This material is developed by Somnath PaulChoudhury @somnathpc

"""
SPC autonomous is a car rental company based in West Sikkim. It has recently added to its arsenal 7 world class cars for self driving.
It's open to anyone with an International driving licence and requires appraisal comments from another person of repute for hiring.
As a programmer your task is to develop an automated system using Python.
You should use the following files whose basic structure is given. functionalities you need to decide by yourself.
File name

File 1: Car_mast.dat
Minimum 3 Fields
make
model
rental

add the following records
2019 Telsa Model 3 (here make is Telsa, model is 2019 Model 3, rental give $ 52 per hour for a minimum of 6 hours)
The remaining records will be as
2020 Volvo XC 60
2019 BMW 5 Series
2019 Cadillac CT6
2020 Lexus LS
2019 Mercedes S - Class
2019 Audi A 8

File 2 rental.dat
tranno (transaction no)
SSNo 8 digit security number (identifying the person)
make (what is rented)
model
hours
billamount

File 3 bank.dat
amount (amount accumulated)

"""

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Code development for project idea dated 13/04/2020

```
import pickle
import os
class car:
    def __init__(self,make,model,rental):
        self.mk=make
        self.ml=model
        self.rl=rental
    def showme(self):
        print(self.mk,"    ",self.ml,"    ",self.rl)

with open("spcnotes15.dat","wb") as spc_out:
    try:
        while(True):
            mk=input("Input car brand name ")
            ml=input("Input car model name ")
            rl=int(input("Input rate in USD per hour "))
            c=car(mk,ml,rl)        #  take a note of this step
            pickle.dump(c,spc_out,pickle.HIGHEST_PROTOCOL)
            ans=input("Wanna Cont? ")
            if(ans=='n' or ans=='N'):
                break
    except EOFError:
        pass
spc_out.close()

#Now lets read the file
with open("spcnotes15.dat","rb") as spc_in:
    try:
        while(True):
            cc=pickle.load(spc_in)
            print(cc.mk,"   ",cc.ml,"   ",cc.rl)
    except EOFError:
        pass
```

Output is

```
Input car brand name Telsa
Input car model name 2019 Model 3
Input rate in USD per hour 56
Wanna Cont? y
Input car brand name Volvo
Input car model name 2020 XC 60
Input rate in USD per hour 59
Wanna Cont? y
Input car brand name BMW
Input car model name 2019 BMW 5 Series
Input rate in USD per hour 62
Wanna Cont? y
Input car brand name Cadillac
Input car model name 2019 CT 6
```

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```
Input rate in USD per hour 67
Wanna Cont? y
Input car brand name Lexus
Input car model name 2020 LS
Input rate in USD per hour 67
Wanna Cont? y
Input car brand name Mercedes
Input car model name 2019 Mercedes S Class
Input rate in USD per hour 75
Wanna Cont? y
Input car brand name Audi
Input car model name 2019 Audi A8
Input rate in USD per hour 100
Wanna Cont? n
Telsa     2019 Model 3     56
Volvo     2020 XC 60     59
BMW     2019 BMW 5 Series     62
Cadillac     2019 CT 6     67
Lexus     2020 LS     67
Mercedes     2019 Mercedes S Class     75
Audi     2019 Audi A8     100
```

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Code development for project idea dated 14/04/2020

Now we can try and develop a menu like this
If we select option 1 we can add more records

```
1. Add record in Car Master File
2. Display records of Car Master File
3. Update record from Car Master File
4. Rent a Car
5. Return a Car
6. Check Bank Balance
7. Exit
Enter a numerical choice 1..7 1
Input car brand name Ferrari
Input car model name F8 Spider
Input rate in USD per hour 120
Wanna Cont? n
1. Add record in Car Master File
2. Display records of Car Master File
3. Update record from Car Master File
4. Rent a Car
5. Return a Car
6. Check Bank Balance
7. Exit
Enter a numerical choice 1..7
```

If we select option 2 now it shows the record added

```
Enter a numerical choice 1..7 2
Telsa    2019 Model 3    56
Volvo    2020 XC 60    59
BMW    2019 BMW 5 Series    62
Cadillac    2019 CT 6    67
Lexus    2020 LS    67
Mercedes    2019 Mercedes S Class    75
Audi    2019 Audi A8    100
Ferrari    F8 Spider    120
1. Add record in Car Master File
2. Display records of Car Master File
3. Update record from Car Master File
4. Rent a Car
5. Return a Car
6. Check Bank Balance
7. Exit
Enter a numerical choice 1..7
```

The revised code

```
#Import statements
import pickle
import os

#class definitions
class car:
    def __init__(self,make,model,rental):
        self.mk=make
        self.ml=model
        self.rl=rental
    def showme(self):
        print(self.mk,"    ",self.ml,"    ",self.rl)

#main loop
while(True):
    print("1. Add record in Car Master File ")
    print("2. Display records of Car Master File ")
    print("3. Update record from Car Master File ")
    print("4. Rent a Car  ")
    print("5. Return a Car ")
    print("6. Check Bank Balance ")
    print("7. Exit ")

    # function addinCarMaster()
    def addinCarMaster():
```

```
    with open("spcnotes15.dat","ab") as spc_out:
        try:
            while(True):
                mk=input("Input car brand name ")
                ml=input("Input car model name ")
                rl=int(input("Input rate in USD per hour "))
                c=car(mk,ml,rl)        #  take a note of this step
                pickle.dump(c,spc_out,pickle.HIGHEST_PROTOCOL)
                ans=input("Wanna Cont? ")
                if(ans=='n' or ans=='N'):
                    break
        except EOFError:
            pass
    spc_out.close()

# function displayallfromCarMaster()
def displayallfromCarMaster():
    with open("spcnotes15.dat","rb") as spc_in:
        try:
            while(True):
                cc=pickle.load(spc_in)
                print(cc.mk,"   ",cc.ml,"   ",cc.rl)
        except EOFError:
            pass


#menu options
ans=int(input("Enter a numerical choice 1..7 "))
if(ans==1):
    addinCarMaster()
elif(ans==2):
    displayallfromCarMaster()
#.....these will be added later
elif(ans==7):
    break
```