

PANDAS

Problem 1

File Explorer: Name, Size

- aqd.csv
- cars.csv
- div_by_3.npy
- div_by_3.py
- epk.npy
- problem1.py
- X_normalized.npy
- X_normalized.py

Code (problem1.py):

```
1 import pandas as pd
2 cars=pd.read_csv('cars.csv')
3 y=cars.iloc[0:5]
4 z=cars.iloc[27:32]
5 car=pd.concat([y,z])
6 print(car)
```

Variable explorer:

Name	Type	Size	Value
car	DataFrame (10, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb
cars	DataFrame (32, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb
y	DataFrame (5, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb
z	DataFrame (5, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb

History log:

```
car - DataFrame
```

Console output:

```
18.60 1 1 4 2
[10 rows x 12 columns]
```

Table view of 'car' DataFrame:

Index	Model	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
0	Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
1	Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
2	Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
3	Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
4	Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
27	Lotus Europa	30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
28	Ford Pantera L	15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
29	Ferrari Dino	19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
30	Maserati Bora	15	8	301	335	3.54	3.57	14.6	0	1	5	8
31	Volvo 142E	21.4	4	121	109	4.11	2.78	18.6	1	1	4	2

Problem 2A

File Explorer: Name, Size

- ropeproject
- db
- defaults
- plugins
- spyder.lock
- cars.csv
- epk.npy
- history.internu
- history.py
- langconfig
- onlinehelp
- spyder.ini
- spyder.inibak
- temp.py
- template.py
- workingdir
- X_normalized

Code (temp.py):

```
1 import pandas as pd
2 cars=pd.read_csv('cars.csv')
3
4 #Problem 2A
5 odd=cars.iloc[0:5,:2]
6 print(odd)
7
8 #Problem 2B
9 MazdaRow=cars.loc[[0]]
10 print(MazdaRow)
11
12 #Problem 2C
13 cyl=cars.loc[[23],['cyl']]
14 print(cyl)
15
16 #Problem 2D
17 z=cars.loc[[1,28,18],['Model','cyl','gear']]
18 print(z)
```

Variable explorer:

Name	Type	Size	Value
MazdaRow	DataFrame (1, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb
cars	DataFrame (32, 12)		Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, carb
cyl	DataFrame (1, 1)		Column names: cyl
odd	DataFrame (5, 6)		Column names: Model, cyl, hp, wt, vs, gear
z	DataFrame (3, 3)		Column names: Model, cyl, gear

History log:

```
odd - DataFrame
```

Console output:

```
Type "copyright", "credits" or "license" for more information.
IPython 7.8.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/Maricar/.spyder-py3/temp.py', wdir='C:/Users/Maricar/.spyder-py3')

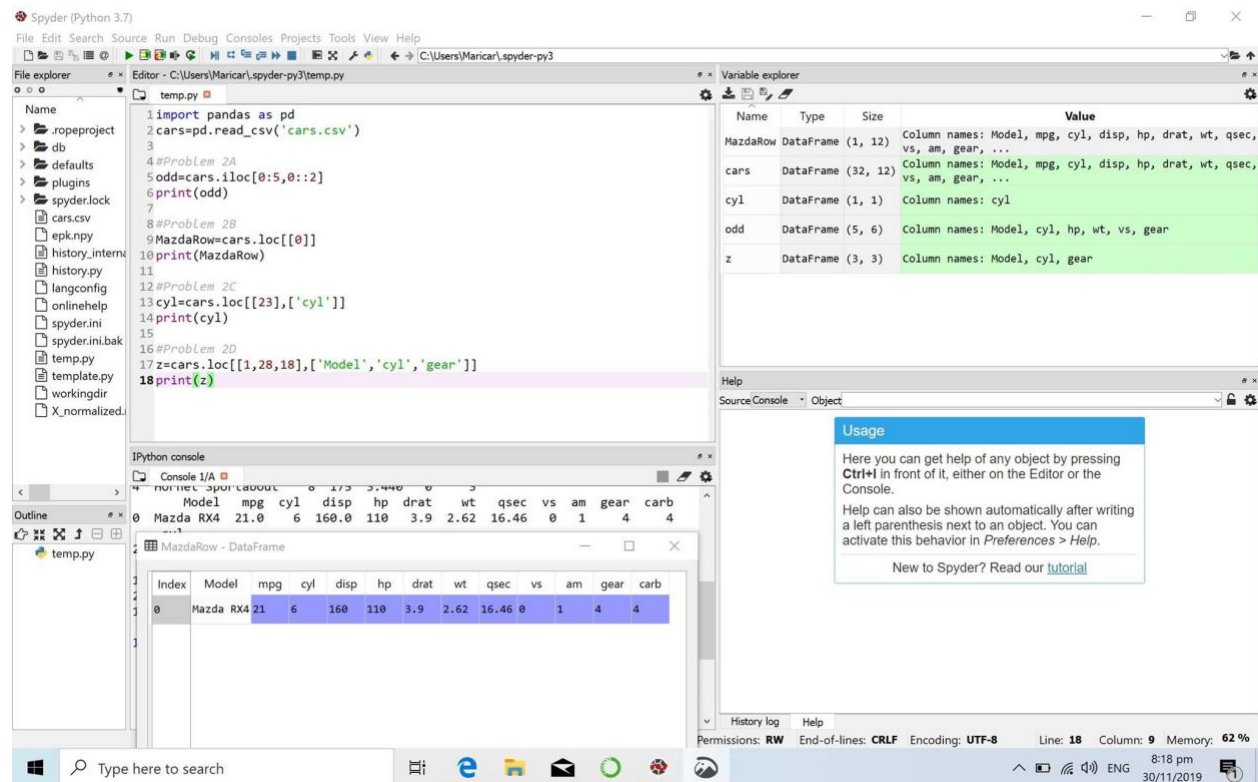
In [2]: runfile('C:/Users/Maricar/.spyder-py3/temp.py', wdir='C:/Users/Maricar/.spyder-py3')

0      Model  cyl  hp  wt  vs  gear
0  Mazda RX4    6  110  2.620  0    4
1  Mazda RX4 Wag    6  110  2.875  0    4
2    Datsun 710    4   93  2.320  1    4
3  Hornet 4 Drive    6  110  3.215  1    3
4  Hornet Sportabout    8  175  3.440  0    3
```

Table view of 'odd' DataFrame:

Index	Model	cyl	hp	wt	vs	gear
0	Mazda RX4	6	110	2.62	0	4
1	Mazda RX4 Wag	6	110	2.875	0	4
2	Datsun 710	4	93	2.32	1	4
3	Hornet 4 Drive	6	110	3.215	1	3
4	Hornet Sportabout	8	175	3.44	0	3

PROBLEM 2B



Spyder (Python 3.7)

File Edit Search Source Run Debug Consoles Projects Tools View Help

File explorer: C:\Users\Maricar\spyder-py3

temp.py

```
1 import pandas as pd
2 cars=pd.read_csv('cars.csv')
3
4 #Problem 2A
5 odd=cars.iloc[0:5,0::2]
6 print(odd)
7
8 #Problem 2B
9 MazdaRow=cars.loc[[0]]
10 print(MazdaRow)
11
12 #Problem 2C
13 cyl=cars.loc[[23],['cyl']]
14 print(cyl)
15
16 #Problem 2D
17 z=cars.loc[[1,28,18],['Model','cyl','gear']]
18 print(z)
```

Variable explorer

Name	Type	Size	Value
MazdaRow	DataFrame	(1, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cars	DataFrame	(32, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cyl	DataFrame	(1, 1)	Column names: cyl
odd	DataFrame	(5, 6)	Column names: Model, cyl, hp, wt, vs, gear
z	DataFrame	(3, 3)	Column names: Model, cyl, gear

IPython console

```
Console I/A
Model mpg cyl disp hp drat wt qsec vs am gear carb
0 Mazda RX4 21.0 6 160.0 110 3.9 2.62 16.46 0 1 4 4
```

MazdaRow - DataFrame

Index	Model	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
0	Mazda RX4	21.0	6	160.0	110	3.9	2.62	16.46	0	1	4	4

Help

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

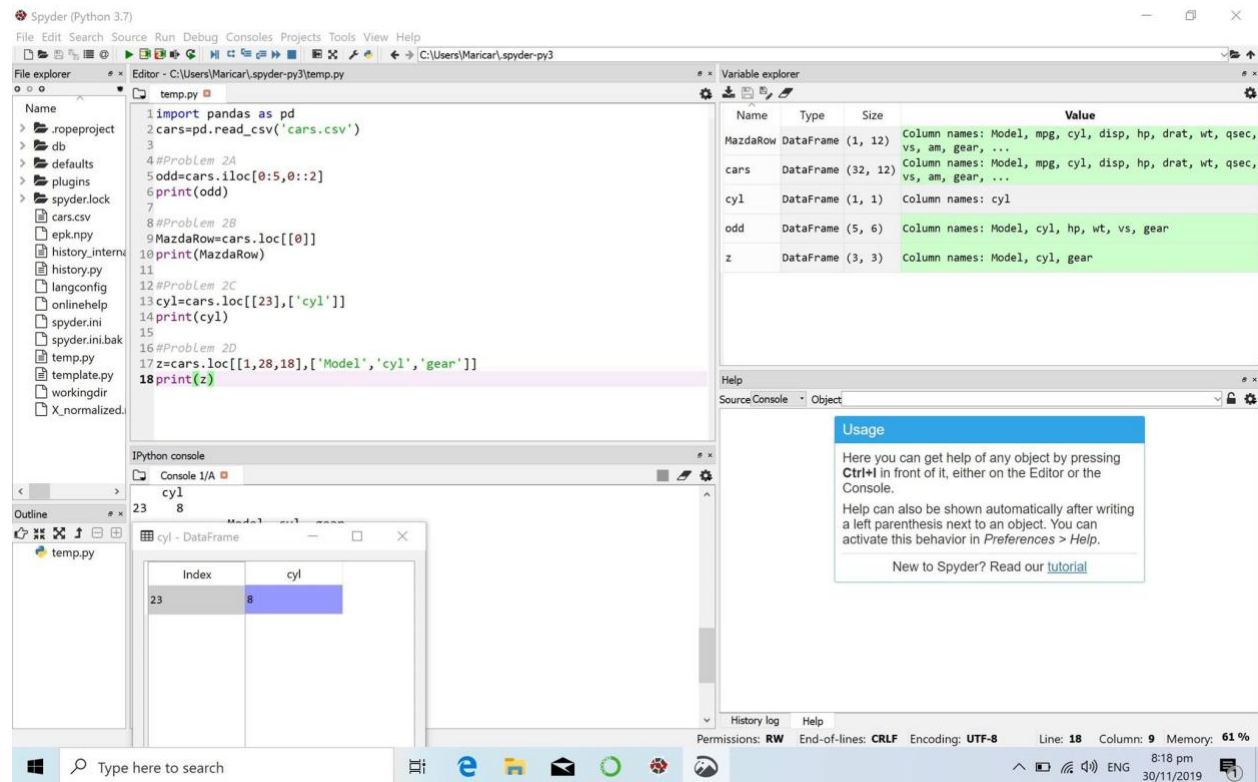
Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in **Preferences > Help**.

New to Spyder? Read our [tutorial](#)

Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 18 Column: 9 Memory: 62 %

8:18 pm 30/11/2019

PROBLEM 2C



Spyder (Python 3.7)

File Edit Search Source Run Debug Consoles Projects Tools View Help

File explorer: C:\Users\Maricar\spyder-py3

temp.py

```
1 import pandas as pd
2 cars=pd.read_csv('cars.csv')
3
4 #Problem 2A
5 odd=cars.iloc[0:5,0::2]
6 print(odd)
7
8 #Problem 2B
9 MazdaRow=cars.loc[[0]]
10 print(MazdaRow)
11
12 #Problem 2C
13 cyl=cars.loc[[23],['cyl']]
14 print(cyl)
15
16 #Problem 2D
17 z=cars.loc[[1,28,18],['Model','cyl','gear']]
18 print(z)
```

Variable explorer

Name	Type	Size	Value
MazdaRow	DataFrame	(1, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cars	DataFrame	(32, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cyl	DataFrame	(1, 1)	Column names: cyl
odd	DataFrame	(5, 6)	Column names: Model, cyl, hp, wt, vs, gear
z	DataFrame	(3, 3)	Column names: Model, cyl, gear

IPython console

```
Console I/A
cyl
23 8
```

cyl - DataFrame

Index	cyl
23	8

Help

Usage

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Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 18 Column: 9 Memory: 61 %

8:18 pm 30/11/2019

PROBLEM 2D

Spyder (Python 3.7)

File Edit Search Source Run Debug Consoles Projects Tools View Help

File explorer: C:\Users\Maricar\spyder-py3

temp.py

```
1 import pandas as pd
2 cars=pd.read_csv('cars.csv')
3
4 #Problem 2A
5 odd=cars.iloc[0:5,0:2]
6 print(odd)
7
8 #Problem 2B
9 MazdaRow=cars.loc[[0]]
10 print(MazdaRow)
11
12 #Problem 2C
13 cyl=cars.loc[[23],['cyl']]
14 print(cyl)
15
16 #Problem 2D
17 z=cars.loc[[1,28,18],['Model','cyl','gear']]
18 print(z)
```

Variable explorer

Name	Type	Size	Value
MazdaRow	DataFrame	(1, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cars	DataFrame	(32, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
cyl	DataFrame	(1, 1)	Column names: cyl
odd	DataFrame	(5, 6)	Column names: Model, cyl, hp, wt, vs, gear
z	DataFrame	(3, 3)	Column names: Model, cyl, gear

Help

Source/Console - Object

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

New to Spyder? Read our [tutorial](#)

IPython console

Console 1/A

```
1 Mazda RX4 Wag      6  4
28 Ford Pantera L    8  5
18 Honda Civic       4  4
```

In [4]:

z - DataFrame

Index	Model	cyl	gear
1	Mazda RX4 Wag	6	4
28	Ford Pantera L	8	5
18	Honda Civic	4	4

Format Resize Back Colour e and Close

History log Help

Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 18 Column: 9 Memory: 60 %

Type here to search

8:19 pm 30/11/2019