TASK 3 - ATM INTERFACE

import java.util.Scanner;

interface ATMOperations {

void withdraw(double amount);

void deposit(double amount);

void checkBalance();

}

class BankAccount {

private double balance;

public BankAccount(double initialBalance) {

this.balance = initialBalance >= 0 ? initialBalance : 0;

}

public boolean withdraw(double amount) {

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

balance -= amount;

return true;

}

return false;

}

public void deposit(double amount) {

if (amount > 0) {

balance += amount;

}

}

public double getBalance() {

return balance;

}

}

class ATM implements ATMOperations {

private BankAccount account;

public ATM(BankAccount account) {

this.account = account;

}

public void withdraw(double amount) {

if (account.withdraw(amount)) {

System.out.println("Withdrawal successful: $" + amount);

} else {

System.out.println("Withdrawal failed: Insufficient funds or invalid amount.");

}

}

public void deposit(double amount) {

account.deposit(amount);

System.out.println("Deposit successful: $" + amount);

}

public void checkBalance() {

System.out.println("Your current balance is: $" + account.getBalance());

}

public void displayMenu() {

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

System.out.println("1. Withdraw");

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

System.out.println("3. Check Balance");

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

}

}

public class Main {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

BankAccount bankAccount = new BankAccount(1000);

ATM atm = new ATM(bankAccount);

boolean continueRunning = true;

while (continueRunning) {

atm.displayMenu();

System.out.print("Choose an option (1-4): ");

int choice = scanner.nextInt();

switch (choice) {

case 1:

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

double withdrawAmount = scanner.nextDouble();

atm.withdraw(withdrawAmount);

break;

case 2:

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

double depositAmount = scanner.nextDouble();

atm.deposit(depositAmount);

break;

case 3:

atm.checkBalance();

break;

case 4:

continueRunning = false;

System.out.println("Thank you for using the ATM. Goodbye!");

break;

default:

System.out.println("Invalid option! Please select a valid option.");

break;

}

}

scanner.close();

}

}