Assignment_10_01_Completed

July 19, 2020

1 Assignment 01: Draw a Pair Plot Using Seaborn Library

The comments/sections provided are your cues to perform the assignment. You don't need to limit yourself to the number of rows/cells provided. You can add additional rows in each section to add more lines of code.

If at any point in time you need help on solving this assignment, view our demo video to understand the different steps of the code.

Happy coding!

1: View and add the dataset.

[4]:
```
#Import the required library
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

[5]:
```
#View the plot in notebook
%matplotlib inline
```

[6]:
```
#Import the dataset

df_auto_data = pd.read_csv("auto_data.csv")
```

[7]:
```
#View the top 5 reords
df_auto_data.head()
```

[7]:

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year	origin	name
0	18.0	8	307.0	130	3504	12.0	70	1	chevrolet chevelle malibu
1	15.0	8	350.0	165	3693	11.5	70		
2	18.0	8	318.0	150	3436	11.0	70		
3	16.0	8	304.0	150	3433	12.0	70		
4	17.0	8	302.0	140	3449	10.5	70		

```
1       1          buick skylark 320
2       1         plymouth satellite
3       1              amc rebel sst
4       1                ford torino
```

2: Write a user-defined function for origin

[9]:
```
#use apply function
def Replace_Origin(num):
    if num == 1:
        return 'USA'
    elif num == 2:
        return 'Europe'
    elif num == 3:
        return 'Asia'

df_auto_data['origin'] = df_auto_data['origin'].apply(Replace_Origin)

df_auto_data
```

[9]:
```
      mpg  cylinders  displacement horsepower  weight  acceleration  \
0    18.0          8         307.0        130    3504          12.0
1    15.0          8         350.0        165    3693          11.5
2    18.0          8         318.0        150    3436          11.0
3    16.0          8         304.0        150    3433          12.0
4    17.0          8         302.0        140    3449          10.5
..    …          …             …          …      …             …
393  27.0          4         140.0         86    2790          15.6
394  44.0          4          97.0         52    2130          24.6
395  32.0          4         135.0         84    2295          11.6
396  28.0          4         120.0         79    2625          18.6
397  31.0          4         119.0         82    2720          19.4

     model_year  origin                       name
0            70     USA  chevrolet chevelle malibu
1            70     USA          buick skylark 320
2            70     USA         plymouth satellite
3            70     USA              amc rebel sst
4            70     USA                ford torino
..          …     …                          …
393          82     USA            ford mustang gl
394          82  Europe                  vw pickup
395          82     USA              dodge rampage
396          82     USA                ford ranger
```

```
397          82     USA                  chevy s-10

[398 rows x 9 columns]
```

[10]:
```
#view first 30 data points
df_auto_data[0:30]
```

[10]:

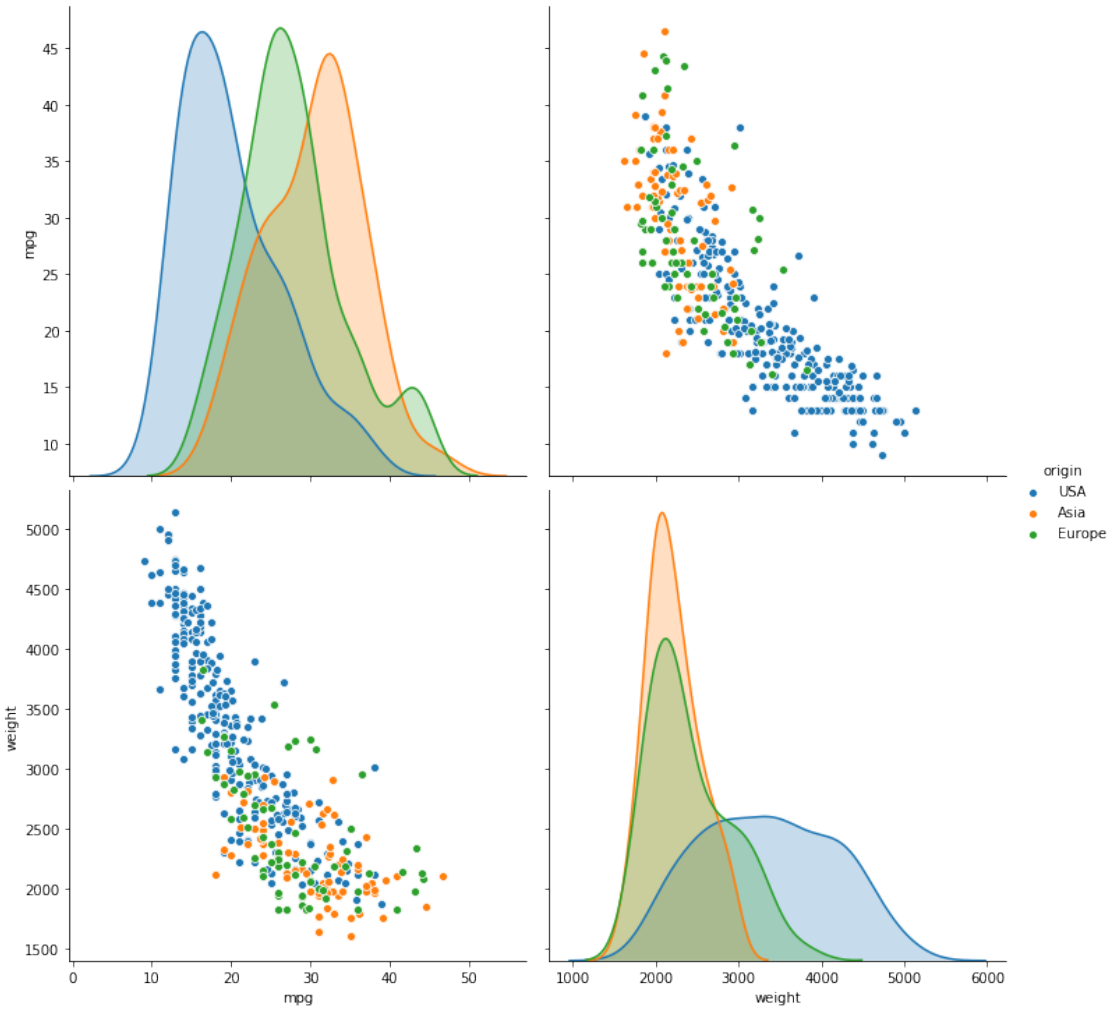
	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year	origin	name
0	18.0	8	307.0	130	3504	12.0	70	USA	chevrolet chevelle malibu
1	15.0	8	350.0	165	3693	11.5	70	USA	buick skylark 320
2	18.0	8	318.0	150	3436	11.0	70	USA	plymouth satellite
3	16.0	8	304.0	150	3433	12.0	70	USA	amc rebel sst
4	17.0	8	302.0	140	3449	10.5	70	USA	ford torino
5	15.0	8	429.0	198	4341	10.0	70	USA	ford galaxie 500
6	14.0	8	454.0	220	4354	9.0	70	USA	chevrolet impala
7	14.0	8	440.0	215	4312	8.5			
8	14.0	8	455.0	225	4425	10.0			
9	15.0	8	390.0	190	3850	8.5			
10	15.0	8	383.0	170	3563	10.0			
11	14.0	8	340.0	160	3609	8.0			
12	15.0	8	400.0	150	3761	9.5			
13	14.0	8	455.0	225	3086	10.0			
14	24.0	4	113.0	95	2372	15.0			
15	22.0	6	198.0	95	2833	15.5			
16	18.0	6	199.0	97	2774	15.5			
17	21.0	6	200.0	85	2587	16.0			
18	27.0	4	97.0	88	2130	14.5			
19	26.0	4	97.0	46	1835	20.5			
20	25.0	4	110.0	87	2672	17.5			
21	24.0	4	107.0	90	2430	14.5			
22	25.0	4	104.0	95	2375	17.5			
23	26.0	4	121.0	113	2234	12.5			
24	21.0	6	199.0	90	2648	15.0			
25	10.0	8	360.0	215	4615	14.0			
26	10.0	8	307.0	200	4376	15.0			
27	11.0	8	318.0	210	4382	13.5			
28	9.0	8	304.0	193	4732	18.5			
29	27.0	4	97.0	88	2130	14.5			

7	70	USA	plymouth fury iii
8	70	USA	pontiac catalina
9	70	USA	amc ambassador dpl
10	70	USA	dodge challenger se
11	70	USA	plymouth 'cuda 340
12	70	USA	chevrolet monte carlo
13	70	USA	buick estate wagon (sw)
14	70	Asia	toyota corona mark ii
15	70	USA	plymouth duster
16	70	USA	amc hornet
17	70	USA	ford maverick
18	70	Asia	datsun pl510
19	70	Europe	volkswagen 1131 deluxe sedan
20	70	Europe	peugeot 504
21	70	Europe	audi 100 ls
22	70	Europe	saab 99e
23	70	Europe	bmw 2002
24	70	USA	amc gremlin
25	70	USA	ford f250
26	70	USA	chevy c20
27	70	USA	dodge d200
28	70	USA	hi 1200d
29	71	Asia	datsun pl510

3: Draw the pair plot using sns for mpg, weight,orign and with hue origin, set the size to 4

[14]:
```
sns.pairplot(df_auto_data[['mpg','weight','origin']], hue = 'origin', height= 5)
```

[14]:
```
<seaborn.axisgrid.PairGrid at 0x7fd9f83600d0>
```


mpg
weight
origin
USA
Asia
Europe