

CS 586 - Software Systems Architecture - Project
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MDA-EFSM Events :

Activate()
Start()
PayCredit()
PayCash()
Reject()
Approved()
Cancel()
StartPump()
Pump()
StopPump()
SelectGas(int g)
Receipt()
NoReceipt()

MDA-EFSM Actions :

Set_Data - set prices for the gas
Pay_Msg - displays a type of payment method
Store_Cash - stores cash given by the customer
Display_Menu - display a menu showing the list of options
Reject_Msg - displays card not approved message
Set_payoption(int k) - set value for credit or cash flag
Set_Price(int g) - set the price for the gas identified by g identifier
Ready_Msg - displays the ready for pumping message
Set_start_Value - set G (or L) value to 0
PumpGas_info - shows unit of gas and counts # of units disposed
Gas_PumpedMsg - displays the amount of disposed gas
Stop_Msg - stop pump message and initiate receipt
Print_Receipt - print a receipt
Cancel_Msg - displays a cancellation message

Operations

④

Gas Pump - 1

Activate (float a, float b)

}

if ($a > 0$) && ($b > 0$) {

ptr → rprice = a; // (ptr = pointer to MDA-EFSM object)

ptr → sprice = b;

Obj → Activate(); // (Obj = pointer to the Data store object)

}

3

start () {

 Obj → Start();

3

Pay Credit () {

 Obj → Pay Credit();

3

Reject () {

 Obj → Reject();

Cancel () {

 Obj → Cancel();

}

Approved () {

 Obj → Approved();

}

Regular () {

 Obj → SelectGas(1);

}

Super() {

(3)

 Obj → SelectGas(2);

}

StartPump() {

 Obj → StartPump();

}

PumpGallon() {

 Obj → Pump();

,

StopPump() {

 Obj → StopPump();

,

 Obj → Receipt();

GasPump - 2

Activate (float a, float b, float c) {

 if ((a > 0) && (b > 0)) {

 ptr → sprite = a;

 ptr + sprite = b;

 ptr → sprite = c;

,

,

 start();

 Obj → start();

,

PayCash (float c) {

if (c > 0) {

ptr → cashamt = c; // [cashamt = Amount deposited]

obj → PayCash();

}

Cancel () {

obj → Cancel();

}

Super () {

obj → SelectGas(2);

}

Regular () {

obj → SelectGas(1);

}

Premium () {

obj → SelectGas(3);

}

StartPump () {

obj → StartPump();

}

PumpLitre () {

if (ptr → cashamt < (ptr → l + 1) * ptr → price)

{

obj → StopPump();

else {

obj → Pump();

}

StopPump () {

obj → StopPump();

}

Receipt() {

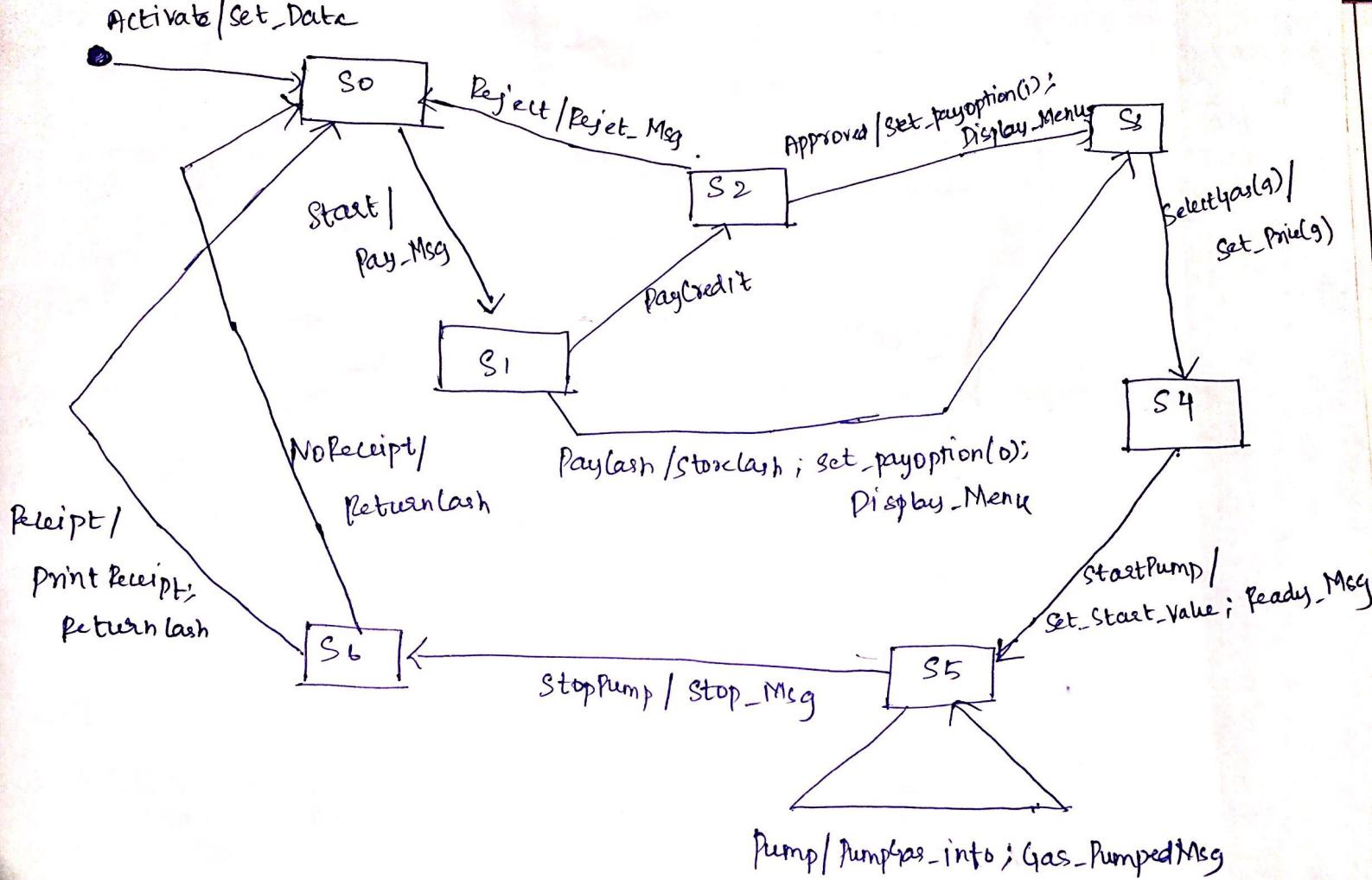
 obj → Receipt();
 } Obj → Return Cash(cash);

 or [Cash = Return amount of
 cash if it exceeds the
 total cost]

NoReceipt() {

 Obj → NoReceipt();
 Obj → Return Cash(cash);

}



Source Code :

Input Processor:

GasPump1 :

```
package InputProcessor;
```

```
import AbstractFactory.AbstractMaster;
import DataContainer.DataMaster;
import MDAEFSM.mdaMaster;
```

```
public class GasPump1 {
```

```
    mdaMaster mda_obj;
    DataMaster data_obj;
    AbstractMaster abstractfact_obj;
    public void setmdaobject(mdaMaster obj)
    {
        mda_obj = obj;
    }
    public void setfactoryobject(AbstractMaster obj)
    {
        abstractfact_obj = obj;
    }
    public void setdataobject(DataMaster obj)
    {
        data_obj = obj;
    }
    public void Activate(int val1,int val2)
    {
        data_obj.setFirstval(val1);
        data_obj.setSecondval(val2);

        mda_obj.Activate();
    }
    public void Start()
    {
        mda_obj.Start();
    }
    public void PayCredit()
```

```

{
    mda_obj.PayCredit();
}
public void Reject()
{
    mda_obj.Reject();
}
public void Approved()
{
    mda_obj.Approved();
}
public void Cancel()
{
    mda_obj.Cancel();
}
public void Super()
{
    mda_obj.SelectGas(2);
}
public void Regular()
{
    mda_obj.SelectGas(1);
}
public void StartPump()
{
    mda_obj.StartPump();
}
public void PumpGallon()
{
    mda_obj.Pump();
}
public void StopPump()
{
    mda_obj.StopPump();
    mda_obj.Receipt();
}
}

```

GasPump2 :

```
package InputProcessor;
```

```
import AbstractFactory.AbstractMaster;
import DataContainer.DataMaster;
import MDAEFSM.mdaMaster;

public class GasPump2 {
    mdaMaster mda_obj;
    DataMaster data_obj;
    AbstractMaster abstractfact_obj;
    public void setmdaobject(mdaMaster obj)
    {
        mda_obj = obj;
    }
    public void setfactoryobject(AbstractMaster obj)
    {
        abstractfact_obj = obj;
    }
    public void setdataobject(DataMaster obj)
    {
        data_obj = obj;
    }
    public void Activate(int val1,int val2,int val3)
    {
        data_obj.setFirstval(val1);
        data_obj.setSecondval(val2);
        data_obj.setThirdval(val3);

        mda_obj.Activate();
    }
    public void Start()
    {
        mda_obj.Start();
    }
    public void PayCash(int val)
    {
        data_obj.setCashval(val);
        mda_obj.PayCash();
    }
    public void Reject()
    {
        mda_obj.Reject();
    }
    public void Approved()
    {
```

```

        mda_obj.Approved();
    }
    public void Cancel()
    {
        mda_obj.Cancel();
    }
    public void Super()
    {
        mda_obj.SelectGas(2);
    }
    public void Regular()
    {
        mda_obj.SelectGas(1);
    }
    public void Premium()
    {
        mda_obj.SelectGas(3);
    }
    public void StartPump()
    {
        mda_obj.StartPump();
    }
    public void PumpLiter()
    {
        int cash= data_obj.getCashFinalval();
        int price= data_obj.getprice();
        int L = data_obj.getL();
        System.out.println("Cash:"+ cash + "Price:"+ price + "L:"+ L);
        if(cash<(L+1)*price)
        {
            mda_obj.StopPump();
        }
        else
        {
            mda_obj.Pump();
        }
    }
    public void StopPump()
    {
        mda_obj.StopPump();
    }
}
public void Receipt()

```

```

{
    mda_obj.Receipt();
    mda_obj.ReturnCash();

}

public void NoReceipt()
{
    mda_obj.NoReceipt();
    mda_obj.ReturnCash();

}

}

```

OutputProcessor:

```

package OutputProcessor;

import AbstractFactory.AbstractMaster;
import DataContainer.DataMaster;
import Strategy.PayMsg;
import Strategy.StoreData;
import Strategy.setW;
import Strategy.setPrice;
import Strategy.setStartvalues;
import Strategy.ReadyMsg;
import Strategy.PumpGas;
import Strategy.PumpedMsg;
import Strategy.StopMsg;
import Strategy.PrintReceipt;
import Strategy.RejectMsg;
import Strategy.ReturnCash;
import Strategy.CancelMsg;
import Strategy.SaveCash;
import Strategy.MenuDisplay;
import Strategy.NoReceipt;
public class Outputproc {

    static AbstractMaster factory_obj;
    DataMaster data_obj;

```

```
public void setdataobject(DataMaster obj)
{
    data_obj= obj;

}

public void setfactoryobject(AbstractMaster obj)
{
    factory_obj = obj;
}

public void storeData()
{
    StoreData obj;
    obj = factory_obj.getdata();
    obj.storeData();
}

public void paymentMessage() {
    // TODO Auto-generated method stub
    PayMsg obj;
    obj = factory_obj.getpaymentmessage();
    obj.payMsg();

}

public void rejectMessage() {
    // TODO Auto-generated method stub
    PayMsg obj;
    obj = factory_obj.getpaymentmessage();
    obj.payMsg();

}

public void setW(int w) {
    // TODO Auto-generated method stub
    setW obj;
    obj = factory_obj.getsetW();
    obj.setW(w);

}

public void setPrice(int x) {
    // TODO Auto-generated method stub
    setPrice obj;
    obj = factory_obj.getsetPrice();
    obj.setPrice(x);
```

```
}

public void setStartvalues() {
    // TODO Auto-generated method stub
    setStartvalues obj;
    obj = factory_obj.getstartval();
    obj.setstartingval();

}

public void ReadyMsg() {
    // TODO Auto-generated method stub
    ReadyMsg obj;
    obj = factory_obj.getreadymsg();
    obj.readymessage();

}

public void pumpGasinfo() {
    // TODO Auto-generated method stub
    PumpGas obj;
    obj = factory_obj.getpumpgas();
    obj.pumpgas();

}

public void pumpedMsg() {
    // TODO Auto-generated method stub
    PumpedMsg obj;
    obj = factory_obj.getpumpedmsg();
    obj.pumpedunits();

}

public void returnCash() {
    // TODO Auto-generated method stub
    ReturnCash obj;
    obj = factory_obj.getreturncash();
    obj.returnCash();

}

public void stopMsg() {
    // TODO Auto-generated method stub
    StopMsg obj;
    obj = factory_obj.getstopmsg();
    obj.stopMsg();

}
```

```
public void printReceipt() {
    // TODO Auto-generated method stub
    PrintReceipt obj;
    obj = factory_obj.getprintreceipt();
    obj.Receipt();

}

public void RejectMsg() {
    // TODO Auto-generated method stub
    RejectMsg obj;
    obj = factory_obj.getrejectmsg();
    obj.rejectMsg();

}

public void CancelMsg() {
    // TODO Auto-generated method stub
    CancelMsg obj;
    obj = factory_obj.getcancelmsg();
    obj.cancelMsg();

}

public void saveCash() {
    // TODO Auto-generated method stub
    SaveCash obj;
    obj = factory_obj.getsavecash();
    obj.saveCash();

}

public void menuDisplay() {
    // TODO Auto-generated method stub
    MenuDisplay obj;
    obj = factory_obj.getmenudisplay();
    obj.menuDisplay();

}

public void noReceipt() {
    // TODO Auto-generated method stub
    NoReceipt obj;
    obj = factory_obj.getnoreceipt();
    obj.noReceipt();

}

}
```

MDAEFSM :

```
package MDAEFSM;

import State.StateMaster;

public class mdaMaster {

    StateMaster currentState;
    StateMaster[] statelist = new StateMaster[8];
    public void setCurrentState(StateMaster state)
    {
        currentState = state;
    }

    public void AddStateList(StateMaster state0,StateMaster state1,StateMaster
state2,StateMaster state3,StateMaster state4,StateMaster state5,StateMaster
state6,StateMaster state7)
    {
        statelist[0]= state0;
        statelist[1]= state1;
        statelist[2]= state2;
        statelist[3]= state3;
        statelist[4]= state4;
        statelist[5]= state5;
        statelist[6]= state6;
        statelist[7]= state7;

    }
    public void Activate()
    {
        int current = currentState.getCurrentStatId();
        if(current == 0)
        {
            currentState.Activate();
            //System.out.println("State is in state0 and will change to State1");
            currentState = statelist[1];
        }

    }
    public void Start()
    {
```

```
int current = currentState.getCurrentStatId();
if(current == 1)
{
    currentState.Start();
    //System.out.println("State is in state1 and will change to State2");
    currentState = statelist[2];
}

}
public void PayCredit()
{
    int current = currentState.getCurrentStatId();
    if(current == 2)
    {
        currentState.PayCredit();
        //System.out.println("State is in state2 and will change to State3");
        currentState = statelist[3];
    }

}
public void PayCash()
{
    int current = currentState.getCurrentStatId();
    if(current == 2)
    {
        currentState.PayCash();
        //System.out.println("State is in state2 and will change to State4");
        currentState = statelist[4];
    }

}
public void Reject()
{
    int current = currentState.getCurrentStatId();
    if(current == 3)
    {
        currentState.Reject();
        //System.out.println("State is in state3 and reject and will change to
State1");
        currentState = statelist[1];
    }

}
```

```
public void Approved()
{
    int current = currentState.getCurrentStatId();
    if(current == 3)
    {
        currentState.Approved();
        //System.out.println("State is in state3 and approved and will change
to State4");
        currentState = statelist[4];
    }

}
public void Cancel()
{
    int current = currentState.getCurrentStatId();
    if(current == 4)
    {
        currentState.Cancel();
        //System.out.println("State is in state4 and cancelled and will change
to State1");
        currentState = statelist[1];
    }

}
public void SelectGas(int x)
{
    int current = currentState.getCurrentStatId();
    if(current == 4)
    {
        currentState.SelectGas(x);
        //System.out.println("State is in state4 and will change to State5");
        currentState = statelist[5];
    }

}
public void StartPump()
{
    int current = currentState.getCurrentStatId();
    if(current == 5)
    {
        currentState.StartPump();
        //System.out.println("State is in state5 and will change to State6");
        currentState = statelist[6];
    }
}
```

```
    }

}

public void Pump()
{
    int current = currentState.getCurrentStatId();
    if(current == 6)
    {
        currentState.Pump();
        //System.out.println("State is in state6 and gas is pumped");
        currentState = statelist[6];
    }
}

public void StopPump()
{
    int current = currentState.getCurrentStatId();
    if(current == 6)
    {
        currentState.StopPump();
        //System.out.println("State is in state6 and will change to 7");
        currentState = statelist[7];
    }
}

public void Receipt()
{
    int current = currentState.getCurrentStatId();
    if(current == 7)
    {
        currentState.Receipt();
        //System.out.println("State is in state7 and will change to 1");
        currentState = statelist[1];
    }
}

public void NoReceipt()
{
    int current = currentState.getCurrentStatId();
    if(current == 7)
    {
        currentState.NoReceipt();
        //System.out.println("State is in state7 and will change to 1");
    }
}
```

```

        currentState = statelist[1];
    }

}

public void ReturnCash()
{
    int current = currentState.getCurrentStatId();
    if(current == 7)
    {
        currentState.ReturnCash();
        //System.out.println("State is in state7 and will change to 1");
        currentState = statelist[1];
    }
}

}

```

State Pattern :

State Master :

```

package State;
import OutputProcessor.Outputproc;

public class StateMaster {
int StatId;
Outputproc out;
public int getCurrentStatId()
{
    return StatId;
}
public void setStatId(int stateptr)
{
    StatId= stateptr;

}
public void setOutputObject(Outputproc obj)
{
    out = obj;
}
public void Activate(){}

```

```
public void Start(){}
public void PayCash(){}
public void PayCredit(){}

public void Approved(){}
public void Reject(){}
public void SelectGas(int g){}
public void Cancel(){}
public void StartPump(){}
public void Pump(){}
public void StopPump(){}
public void Receipt(){}
public void NoReceipt(){}
public void ReturnCash{}

}
```

State 0:

```
package State;

public class State0 extends StateMaster {

    public void Activate()
    {
        System.out.println("\nGasPump Activated\n");
        out.storeData();

    }

}
```

State 1:

```
package State;  
  
public class State1 extends StateMaster{  
  
    public void Start()  
    {  
        out.paymentMessage();  
    }  
}
```

State 2 :

```
package State;  
  
public class State2 extends StateMaster{  
  
    public void PayCredit()  
    {  
        System.out.println("Credit card evaluation in process\n");  
        System.out.println("Admin, Please select Approved or Reject for Card  
Evaluation\n");  
    }  
  
    public void PayCash()  
    {  
        out.saveCash();  
        out.menuDisplay();  
  
    }  
}
```

State 3:

```
package State;  
  
public class State3 extends StateMaster{
```

```

public void Reject()
{
    System.out.println("Card Rejected");
    out.RejectMsg();
}

public void Approved()
{
    System.out.println("Card Approved");
    out.setW(1);

}
}

```

State 4:

```

package State;

public class State4 extends StateMaster{

    public void Cancel()
    {
        System.out.println("Transaction Cancelled");
        out.CancelMsg();
    }

    public void SelectGas(int x)
    {

        out.setPrice(x);
    }

}

```

State 5 :

```

package State;

```

```
public class State5 extends StateMaster{

    public void StartPump()
    {
        out.setStartvalues();
        out.ReadyMsg();
    }
}
```

State 6 :

```
package State;

public class State6 extends StateMaster{

    public void Pump()
    {
        out.pumpGasinfo();
        out.pumpedMsg();
    }

    public void StopPump(){
        out.stopMsg();
    }
}
```

State 7 :

```
package State;

public class State7 extends StateMaster{

    public void Receipt()
    {
        out.printReceipt();
    }
}
```

```

    }

    public void NoReceipt()
    {
        out.noReceipt();

    }
    public void ReturnCash()
    {
        out.returnCash();

    }
}

```

Abstract Factory Pattern :

AbstratcFactory Master:

```

package AbstractFactory;

import Strategy.CancelMsg;
import Strategy.MenuDisplay;
import Strategy.NoReceipt;
import Strategy.PayMsg;
import Strategy.PrintReceipt;
import Strategy.PumpGas;
import Strategy.PumpedMsg;
import Strategy.ReadyMsg;
import Strategy.RejectMsg;
import Strategy.ReturnCash;
import Strategy.SaveCash;
import Strategy.StopMsg;
import Strategy.StoreData;
import Strategy.setPrice;
import Strategy.setStartvalues;
import Strategy.setW;

public abstract class AbstractMaster {

```

```

public abstract StoreData getdata();
public abstract PayMsg getpaymentmessage();
public abstract setW getsetW();
public abstract setPrice getsetPrice();
public abstract setStartvalues getstartval();
public abstract ReadyMsg getreadymsg();
public abstract PumpGas getpumpgas();
public abstract PumpedMsg getpumpedmsg();
public abstract StopMsg getstopmsg();
public abstract PrintReceipt getprintreceipt();
public abstract RejectMsg getrejectmsg();
public abstract CancelMsg getcancelmsg();
public abstract SaveCash getsavecash();
public abstract MenuDisplay getmenudisplay();
public abstract NoReceipt getnoreceipt();
public abstract ReturnCash getreturncash();
}

```

Afactory 1 :

```

package AbstractFactory;

import DataContainer.DataContainer1;
import DataContainer.DataMaster;
import Strategy.CancelMsg;
import Strategy.CancelMsg1;
import Strategy.MenuDisplay;
import Strategy.NoReceipt;
import Strategy.PayMsg;
import Strategy.PayMsg1;
import Strategy.PrintReceipt;
import Strategy.PrintReceipt1;
import Strategy.PumpGas;
import Strategy.PumpGas1;
import Strategy.PumpedMsg;
import Strategy.PumpedMsg1;
import Strategy.ReadyMsg;
import Strategy.ReadyMsg1;
import Strategy.RejectMsg;
import Strategy.RejectMsg1;
import Strategy.ReturnCash;

```

```
import Strategy.SaveCash;
import Strategy.StopMsg;
import Strategy.StopMsg1;
import Strategy.StoreData;
import Strategy.StoreData1;
import Strategy.setPrice;
import Strategy.setPrice1;
import Strategy.setStartvalues;
import Strategy.setStartvalues1;
import Strategy.setW;
import Strategy.setW1;

public class Afactory1 extends AbstractMaster{

    DataContainer1 data_obj= new DataContainer1();
    public DataMaster getdataobject()
    {
        return new DataContainer1();
    }
    public StoreData getdata()
    {
        StoreData storedata_obj = new StoreData1();

        storedata_obj.setdata(data_obj);
        return storedata_obj;
    }
    public PayMsg getpaymentmessage()
    {
        PayMsg paymsg_obj = new PayMsg1();
        paymsg_obj.setdata(data_obj);
        return paymsg_obj;
    }

    @Override
    public setW getsetW() {
        // TODO Auto-generated method stub
        setW setW_obj = new setW1();
        setW_obj.setdata(data_obj);
        return setW_obj;
    }
    @Override
    public setPrice getsetPrice() {
        // TODO Auto-generated method stub
    }
}
```

```
    setPrice obj = new setPrice1();
    obj.setdata(data_obj);
    return obj;
}
public setStartvalues getstartval() {
    // TODO Auto-generated method stub
    setStartvalues obj = new setStartvalues1();
    obj.setdata(data_obj);
    return obj;
}
public ReadyMsg getreadymsg() {
    // TODO Auto-generated method stub
    ReadyMsg obj = new ReadyMsg1();
    obj.setdata(data_obj);
    return obj;
}
@Override
public PumpGas getpumpgas() {
    // TODO Auto-generated method stub
    PumpGas obj= new PumpGas1();
    obj.setdata(data_obj);
    return obj;
}
public PumpedMsg getpumpedmsg() {
    // TODO Auto-generated method stub
    PumpedMsg obj= new PumpedMsg1();
    obj.setdata(data_obj);
    return obj;
}
public StopMsg getstopmsg() {
    // TODO Auto-generated method stub
    StopMsg obj= new StopMsg1();
    obj.setdata(data_obj);
    return obj;
}
public PrintReceipt getprintreceipt() {
    // TODO Auto-generated method stub
    PrintReceipt obj= new PrintReceipt1();
    obj.setdata(data_obj);
    return obj;
}
public RejectMsg getrejectmsg() {
    // TODO Auto-generated method stub
```

```

        RejectMsg obj= new RejectMsg1();
        obj.setdata(data_obj);
        return obj;
    }
    public CancelMsg getcancelmsg() {
        // TODO Auto-generated method stub
        CancelMsg obj= new CancelMsg1();
        obj.setdata(data_obj);
        return obj;
    }
    @Override
    public SaveCash getsavecash() {
        // TODO Auto-generated method stub
        return null;
    }
    @Override
    public MenuDisplay getmenudisplay() {
        // TODO Auto-generated method stub
        return null;
    }
    @Override
    public NoReceipt getnoreceipt() {
        // TODO Auto-generated method stub
        return null;
    }
    @Override
    public ReturnCash getreturncash() {
        // TODO Auto-generated method stub
        return null;
    }
}

```

Afactory 2:

```

package AbstractFactory;

import DataContainer.DataContainer1;
import DataContainer.DataContainer2;
import DataContainer.DataMaster;
import Strategy.CancelMsg;
import Strategy.CancelMsg1;

```

```
import Strategy.MenuDisplay;
import Strategy.MenuDisplay2;
import Strategy.NoReceipt;
import Strategy.NoReceipt1;
import Strategy.PayMsg;
import Strategy.PayMsg1;
import Strategy.PrintReceipt;
import Strategy.PrintReceipt1;
import Strategy.PrintReceipt2;
import Strategy.PumpGas;
import Strategy.PumpGas1;
import Strategy.PumpGas2;
import Strategy.PumpedMsg;
import Strategy.PumpedMsg1;
import Strategy.PumpedMsg2;
import Strategy.ReadyMsg;
import Strategy.ReadyMsg1;
import Strategy.RejectMsg;
import Strategy.RejectMsg1;
import Strategy.ReturnCash;
import Strategy.ReturnCash1;
import Strategy.SaveCash;
import Strategy.SaveCash2;
import Strategy.StopMsg;
import Strategy.StopMsg1;
import Strategy.StopMsg2;
import Strategy.StoreData;
import Strategy.StoreData1;
import Strategy.StoreData2;
import Strategy.setPrice;
import Strategy.setPrice1;
import Strategy.setPrice2;
import Strategy.setStartvalues;
import Strategy.setStartvalues1;
import Strategy.setStartvalues2;
import Strategy.setW;
import Strategy.setW1;

public class Afactory2 extends AbstractMaster {
    DataContainer2 data_obj= new DataContainer2();
    public DataMaster getdataobject()
    {
        return new DataContainer2();
```

```
}

public StoreData getdata()
{
    StoreData storedata_obj = new StoreData2();

    storedata_obj.setdata(data_obj);
    return storedata_obj;
}

public PayMsg getpaymentmessage()
{
    PayMsg paymsg_obj = new PayMsg1();
    paymsg_obj.setdata(data_obj);
    return paymsg_obj;
}

}

public setW getsetW() {
    // TODO Auto-generated method stub
    setW setW_obj = new setW1();
    setW_obj.setdata(data_obj);
    return setW_obj;
}

public ReturnCash getreturncash() {
    // TODO Auto-generated method stub
    ReturnCash obj = new ReturnCash1();
    obj.setdata(data_obj);
    return obj;
}

public setPrice getsetPrice() {
    // TODO Auto-generated method stub
    setPrice obj = new setPrice2();
    obj.setdata(data_obj);
    return obj;
}

public setStartvalues getstartval() {
    // TODO Auto-generated method stub
    setStartvalues obj = new setStartvalues2();
    obj.setdata(data_obj);
    return obj;
}

public ReadyMsg getreadymsg() {
    // TODO Auto-generated method stub
    ReadyMsg obj = new ReadyMsg1();
    obj.setdata(data_obj);
}
```

```
        return obj;
    }
    public PumpGas getpumpgas() {
        // TODO Auto-generated method stub
        PumpGas obj= new PumpGas2();
        obj.setdata(data_obj);
        return obj;
    }
    public PumpedMsg getpumpedmsg() {
        // TODO Auto-generated method stub
        PumpedMsg obj= new PumpedMsg2();
        obj.setdata(data_obj);
        return obj;
    }
    public StopMsg getstopmsg() {
        // TODO Auto-generated method stub
        StopMsg obj= new StopMsg2();
        obj.setdata(data_obj);
        return obj;
    }
    public PrintReceipt getprintreceipt() {
        // TODO Auto-generated method stub
        PrintReceipt obj= new PrintReceipt2();
        obj.setdata(data_obj);
        return obj;
    }
    public RejectMsg getrejectmsg() {
        // TODO Auto-generated method stub
        RejectMsg obj= new RejectMsg1();
        obj.setdata(data_obj);
        return obj;
    }
    public CancelMsg getcancelmsg() {
        // TODO Auto-generated method stub
        CancelMsg obj= new CancelMsg1();
        obj.setdata(data_obj);
        return obj;
    }
    public SaveCash getsavecash() {
        // TODO Auto-generated method stub
        SaveCash obj= new SaveCash2();
        obj.setdata(data_obj);
        return obj;
    }
```

```
    }
    public MenuDisplay getmenudisplay() {
        // TODO Auto-generated method stub
        MenuDisplay obj= new MenuDisplay2();
        obj.setdata(data_obj);
        return obj;
    }
    public NoReceipt getnoreceipt() {
        // TODO Auto-generated method stub
        NoReceipt obj= new NoReceipt1();
        obj.setdata(data_obj);
        return obj;
    }
}
```

DataStore:

DataMaster:

```
package DataContainer;

public abstract class DataMaster {

    public abstract void setinitialvalue(int val);

    public abstract void setprice(int temp);

    public abstract int getintitalvalue();

    public abstract void setW(int w);

    public abstract void setFirstval(int val1);

    public abstract void setSecondval(int val2);
    public abstract void setthirdval(int val3);

    public abstract int getFirstval() ;

    public abstract int getSecondval();
```

```

public abstract int getthirdval();

public abstract void setSuperprice(int val2);

public abstract void setRegularprice(int val2);
public abstract void setPremiumprice(int val2);
public abstract void setCashval(int val2);
public abstract int getCashval();
public abstract int getSuperprice();
public abstract int getRegularprice();
public abstract int getPremiumprice();
public abstract void setG(int g);
public abstract void settotal(int t);
public abstract int getG();
public abstract int gettotal();
public abstract int getprice();

public abstract void setCashFinalval(int val);
public abstract int getCashFinalval();

public abstract void setL(int val);

public abstract int getL();

}

```

DataContainer 1 :

```

package DataContainer;

public class DataContainer1 extends DataMaster{

    static int firstval;
    static int secondval;
    static int price;
    static int W,superprice,regularprice,G,total;

    public void setFirstval(int val)
    {
        firstval = val;
    }
}
```

```
}

public void setSecondval(int val)
{
    secondval = val;
}

public int getFirstval()
{
    return firstval;
}

public int getSecondval()
{
    return secondval;
}

public void setSuperprice(int val)
{
    superprice = val;
}

public void setRegularprice(int val)
{
    regularprice = val;
}

public int getSuperprice()
{
    return superprice;
}

public int getRegularprice()
{
    return regularprice;
}

public void setprice(int x)
{
    price = x;
}

public int getprice()
{
    return price;
}

public void setW(int w) {
    // TODO Auto-generated method stub
    W = w;
}

public void setG(int g) {
```

```
// TODO Auto-generated method stub
G = g;
}
public int getG() {
    // TODO Auto-generated method stub
    return G;
}
public void settotal(int t) {
    // TODO Auto-generated method stub
    total = t;
}
public int gettotal() {
    // TODO Auto-generated method stub
    return total;
}
@Override
public void setinitialvalue(int val) {
    // TODO Auto-generated method stub
}
@Override
public int getinitialvalue() {
    // TODO Auto-generated method stub
    return 0;
}
@Override
public void setthirdval(int val3) {
    // TODO Auto-generated method stub
}
@Override
public int getthirdval() {
    // TODO Auto-generated method stub
    return 0;
}
@Override
public void setPremiumprice(int val2) {
    // TODO Auto-generated method stub
}
@Override
public void setCashval(int val2) {
    // TODO Auto-generated method stub
}
```

```

    }

    @Override
    public int getCashval() {
        // TODO Auto-generated method stub
        return 0;
    }

    @Override
    public int getPremiumprice() {
        // TODO Auto-generated method stub
        return 0;
    }

    @Override
    public void setCashFinalval(int val) {
        // TODO Auto-generated method stub
    }

    @Override
    public int getCashFinalval() {
        // TODO Auto-generated method stub
        return 0;
    }

    @Override
    public void setL(int val) {
        // TODO Auto-generated method stub
    }

    }

    @Override
    public int getL() {
        // TODO Auto-generated method stub
        return 0;
    }
}

```

DataContainer 2:

```

package DataContainer;

public class DataContainer2 extends DataMaster{
    static int firstval;
    static int secondval,thirdval,cashval,cashFinalval;
}

```

```
static int price;
static int W,superprice,regularprice,premiumprice,L,total;

public void setFirstval(int val)
{
    firstval = val;
}
public void setSecondval(int val)
{
    secondval = val;
}
public void setThirdval(int val)
{
    thirdval = val;
}
public void setL(int val)
{
    L = val;
}
public int getL()
{
    return L;
}

public int getFirstval()
{
    return firstval;
}
public int getSecondval()
{
    return secondval;
}
public int getThirdval()
{
    return thirdval;
}
public void setCashval(int val)
{
    cashval = val;
}
public void setCashFinalval(int val)
{
```

```
        cashFinalval = val;
    }
    public int getCashFinalval()
    {
        return cashFinalval;
    }

    public void setSuperprice(int val)
    {
        superprice = val;
    }
    public void setRegularprice(int val)
    {
        regularprice = val;
    }
    public void setPremiumprice(int val)
    {
        premiumprice = val;
    }
    public int getSuperprice()
    {
        return superprice;
    }
    public int getRegularprice()
    {
        return regularprice;
    }
    public int getPremiumprice()
    {
        return premiumprice;
    }
    public void setprice(int x)
    {
        price = x;
    }
    public int getprice()
    {
        return price;
    }
    public void setW(int w) {
        // TODO Auto-generated method stub
        W = w;
    }
```

```

public void settotal(int t) {
    // TODO Auto-generated method stub
    total = t;
}
public int gettotal() {
    // TODO Auto-generated method stub
    return total;
}
@Override
public void setinitialvalue(int val) {
    // TODO Auto-generated method stub
}

}
@Override
public int getinitialvalue() {
    // TODO Auto-generated method stub
    return 0;
}
@Override
public int getCashval() {
    // TODO Auto-generated method stub
    return cashval;
}
@Override
public void setG(int g) {
    // TODO Auto-generated method stub
}

}
@Override
public int getG() {
    // TODO Auto-generated method stub
    return 0;
}
}

```

Strategy Pattern :

CancelMsg :

package Strategy;

```
import DataContainer.DataMaster;

public abstract class CancelMsg {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void cancelMsg();

}

package Strategy;

public class CancelMsg1 extends CancelMsg{

    @Override
    public void cancelMsg() {
        // TODO Auto-generated method stub
        System.out.println("Transaction Cancelled");
    }

}
```

```
MenuDisplay :

package Strategy;

import DataContainer.DataMaster;

public abstract class MenuDisplay {
    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void menuDisplay();
```

```
}

package Strategy;

public class MenuDisplay2 extends MenuDisplay {

    @Override
    public void menuDisplay() {
        // TODO Auto-generated method stub
        System.out.println("\n *****DISPLAY MENU*****");
        System.out.println("\n Select option 4 for Premium Fuel ");
        System.out.println("\n Select option 5 to Regular Fuel");
        System.out.println("\n Select option 6 to Start the Pump");
    }
}
```

NoReceipt:

```
package Strategy;

import DataContainer.DataMaster;

public abstract class NoReceipt {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void noReceipt();
}
```

package Strategy;

```
public class NoReceipt1 extends NoReceipt{

    @Override
```

```
    public void noReceipt() {
        // TODO Auto-generated method stub
        System.out.println("No Receipt will be generated. Thanks");
    }

}
```

PayMsg :

```
package Strategy;

import DataContainer.DataMaster;

public abstract class PayMsg {
    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }
    public abstract void payMsg();
}
```

package Strategy;

```
public class PayMsg1 extends PayMsg {

    @Override
    public void payMsg() {
        // TODO Auto-generated method stub
        System.out.println("Please select Credit Card Payment method");
    }

}
```

PrintReceipt:

```
package Strategy;

import DataContainer.DataMaster;
```

```
public abstract class PrintReceipt {  
  
    DataMaster data_obj;  
    public void setdata(DataMaster obj)  
    {  
        data_obj=obj;  
    }  
  
    public abstract void Receipt();  
}
```

```
package Strategy;  
  
public class PrintReceipt1 extends PrintReceipt {  
  
    @Override  
    public void Receipt() {  
        // TODO Auto-generated method stub  
  
        int total = data_obj.gettotal();  
        System.out.println("Total Cost for petrol : " + total);  
    }  
  
}
```

```
package Strategy;  
  
public class PrintReceipt2 extends PrintReceipt {  
  
    @Override  
    public void Receipt() {  
        // TODO Auto-generated method stub  
  
        int total = data_obj.gettotal();  
        System.out.println("Total Cost for the petrol filled : " + total);  
    }  
  
}
```

PumpedMessage :

```
package Strategy;

import DataContainer.DataMaster;

public abstract class PumpedMsg {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void pumpedunits();
}
```

package Strategy;

```
public class PumpedMsg1 extends PumpedMsg{

    @Override
    public void pumpedunits() {
        // TODO Auto-generated method stub

        int g = data_obj.getG();
        System.out.println("No of Units filled : "+ g);
    }
}
```

package Strategy;

```
public class PumpedMsg2 extends PumpedMsg{

    @Override
    public void pumpedunits() {
```

```
// TODO Auto-generated method stub
int L = data_obj.getL();
System.out.println("No of Liters filled : "+ L);
}

}
```

PumpGas:

```
package Strategy;

import DataContainer.DataMaster;

public abstract class PumpGas {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void pumpgas();
}
```

package Strategy;

```
public class PumpGas1 extends PumpGas {

    @Override
    public void pumpgas() {
        // TODO Auto-generated method stub
        int g= data_obj.getG();
        g=g+1;
        int price = data_obj.getprice();
        int total = price * g;
        data_obj.setG(g);
        data_obj.settotal(total);
    }
}
```

```

}

package Strategy;

public class PumpGas2 extends PumpGas{

    @Override
    public void pumpgas() {
        // TODO Auto-generated method stub
        int L= data_obj.getL();
        L=L+1;
        int price = data_obj.getprice();
        int total = price * L;
        data_obj.setL(L);
        data_obj.settotal(total);
    }
}

```

Ready Message :

```

package Strategy;

import DataContainer.DataMaster;

public abstract class ReadyMsg {
    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }
    public abstract void readymessage();
}

```

```

package Strategy;

public class ReadyMsg1 extends ReadyMsg {

```

```
@Override
public void readymessage() {
    // TODO Auto-generated method stub
System.out.println("Ready to fill");
}

}
```

Reject Message :

```
package Strategy;

import DataContainer.DataMaster;

public abstract class RejectMsg {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void rejectMsg();
}

package Strategy;

public class RejectMsg1 extends RejectMsg {

    @Override
    public void rejectMsg() {
        // TODO Auto-generated method stub
        System.out.println("Card Rejected");
    }

}
```

ReturnCash:

```
package Strategy;

import DataContainer.DataMaster;

public abstract class ReturnCash {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void returnCash();
}
```

package Strategy;

```
public class ReturnCash1 extends ReturnCash{

    @Override
    public void returnCash() {
        // TODO Auto-generated method stub

        int total = data_obj.gettotal();
        int cash= data_obj.getCashFinalval();

        if(cash-total > 0)
        {
            System.out.println("Balance to be returned :" + (cash-total));

        }
        else
        {
            System.out.println("No Balance to be returned");
        }

    }
}
```

```
}
```

StoreCash :

```
package Strategy;
```

```
import DataContainer.DataMaster;
```

```
public abstract class SaveCash {  
    DataMaster data_obj;  
    public void setdata(DataMaster obj)  
    {  
        data_obj=obj;  
    }
```

```
    public abstract void saveCash();
```

```
}
```

package Strategy;

```
public class SaveCash2 extends SaveCash {
```

```
    @Override  
    public void saveCash() {  
        // TODO Auto-generated method stub  
        int n= data_obj.getCashval();  
  
        data_obj.setCashFinalval(n);  
    }
```

```
}
```

SetPrice :

```
package Strategy;
```

```
import DataContainer.DataMaster;
```

```
public abstract class setPrice {  
    DataMaster data_obj;  
    public void setdata(DataMaster obj)  
    {  
        data_obj=obj;  
    }  
    public abstract void setPrice(int x);  
}
```

package Strategy;

```
public class setPrice1 extends setPrice {
```

```
@Override
public void setPrice(int x) {
    // TODO Auto-generated method stub

    int a = data_obj.getSuperprice();
    int b = data_obj.getRegularprice();

    if(x==1)
    {
        data_obj.setprice(b);
    }
    else
    {
        data_obj.setprice(a);
    }
}
```

package Strategy:

```
public class setPrice2 extends setPrice {
```

```
@Override
public void setPrice(int x) {
    // TODO Auto-generated method stub
```

```

int a = data_obj.getSuperprice();
int b = data_obj.getRegularprice();
int c= data_obj.getPremiumprice();

if(x==1)
{
    data_obj.setprice(b);
}
else if (x==2)
{
    data_obj.setprice(a);
}
else
{
    data_obj.setprice(c);
}

}

}

```

Set Initial Values :

```

package Strategy;

import DataContainer.DataMaster;

public abstract class setStartvalues {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void setstartingval();

}

}

```

```
package Strategy;

public class setStartvalues1 extends setStartvalues {

    @Override
    public void setstartingval() {
        // TODO Auto-generated method stub

        data_obj.setG(0);
        data_obj.settotal(0);
    }

}
```

```
package Strategy;

public class setStartvalues2 extends setStartvalues{

    @Override
    public void setstartingval() {
        // TODO Auto-generated method stub

        data_obj.setL(0);
        data_obj.settotal(0);
    }

}
```

set W:

```
package Strategy;

import DataContainer.DataMaster;

public abstract class setW {
```

```

DataMaster data_obj;
public void setdata(DataMaster obj)
{
    data_obj=obj;
}
public abstract void setW(int w);
}

package Strategy;

public class setW1 extends setW {

    @Override
    public void setW(int w) {
        // TODO Auto-generated method stub
        data_obj.setW(w);

    }
}

```

Stop Message :

```

package Strategy;

import DataContainer.DataMaster;

public abstract class StopMsg {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }

    public abstract void stopMsg();
}

```

```
package Strategy;

public class StopMsg1 extends StopMsg {

    @Override
    public void stopMsg() {
        // TODO Auto-generated method stub
        System.out.println("Gas has stopped pumping");
    }

}
```

```
package Strategy;

public class StopMsg2 extends StopMsg{

    @Override
    public void stopMsg() {
        // TODO Auto-generated method stub
        System.out.println("Gas has stopped pumping");
    }

}
```

StoreData :

```
package Strategy;

import DataContainer.DataMaster;

public abstract class StoreData {

    DataMaster data_obj;
    public void setdata(DataMaster obj)
    {
        data_obj=obj;
    }
}
```

```
    public abstract void storeData();
}

package Strategy;

public class StoreData1 extends StoreData{

    @Override
    public void storeData() {
        // TODO Auto-generated method stub

        int a,b;
        a= data_obj.getFirstval();

        data_obj.setSuperprice(a);
        b=data_obj.getSecondval();

        data_obj.setRegularprice(b);

    }

}

package Strategy;

public class StoreData2 extends StoreData {

    @Override
    public void storeData() {
        // TODO Auto-generated method stub
        int a,b,c;
        a= data_obj.getFirstval();

        data_obj.setRegularprice(a);
        b=data_obj.getSecondval();
```

```
    data_obj.setSuperprice(b);
    c=data_obj.getthirdval();
    data_obj.setPremiumprice(c);

}

}
```

Main Program :

```
package Main;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.Scanner;

import AbstractFactory.Afactory1;
import AbstractFactory.Afactory2;
import DataContainer.DataMaster;
import InputProcessor.GasPump1;
import InputProcessor.GasPump2;
import MDAEFSM.mdaMaster;
import OutputProcessor.Outputproc;
import State.State0;
import State.State1;
import State.State2;
import State.State3;
import State.State4;
import State.State5;
import State.State6;
import State.State7;

public class MainClass {
    static Scanner userchoice=new Scanner(System.in);
    static BufferedReader buffer=new BufferedReader(new
InputStreamReader(System.in));
    static String menuchoice = null;
    public static void main(String[] args) throws IOException {
        // TODO Auto-generated method stub
```

```

System.out.println("\n\t\t\t Gas Pump Station\t\t\t\n");
System.out.println("Choose among the Gas Pumps below : ");
System.out.println("1. Gas Pump 1");
System.out.println("2. Gas Pump 2");
System.out.println("Your Choice : ");
int choice = userchoice.nextInt();

switch(choice)
{
case 1:
{
    GasPump1 gaspump_obj = new GasPump1();
    mdaMaster mda_obj = new mdaMaster();
    Afactory1 af1_obj = new Afactory1();
    Outputproc output_obj = new Outputproc();
    DataMaster data_obj;

    State0 state0_obj = new State0();
    State1 state1_obj = new State1();
    State2 state2_obj = new State2();
    State3 state3_obj = new State3();
    State4 state4_obj = new State4();
    State5 state5_obj = new State5();
    State6 state6_obj = new State6();
    State7 state7_obj = new State7();

    data_obj = af1_obj.getdataobject();

    gaspump_obj.setmdaobject(mda_obj);
    gaspump_obj.setfactoryobject(af1_obj);
    gaspump_obj.setdataobject(data_obj);

    state0_obj.setOutputObject(output_obj);
    state0_obj.setStatId(0);
    state1_obj.setOutputObject(output_obj);
    state1_obj.setStatId(1);
    state2_obj.setOutputObject(output_obj);
    state2_obj.setStatId(2);
    state3_obj.setOutputObject(output_obj);
    state3_obj.setStatId(3);
    state4_obj.setOutputObject(output_obj);
    state4_obj.setStatId(4);
    state5_obj.setOutputObject(output_obj);
}
}

```

```

state5_obj.setStatId(5);
state6_obj.setOutputObject(output_obj);
state6_obj.setStatId(6);
state7_obj.setOutputObject(output_obj);
state7_obj.setStatId(7);

mda_obj.setCurrentState(state0_obj);

mda_obj.AddStateList(state0_obj,state1_obj,state2_obj,state3_obj,state4_obj,state5_obj,
state6_obj,state7_obj);

output_obj.setdataobject(data_obj);
output_obj.setfactoryobject(af1_obj);

while(true)
{
    System.out.println("\n\n Please select your option from the
list below to procees with GasPump1\t\t");
    System.out.println("\t\t 0.\t Activate()");
    System.out.println("\t\t 1.\t Start()");
    System.out.println("\t\t 2.\t PayCredit()");
    System.out.println("\t\t 3.\t Reject()");
    System.out.println("\t\t 4.\t Approved()");
    System.out.println("\t\t 5.\t Cancel()");
    System.out.println("\t\t 6.\t Super() ");
    System.out.println("\t\t 7.\t Regular()");
    System.out.println("\t\t 8.\t StartPump() ");
    System.out.println("\t\t 9.\t PumpGallon() ");
    System.out.println("\t\t 10.\t StopPump() ");
    System.out.println("\t\t Press any other key to exit \n\n ");

menuchoice = buffer.readLine();
int n = Integer.parseInt(menuchoice);

switch(n)
{
case 0:
    System.out.println("Enter the Value for Super
and Regular price for activating the GasPump : ");
    int a = Integer.parseInt(buffer.readLine());
    int b = Integer.parseInt(buffer.readLine());
    gaspump_obj.Activate(a,b);
}
}

```

```

        break;

case 1:
    gaspump_obj.Start();
    break;
case 2:
    gaspump_obj.PayCredit();
    break;
case 3:
    gaspump_obj.Reject();
    break;
case 4:
    gaspump_obj.Approved();
    break;
case 5:
    gaspump_obj.Cancel();
    break;
case 6:
    gaspump_obj.Super();
    break;
case 7:
    gaspump_obj.Regular();
    break;
case 8:
    gaspump_obj.StartPump();
    break;
case 9:
    gaspump_obj.PumpGallon();
    break;
case 10:
    gaspump_obj.StopPump();
    break;
default:
    System.out.println("default");
}

}
case 2:
{

```

```

GasPump2 gaspump_obj = new GasPump2();
mdaMaster mda_obj = new mdaMaster();
Afactory2 af2_obj = new Afactory2();

```

```
Outputproc output_obj = new Outputproc();
DataMaster data_obj;

State0 state0_obj = new State0();
State1 state1_obj = new State1();
State2 state2_obj = new State2();
State3 state3_obj = new State3();
State4 state4_obj = new State4();
State5 state5_obj = new State5();
State6 state6_obj = new State6();
State7 state7_obj = new State7();

data_obj = af2_obj.getdataobject();

gaspump_obj.setmdaobject(mda_obj);
gaspump_obj.setfactoryobject(af2_obj);
gaspump_obj.setdataobject(data_obj);

state0_obj.setOutputObject(output_obj);
state0_obj.setStatId(0);
state1_obj.setOutputObject(output_obj);
state1_obj.setStatId(1);
state2_obj.setOutputObject(output_obj);
state2_obj.setStatId(2);
state3_obj.setOutputObject(output_obj);
state3_obj.setStatId(3);
state4_obj.setOutputObject(output_obj);
state4_obj.setStatId(4);
state5_obj.setOutputObject(output_obj);
state5_obj.setStatId(5);
state6_obj.setOutputObject(output_obj);
state6_obj.setStatId(6);
state7_obj.setOutputObject(output_obj);
state7_obj.setStatId(7);

mda_obj.setCurrentState(state0_obj);

mda_obj.AddStateList(state0_obj,state1_obj,state2_obj,state3_obj,state4_obj,state5_obj,
state6_obj,state7_obj);

output_obj.setdataobject(data_obj);
output_obj.setfactoryobject(af2_obj);
```

```

while(true)
{
    System.out.println("\n\n Please select your option from the
list below to procees with GasPump1\t\t");
    System.out.println("\n\t\t 0.\t Activate()");
    System.out.println("\n\t\t 1.\t Start()");
    System.out.println("\n\t\t 2.\t PayCash()");
    System.out.println("\n\t\t 3.\t Cancel()");
    System.out.println("\n\t\t 4.\t Premium()");
    System.out.println("\n\t\t 5.\t Regular()");
    System.out.println("\n\t\t 6.\t Super() ");

    System.out.println("\n\t\t 7.\t StartPump() ");
    System.out.println("\n\t\t 8.\t PumpLiter() ");
    System.out.println("\n\t\t 9.\t StopPump() ");
    System.out.println("\n\t\t 10.\t Receipt() ");
    System.out.println("\n\t\t 11.\t NoReceipt() ");
    System.out.println("\n\t\t Press any other key to exit \n\n ");

menuchoice = buffer.readLine();
int n = Integer.parseInt(menuchoice);

switch(n)
{
case 0:
    System.out.println("Enter the Value for
Regular,Super and Premium price for activating the GasPump : ");
    int a = Integer.parseInt(buffer.readLine());
    int b = Integer.parseInt(buffer.readLine());
    int c = Integer.parseInt(buffer.readLine());
    gaspump_obj.Activate(a,b,c);
    break;

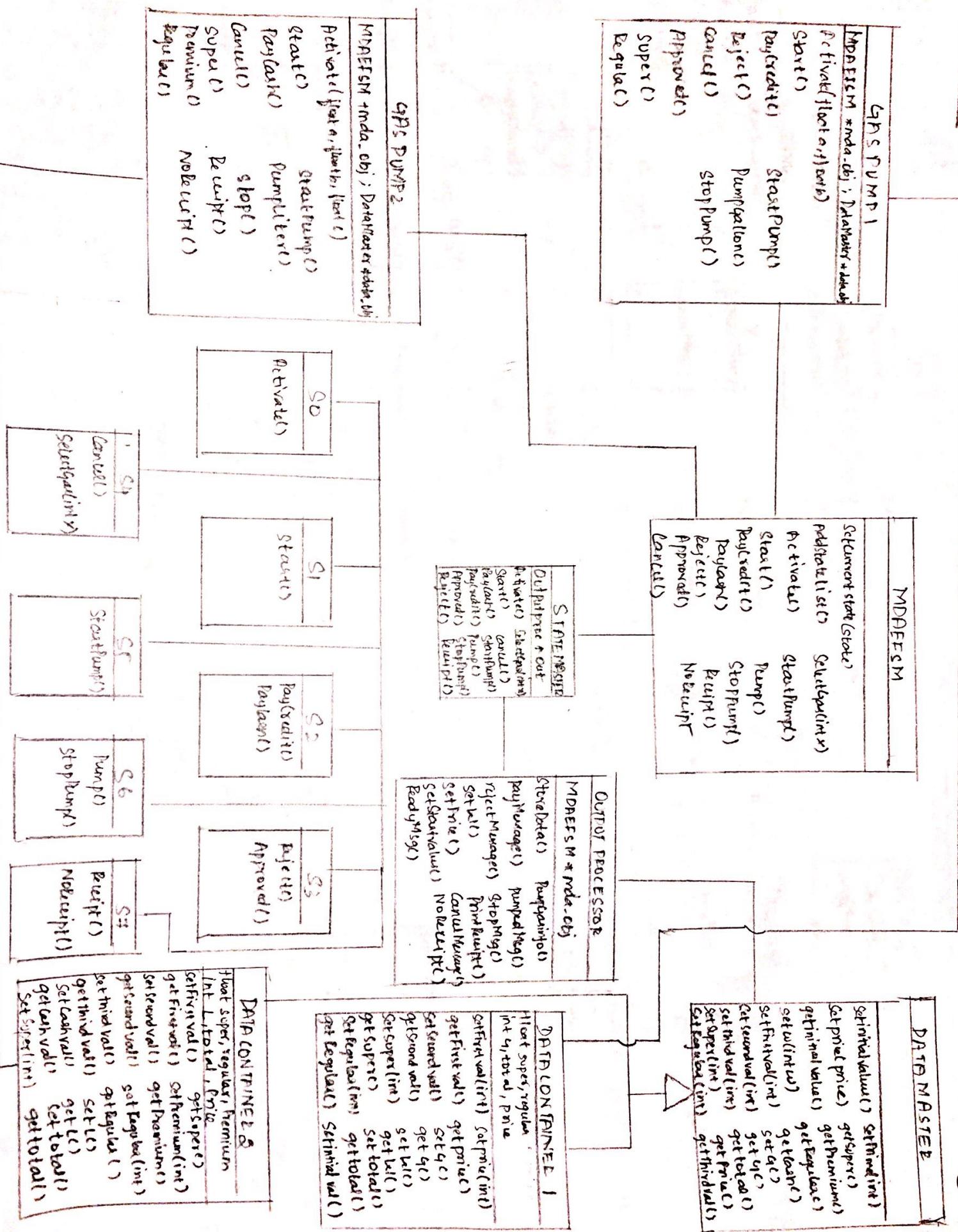
case 1:
    gaspump_obj.Start();
    break;
case 2:
    System.out.println("Enter the Cash Value ");
    int cash = Integer.parseInt(buffer.readLine());
    gaspump_obj.PayCash(cash);
    break;

case 3:
}

```

```
        gaspump_obj.Cancel();
        break;
    case 4:
        gaspump_obj.Premium();
        break;
    case 5:
        gaspump_obj.Regular();
        break;
    case 6:
        gaspump_obj.Super();
        break;
    case 7:
        gaspump_obj.StartPump();
        break;
    case 8:
        gaspump_obj.PumpLiter();
        break;
    case 9:
        gaspump_obj.StopPump();
        break;
    case 10:
        gaspump_obj.Receipt();
        break;
    case 11:
        gaspump_obj.NoReceipt();
        break;
    default:
        System.out.println("default");
    }
}
}
}
}
}
```

STATE:



STRATEGY

