

**Faculty of Engineering & Technology
Electrical & Computer Engineering Department**

**LINUX LABORATORY
ENCS313**

Python Project

Prepared by:

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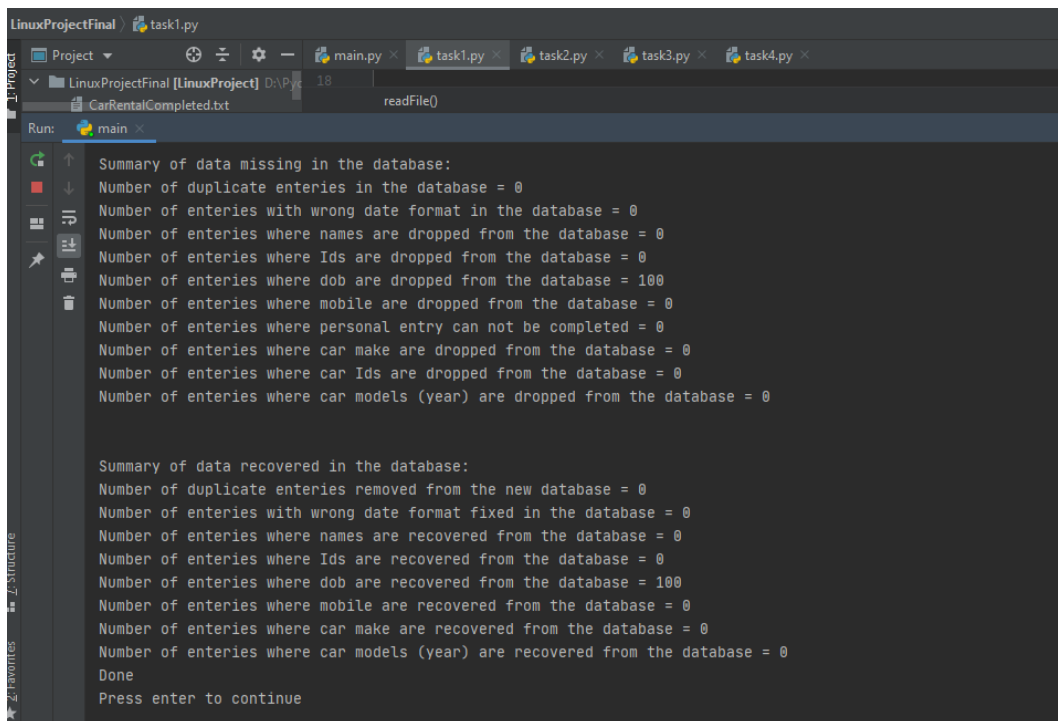
Assistant: Eng. Aseel Awwad

Section: 1

Task #1:

This output is a summary for the whole task, as we printed the missing and recovered data for several files.

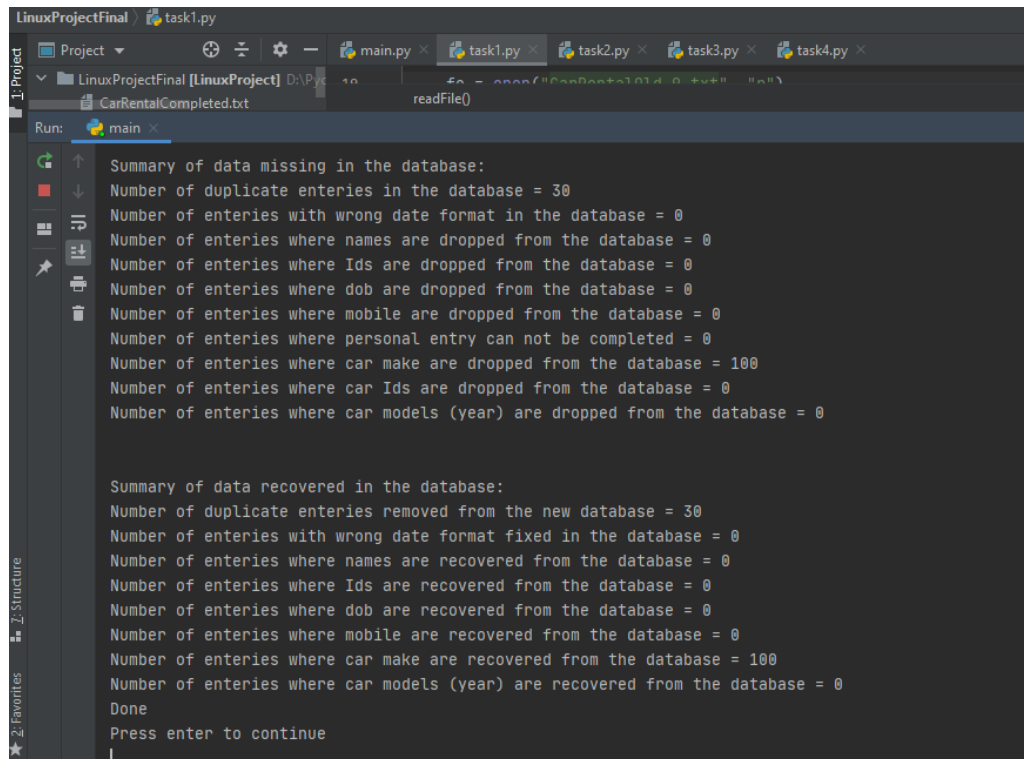
File “CarRentalOld_5.txt”:



```
LinuxProjectFinal > task1.py
Project
LinuxProjectFinal [LinuxProject] D:\P... 18
CarRentalCompleted.txt readFile()
Run: main
Summary of data missing in the database:
Number of duplicate enteries in the database = 0
Number of enteries with wrong date format in the database = 0
Number of enteries where names are dropped from the database = 0
Number of enteries where Ids are dropped from the database = 0
Number of enteries where dob are dropped from the database = 100
Number of enteries where mobile are dropped from the database = 0
Number of enteries where personal entry can not be completed = 0
Number of enteries where car make are dropped from the database = 0
Number of enteries where car Ids are dropped from the database = 0
Number of enteries where car models (year) are dropped from the database = 0

Summary of data recovered in the database:
Number of duplicate enteries removed from the new database = 0
Number of enteries with wrong date format fixed in the database = 0
Number of enteries where names are recovered from the database = 0
Number of enteries where Ids are recovered from the database = 0
Number of enteries where dob are recovered from the database = 100
Number of enteries where mobile are recovered from the database = 0
Number of enteries where car make are recovered from the database = 0
Number of enteries where car models (year) are recovered from the database = 0
Done
Press enter to continue
```

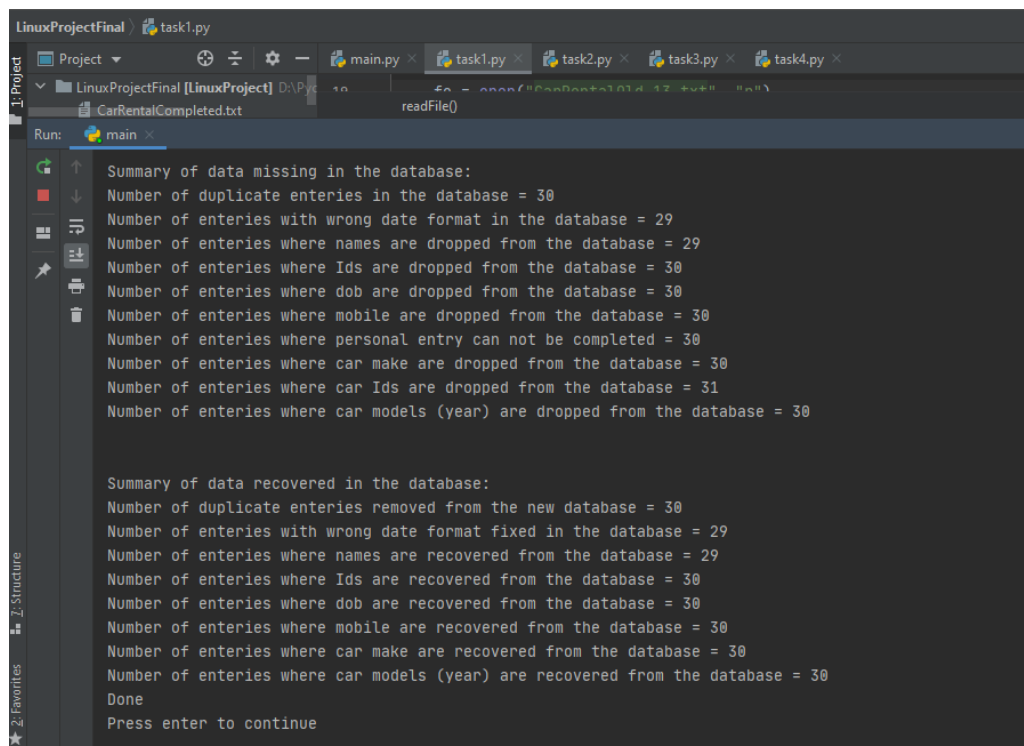
File “CarRentalOld_9.txt”:



```
LinuxProjectFinal / task1.py
Project
LinuxProjectFinal [LinuxProject] D:\P...
CarRentalCompleted.txt
Run: main
Summary of data missing in the database:
Number of duplicate enteries in the database = 30
Number of enteries with wrong date format in the database = 0
Number of enteries where names are dropped from the database = 0
Number of enteries where Ids are dropped from the database = 0
Number of enteries where dob are dropped from the database = 0
Number of enteries where mobile are dropped from the database = 0
Number of enteries where personal entry can not be completed = 0
Number of enteries where car make are dropped from the database = 100
Number of enteries where car Ids are dropped from the database = 0
Number of enteries where car models (year) are dropped from the database = 0

Summary of data recovered in the database:
Number of duplicate enteries removed from the new database = 30
Number of enteries with wrong date format fixed in the database = 0
Number of enteries where names are recovered from the database = 0
Number of enteries where Ids are recovered from the database = 0
Number of enteries where dob are recovered from the database = 0
Number of enteries where mobile are recovered from the database = 0
Number of enteries where car make are recovered from the database = 100
Number of enteries where car models (year) are recovered from the database = 0
Done
Press enter to continue
```

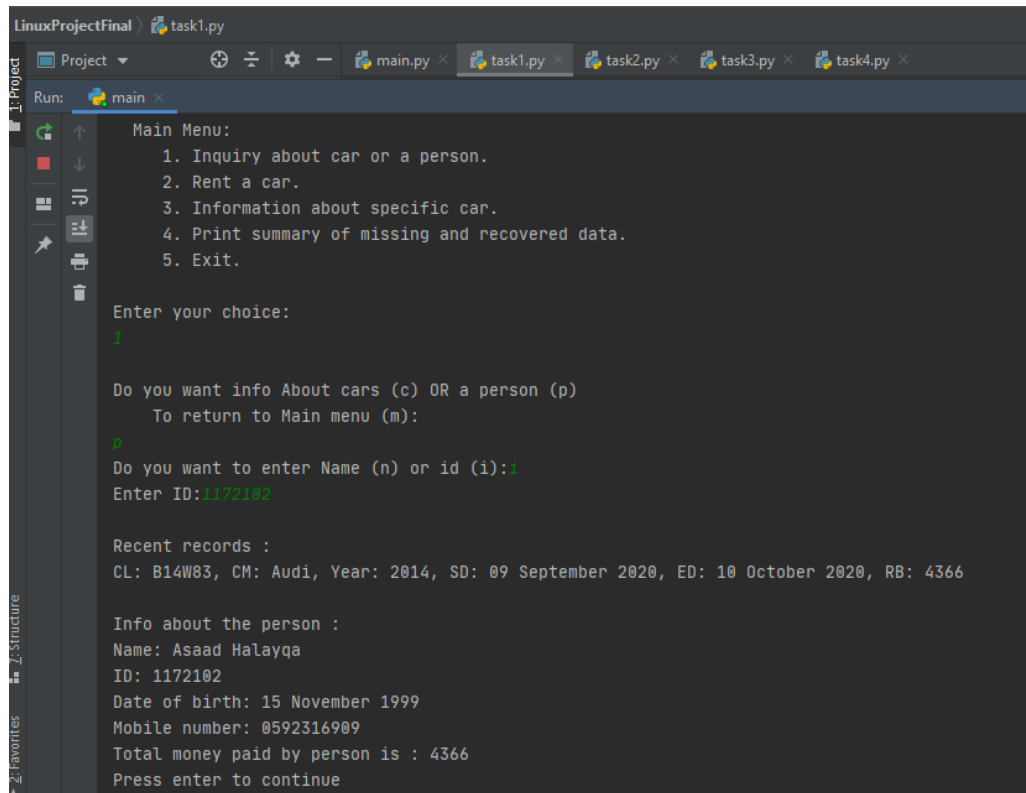
File “CarRentalOld_13.txt”:



```
LinuxProjectFinal / task1.py
Project
LinuxProjectFinal [LinuxProject] D:\P...
CarRentalCompleted.txt
Run: main
Summary of data missing in the database:
Number of duplicate enteries in the database = 30
Number of enteries with wrong date format in the database = 29
Number of enteries where names are dropped from the database = 29
Number of enteries where Ids are dropped from the database = 30
Number of enteries where dob are dropped from the database = 30
Number of enteries where mobile are dropped from the database = 30
Number of enteries where personal entry can not be completed = 30
Number of enteries where car make are dropped from the database = 30
Number of enteries where car Ids are dropped from the database = 31
Number of enteries where car models (year) are dropped from the database = 30

Summary of data recovered in the database:
Number of duplicate enteries removed from the new database = 30
Number of enteries with wrong date format fixed in the database = 29
Number of enteries where names are recovered from the database = 29
Number of enteries where Ids are recovered from the database = 30
Number of enteries where dob are recovered from the database = 30
Number of enteries where mobile are recovered from the database = 30
Number of enteries where car make are recovered from the database = 30
Number of enteries where car models (year) are recovered from the database = 30
Done
Press enter to continue
```

Task #2:



```
LinuxProjectFinal task1.py
Project
Run: main
Main Menu:
1. Inquiry about car or a person.
2. Rent a car.
3. Information about specific car.
4. Print summary of missing and recovered data.
5. Exit.

Enter your choice:
1

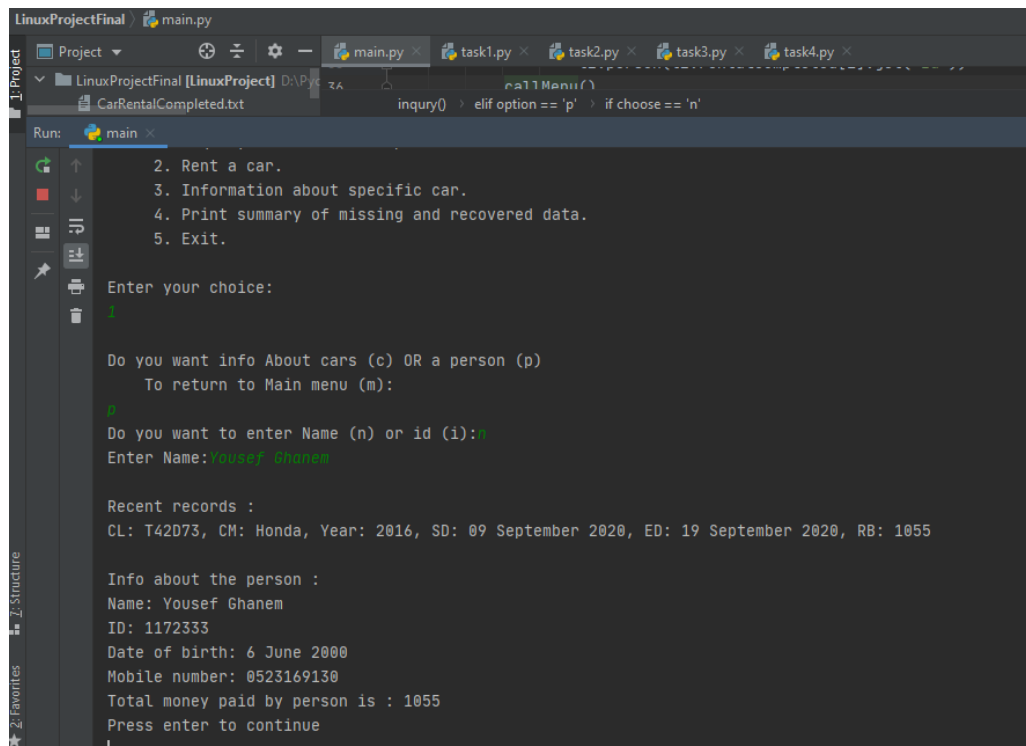
Do you want info About cars (c) OR a person (p)
To return to Main menu (m):
p

Do you want to enter Name (n) or id (i): i
Enter ID: 1172102

Recent records :
CL: B14W83, CM: Audi, Year: 2014, SD: 09 September 2020, ED: 10 October 2020, RB: 4366

Info about the person :
Name: Asaad Halayqa
ID: 1172102
Date of birth: 15 November 1999
Mobile number: 0592316909
Total money paid by person is : 4366
Press enter to continue
```

In previous picture we inquired about a person using his Id.



```
LinuxProjectFinal main.py
Project
Run: main
Main Menu:
2. Rent a car.
3. Information about specific car.
4. Print summary of missing and recovered data.
5. Exit.

Enter your choice:
2

Do you want info About cars (c) OR a person (p)
To return to Main menu (m):
c

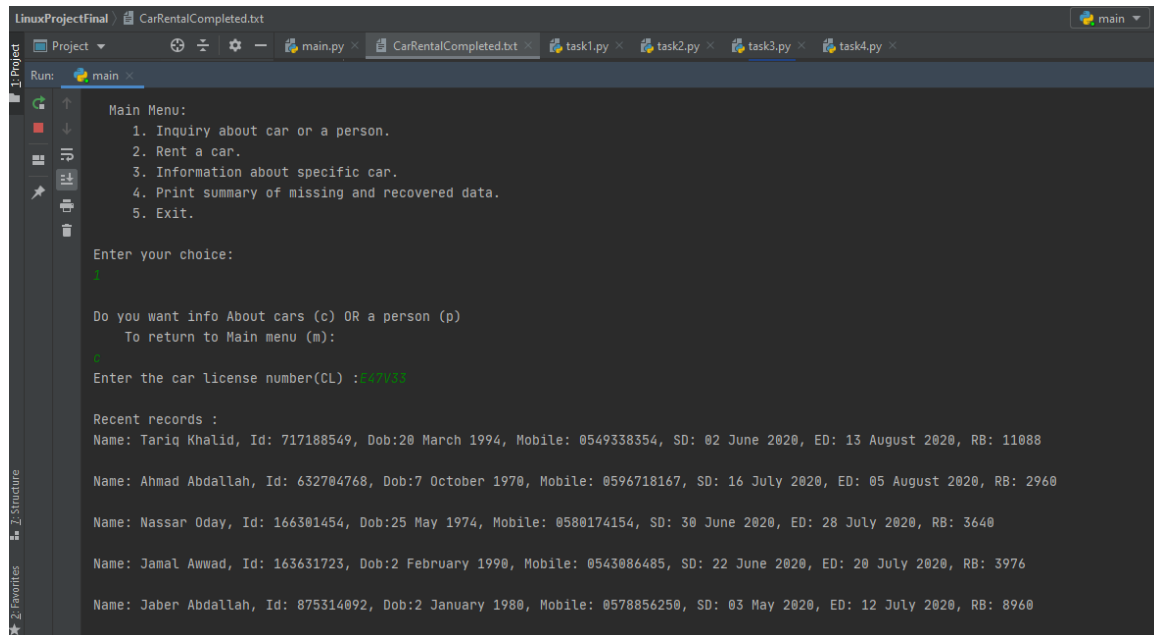
Do you want to enter Name (n) or id (i): n
Enter Name: Yousef Ghanem

Recent records :
CL: T42D73, CM: Honda, Year: 2016, SD: 09 September 2020, ED: 19 September 2020, RB: 1055

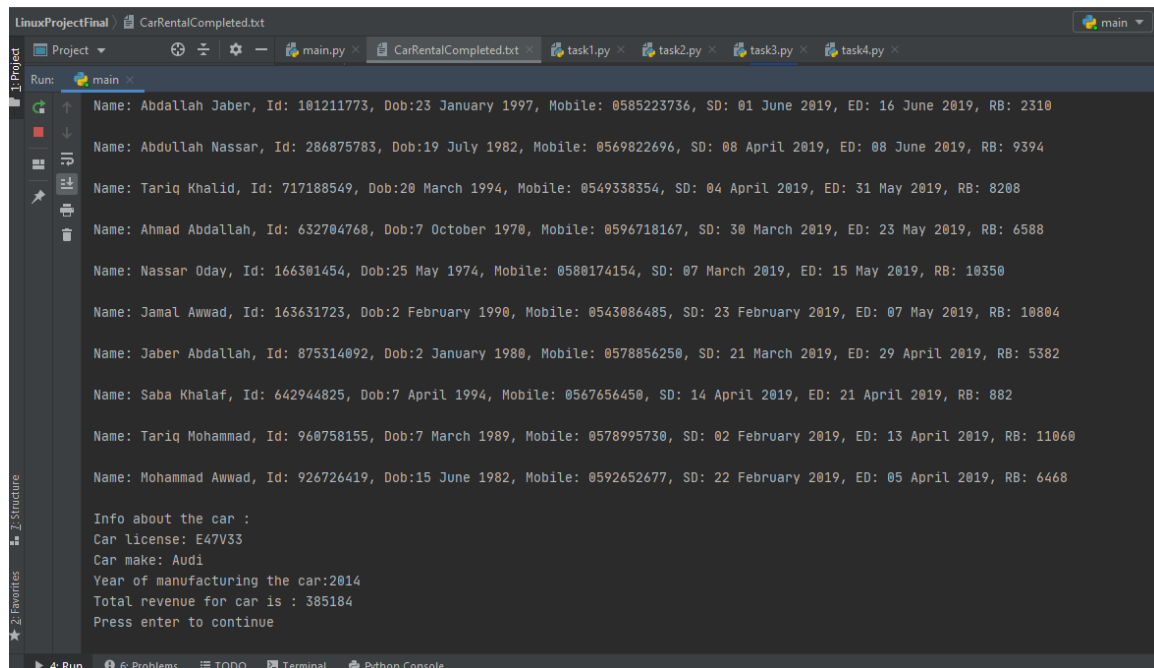
Info about the person :
Name: Yousef Ghanem
ID: 1172333
Date of birth: 6 June 2000
Mobile number: 0523169130
Total money paid by person is : 1055
Press enter to continue
```

In previous picture we inquired about a person using his name.

Inquired about car:



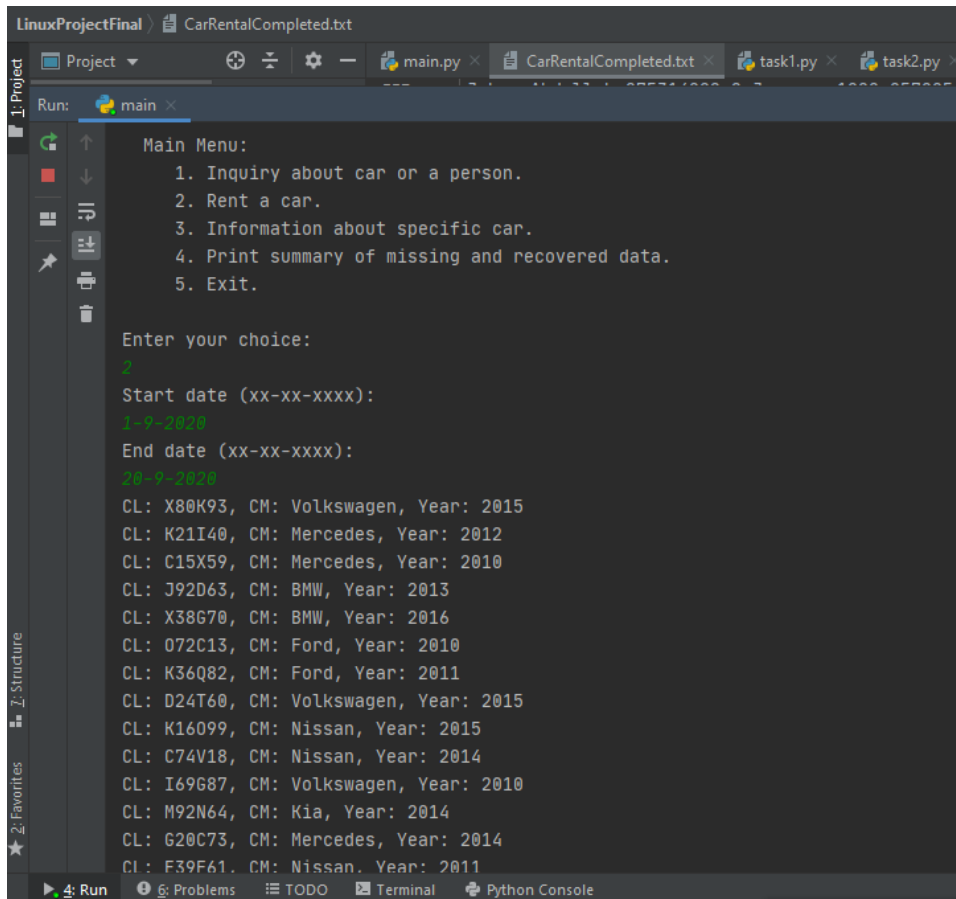
```
LinuxProjectFinal | CarRentalCompleted.txt
Project | main.py | CarRentalCompleted.txt | task1.py | task2.py | task3.py | task4.py
Run: main
Main Menu:
1. Inquiry about car or a person.
2. Rent a car.
3. Information about specific car.
4. Print summary of missing and recovered data.
5. Exit.
Enter your choice:
Do you want info About cars (c) OR a person (p)
To return to Main menu (m):
Enter the car license number(CL) :E47V33
Recent records :
Name: Tariq Khalid, Id: 717188549, Dob:20 March 1994, Mobile: 0549338354, SD: 02 June 2020, ED: 13 August 2020, RB: 11088
Name: Ahmad Abdallah, Id: 632704768, Dob:7 October 1970, Mobile: 0596718167, SD: 16 July 2020, ED: 05 August 2020, RB: 2960
Name: Nassar Oday, Id: 166301454, Dob:25 May 1974, Mobile: 0580174154, SD: 30 June 2020, ED: 28 July 2020, RB: 3640
Name: Jamal Awwad, Id: 163631723, Dob:2 February 1990, Mobile: 0543086485, SD: 22 June 2020, ED: 20 July 2020, RB: 3976
Name: Jaber Abdallah, Id: 875314092, Dob:2 January 1980, Mobile: 0578856250, SD: 03 May 2020, ED: 12 July 2020, RB: 8960
```



```
LinuxProjectFinal | CarRentalCompleted.txt
Project | main.py | CarRentalCompleted.txt | task1.py | task2.py | task3.py | task4.py
Run: main
Name: Abdallah Jaber, Id: 101211773, Dob:23 January 1997, Mobile: 0585223736, SD: 01 June 2019, ED: 16 June 2019, RB: 2310
Name: Abdullah Nassar, Id: 286875783, Dob:19 July 1982, Mobile: 0569822696, SD: 08 April 2019, ED: 08 June 2019, RB: 9394
Name: Tariq Khalid, Id: 717188549, Dob:20 March 1994, Mobile: 0549338354, SD: 04 April 2019, ED: 31 May 2019, RB: 8208
Name: Ahmad Abdallah, Id: 632704768, Dob:7 October 1970, Mobile: 0596718167, SD: 30 March 2019, ED: 23 May 2019, RB: 6588
Name: Nassar Oday, Id: 166301454, Dob:25 May 1974, Mobile: 0580174154, SD: 07 March 2019, ED: 15 May 2019, RB: 10350
Name: Jamal Awwad, Id: 163631723, Dob:2 February 1990, Mobile: 0543086485, SD: 23 February 2019, ED: 07 May 2019, RB: 10804
Name: Jaber Abdallah, Id: 875314092, Dob:2 January 1980, Mobile: 0578856250, SD: 21 March 2019, ED: 29 April 2019, RB: 5382
Name: Saba Khalaf, Id: 642944825, Dob:7 April 1994, Mobile: 0567656450, SD: 14 April 2019, ED: 21 April 2019, RB: 882
Name: Tariq Mohammad, Id: 960758155, Dob:7 March 1989, Mobile: 0578995730, SD: 02 February 2019, ED: 13 April 2019, RB: 11060
Name: Mohammad Awwad, Id: 926726419, Dob:15 June 1982, Mobile: 0592652677, SD: 22 February 2019, ED: 05 April 2019, RB: 6468
Info about the car :
Car license: E47V33
Car make: Audi
Year of manufacturing the car:2014
Total revenue for car is : 385184
Press enter to continue
```

In the last two pictures, we inquired about a car using its CL, and the screenshots are for the part of the data because it's too big.

Task #3:



```
LinuxProjectFinal / CarRentalCompleted.txt
Project
main.py x CarRentalCompleted.txt x task1.py x task2.py x
Run: main x
Main Menu:
1. Inquiry about car or a person.
2. Rent a car.
3. Information about specific car.
4. Print summary of missing and recovered data.
5. Exit.

Enter your choice:
2
Start date (xx-xx-xxxx):
1-9-2020
End date (xx-xx-xxxx):
20-9-2020
CL: X80K93, CM: Volkswagen, Year: 2015
CL: K21I40, CM: Mercedes, Year: 2012
CL: C15X59, CM: Mercedes, Year: 2010
CL: J92D63, CM: BMW, Year: 2013
CL: X38G70, CM: BMW, Year: 2016
CL: 072C13, CM: Ford, Year: 2010
CL: K36Q82, CM: Ford, Year: 2011
CL: D24T60, CM: Volkswagen, Year: 2015
CL: K16099, CM: Nissan, Year: 2015
CL: C74V18, CM: Nissan, Year: 2014
CL: I69G87, CM: Volkswagen, Year: 2010
CL: M92N64, CM: Kia, Year: 2014
CL: G20C73, CM: Mercedes, Year: 2014
CL: F39F61, CM: Nissan, Year: 2011
```

We entered two dates and check the available cars in this period and print them.

```

LinuxProjectFinal > CarRentalCompleted.txt
Project main.py x CarRentalCompleted.txt x task1.py x task2.py x
Run: main x
CL: X45Q27, CM: Mitsubishi, Year: 2011
CL: G83X33, CM: Hyundai, Year: 2016
CL: Q40H66, CM: Mazda, Year: 2016
CL: T81F45, CM: Mitsubishi, Year: 2010
CL: V68Y60, CM: Kia, Year: 2015
CL: Q79E46, CM: Volkswagen, Year: 2014
CL: Q60X71, CM: Honda, Year: 2012
CL: E65W90, CM: Honda, Year: 2010
CL: B25U10, CM: Honda, Year: 2016
CL: S72F26, CM: Nissan, Year: 2011
CL: G19U49, CM: Nissan, Year: 2010
CL: H74L48, CM: Nissan, Year: 2014
CL: Q14W60, CM: Honda, Year: 2012
CL: Q25Y48, CM: Nissan, Year: 2011
CL: N27S11, CM: Kia, Year: 2015

Enter the CL of the desired car: K75Q60
Total cost is : 2628
Do you agree with the cost?
(y) for yes (n) for no
y
Enter your name: Sara Ahmed
Enter your ID: 1161227
Enter your date of birth (dd Month YYYY): 9 September 1998
Enter your Mobile no.: 0599653496
Press enter to continue

```

We chose a car by its CL and calculated its cost for the selected period, then we ask user to enter his information.

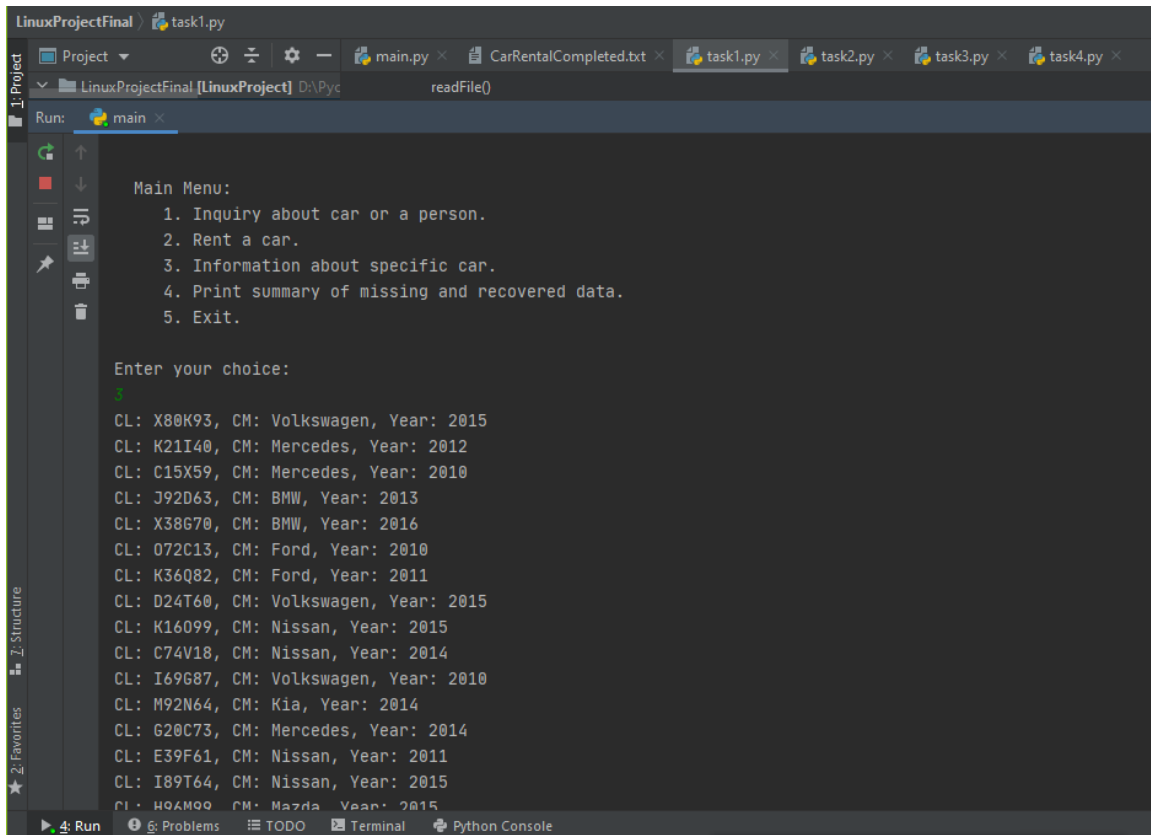
```

main.py x CarRentalCompleted.txt x task1.py x task2.py x task3.py x task4.py x
Jalal 340E17,343587769,20 December 1967,0531626334,Hyundai,2019,10 January 2017,03 April 2017,3115
4991 Abdullah Ahmad;172440917;20 January 1989;0531674233;G82Y82;BMW;2013;20 February 2019;03 April 2019;5712 4440
4992 Saba Khalaf;642944825;7 April 1994;0567656450;R40U62;Nissan;2012;26 March 2019;03 April 2019;720
4993 Abdullah AbedIbrahim;138586327;25 January 2002;0554915648;B14W83;Audi;2014;29 March 2019;03 April 2019;770
4994 Abdullah Khalaf;945711529;1 September 2002;0532385392;Y75H78;Mazda;2011;23 January 2019;03 April 2019;6720
4995 Saba Ahmad;394748012;10 January 1978;0531061477;F22B19;Ford;2014;09 March 2019;03 April 2019;1825
4996 Saba Oday;701592754;8 March 1985;0572634431;F24B40;Mitsubishi;2010;19 March 2019;03 April 2019;1462
4997 Zeyad Khalaf;893876022;22 May 1985;0582780645;T42073;Honda;2016;01 March 2019;03 April 2019;3861
4998 Salam Zeyad;440861628;7 September 2001;0524450220;W80T83;Ford;2011;20 March 2019;03 April 2019;868
4999 Razan Tariq;754634957;3 July 1970;0527862069;M52053;Mazda;2013;25 March 2019;03 April 2019;1066
5000 Jaber Abdullah;875314092;2 January 1980;0578856250;K95M28;Ford;2012;23 January 2019;02 April 2019;5382
5001 Jaber Zeyad;849833594;16 February 1977;0555236525;Z46C29;Mitsubishi;2011;06 February 2019;02 April 2019;5445
5002 Ahmad Alzeer;510098414;6 August 1970;0553657488;U78P97;Mercedes;2014;06 March 2019;02 April 2019;4266
5003 Oday Jaber;820272949;25 July 1997;0598752313;M95662;Ford;2015;26 February 2019;02 April 2019;2555
5004 Amer Salem;934864617;25 December 1974;0546577184;R74D56;Ford;2014;01 March 2019;02 April 2019;2080
5005 AbedIbrahim Nassar;271963136;26 July 1995;0531867804;Q63L62;Ford;2010;30 March 2019;02 April 2019;189
5006 Ahmad Mohammad;610811994;22 October 2002;0567453893;K38B95;Ford;2014;20 January 2019;02 April 2019;5616
5007 Mariam Ahmad;530718592;16 December 2001;0581947690;C65F93;Mercedes;2013;23 January 2019;02 April 2019;9660
5008 Jamal Awwad;163631723;2 February 1990;0543086485;W20J85;Mercedes;2012;11 March 2019;02 April 2019;2640
5009 Abdul-kreem Alzeer;213831513;7 July 1975;0559742620;H79G16;Honda;2012;02 March 2019;02 April 2019;3022
5010 Yousef Ghanem;1172333;6 June 2000;0523169130;T42D73;Honda;2016;09 September 2020;19 September 2020;1055
5011 Asaad Halayga;1172102;15 November 1999;0592316909;B14W83;Audi;2014;09 September 2020;10 October 2020;4366
5012 Jad Samara;1171260;4 March 2000;0596452131;B25U10;Honda;2016;01 January 2019;01 January 2020;32499
5013 Sara Ahmed;1161227;9 September 1998;0599653496;K75Q60;Audi;2016;01 September 2020;20 September 2020;2628

```

We added a new entry by renting a car in the file.

Task #4:

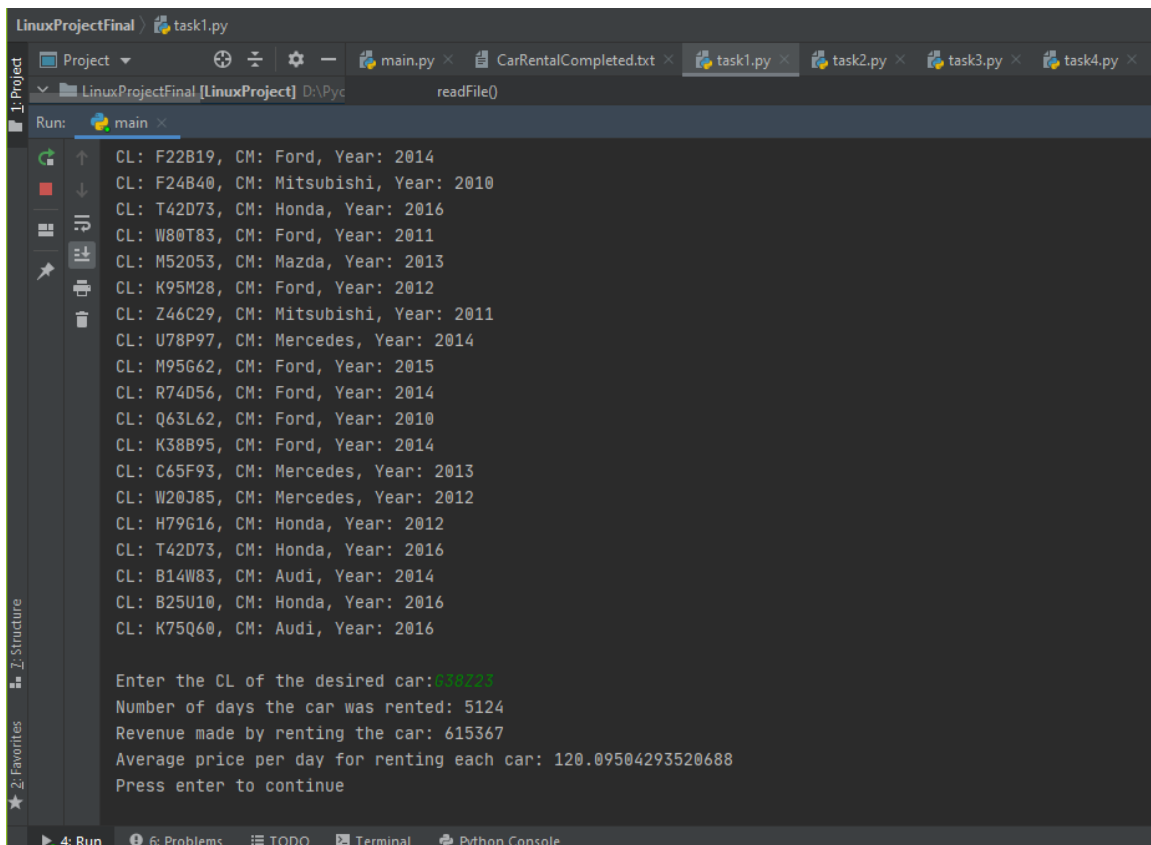


The screenshot shows an IDE window titled 'LinuxProjectFinal' with a file explorer on the left and a terminal on the right. The terminal displays the output of a Python program. The program starts with a 'Main Menu' showing five options: 1. Inquiry about car or a person, 2. Rent a car, 3. Information about specific car, 4. Print summary of missing and recovered data, and 5. Exit. The user enters '3', and the program lists 15 cars with their license plate (CL), company (CM), and year (Year). The cars listed are: X80K93 (Volkswagen, 2015), K21I40 (Mercedes, 2012), C15X59 (Mercedes, 2010), J92D63 (BMW, 2013), X38G70 (BMW, 2016), 072C13 (Ford, 2010), K36Q82 (Ford, 2011), D24T60 (Volkswagen, 2015), K16099 (Nissan, 2015), C74V18 (Nissan, 2014), I69G87 (Volkswagen, 2010), M92N64 (Kia, 2014), G20C73 (Mercedes, 2014), E39F61 (Nissan, 2011), and I89T64 (Nissan, 2015). The terminal also shows a prompt 'Enter your choice:' and a green cursor.

```
LinuxProjectFinal > task1.py
Project
LinuxProjectFinal [LinuxProject] D:\Pyc
Run: main
Main Menu:
1. Inquiry about car or a person.
2. Rent a car.
3. Information about specific car.
4. Print summary of missing and recovered data.
5. Exit.

Enter your choice:
3
CL: X80K93, CM: Volkswagen, Year: 2015
CL: K21I40, CM: Mercedes, Year: 2012
CL: C15X59, CM: Mercedes, Year: 2010
CL: J92D63, CM: BMW, Year: 2013
CL: X38G70, CM: BMW, Year: 2016
CL: 072C13, CM: Ford, Year: 2010
CL: K36Q82, CM: Ford, Year: 2011
CL: D24T60, CM: Volkswagen, Year: 2015
CL: K16099, CM: Nissan, Year: 2015
CL: C74V18, CM: Nissan, Year: 2014
CL: I69G87, CM: Volkswagen, Year: 2010
CL: M92N64, CM: Kia, Year: 2014
CL: G20C73, CM: Mercedes, Year: 2014
CL: E39F61, CM: Nissan, Year: 2011
CL: I89T64, CM: Nissan, Year: 2015
CL: H04M09, CM: Mazda, Year: 2015
```

We show all the available cars in the company.



The screenshot shows an IDE window titled "LinuxProjectFinal" with a file named "task1.py". The file contains a list of cars with their CL, CM, and Year. The cars are:

- CL: F22B19, CM: Ford, Year: 2014
- CL: F24B40, CM: Mitsubishi, Year: 2010
- CL: T42D73, CM: Honda, Year: 2016
- CL: W80T83, CM: Ford, Year: 2011
- CL: M52053, CM: Mazda, Year: 2013
- CL: K95M28, CM: Ford, Year: 2012
- CL: Z46C29, CM: Mitsubishi, Year: 2011
- CL: U78P97, CM: Mercedes, Year: 2014
- CL: M95G62, CM: Ford, Year: 2015
- CL: R74D56, CM: Ford, Year: 2014
- CL: Q63L62, CM: Ford, Year: 2010
- CL: K38B95, CM: Ford, Year: 2014
- CL: C65F93, CM: Mercedes, Year: 2013
- CL: W20J85, CM: Mercedes, Year: 2012
- CL: H79G16, CM: Honda, Year: 2012
- CL: T42D73, CM: Honda, Year: 2016
- CL: B14W83, CM: Audi, Year: 2014
- CL: B25U10, CM: Honda, Year: 2016
- CL: K75Q60, CM: Audi, Year: 2016

Below the list, the program prompts the user to enter the CL of the desired car. The user has entered "030223". The program then displays the following statistics:

- Number of days the car was rented: 5124
- Revenue made by renting the car: 615367
- Average price per day for renting each car: 120.09504293520688

The program ends with the prompt "Press enter to continue".

We chose a car by its CL and printed number of days the car was rented, revenue made by renting the car, average price per day for renting each car.