Parking Lot

Overview: This repository gives an overview of how we can design a basic parking lot in Python. It creates parking lot with given number of slots. The cars follow Greedy approach while being parked in the slots.

File Structure: I have divided my project into four modules:

1. **main.py** = Main File (**The file which you have to Run**)
2. **interactive.py** = How my program will run if a user select interactive option.
3. **managing_parking_lot** = The file where I declare and define my class and it's member function.
4. **input.py** = The file where I declare and define non-member function.

Input and Output: main.py can be run through shell or through file containing test cases. I did with file handling, in file **input_instructions.txt** all the test cases are there. You just need to run **main.py**,the desired output will be display in your screen. You can change input_instructions.txt according to your requirement.

Desired functionality: **main.py** script defines the following functions -

1. **CreateParkingLot n** - Given n number of slots, create a parking lot

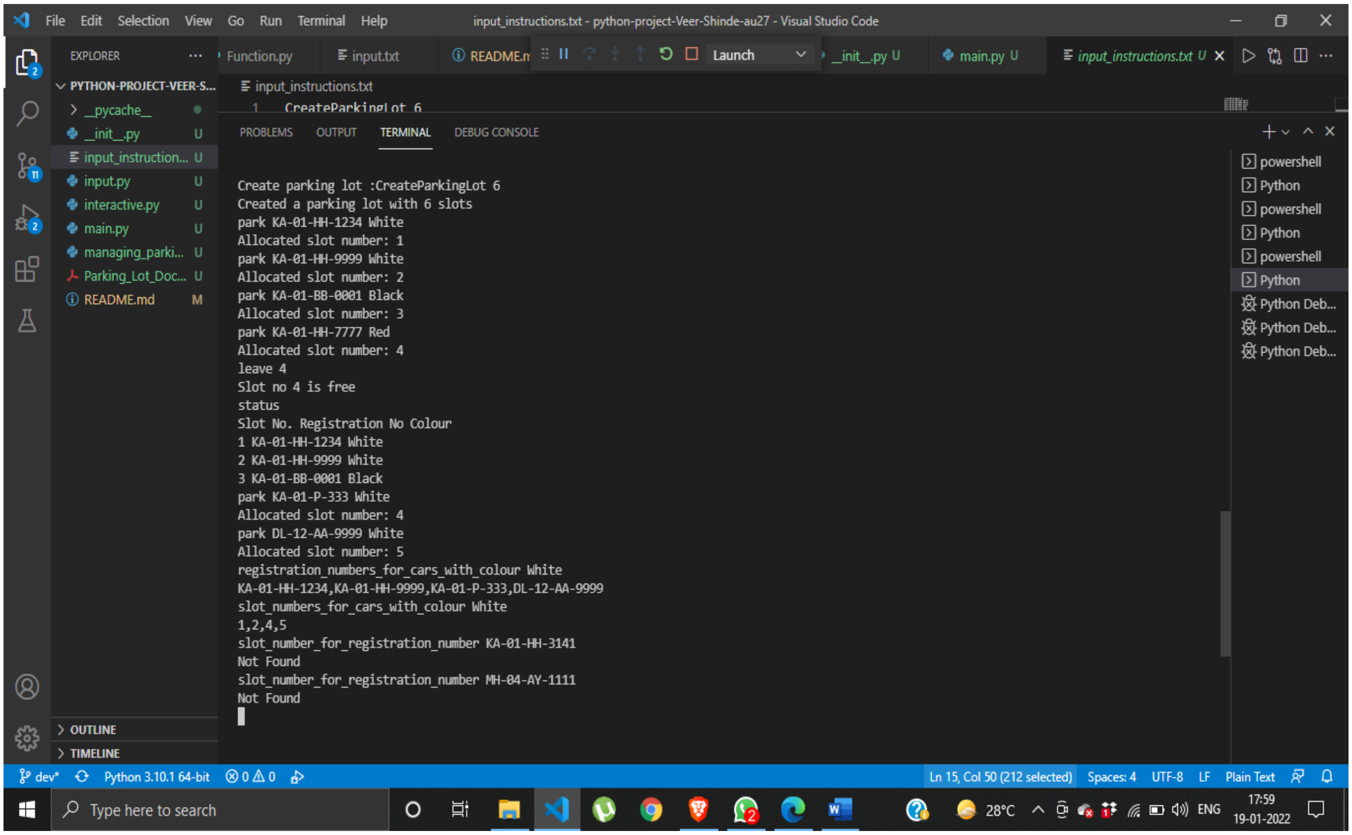
2. **park car_regno car_color** - Parks a vehicle with given registration number and color in the nearest empty slot possible. If there are no more empty slots available, it shows a
message " Parking lot is full".

3. **status** - Prints the slot number, registration number and color of the parked vehicles.

4. **leave n** - Removes vehicle from slot number n

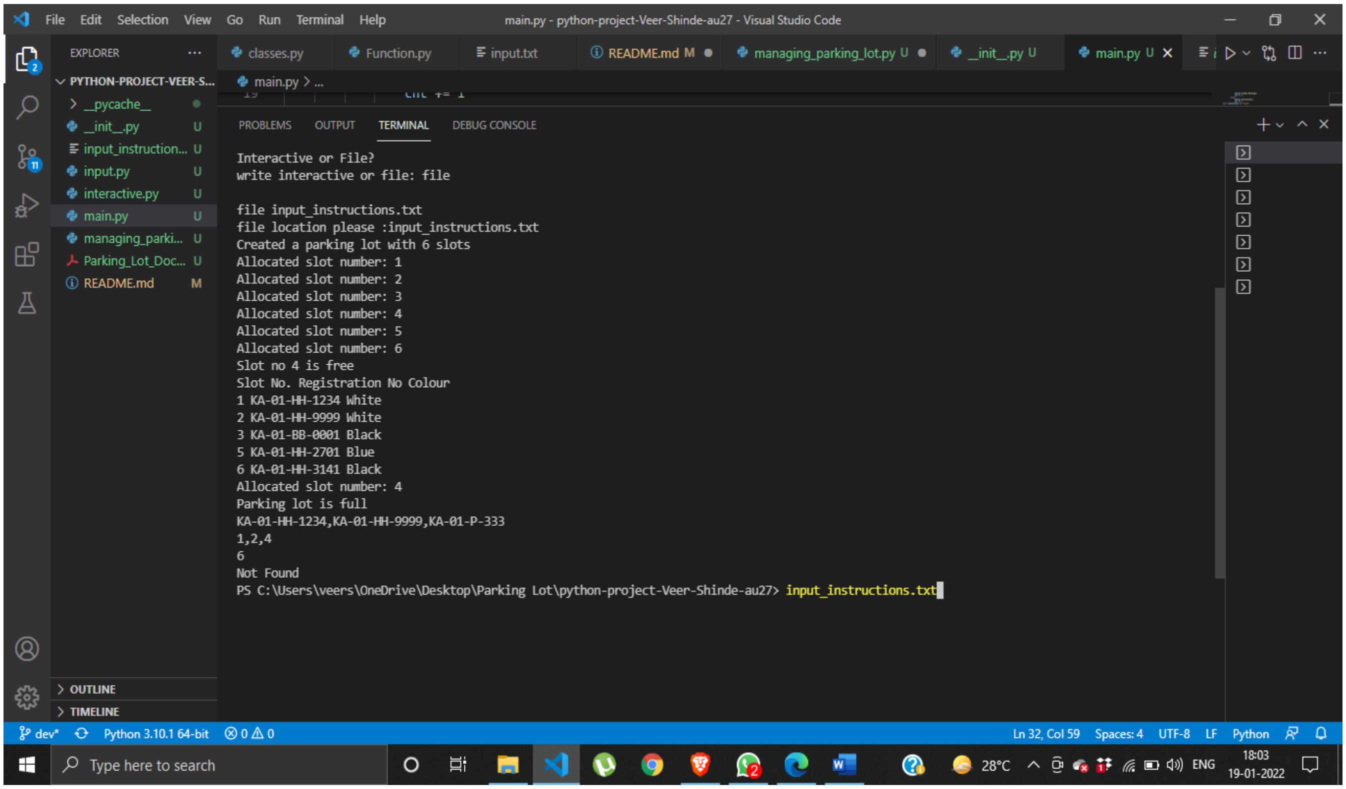
5. There are few query functions to retrieve slot number from registration number of cars, get registration numbers of cars with particular color etc.

Output Screen for Interactive mode :



```
Create parking lot :CreateParkingLot 6
Created a parking lot with 6 slots
park KA-01-HH-1234 White
Allocated slot number: 1
park KA-01-HH-9999 White
Allocated slot number: 2
park KA-01-BB-0001 Black
Allocated slot number: 3
park KA-01-HH-7777 Red
Allocated slot number: 4
leave 4
Slot no 4 is free
status
Slot No. Registration No Colour
1 KA-01-HH-1234 White
2 KA-01-HH-9999 White
3 KA-01-BB-0001 Black
park KA-01-P-333 White
Allocated slot number: 4
park DL-12-AA-9999 White
Allocated slot number: 5
registration_numbers_for_cars_with_colour White
KA-01-HH-1234,KA-01-HH-9999,KA-01-P-333,DL-12-AA-9999
slot_numbers_for_cars_with_colour White
1,2,4,5
slot_number_for_registration_number KA-01-HH-3141
Not Found
slot_number_for_registration_number MH-04-AY-1111
Not Found
```

Output Screen for File mode:



```
Interactive or File?
write interactive or file: file

file input_instructions.txt
file location please :input_instructions.txt
Created a parking lot with 6 slots
Allocated slot number: 1
Allocated slot number: 2
Allocated slot number: 3
Allocated slot number: 4
Allocated slot number: 5
Allocated slot number: 6
Slot no 4 is free
Slot No. Registration No Colour
1 KA-01-HH-1234 White
2 KA-01-HH-9999 White
3 KA-01-BB-0001 Black
5 KA-01-HH-2701 Blue
6 KA-01-HH-3141 Black
Allocated slot number: 4
Parking lot is full
KA-01-HH-1234,KA-01-HH-9999,KA-01-P-333
1,2,4
6
Not Found
PS C:\Users\veers\OneDrive\Desktop\Parking Lot\python-project-Veer-Shinde-au27> input_instructions.txt
```