KimHayeonAdaptor.zip 20230414

Program Test with Adaptor, Singleton, and Mediator Patterns

Due Date: April 14, 2:15 pm
For every 10 minutes delay, you will get 20% penalty.

Your zip file contains only the java source code (.java files) and running result.
Submit your zip file, ***YourNameAdaptor.zip***, to HDLMS.

Do **not include Korean characters** into zip file name and your source codes.

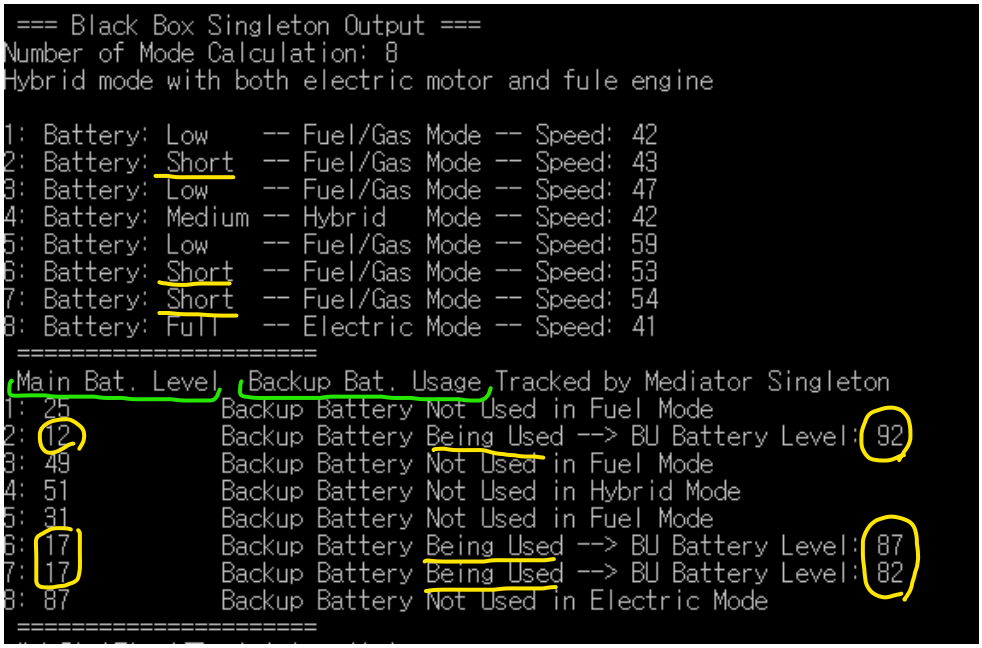
Remove package statement if you use Eclipse.
Do not submit Eclipse directory structure.

Your submitted files should contain **Car.java, ElectricVehicle.java, HybridCar.java, HybridInterface.java, Main.java, Mediator.java, and SingletonRecord.java.**
File names may be slightly different, and there might be more additional files.

Test your program with **command shell** before submitting the result to LMS.

I will test your program in the command shell, **java Main**.

```
* Low Battery level *
Starts with the fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 42

* Battery Almost Empty * Main Battery Level: 12
Switching to Backup Battery -- BU Battery Level: 92
Keep fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 43

* Low Battery Level *
Keep fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 47

* Medium Battery Level *
Convert from Fuel to Hybrid car mode.
( Now Hybrid Mode)
Supply electricity to front motor of hybrid car
Fuel engine keeps running.
Electric Generator is charging battery.
Regenerative braking system runs to charge battery.
(Now Hybrid Mode) Current Speed: 42

* Low Battery Level *
Convert from Hybrid to fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 59

* Battery Almost Empty * Main Battery Level: 17
Switching to Backup Battery -- BU Battery Level: 87
Keep fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 53

* Battery "Still" Almost Empty * Main Battery Level: 17
"Continue" to use Backup Battery -- BU Battery Level: 82
Keep fuel car mode.
Fuel engine keeps running.
Electric Generator is charging battery.
(Now Fuel Mode) Current Speed: 54

* Full battery level *
Convert from Fuel to electric car mode.
( Now Electric Mode)Cut fuel to engine
Supply electricity to front and rear motors of electric car
Regenerative braking system runs to charge battery.
(Now Electric Mode) Current Speed: 41
```



The current mediator singleton tracks main battery level, the usage of the backup battery, and the level of the backup battery when it is used.
The mediator simply mediates the use of backup battery only for fuel mode in this version.