NOTE: while entering names and addresses DO NOT Enter SPACES between.


Enter acc no. to edit details
10000005
        1.To edit name
        2.To edit age
        3.To edit address
        4.To edit phone number
        5.To edit Aadhar number
        Enter your choice 5

Enter new Aadhar number(12 digits): 53434345gth
Wrong Input...
 Try again

Enter new Aadhar number(12 digits): 000099991111

 Changes Saved.
```

```
                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit


                Enter your choice:3
ACC. NO.        NAME            AGE     AADHAR No.      ADDRESS             PHONE       BALANCE

10000006            Yuvan S     30      345312227890    489,8thcross,blore-02   9887700123  Rs.83000.000000

10000005        Sandeep N       25      000099991111    1221,6thmain,blore-85   9088765522  Rs.30000.000000

10000004          Rahul RK      20      454566662332    378,1stmain,blore-26    9827300011  Rs.65000.000000

10000003        Rutvick S       20      333300009999    46,15thcross,nelmangla  9000011117  Rs.50000.000000

10000002        Rohith HK       19      555566667777    467,42ndcross,blore-01 9090888777  Rs.60000.000000

10000001        Rushwanth K     23      111122223333    3758,10thcross,blore-78 9876543211  Rs.45000.000000

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                Enter your choice:5
Enter acc no. to deposit
_____

Enter acc no. to deposit
10000003

10000003            Rutvick S   Rs.50000.000000

Enter amt to deposit
7200

10000003            Rutvick S   Rs.57200.000000

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                Enter your choice:6
Enter acc no. to withdraw
234656

Account number does not exist.

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit
```

```
                Enter your choice:6
Enter acc no. to withdraw
10000006

10000006             Yuvan S    Rs.83000.000000

Enter amt to withdraw
5600

10000006             Yuvan S    Rs.77400.000000

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                Enter your choice:6
Enter acc no. to withdraw
10000005

10000005             Sandeep N   Rs.30000.000000

Enter amt to withdraw
35000

Insufficient balance... retry with amount lesser than your balance

Enter amt to withdraw
20000

10000005             Sandeep N   Rs.10000.000000

                1.Create N number of new accounts

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                Enter your choice:7
Enter Acc no. to delete
23125342

Account does not exist.


                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit




                Enter your choice:7
Enter Acc no. to delete
10000003

Account deleted is

10000003       Rutvick S       9000011117      Rs.57200.000000

Successfully deleted...
```

```
                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                Enter your choice:7
Enter Acc no. to delete
10000006

Account deleted is

10000006        Yuvan S     9887700123     Rs.77400.000000

Successfully deleted...


                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                Enter your choice:7
Enter Acc no. to delete
10000001

Account deleted is

10000001        Rushwanth K    9876543211     Rs.45000.000000
Successfully deleted...

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                Enter your choice:3
ACC. NO.        NAME        AGE     AADHAR No.      ADDRESS              PHONE         BALANCE

10000005        Sandeep N   25      000099991111    1221,6thmain,blore-85  9088765522   Rs.10000.000000

10000004        Rahul RK    20      454566662332    378,1stmain,blore-26   9827300011   Rs.65000.000000

10000002        Rohith HK   19      555566667777    467,42ndcross,blore-01 9090888777   Rs.60000.000000

                1.Create N number of new accounts
                2.Add another account
                3.View accounts list
                4.To Edit account details
                5.Deposit amount
                6.Withdraw amount
                7.Delete account
                8.Exit



                Enter your choice:9

 Incorrect input...


                1.Create N number of new accounts
```

```
        1.Create N number of new accounts
        2.Add another account
        3.View accounts list
        4.To Edit account details
        5.Deposit amount
        6.Withdraw amount
        7.Delete account
        8.Exit




        Enter your choice:8

Process returned 1 (0x1)    execution time : 1410.855 s
Press any key to continue.
```

Conclusion and Future Enhancements

This banking system project will serve as a useful approach to data base dialog box to deposit and withdraw the money for the person. It will reduce the time taken by the user/admin to handle accounts. This program has a user friendly approach.

Currently handling savings account only in future we can handle other types of account ex:-Fixed deposit, retirement accounts, checking accounts, etc. And even online banking will be updated soon. Passwords and log-in Id's will be added for better security and privacy.

References

- **Books-** 'Programming in C & Data Structures' by **A.A Godse**
- **Weblinks**- https://www.codewithc.com/mini-project-in-c-bank-management-system/