

FINAL PROJECT ATM SOFTWARE

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ATM SOFTWARE

You will be developing “ATM Software” for MyBank. This ATM software will be accepting deposits and can make withdrawals. The initial account balance is \$1200 for the customer.

The ATM is PIN code protected. You will be developing program to ensure that unauthorized users cannot get into the system. Your program will check if the entered PIN CODE is in the prerecorded (real) PINs list. The real PIN CODEs are provided at the end of this document . You should place all pin codes in a 1D Array and do search for a match. You would achieve this by establishing **sequential search algorithm**. Your sequential search algorithm will produce information if the user entered PIN is in the given PIN number set. If there is match or not.

When the program is executed, the following message should appear on the screen.

```
=====
Welcome to MyBank ATM
Your Friend in the Business Environment
=====

Please enter your PIN code:
```

If the pin code is not among the authorized codes, then warning message ill show up on the scream and the program will stop.

```
=====
Warning! You are not authorized.
You cannot use this ATM.
Bye
=====
```

If the pin code is among the authorized codes, then Initial “Greeting Screen” will show up. Your ATM program MUST start with showing the following menu.

```
=====
Welcome to MyBank ATM
Your Friend in the Business Environment
=====

How can I help up you today?
1) Deposit Money
2) Withdraw Money
3) Account Balance & Exit
```

Program will NOT stop until user selects (3) in the main menu.

IF THE USER CHOOSES FIRST OPTION (Deposit Money) then the following note must appear on the screen:

```
-----
Thank you for depositing Funds Today
Please enter the amount:
-----
```

When the user makes more than one deposit into the account, total amount must be the sum of all money entered in that account during the execution of the program. For Example: the user wants to do three separate deposits into his account on that day \$255, and \$12, then final account balance report (output data file) must have “ **\$1467** ”(assuming that no withdraw was made).

Then, program will update the account balance by adding the most recent entry. After the amount deposited into the user selected account, user will be prompted by the menu items again (if he wants to make another deposit or Withdraw). User can do more than one Withdraw and/or Deposit.

After each transaction user will be prompted by the menu items.

```
=====
How can I help you today?
1) Deposit Money
2) Withdraw Money
3) Account Balance & Exit
=====
```

You do not need to show the individual transaction balances during the process. The money figures will be stored in the output data file when the user selects “Account Balance & Exit “

IF THE USER CHOOSES OPTION 2 (i.e **Withdraw Money**), then the user will be informed by the following message.

```
=====
Thank you for Withdrawing Funds Today
Please enter the amount:
=====
```

Then, program will update the account balance by subtracting the most recent entry (i.e Withdraw amount). After the amount subtracted from the account, user will be prompted by the menu items again (if he wants to make another transaction). User can do more than one Withdraw and/or Deposit.

After each transaction user will be prompted by the menu items. See the given screen shots below.

```
=====
How can I help you today?
1) Deposit Money
2) Withdraw Money
3) Account Balance & Exit
=====
```

You do not need to show the individual transaction balances during the process. The money figures will be stored in the output data file when the user selects “Account Balance & Exit “

IF THE USER SELECTS OPTION 3: Account Balance & Exit in the main menu any time, he will be prompted with the following message.

```
=====
Your account Balance is recorded in YourLastnameATMReport.txt file
Thank you for your business Today
Hope to see you sometime soon. Bye.
=====
```

MESSAGES

MESSAGE 1 : If the user's PIN code is not in the given PINs then

```
=====
Warning! You are not authorized.
You cannot use this ATM.
Bye
=====
```

Program will stop.

MESSAGE 2: There must be a **warning message** of “ Invalid Entry !” : if the user enters a choice (option) which is NOT given in the menu items (i.e. 5), then the user will be prompted by “ Invalid Entry !” and the menu items must be shown again to give the user an opportunity to make correct selection. Program will NOT proceed unless user makes a valid selection.

MESSAGE 3: If the entered **Withdraw** amount is more than what is available in the account balance, the following warning message should appear on the screen

Sorry, you do not have sufficient funds to do this transaction. Try Again
(Program should NOT do any update on the account balance)

MESSAGE 4: If the total amount becomes less than \$100, the following message should appear on the screen

Warning! You balance is less than \$100, please Deposit funds soon

MESSAGE 5 Based on total amount (after the completion of all transactions) following message should appear in the screen.

Total account balance after all transaction done If the <u>final account balance</u> is	Then the following message appears on the screen
More than 4000	YOU WON \$55 GIFT CARD
Between \$3001-\$4000	YOU WON \$35 GIFT CARD
Between \$1201 -\$3000	YOU WON \$15 GIFT CARD
Between \$501-\$1200	THANK YOU
<\$100	WARNING MESSAGE 4

NOTES

- The initial account balance is \$1200 for the customer.
- Once the program terminated (exit from the program), and run/executed again initial balance must be set to \$1200.
- User (the authorized customer with current PIN code) can run the program as long as he/she does not select option 3. User can do several deposits and withdrawals before exit.

GIVEN: Input data file with authorized pin code numbers. A data file with 300 PIN CODE numbers.

EXPECTATIONS:

Develop four functions

Function 1 : **void myMenu ()**

Function 2 : **int mySeqSearch (input parameters)**. This function will provide info if the user entered PIN is inside the prerecord PIN numbers. The input parameters for the function are:

- 1-D array which has all the data,
- Search Key,
- Size of the array.

Function 3 : **float myDeposit(input parameters)**. This function will provide audited account balance

Function 4 : **float myWithdraw(input parameters)**. This function will provide audited account balance

Recommendations

- Your code should be very well designed, organized and clean
- Use C++ clear screen command properly
- The gift is in an extra **Gift Card**, so you do **not** need to add “Gift “into the balance.
- Program will not stop unless the user selects 3 Account Balance & Exit option
- Your source code must be saved as C++ file. And, the document name must be: LastName_ATM.CPP. The source code file must contain a **file header** formatted as specified below. The header information must be complete and accurate. The source code file should use **self-documenting code** and additional comments (as required) to improve code readability.

- **SOURCE FILE HEADER**

- ```
//-----
```
- ```
// Developer      : name and email address
```
- ```
// Task :
```
- ```
// Submission Date:
```
- ```
// Compiler Info : The operating system and the compiler info
```
- ```
// Purpose         : Explain here what this program does .and if there is any limitation and or constrain to consider
```
- ```
//-----
```

**REAL PIN CODES ( for authorization to access toe ATM )**

- 1452
- 1453
- 1454
- 1456
- 1458
- 1460
- 1462
- 1463
- 1464
- 1466
- 1468
- 1470
- 1472
- 1474