Albert Nguyen
CS131-47853 MW 06:00 PM – 08:30 PM
Programming Assignment 4

Programming Assignment 4 – Chapter 9

Instructions

a.

Implement a class Car with the following properties. A car has a certain fuel efficiency (measured in miles/gallon) and a certain amount of fuel in the gas tank. The efficiency is specified in the constructor, and the initial fuel level is 0. Supply a method drive that simulates driving the car for a certain distance, reducing the fuel level in the gas tank, and methods getGasLevel, to return the current fuel level, and addGas, to tank up. Sample usage:

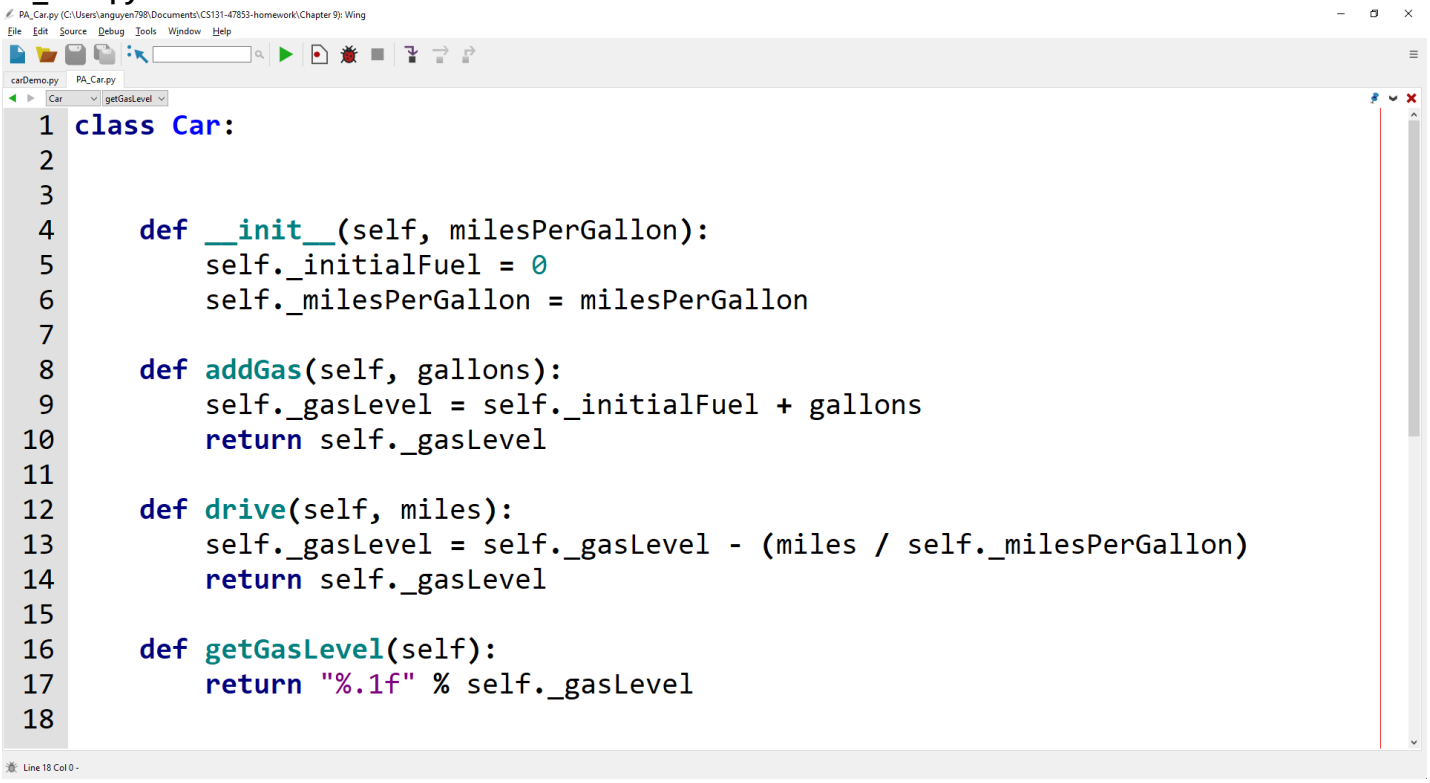
```
myHybrid = Car(50)   # 50 miles per gallon
myHybrid.addGas(20)   # Tank 20 gallons
myHybrid.drive(100)   # Drive 100 miles
print(myHybrid.getGasLevel())   # Print fuel remaining
```

Sample Output

```
18.0
>>>
```

Code

PA_Car.py




```python
class Car:


    def __init__(self, milesPerGallon):
        self._initialFuel = 0
        self._milesPerGallon = milesPerGallon

    def addGas(self, gallons):
        self._gasLevel = self._initialFuel + gallons
        return self._gasLevel

    def drive(self, miles):
        self._gasLevel = self._gasLevel - (miles / self._milesPerGallon)
        return self._gasLevel

    def getGasLevel(self):
        return "%.1f" % self._gasLevel

```

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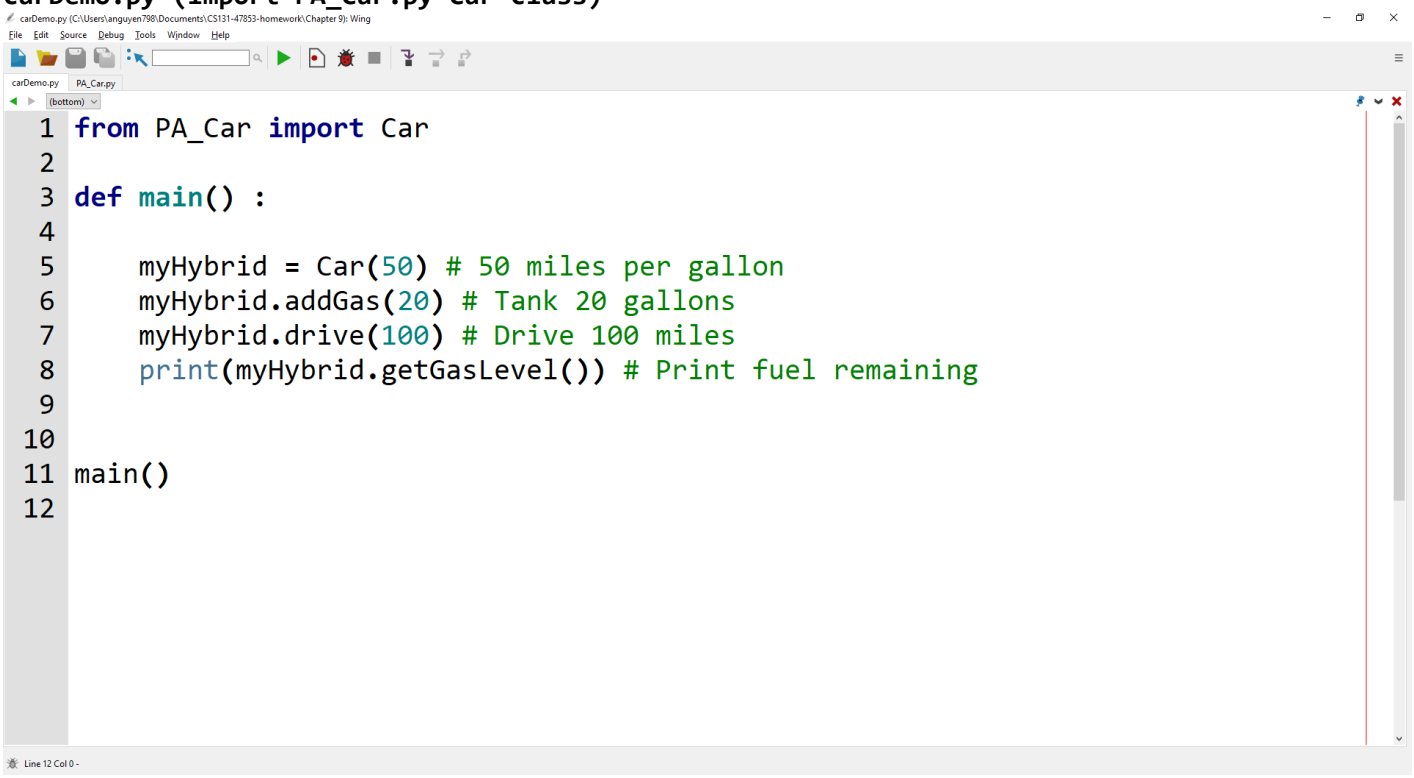
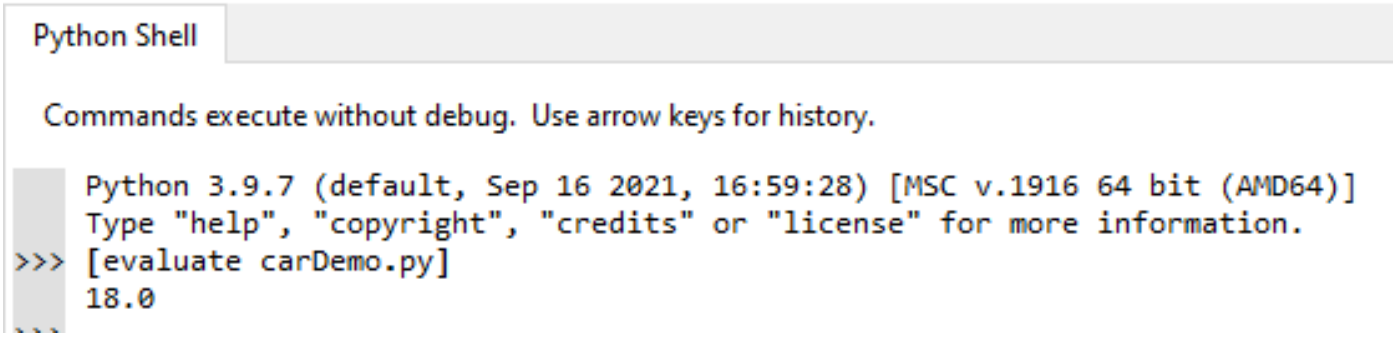
carDemo.py (import PA_Car.py Car class)



Output

Python Shell: Wing



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Lab 9 – Written Code

PA_Car.py

```
class Car:


    def __init__(self, milesPerGallon):
        self._initialFuel = 0
        self._milesPerGallon = milesPerGallon

    def addGas(self, gallons):
        self._gasLevel = self._initialFuel + gallons
        return self._gasLevel

    def drive(self, miles):
        self._gasLevel = self._gasLevel - (miles / self._milesPerGallon)
        return self._gasLevel

    def getGasLevel(self):
        return "%.1f" % self._gasLevel
```

carDemo.py

```
from PA_Car import Car

def main() :

    myHybrid = Car(50) # 50 miles per gallon
    myHybrid.addGas(20) # Tank 20 gallons
    myHybrid.drive(100) # Drive 100 miles
    print(myHybrid.getGasLevel()) # Print fuel remaining


main()
```