import java.util.Scanner;

// Class to represent the user's bank account

class BankAccount {

private double balance;

// Constructor to initialize the account with an initial balance

public BankAccount(double initialBalance) {

this.balance = initialBalance;

}

// Method to check the current balance

public double getBalance() {

return balance;

}

// Method to deposit money into the account

public void deposit(double amount) {

if (amount > 0) {

balance += amount;

System.out.println("Successfully deposited " + amount);

} else {

System.out.println("Invalid deposit amount.");

}

}

// Method to withdraw money from the account, if sufficient balance exists

public boolean withdraw(double amount) {

if (amount > 0 && amount <= balance) {

balance -= amount;

System.out.println("Successfully withdrew " + amount);

return true;

} else if (amount > balance) {

System.out.println("Insufficient balance.");

return false;

} else {

System.out.println("Please enter a valid amount.");

return false;

}

}

}

// Class to represent the ATM machine

class ATM {

private BankAccount account;

// Constructor to link the ATM with a user's bank account

public ATM(BankAccount account) {

this.account = account;

}

// Method to display the ATM menu

public void displayMenu() {

System.out.println("\nATM Menu:");

System.out.println("1. Check Balance");

System.out.println("2. Deposit");

System.out.println("3. Withdraw");

System.out.println("4. Exit");

}

// Method to handle user interactions and execute the chosen option

public void start() {

Scanner sc = new Scanner(System.in);

boolean exit = false;

// Loop until the user decides to exit

while (!exit) {

displayMenu();

System.out.print("Enter your choice: ");

int choice = sc.nextInt();

switch (choice) {

case 1:

checkBalance();

break;

case 2:

System.out.print("Enter the amount to deposit: ");

double depositAmount = sc.nextDouble();

deposit(depositAmount);

break;

case 3:

System.out.print("Enter the amount to withdraw: ");

double withdrawAmount = sc.nextDouble();

withdraw(withdrawAmount);

break;

case 4:

exit = true;

System.out.println("Thank you for using the ATM. Please visit again.");

break;

default:

System.out.println("Invalid choice. Please try again.");

}

}

sc.close(); // Close the scanner after use

}

// Method to check and display the user's current balance

public void checkBalance() {

System.out.println("Current Balance: " + account.getBalance());

}

// Method to deposit money using the bank account's deposit method

public void deposit(double amount) {

account.deposit(amount);

}

// Method to withdraw money using the bank account's withdraw method

public void withdraw(double amount) {

account.withdraw(amount);

}

}

// Main class to run the ATM program

public class ATMApplication {

public static void main(String[] args) {

// Create a BankAccount object with an initial balance

BankAccount userAccount = new BankAccount(5000.0);

// Create an ATM object and pass the user's bank account to it

ATM atm = new ATM(userAccount);

// Start the ATM interaction

atm.start();

}

}