Course: Object Oriented Analysis and Design.

Course code: CSCI 5448.

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Car Rental Store

Language : Java8.

Environment: Ecilipse IDE, Junit4 library.

Program Design:

1.Factory Pattern implemented to create instances of customers, Cars and Addonoptions based on the ar type of car.

2.Decorator has been implemented such that it has each instance of car to decorate the car instance.

- Car instance in Decorator can be car types like Economy, Minivan , Standard, Luxury and SUV or it can be Decorated options(It is a Decorator holding a car instance).

3.Object pool Design implemented to maintain inventory of all cars.

4.MyUnitTest.java file contains 10 test cases , which test various implementations across the program.

Assumptions:

1.All the cars in a rental are rented for the same number of days.

2.when renting the car the number of days being rented is already mentioned in the rental record.

OUT file details:

1.The Day number.

2.type of customer entering the store , the type of purchase they did at the store and the addons that they need.

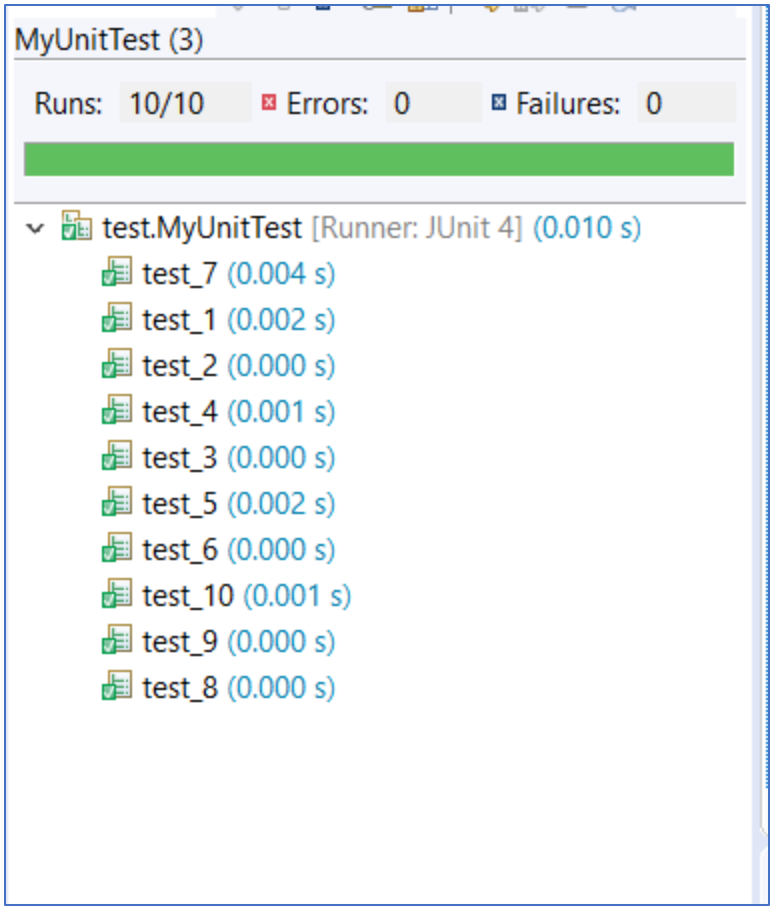
3.It also displays the license number of the vehicles.

4.The total price for that day for all the purchase made by the customer.

5.The total number of vehicles remaining the store.

6. At the end of the file we have a summary of all the 34 transactions done by the customers which contains the number of rentals done by each customer type and the total profit of the store.

Junit Test case Result:


MyUnitTest (3)
Runs: 10/10
Errors: 0
Failures: 0
test.MyUnitTest [Runner: JUnit 4] (0.010 s)
test_7 (0.004 s)
test_1 (0.002 s)
test_2 (0.000 s)
test_4 (0.001 s)
test_3 (0.000 s)
test_5 (0.002 s)
test_6 (0.000 s)
test_10 (0.001 s)
test_9 (0.000 s)
test_8 (0.000 s)