

Project Title: ATM Working

Given Problem Statement:

Write a C program to mimic the ATM machine.

(a) On execution of the code -A welcome message should be displayed. Then following options for the user to be displayed - withdrawal, pin change, cash deposit, check balance, money transfer.

(b) In each of the above options, necessary computations and messages display should be done.

Design Steps:

Request: Please read “Read Me” file before executing the program for a first time.

1. The main code has the definition and declaration of functions. Each function implements the features mentioned in the problem statement. It will display a welcome message “welcome to C-Bank ATM” and then provide Two main features “New Customer” (additional feature) and “ Existing Customer”.
2. If the user inputs option 1 (New customer) then options like “Minimum balance account”, “Zero balance account” get displayed.
 - After choosing either of these you have to enter details whatever it asks basically your name (Ex. Sriram M) and a 9 digit natural number(if you entered a number an account number of someone already registered with that number as account number it will display error message).
 - As name indicates for zero balance account you don't need to deposit money on the day of opening account after entering details but for minimum balance account you have to deposit (Min 2000) money (in multiples of 10).

- The user input is saved as a text file (with account number as name in the path where our C-source code file).the txt file contains ACCOUNT NUMBER,NAME ,ATM PIN,BALANCE (zero if your account is a minimum balance account);also a txt file having name “account number”trans.txt basically contains every transaction you have made. Separate text files (2) for each new customer is maintained.
3. If the user inputs option 2 (have to be an existing customer in our bank) then it will ask you to enter your account number and ATM PIN (for invalid entries corresponding error messages will get displayed; mentioned in read me file).
 4. If Existing ATM credentials are entered in background your txt file will be open edit will display a menu (different services available) having 10 options. If you entered corresponding number for
 - 1) Balance Enquiry: It will display the balance available in your account along with respective details.
 - 2) Withdraw Money: It will ask you to enter amount if you entered invalid entries (greater than your balance, not in multiples of 10;as our ATM can give money in multiples of 10,some other mentioned in read me file).for valid entries it will ask you to collect money also ask you to want a receipt (details of transaction you have made) having two options 1. Yes 2.No if you entered 1 it will display a receipt on next screen and returns 0 with a thank you message but if entered 2 (No) it just display thank you message and returns 0. Corresponding change to your balance will be modified to your txt file
 - 3) Deposit Money: : It will ask you to enter amount (in multiples of 10;as our ATM cash receiver can only takes money in multiples of 10).After entering amount it will display two options and ask you leave money inside cash receiver if you deposited money in cash receiver you have to enter 1.Done it will add money to your bank balance and ask you if you want a receipt like (2)),but if you choose 2. Cancel the transaction will be cancelled and returns 0 with a thank you message. Corresponding change to your balance will be modified to txt file.
 - 4) Change Pin: It will ask you to enter old pin and then new pin again ask you to re-enter new pin (about invalid entries mentioned in read me file).even if you choose same pin as new pin after entering valid entries it will display a message having details of updation of your ATM credentials and returns 0 with a thank you message. Corresponding change to your ATM PIN will be modified to txt file.
 - 5) Transfer Money: It will ask you to enter account number of receiver and then ask you to enter amount (if you entered non existing Ac/No, amount greater than your account balance or other invalid entries corresponding error message will get displayed) if Transaction is successful it will display a message transaction is successful and ask you to want a receipt. . Corresponding change to balance of both customers will be modified to their respective txt file.
 - 6) Update Details: This option allows you to change account related information basically your name. After choosing this option it asks you to enter a new name after entering it will display the updation of your details on next screen. Corresponding modification will be done to their respective txt file.

- 7) PM Cares Fund Donation: If you choose this option it will ask you to enter amount (money you want to donate).After entering amount it will ask if you want receipt if you choose an option it will display a thank you message and returns 0. Corresponding modification to balance will be done to txt files of both the user and pm cares fund receiving account (some details of pm cares fund account mentioned in read me file).
- 8) Transaction History: If you choose this option , on the next screen you will see the number of transaction you have done till then along with date and time since from opening of account with detailed information (Ex. Transferred/received 500 to/from 989898989 , deposited/withdraw 1000 along with date and time).
- 9) Interest Calculator: This is an add-on feature for customers for awareness on Interest to Check what amounts any bank charges you for loans and interest amount for fixed deposits. You were asked to enter principal amount , maturity time , Interest rate and gives output to you in terms of amount that is formed at the end of the maturity period .
- 10) Close My Account: It will ask you to confirm your decision on closing account if you can (1.) proceed or (2.) cancel .If you proceed it will checks that the balance in your account is less than 100 or not it will close the account and display a message if your bank balance is less than 100 if not then it will display a message that your balance must be less than 100 to close your account and returns 0 with a thank you message.

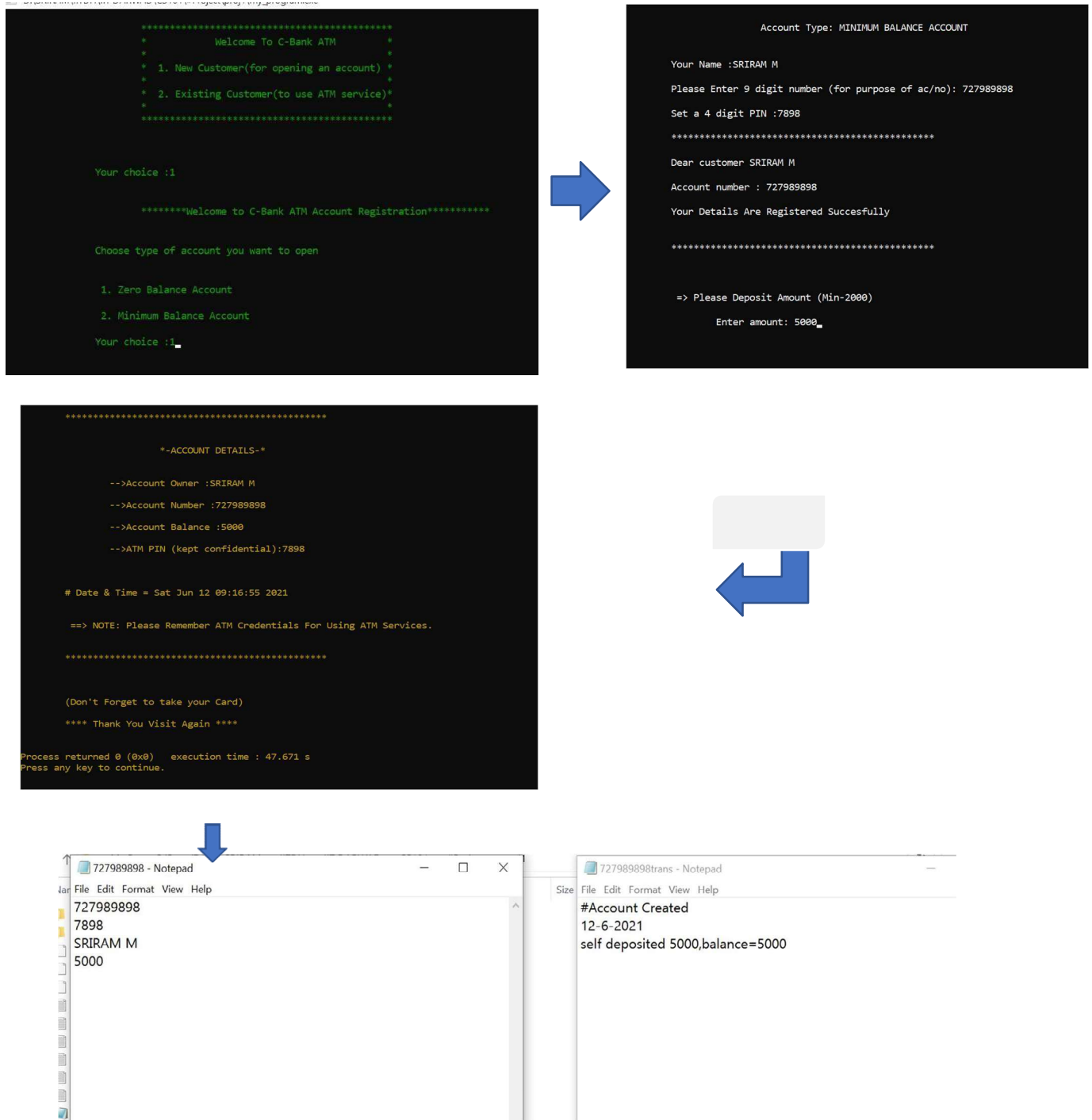
Additional Features :

1. Opening account to use ATM services afterwards with two options zero/min balance account and providing account number and PIN (user based input) for using ATM services.
2. Other than check balance,withdrawl,deposit,pin change and money transfer options like transaction history, interest calculator, updating name, fund donation, closing account and receipt printing if user wish to take with colored font and displaying in fresh screen.

References/Ideas:

1. Without giving basic amount directly, we added feature type of account at time of opening account.
2. Account number (unique) PIN have to be entered manually by customer so that it makes unique identity.
3. Added account closing option so no need to open txt files manually if want to delete those files.
4. Added color font and taking to next screen to get feel like real life machine output.
5. In money transfer since we can transfer even 1 rupee so there is no restriction (multiple) in transferring money but withdrawing and depositing our ATM accept only cash (notes).
6. Also User cannot able to create PM CARES FUND account (999999999) ,to work that option (receive money) they must have the respective txt file which we will submit along with c-code file.

Results (for valid entries) : 1. Opening an account and corresponding txt files. (Arrows indicates display of next screen)



(If account number entered is already existing customer it will say same and ask us to try again with different number).

Result 2.Using ATM services with registered account credentials -> Bal Enquiry

```

*****
*                               *
*           Welcome To C-Bank ATM           *
*                               *
*  1. New Customer(for opening an account) *
*                               *
*  2. Existing Customer(to use ATM service)*
*                               *
*****

Your choice :2

***** Welcome to C-Bank ATM *****

(Insert Your ATM-cum-Debit Card)

Please Enter Your Account Number :727989898

Enter 4-digit PIN :7898_

```



```

*****
*                                     *
*                               MENU   *
*                                     *
*      1. Check Balance              *
*                                     *
*      2. Withdraw Money            *
*                                     *
*      3. Deposit Money             *
*                                     *
*      4. Change PIN                *
*                                     *
*      5. Transfer Money            *
*                                     *
*      6. Update Details            *
*                                     *
*      7. PM CARES FUND Donation    *
*                                     *
*      8. Transactions History      *
*                                     *
*      9. Interest Calculator       *
*                                     *
*     10. Close My Account          *
*                                     *
*****

```



```
*****
*-Balance Enquiry-*

--->> Account Holder : SRIRAM M

--->> Account Number 727989898

--->> Balance Amount 5000

# Date & Time = Sat Jun 12 09:29:54 2021

*****

(Don't Forget to take your Card)

*** Thank You Visit Again ***

Process returned 0 (0x0)   execution time : 50.642 s
Press any key to continue.
```

(Date & Time when you make this transaction)

Result 3.fig depicts Viewing transaction history of an existing account.

```
*****
*                               *
*      MENU                     *
*                               *
*  1. Check Balance             *
*                               *
*  2. Withdraw Money           *
*                               *
*  3. Deposit Money            *
*                               *
*  4. Change PIN               *
*                               *
*  5. Transfer Money           *
*                               *
*  6. Update Details           *
*                               *
*  7. PM CARES FUND Donation   *
*                               *
*  8. Transactions History     *
*                               *
*  9. Interest Calculator      *
*                               *
* 10. Close My Account         *
*                               *
*****

Your choice :8
```



```
*****
==> Your Transaction History
#Account Created
9-6-2021
self deposited 15600,balance=15600

Wed Jun 09 11:35:19 2021
withdrawn 5600,balance=10000

Wed Jun 09 11:35:32 2021
deposited 6700,balance=16700

Wed Jun 09 11:35:58 2021
withdrawn 3700,balance=13000

Wed Jun 09 11:36:14 2021
deposited 25000,balance=38000

Wed Jun 09 11:36:30 2021
transferred 10000 to 999999999,balance=28000

Wed Jun 09 12:17:45 2021
transferred 5000 to 897689768,balance=23000

Wed Jun 09 12:36:04 2021
withdrawn 200,balance=22800

Wed Jun 09 12:36:40 2021
transferred 1800 to 897689768,balance=21000

Wed Jun 09 12:37:42 2021
transferred 1500 to 999999999,balance=19500

Wed Jun 09 12:40:53 2021
withdrawn 500,balance=19000

Wed Jun 09 12:41:11 2021
deposited 1000,balance=20000
```

(Total transactions since account opening)

Result 4. Transferring Money to an existing account and printing Receipt.

```
*****
*                               *
*  5. Transfer Money           *
*                               *
*  6. Update Details           *
*                               *
*  7. PM CARES FUND Donation   *
*                               *
*  8. Transactions History     *
*                               *
*  9. Interest Calculator      *
*                               *
* 10. Close My Account         *
*                               *
*****

Your choice :5

Enter the account number of receiver :727989898

Enter the amount you want to send :3693

*****

---> Dear Customer

---> Transaction Successful

*****

***** Do You Want Receipt *****

1) Yes
2) No

Your choice :1
```



```
*****
*-RECEIPT-*

Transaction Type :Money Transfer

--->> From :989898989
--->> To :727989898
--->> Amount :3693
--->> Remaining Balance :36307
--->> Transaction Status :Success

# Date & Time = Sat Jun 12 09:47:21 2021

*****

(Don't Forget to take your Card)

**** Thank You Visit Again ****

Process returned 0 (0x0)   execution time : 272.306 s
Press any key to continue.
```

Report by
Sriram (200020028)