ATM Machine code

#include <iostream>

#include <string>

using namespace std;

// ATM Class

class ATM {

private:

int pin;

double balance;

public:

// Constructor to initialize the ATM

ATM(int pin, double balance) {

this->pin = pin;

this->balance = balance;

}

// Function to validate PIN

bool validatePIN(int inputPin) {

return inputPin == pin;

}

// Function to display balance

void displayBalance() {

cout << "Your current balance is: $" << balance << endl;

}

// Function to withdraw money

void withdrawMoney(double amount) {

if (amount > balance) {

cout << "Insufficient funds!" << endl;

} else {

balance -= amount;

cout << "You have withdrawn $" << amount << endl;

displayBalance();

}

}

// Function to deposit money

void depositMoney(double amount) {

balance += amount;

cout << "You have deposited $" << amount << endl;

displayBalance();

}

};

int main() {

int userPin, attempts = 0;

const int maxAttempts = 3;

bool isAuthenticated = false;

// Create an ATM object with predefined PIN and initial balance

ATM atm(1234, 5000.0); // PIN: 1234, Initial Balance: $5000

// Authentication process

cout << "Welcome to the ATM machine!" << endl;

while (attempts < maxAttempts && !isAuthenticated) {

cout << "Enter your 4-digit PIN: ";

cin >> userPin;

if (atm.validatePIN(userPin)) {

isAuthenticated = true;

cout << "Authentication successful!" << endl;

} else {

attempts++;

cout << "Invalid PIN. Try again." << endl;

}

}

if (!isAuthenticated) {

cout << "Too many incorrect attempts. Exiting." << endl;

return 0;

}

// ATM Menu

int choice;

double amount;

do {

cout << "\nATM Menu:" << endl;

cout << "1. Check Balance" << endl;

cout << "2. Withdraw Money" << endl;

cout << "3. Deposit Money" << endl;

cout << "4. Exit" << endl;

cout << "Enter your choice: ";

cin >> choice;

switch (choice) {

case 1:

atm.displayBalance();

break;

case 2:

cout << "Enter the amount to withdraw: ";

cin >> amount;

atm.withdrawMoney(amount);

break;

case 3:

cout << "Enter the amount to deposit: ";

cin >> amount;

atm.depositMoney(amount);

break;

case 4:

cout << "Thank you for using the ATM. Goodbye!" << endl;

break;

default:

cout << "Invalid option! Please select a valid option." << endl;

}

} while (choice != 4);

return 0;

}