using System;

using System.Collections.Generic;

using System.Text;

namespace BehaviouralPatternDemos

{

public interface ATMState

{

void InsertDebitCard();

void EjectDebitCard();

void EnterPin();

void WithdrawMoney();

}

public class DebitCardNotInsertedState : ATMState

{

public void InsertDebitCard()

{

Console.WriteLine("DebitCard Inserted");

}

public void EjectDebitCard()

{

Console.WriteLine("You cannot eject the Debit CardNo, as no Debit Card in ATM Machine slot");

}

public void EnterPin()

{

Console.WriteLine("you cannot enter the pin, as No Debit Card in ATM Machine slot");

}

public void WithdrawMoney()

{

Console.WriteLine("you cannot withdraw money, as No Debit Card in ATM Machine slot");

}

}

public class DebitCardInsertedState : ATMState

{

public void InsertDebitCard()

{

Console.WriteLine("You cannot insert the Debit Card, as the Debit card is already there ");

}

public void EjectDebitCard()

{

Console.WriteLine("Debit Card is ejected");

}

public void EnterPin()

{

Console.WriteLine("Pin number has been entered correctly");

}

public void WithdrawMoney()

{

Console.WriteLine("Money has been withdrawn");

}

}

public class ATMMachine : ATMState

{

public ATMState atmMachineState { get; set; }

public ATMMachine()

{

atmMachineState = new DebitCardNotInsertedState();

}

public void InsertDebitCard()

{

atmMachineState.InsertDebitCard();

// Debit Card has been inserted so internal state of ATM Machine

// has been changed to 'DebitCardNotInsertedState'

if (atmMachineState is DebitCardNotInsertedState)

{

atmMachineState = new DebitCardInsertedState();

Console.WriteLine("ATM Machine internal state has been moved to : "

+ atmMachineState.GetType().Name);

}

}

public void EjectDebitCard()

{

atmMachineState.EjectDebitCard();

// Debit Card has been ejected so internal state of ATM Machine

// has been changed to 'DebitCardNotInsertedState'

if (atmMachineState is DebitCardInsertedState)

{

atmMachineState = new DebitCardNotInsertedState();

Console.WriteLine("ATM Machine internal state has been moved to : "

+ atmMachineState.GetType().Name);

}

}

public void EnterPin()

{

atmMachineState.EnterPin();

}

public void WithdrawMoney()

{

atmMachineState.WithdrawMoney();

}

}

class StatePattern

{

static void Main(string[] args)

{

// Initially ATM Machine in DebitCardNotInsertedState

ATMMachine atmMachine = new ATMMachine();

Console.WriteLine("ATM Machine Current state : "

+ atmMachine.atmMachineState.GetType().Name);

Console.WriteLine();

atmMachine.EnterPin();

atmMachine.WithdrawMoney();

atmMachine.EjectDebitCard();

atmMachine.InsertDebitCard();

Console.WriteLine();

// Debit Card has been inserted so internal state of ATM Machine

// has been changed to DebitCardInsertedState

Console.WriteLine("ATM Machine Current state : "

+ atmMachine.atmMachineState.GetType().Name);

Console.WriteLine();

atmMachine.EnterPin();

atmMachine.WithdrawMoney();

atmMachine.InsertDebitCard();

atmMachine.EjectDebitCard();

Console.WriteLine("");

// Debit Card has been ejected so internal state of ATM Machine

// has been changed to DebitCardNotInsertedState

Console.WriteLine("ATM Machine Current state : "

+ atmMachine.atmMachineState.GetType().Name);

Console.Read();

}

}

}