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!

Draw a pair plot using seaborn library

DESCRIPTION

Problem:

Analyze the "auto mpg data" and draw a pair plot using seaborn library for mpg, weight, and origin.

Sources:

(a) Origin: This dataset was taken from the StatLib library maintained at Carnegie Mellon University.

- Number of Instances: 398
- Number of Attributes: 9 including the class attribute
- Attribute Information:
  - mpg: continuous
  - cylinders: multi-valued discrete
  - displacement: continuous
  - horsepower: continuous
  - weight: continuous
  - acceleration: continuous
  - model year: multi-valued discrete
  - origin: multi-valued discrete
  - car name: string (unique for each instance)

In [1]:
```
#import required libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:
```
#to view the plot in notebook
%matplotlib inline
```

In [3]:
```
#importing the auto dataset
df_auto_dataset = pd.read_csv('D:\\NIPUN_SC_REC\\3_Practice_Project\\Course_5_Data Science with Python\\Practic
```

In [4]:
```
#view the top 5 records
df_auto_dataset.head()
```

Out[4]:

	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	1	buick skylark 320
2	18.0	8	318.0	150	3436	11.0	70	1	plymouth satellite
3	16.0	8	304.0	150	3433	12.0	70	1	amc rebel sst
4	17.0	8	302.0	140	3449	10.5	70	1	ford torino

In [5]:
```
#write a user defined function for origin
#1-USA, 2-Europe, 3-Asia
def origin(num):
    if num==1:
        return 'USA'
    elif num==2:
        return 'Europe'
    else:
        return 'Asia'

#use apply function
df_auto_dataset['origin']=df_auto_dataset['origin'].apply(origin)
```

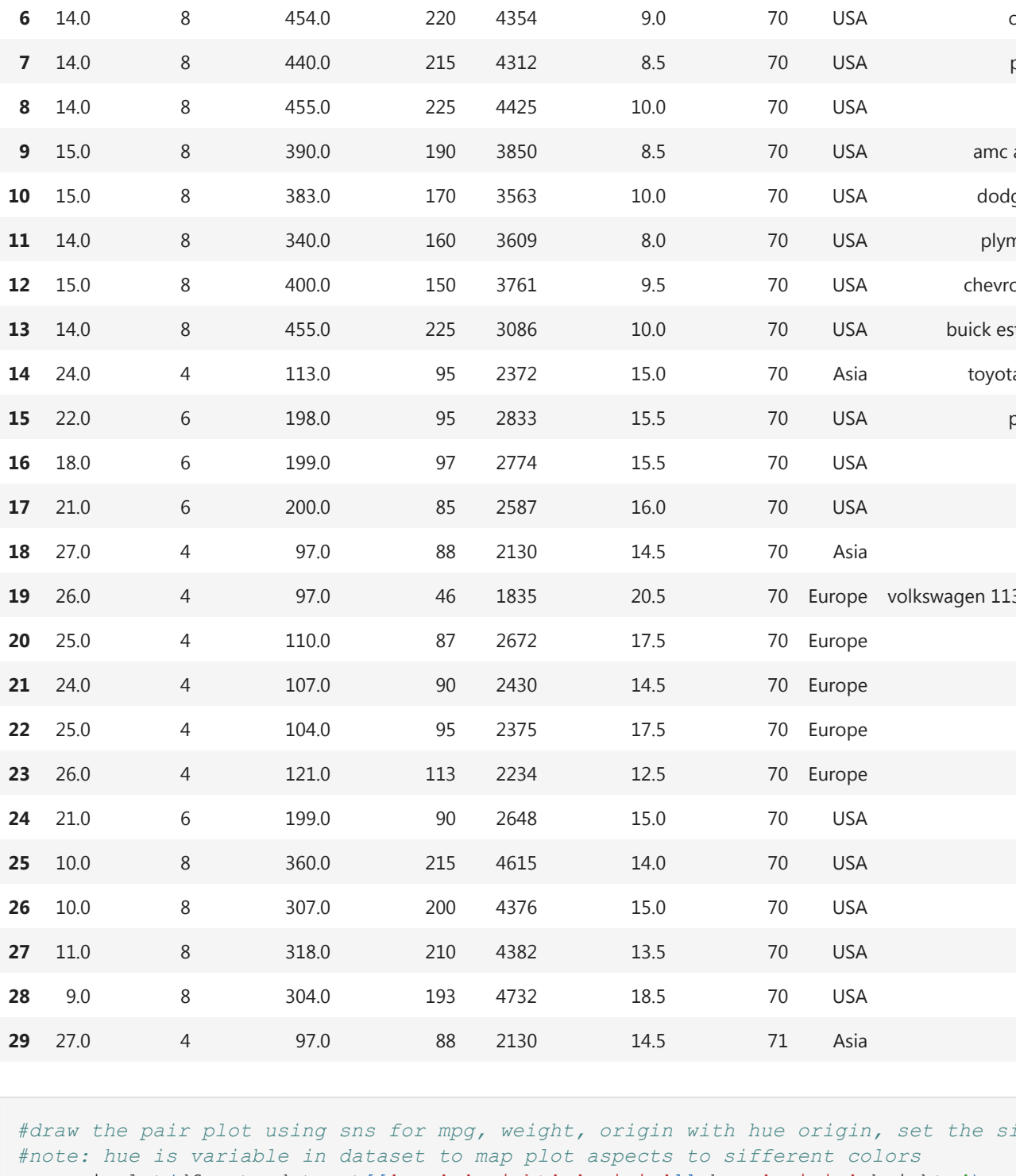
In [6]:
```
#view first 30 data points after applying the user defined function to dataset
df_auto_dataset.head(30)
```

Out[6]:

	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	70	USA	plymouth fury iii
8	14.0	8	455.0	225	4425	10.0	70	USA	pontiac catalina
9	15.0	8	390.0	190	3850	8.5	70	USA	amc ambassador dpl
10	15.0	8	383.0	170	3563	10.0	70	USA	dodge challenger se
11	14.0	8	340.0	160	3609	8.0	70	USA	plymouth 'cuda 340
12	15.0	8	400.0	150	3761	9.5	70	USA	chevrolet monte carlo
13	14.0	8	455.0	225	3086	10.0	70	USA	buick estate wagon (sw)
14	24.0	4	113.0	95	2372	15.0	70	Asia	toyota corona mark ii
15	22.0	6	198.0	95	2833	15.5	70	USA	plymouth duster
16	18.0	6	199.0	97	2774	15.5	70	USA	amc hornet
17	21.0	6	200.0	85	2587	16.0	70	USA	ford maverick
18	27.0	4	97.0	88	2130	14.5	70	Asia	datsun pl510
19	26.0	4	97.0	46	1835	20.5	70	Europe	volkswagen 1131 deluxe sedan
20	25.0	4	110.0	87	2672	17.5	70	Europe	peugeot 504
21	24.0	4	107.0	90	2430	14.5	70	Europe	audi 100 ls
22	25.0	4	104.0	95	2375	17.5	70	Europe	saab 99e
23	26.0	4	121.0	113	2234	12.5	70	Europe	bmw 2002
24	21.0	6	199.0	90	2648	15.0	70	USA	amc gremlin
25	10.0	8	360.0	215	4615	14.0	70	USA	ford f250
26	10.0	8	307.0	200	4376	15.0	70	USA	chevy c20
27	11.0	8	318.0	210	4382	13.5	70	USA	dodge d200
28	9.0	8	304.0	193	4732	18.5	70	USA	hi 1200d
29	27.0	4	97.0	88	2130	14.5	71	Asia	datsun pl510

In [7]:
```
#draw the pair plot using sns for mpg, weight, origin with hue origin, set the size to 4
#note: hue is variable in dataset to map plot aspects to sifferent colors
sns.pairplot(df_auto_dataset[['mpg','weight','origin']],hue='origin',height=4)
```

Out[7]: <seaborn.axisgrid.PairGrid at 0x117e4718>



In [ ]:
```

```