20.11.15

CENG113
Programming Basics
HOMEWORK #3

Write Python functions that operate on the nested list given in the below which contains four lists corresponding to each car which has its own brand, stock count, rented status and horsepower.

car_list=[['BMW',4,False,200],['Mercedes',3,False,250],['Renault',2,False,150],['Audi',3,False,180]]

Operations:

1-) Write a function called "**sell_car**" which should take two arguments which are brand and car_list and updates the list if given brand exists in car_list and at least one car of given brand should be available.

For example; if BMW car is sold then the updated car_list should be:
car_list=[['BMW',**3**,False,200],['Mercedes',3,False,250],['Renault',2,False,150],['Audi',3,False,180]]

2-) Write a function called "**rent_car**" which should take two arguments which are brand and car_list and update rented status of the given brand to True and also decrease the stock count. For renting, the function should check the stock count and rented status if rented status is false and stock count is not zero then the car can be rented otherwise it cannot.

For example; if Audi car is rented then the updated car_list should be:
car_list=[['BMW',4,False,200],['Mercedes',3,False,250],['Renault',2,False,150],['Audi',**2**,**True**,180]]

3-) Write a function called "**return_car**" which should take two arguments which are brand and car_list and update rented status of the given brand to False and also increase stock count.

For example; if Audi car is returned back then the updated car_list should be:
car_list=[['BMW',4,False,200],['Mercedes',3,False,250],['Renault',2,False,150],['Audi',**3**,**False**,180]]

4-) Write a function called "**give_car_list**" which should take lower horsepower and upper horsepower and also car_list. It should return suggested cars whose horsepower is between given boundaries.

For example; if lower horsepower is 120 and upper is 190 then the function returns list given in the below:
suggested_cars=[['Renault',2,False,150],['Audi',3,False,180]]

5-) Write a function called "**add_new_car**" which should take three arguments which are brand,horsepower and car_list. This function should handle two different situations:

a-) If the brand exists in the car_list ,then stock count should be increased.
For example; if Mercedes car is added then the updated car_list should be:
car_list=[['BMW',4,False,200],['Mercedes',**4**,False,250],['Renault',2,False,150],['Audi',3,False,180]]

b-) If the brand does not exist in the car_list , then a new list should be added to car_list.
For example; if Opel car is added then the updated car_list should be:
car_list=[['BMW',4,False,200],['Mercedes',4,False,250],['Renault',2,False,150],['Audi',3,False,180],
['Opel',1,False,170]]

Due Date:25.11.15, 23:55

Submission Rules:

1. You should submit your codes through CMS.
2. Your homework should be named as **HW3_StudentID.py**. Students who do NOT follow these rules **WILL BE GRADED AS 0**.
3. Use comments in your code, otherwise you will lose some points.
4. Write your Name, Surname and Student ID as a comment in your code.