

This material is developed by Somnath PaulChoudhury @somnathpc

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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)

""""

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

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():
```

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```
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
```

Now we can add the remaining functions slowly