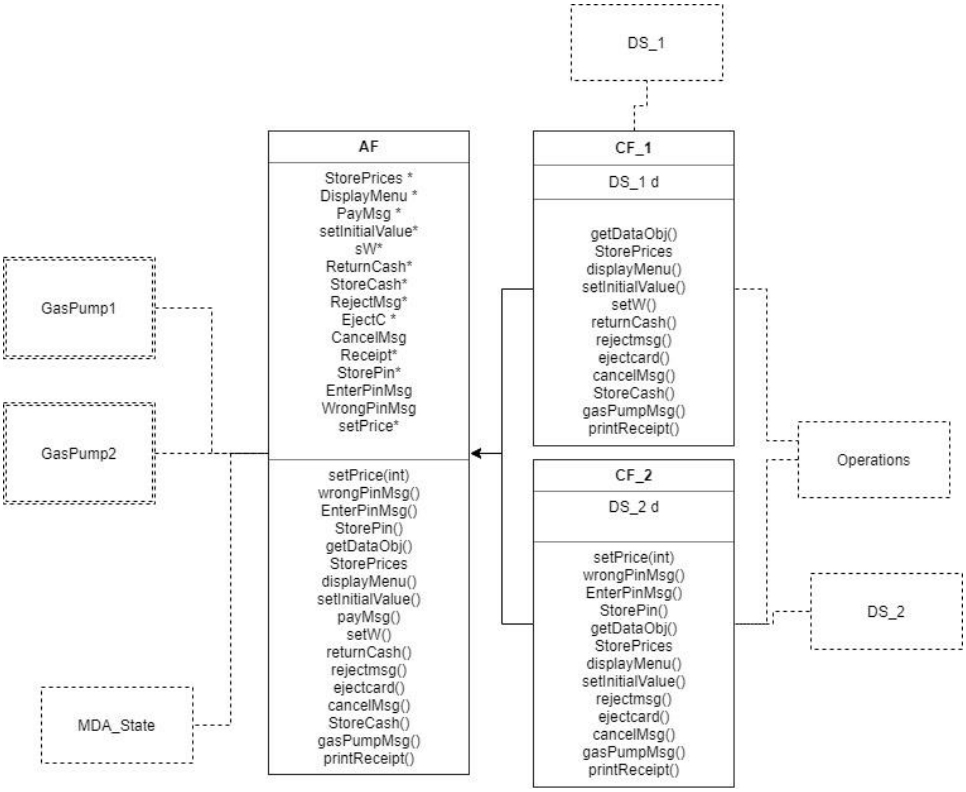
This project is implemented based on the sample meta-events-action and state diagram provided in the class with minor changes.

In state diagram, S5->S4, S8->S5 for convivence.

In gaspump 1, when cash is not enough, stop pump and return the remaining cash.

The codes are saved separately in several packages.



1)AbstractFactory

Abstract class AF

Class CF_1

Concrete factory for gaspump 1.

Class CF_2

Concrete factory for gaspump 2.

2)Data

Abstract class DataStore

Class DS_1

Store data for gaspump 1.

Class DS_2

Store data for gaspump2.

3)Driver

Class Driver

Driver class run the system.

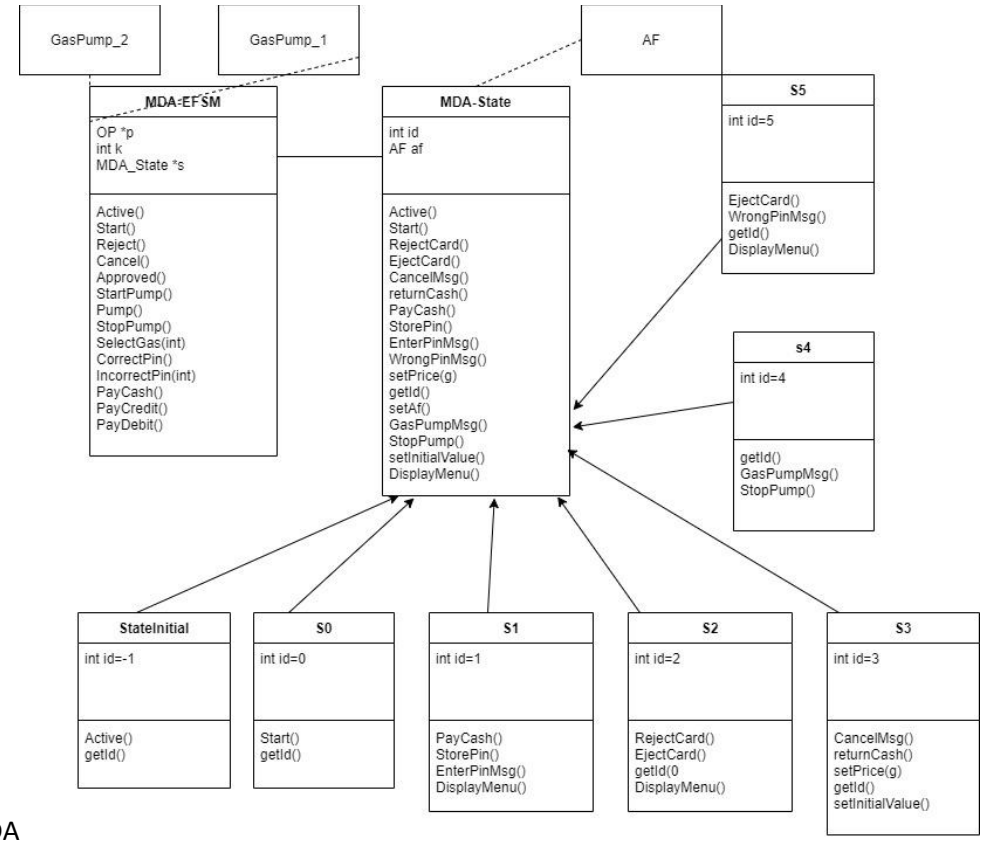
4)GasPump

Class GasPump_1

Create object gaspump 1, includes all gp1 functions.

Class GasPump_2

Create object gaspump2, includes all gp2 functions.



5)MDA

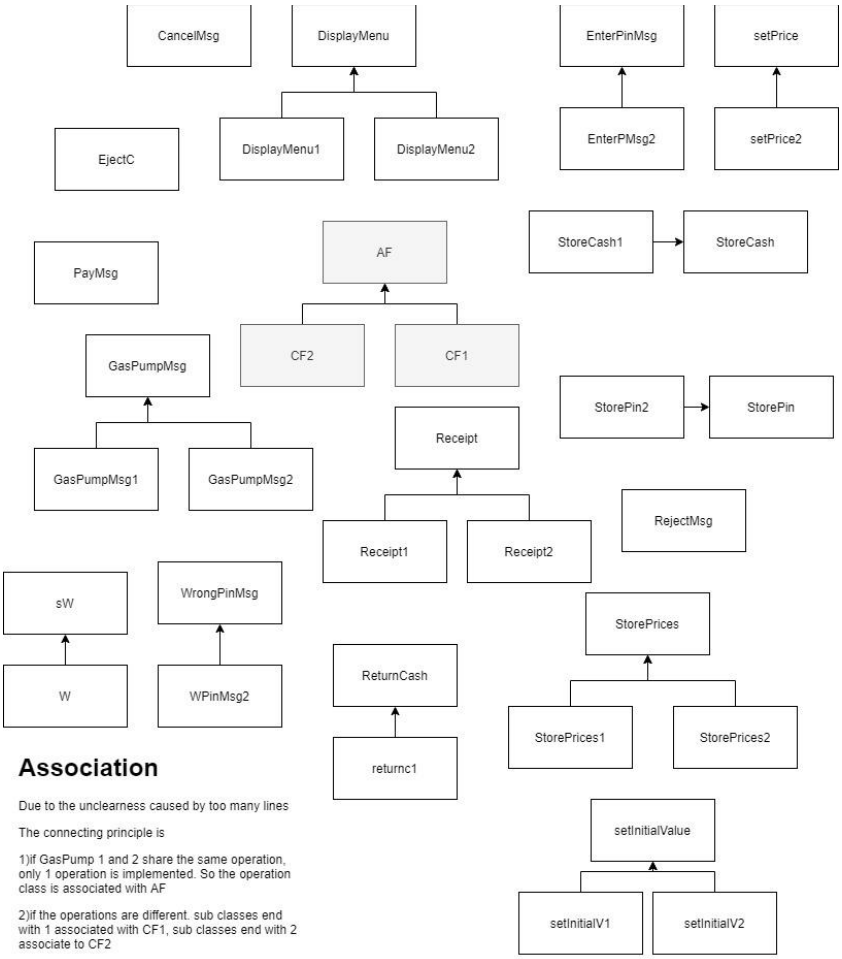
Class MDA_EFSM

Receive meta events and activate actions in current state class.

Abstract Class MDA_State

MDA_EFSM has 7 states, centralized state pattern.

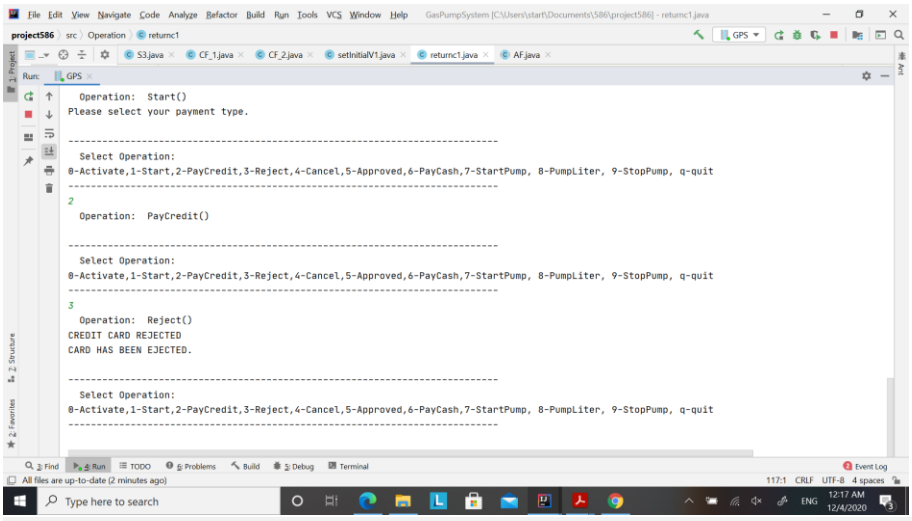
Class StateInitial, Class S0, Class S1, Class S2, Class S3, Class S4, Class S5

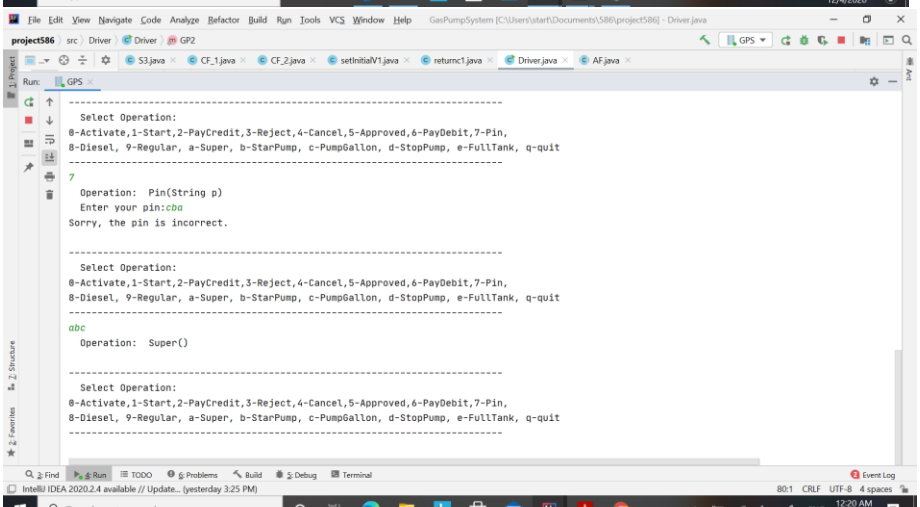


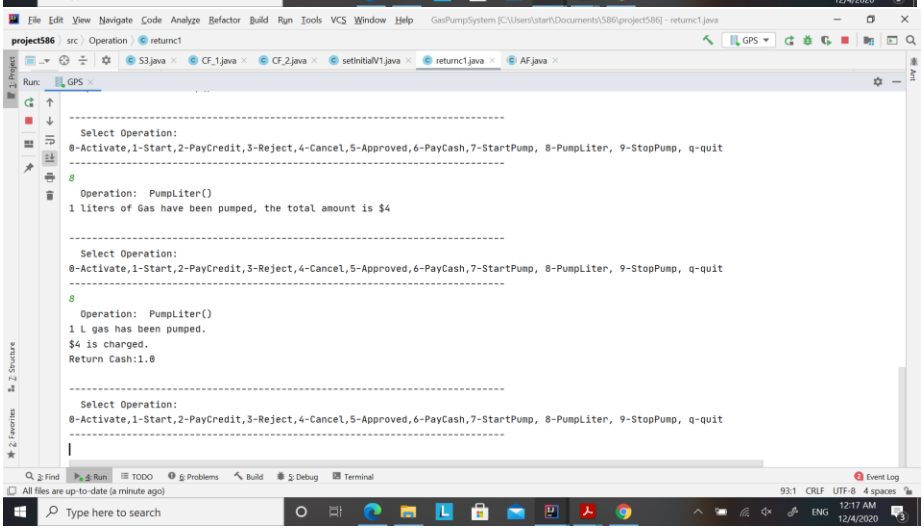
6)Operation

In this package, it contains all the actions. The name is the function of the classes.

Class CancelMsg....


Operation: Start()
Please select your payment type.
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit
2
Operation: PayCredit()
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit
3
Operation: Reject()
CREDIT CARD REJECTED
CARD HAS BEEN EJECTED.
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit


Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayDebit,7-Pin,
8-Diesel, 9-Regular, a-Super, b-StarPump, c-PumpGallon, d-StopPump, e-FullTank, q-quit
7
Operation: Pin(String p)
Enter your pin:cba
Sorry, the pin is incorrect.
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayDebit,7-Pin,
8-Diesel, 9-Regular, a-Super, b-StarPump, c-PumpGallon, d-StopPump, e-FullTank, q-quit
abc
Operation: Super()
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayDebit,7-Pin,
8-Diesel, 9-Regular, a-Super, b-StarPump, c-PumpGallon, d-StopPump, e-FullTank, q-quit


Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit
8
Operation: PumpLiter()
1 liters of Gas have been pumped, the total amount is $4
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit
8
Operation: PumpLiter()
1 L gas has been pumped.
$4 is charged.
Return Cash:1.0
Select Operation:
0-Activate,1-Start,2-PayCredit,3-Reject,4-Cancel,5-Approved,6-PayCash,7-StartPump, 8-PumpLiter, 9-StopPump, q-quit