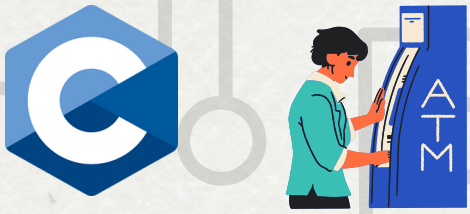
Project Report

ATM Simulator



Name	Pankaj kumar sharma
Sec	D
Roll number	25
Stream	CSE(AIML)
Enrollment No.	12022002016033

ESC103(Pr.) Programming for problem solving using C

VARIABLE DESCRIPTION

Variable Name	Variable Type	Description
pin	int	This variable holds the predefined PIN number that the user must enter to access the ATM machine.
balance	int	This variable holds the current balance of the user's account.
choice	int	This variable holds the user's choice of operation (withdraw, deposit, check balance, or change PIN).
amount	float	This variable is used to hold the amount of money that the user wants to withdraw or deposit.
old_pin	int	This variable holds the user's current PIN (when changing the PIN).
new_pin	int	This variable holds the new PIN that the user wants to set.
valid_pin	int	integer - This variable is used to hold the result of the validate_pin() function (1 if the PIN is valid, 0 otherwise).

Functions Description

1. validate_pin() - This function takes an integer argument (entered by the user) and compares it to the predefined PIN. If the two values match, the function returns 1, indicating that the PIN is valid. Otherwise, it returns 0.
2. withdraw() - This function takes an integer argument (the amount to withdraw) and checks if the account balance is sufficient. If it is, the function subtracts the withdrawal amount from the balance and returns the new balance. If the balance is insufficient, the function returns -1.
3. deposit() - This function takes an integer argument (the amount to deposit) and adds it to the account balance. It then returns the new balance.
4. main() - This is the main function that implements the ATM machine simulation. It first prompts the user to enter their PIN and validates it using the validate_pin() function. If the PIN is invalid, the program exits. If the PIN is valid, the program displays a menu of options (withdraw, deposit, check balance, and change PIN) and prompts the user to select an option. Depending on the option selected, the program calls the appropriate function (withdraw(), deposit(), or change_pin()) to perform the operation. It then updates the account balance or PIN and displays the appropriate message. The program continues to display the menu of options until the user chooses to exit.

Files Description

The program provides four options to the user: withdraw, deposit, check balance, and change PIN.
When the program starts, it prompts the user to enter their PIN. If the PIN is correct, the program displays a menu of options. If the PIN is incorrect, the program informs the user and exits.
If the user selects the withdraw option, the program prompts the user to enter the amount they want to withdraw. If the account balance is sufficient, the program updates the balance and displays a message with the remaining balance. If the account balance is insufficient, the program displays an error message.
If the user selects the deposit option, the program prompts the user to enter the amount they want to deposit. The program updates the balance and displays a message with the new balance.
If the user selects the check balance option, the program displays the current account balance.
If the user selects the change PIN option, the program prompts the user to enter their current PIN and then their new PIN. The program updates the PIN and displays a message indicating the change was successful.
The program uses simple variables to store the account balance and PIN. It also includes a simple function to validate the PIN entered by the user. This program provides a basic simulation of an ATM machine and could be extended to include more advanced features.

Output

main.c

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\Harsh Personal\Study Material\clab\gouri> gcc .\main.c
PS E:\Harsh Personal\Study Material\clab\gouri> .\a.exe
Welcome to the ATM!
Please enter your PIN: 1234

Main Menu:
1. View Balance
2. Withdraw Money
3. Deposit Money
4. Change PIN
5. Exit
Enter your choice: 1
Your current balance is $1000

Main Menu:
1. View Balance
2. Withdraw Money
3. Deposit Money
4. Change PIN
5. Exit
Enter your choice: 2
Enter the amount to withdraw: 367
Please take your $367.
Your new balance is $633.
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Main Menu:
1. View Balance
2. Withdraw Money
3. Deposit Money
4. Change PIN
5. Exit
Enter your choice: 3
Enter the amount to deposit: 5458
$5458 has been deposited into your account.
Your new balance is $6091.

Main Menu:
1. View Balance
2. Withdraw Money
3. Deposit Money
4. Change PIN
5. Exit
Enter your choice: 4
Enter your new PIN: 1212
Confirm your new PIN: 1212
PIN changed successfully.

Main Menu:
1. View Balance
2. Withdraw Money
3. Deposit Money
4. Change PIN
5. Exit
```