

Problem 1:

The screenshot shows the Spyder Python IDE interface. The main window displays a DataFrame titled 'B - DataFrame' with the following data:

Index	Model	mpg	cyl	displacement	horsepower
0	Mazda RX4	21	6	160	110
1	Mazda RX4 Wag	21	6	160	110
2	Datsun 710	22.8	4	108	93
3	Hornet 4 Drive	21.4	6	258	110
4	Hornet Sportabout	18.7	8	360	175
27	Lotus Europa	30.4	4	95.1	113
28	Ford Pantera L	15.8	8	351	264
29	Ferrari Dino	19.7	6	145	175
30	Maserati Bora	15	8	301	335
31	Volvo 142E	21.4	4	121	109

The left pane shows the code editor with the following code:

```
1 import pandas as pd
2 A = pd.read_csv('cars.csv')
3 B = A.loc[[0,1,2,3,4]]
4
```

The right pane shows the IPython console with the following output:

```
b = A[['2']]
b = A[['2']]

## ---(Mon Nov 25 21:40:17 2019)---
runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
```

Problem 2:

a.

The screenshot shows the Spyder Python IDE interface. The main window displays a DataFrame titled 'C - DataFrame' with the following data:

Index	Model	cyl	hp	wt	vs
0	Mazda RX4	6	110	2.62	0
1	Mazda RX4 Wag	6	110	2.875	0
2	Datsun 710	4	93	2.32	1
3	Hornet 4 Drive	6	110	3.215	1
4	Hornet Sportabout	8	175	3.44	0
5	Valiant	6	105	3.46	1
6	Duster 360	8	245	3.57	0
7	Merc 240D	4	62	3.19	1
8	Merc 230	4	95	3.15	1
9	Merc 280	6	123	3.44	1
10	Merc 280C	6	123	3.44	1
11	Merc 450SE	8	180	4.07	0
12	Merc 450SL	8	180	3.73	0
13	Merc 450SLC	8	180	3.78	0

The left pane shows the code editor with the following code:

```
1 import pandas as pd
2 A = pd.read_csv('cars.csv')
3 B = A.loc[[0,1,2,3,4]]
4 C = A.ix[:,1:2]
5
```

The right pane shows the IPython console with the following output:

```
debugfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
```

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
5	Valiant	6	105	3.46	1	3
6	Duster 360	8	245	3.57	0	3
7	Merc 240D	4	62	3.19	1	4
8	Merc 230	4	95	3.15	1	4
9	Merc 280	6	123	3.44	1	4
10	Merc 280C	6	123	3.44	1	4
11	Merc 450SE	8	180	4.07	0	3
12	Merc 450SL	8	180	3.73	0	3
13	Merc 450SLC	8	180	3.78	0	3
14	Cadillac Fleetwood	8	205	5.25	0	3
15	Lincoln Continental	8	215	5.424	0	3
16	Chrysler Imperial	8	230	5.345	0	3
17	Fiat 128	4	66	2.2	1	4
18	Honda Civic	4	52	1.615	1	4
19	Toyota Corolla	4	65	1.835	1	4
20	Toyota Corona	4	97	2.465	1	3

b.

Spyder (Python 3.7)

File Edit Search Source Run Debug Consoles Projects Tools View Help

Project explorer

Editor - D:\Fia\Anaconda\experiments\pandas.py

```

1 import pandas as pd
2 A = pd.read_csv('cars.csv')
3 B = A.loc[[0,1,2,3,4,27,28,29,30,31],:]
4 C = A.iloc[:,1:2]
5 D = A[A['Model'].str.contains('Mazda RX4')]

```

Console 1/A

Removing all variables...

In [89]: runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')

D - 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

Variable explorer

File explorer

History log

```

history.py
experiments'
%clear
runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')

```

Permissions: RW End-of-lines: CRLF Encoding: ASCII Line: 5 Column: 44 Memory: 82 %

8:55 PM 11/26/2019

C.

The screenshot shows the Spyder Python IDE interface. The editor window displays a pandas DataFrame with the following data:

Index	Model	cyl
23	Camaro Z28	8

The Variable explorer on the right shows the following variables:

Name	Type	Size	Value
A	DataFrame	(32, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
B	DataFrame	(10, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
C	DataFrame	(32, 6)	Column names: Model, cyl, hp, wt, vs, gear
D	DataFrame	(2, 12)	Column names: Model, mpg, cyl, disp, hp, drat, wt, qsec, vs, am, gear, ...
E	DataFrame	(1, 2)	Column names: Model, cyl

The console shows the following commands:

```
In [89]: runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
In [90]: runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
In [91]:
```

d.

The screenshot shows the Spyder Python IDE interface. The editor window displays a pandas DataFrame with the following data:

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

The Variable explorer on the right shows the following variables:

Name	Type	Size	Value
A	DataFrame	(32, 12)	Column names: Model, ...
B	DataFrame	(10, 12)	Column names: Model, ...
C	DataFrame	(32, 6)	Column names: Model, cyl, hp, wt, vs, gear
D	DataFrame	(2, 12)	Column names: Model, ...
E	DataFrame	(1, 2)	Column names: Model, cyl
F	DataFrame	(3, 3)	Column names: Model, cyl, gear

The console shows the following commands:

```
In [88]: Removing all variables...
In [88]: runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
In [88]: runfile('D:/Fia/Anaconda/experiments/pandas.py', wdir='D:/Fia/Anaconda/experiments')
```