In [15]:
```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
sns.set(color_codes=True)
%matplotlib inline
```

In [7]:
```python
auto = pd.read_csv("Automobile.csv")
```

In [8]:
```python
auto.head()
```

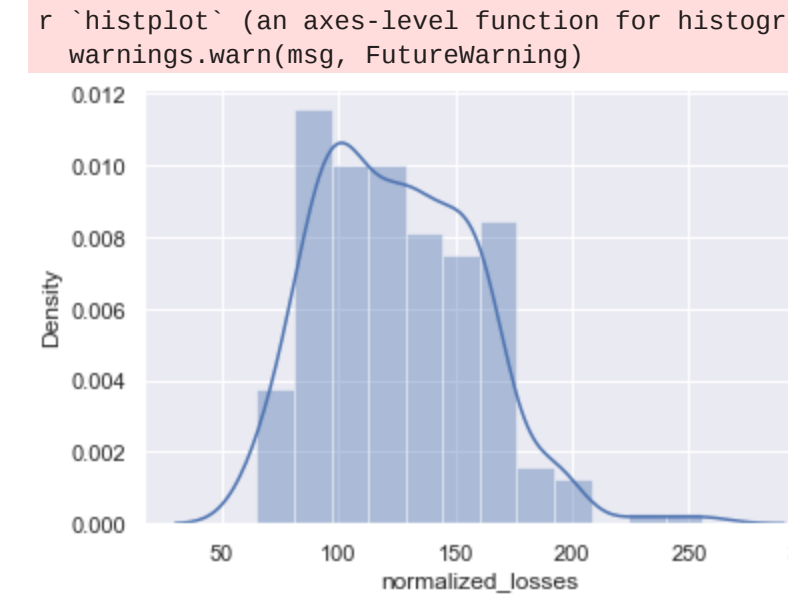
Out[8]:

	symboling	normalized_losses	make	fuel_type	aspiration	number_of_doors	body_style	drive_wheels	engine_location	wheel_base	...	engine_size	fuel_system	bore	stroke
0	3	168	alfa-romero	gas	std	two	convertible	rwd	front	88.6	...	130	mpfi	3.47	2.68
1	3	168	alfa-romero	gas	std	two	convertible	rwd	front	88.6	...	130	mpfi	3.47	2.68
2	1	168	alfa-romero	gas	std	two	hatchback	rwd	front	94.5	...	152	mpfi	2.68	3.47
3	2	164	audi	gas	std	four	sedan	fwd	front	99.8	...	109	mpfi	3.19	3.40
4	2	164	audi	gas	std	four	sedan	4wd	front	99.4	...	136	mpfi	3.19	3.40

5 rows × 26 columns

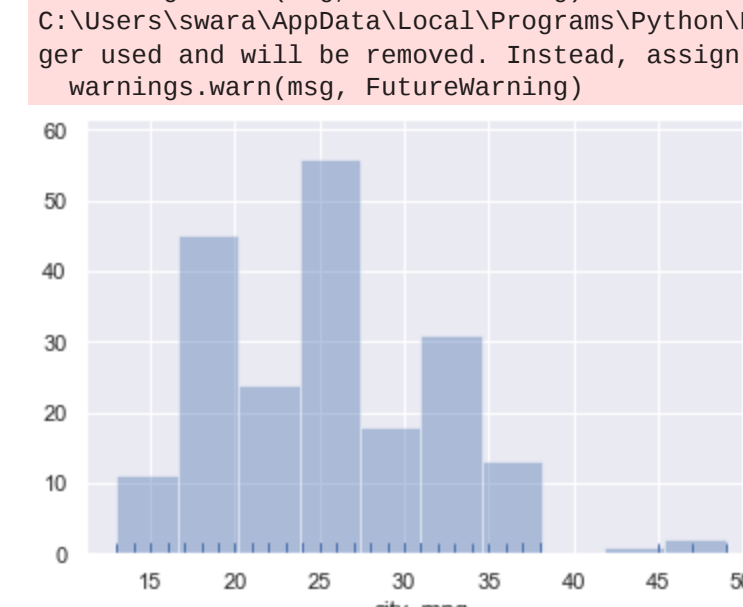
In [11]:
```python
#Histogram(Univariant distribution)
sns.distplot(auto["normalized_losses"])
plt.show()
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated fu
nction and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) o
r `histplot` (an axes-level function for histograms).
  warnings.warn(msg, FutureWarning)
```



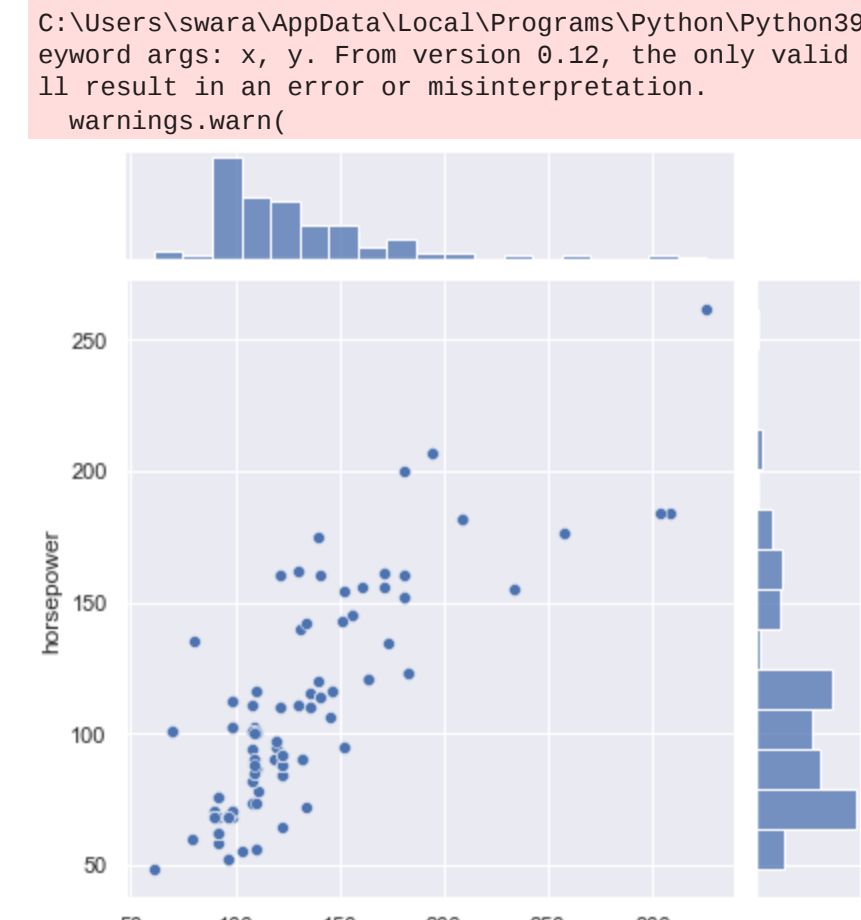
In [12]:
```python
sns.distplot(auto["city_mpg"],kde=False,rug=True)
plt.show()
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated fu
nction and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) o
r `histplot` (an axes-level function for histograms).
  warnings.warn(msg, FutureWarning)
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\distributions.py:2103: FutureWarning: The `axis` variable is no lon
ger used and will be removed. Instead, assign variables directly to `x` or `y`.
  warnings.warn(msg, FutureWarning)
```



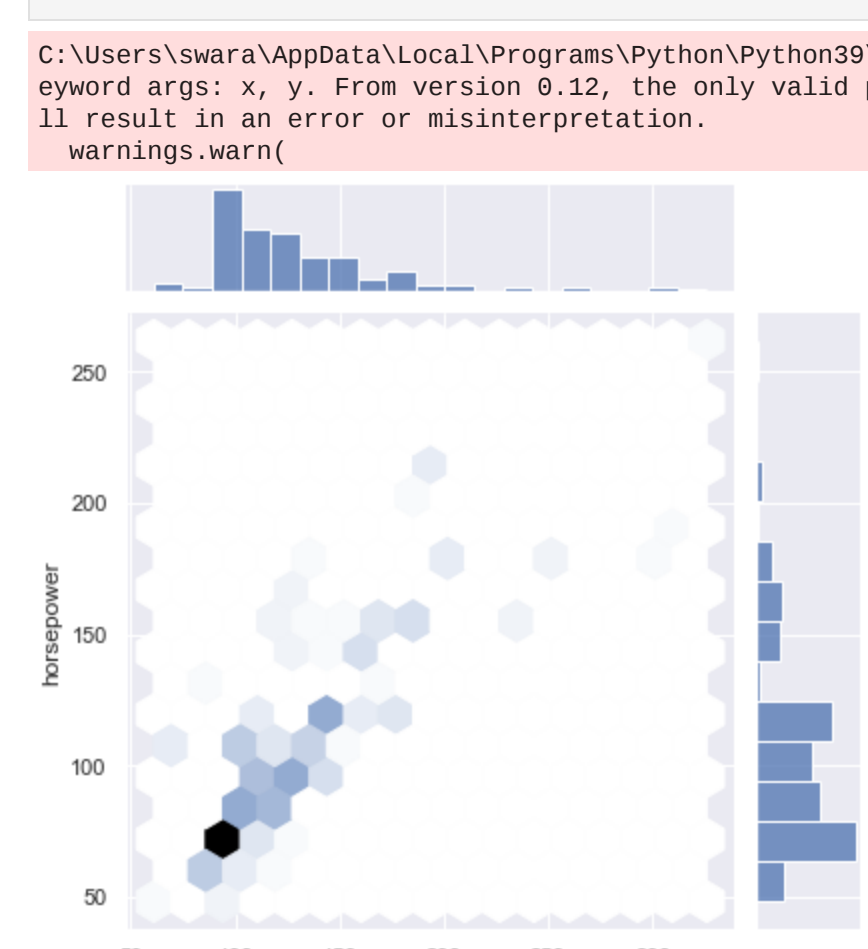
In [13]:
```python
#Jointplot(Bivariant distribution)
sns.jointplot(auto["engine_size"],auto["horsepower"])
plt.show()
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```



In [14]:
```python
#kind={"scatter"/"reg"/"resid"/"kde"/"hex"}optional
sns.jointplot(auto["engine_size"],auto["horsepower"],kind='hex')
plt.show()
```

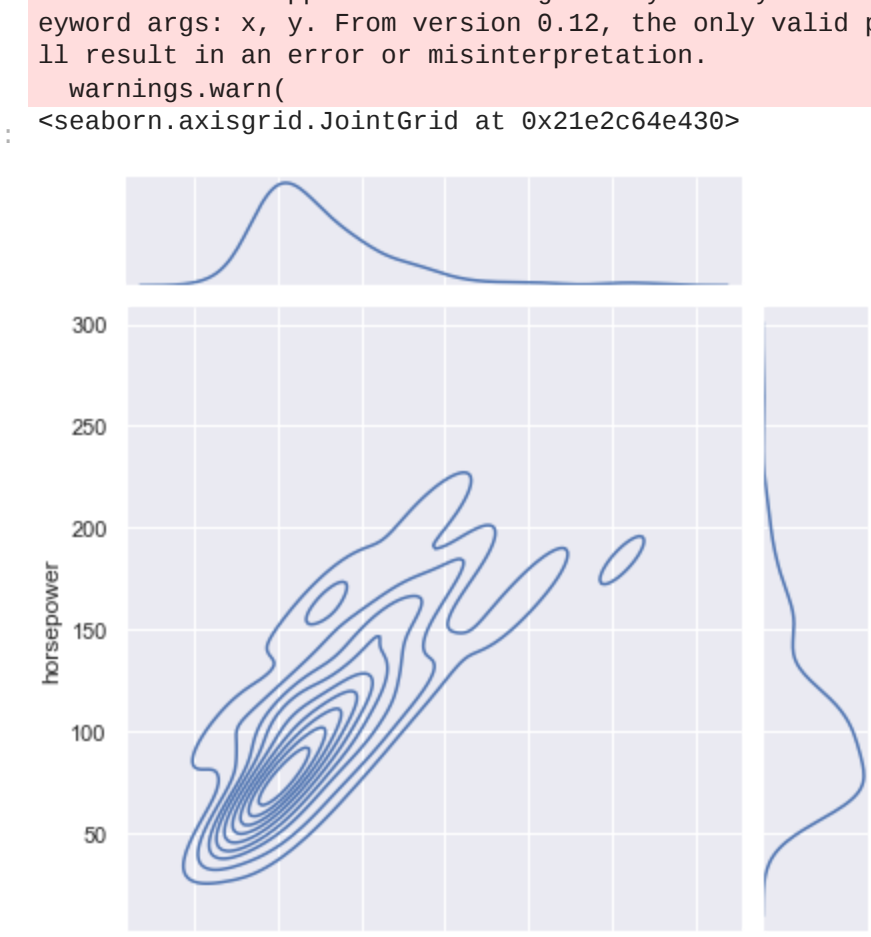
```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```



In [22]:
```python
sns.jointplot(auto['engine_size'], auto['horsepower'], kind="kde")
```

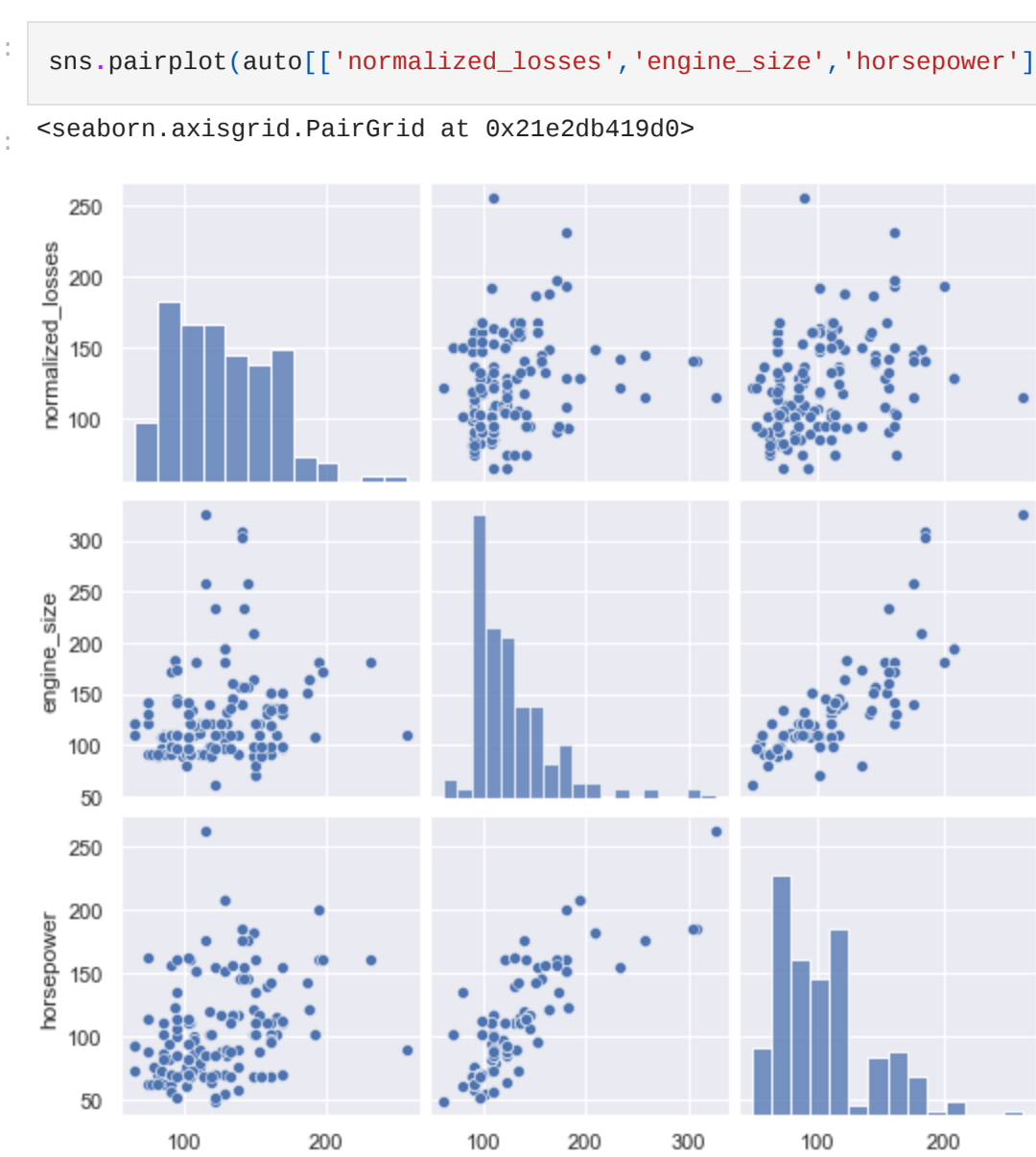
```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

Out[22]:
```
<seaborn.axisgrid.JointGrid at 0x21e2c64e430>
```



In [26]:
```python
sns.pairplot(auto[['normalized_losses','engine_size','horsepower']])
```

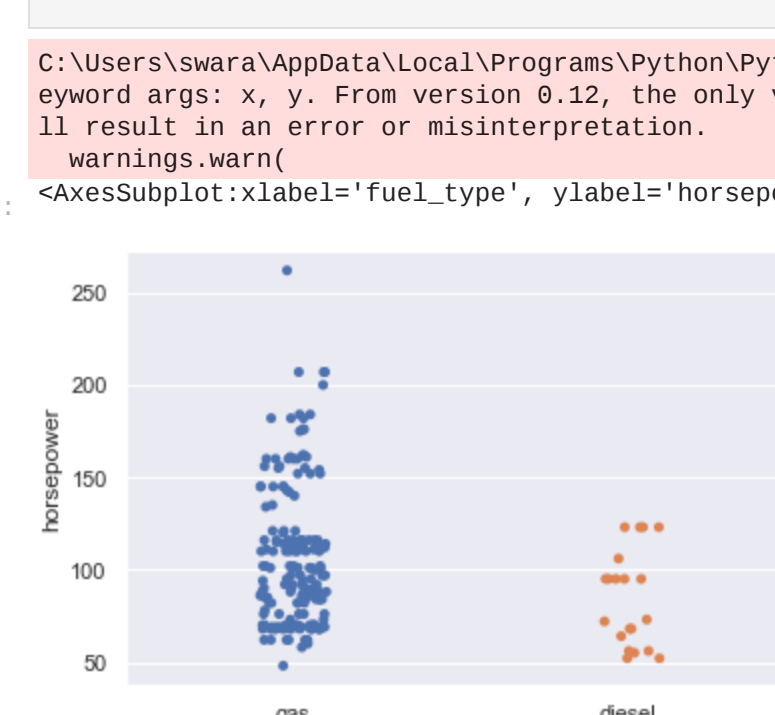
Out[26]:
```
<seaborn.axisgrid.PairGrid at 0x21e2db419d0>
```



In [30]:
```python
#Stripplot(categorical vs continuous)
sns.stripplot(auto['fuel_type'],auto['horsepower'],jitter=True)
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

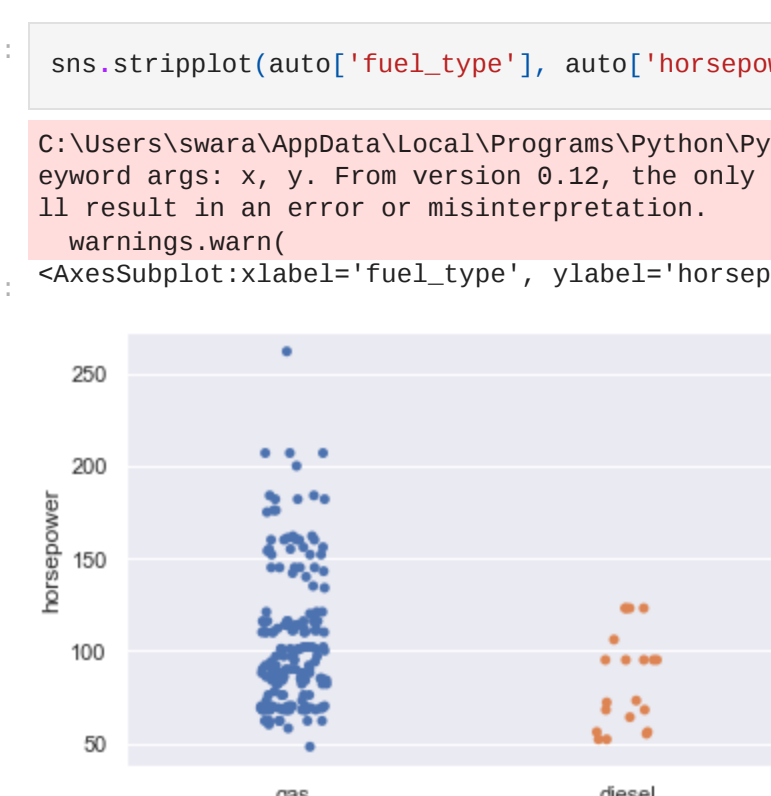
Out[30]:
```
<AxesSubplot:xlabel='fuel_type', ylabel='horsepower'>
```



In [31]:
```python
sns.stripplot(auto['fuel_type'], auto['horsepower'])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

Out[31]:
```
<AxesSubplot:xlabel='fuel_type', ylabel='horsepower'>
```



In [33]:
```python
sns.swarmplot(auto['fuel_type'], auto['horsepower'])
```

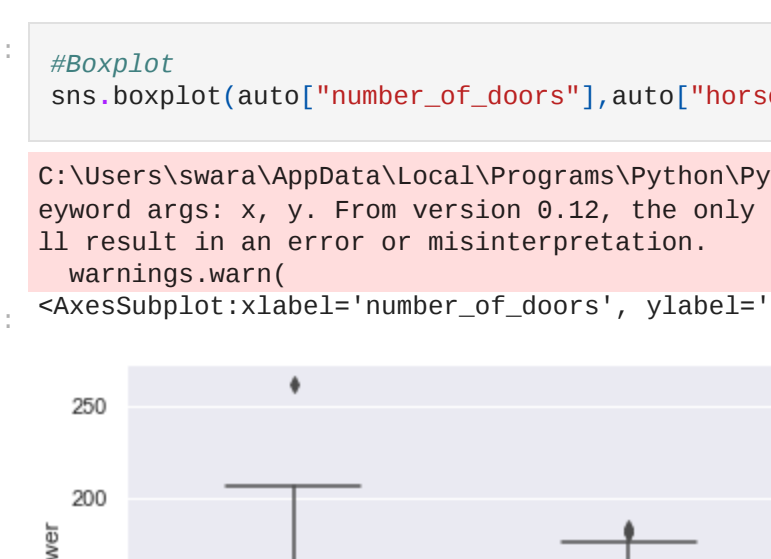
```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\categorical.py:1296: UserWarning: 6.1% of the points cannot be plac
ed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

Out[33]:
```
<AxesSubplot:xlabel='fuel_type', ylabel='horsepower'>
```

In [34]:
```python
#Boxplot
sns.boxplot(auto["number_of_doors"],auto["horsepower"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

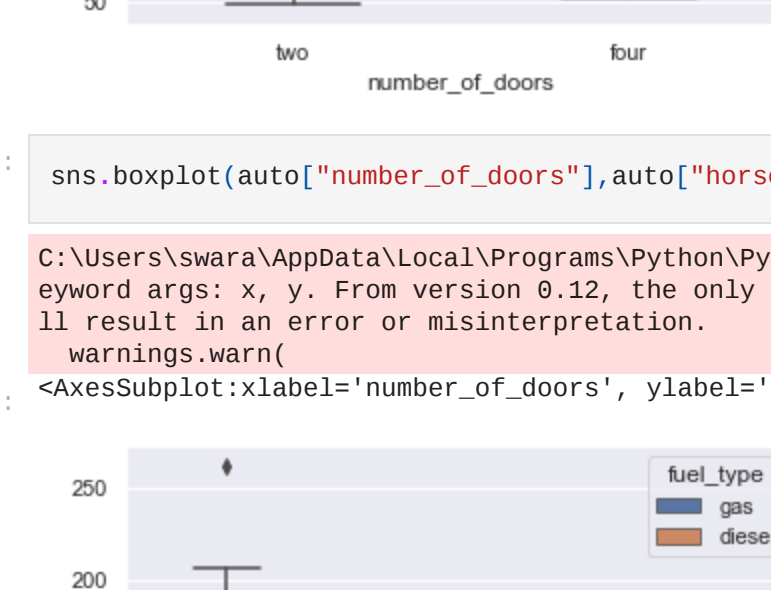
Out[34]:
```
<AxesSubplot:xlabel='number_of_doors', ylabel='horsepower'>
```



In [35]:
```python
sns.boxplot(auto["number_of_doors"],auto["horsepower"],hue=auto["fuel_type"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

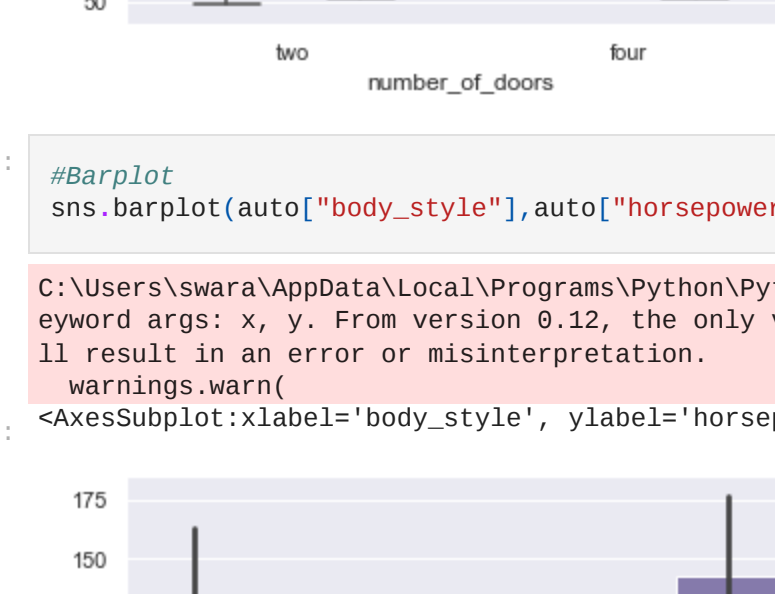
Out[35]:
```
<AxesSubplot:xlabel='number_of_doors', ylabel='horsepower'>
```



In [36]:
```python
#Barplot
sns.barplot(auto["body_style"],auto["horsepower"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

Out[36]:
```
<AxesSubplot:xlabel='body_style', ylabel='horsepower'>
```



In [38]:
```python
sns.barplot(auto["body_style"],auto["horsepower"],hue=auto["engine_location"])
```

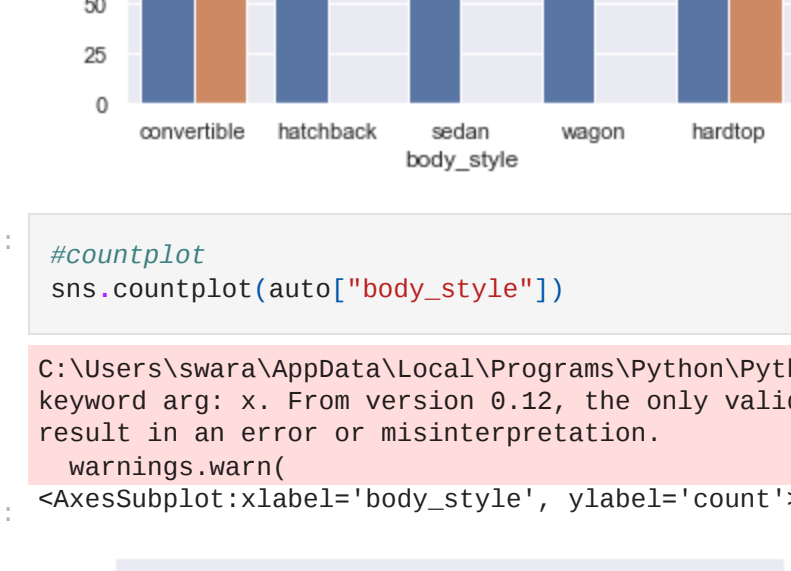
```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

Out[38]:
```
<AxesSubplot:xlabel='body_style', ylabel='horsepower'>
```

In [39]:
```python
#Countplot
sns.countplot(auto["body_style"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variable as a
keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will
result in an error or misinterpretation.
  warnings.warn(
```

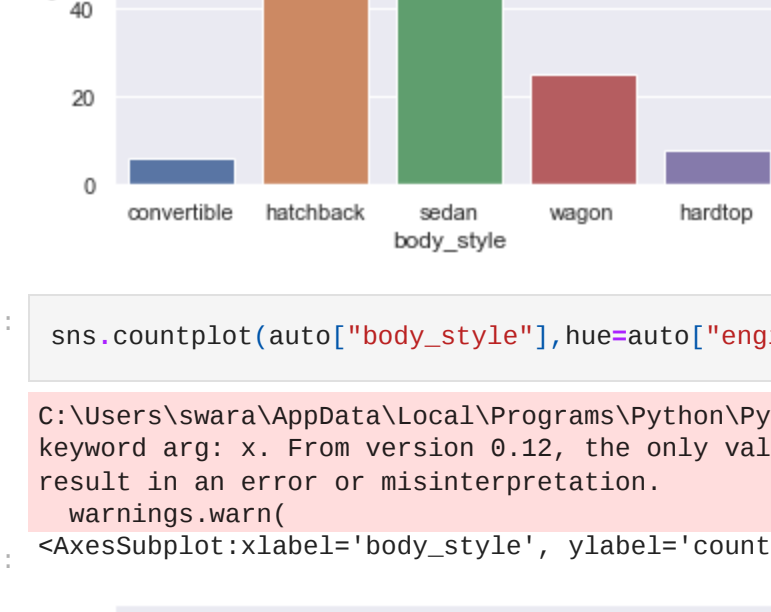
Out[39]:
```
<AxesSubplot:xlabel='body_style', ylabel='count'>
```



In [40]:
```python
sns.countplot(auto["body_style"],hue=auto["engine_location"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variable as a
keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will
result in an error or misinterpretation.
  warnings.warn(
```

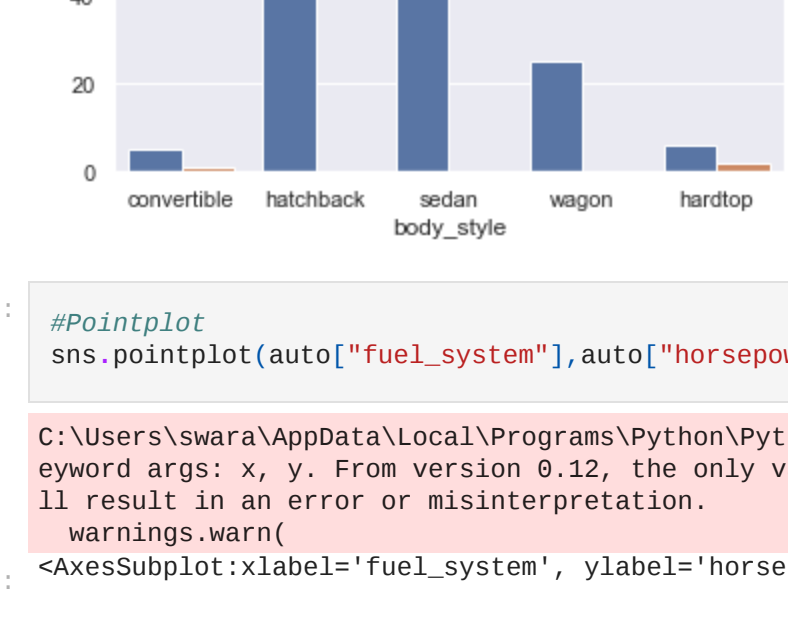
Out[40]:
```
<AxesSubplot:xlabel='body_style', ylabel='count'>
```



In [41]:
```python
#Pointplot
sns.pointplot(auto["fuel_system"],auto["horsepower"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

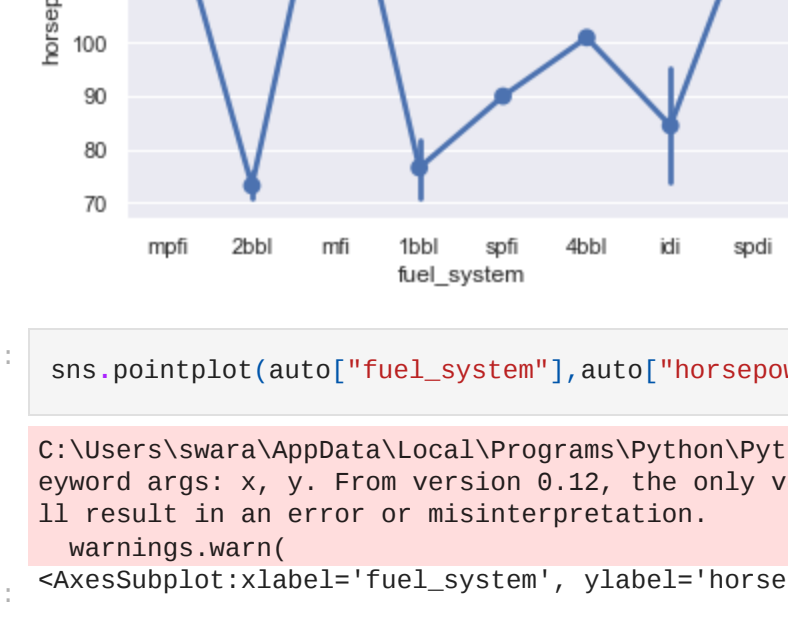
Out[41]:
```
<AxesSubplot:xlabel='fuel_system', ylabel='horsepower'>
```



In [44]:
```python
sns.pointplot(auto["fuel_system"],auto["horsepower"],hue=auto["number_of_doors"])
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as k
eyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword wi
ll result in an error or misinterpretation.
  warnings.warn(
```

Out[44]:
```
<AxesSubplot:xlabel='fuel_system', ylabel='horsepower'>
```



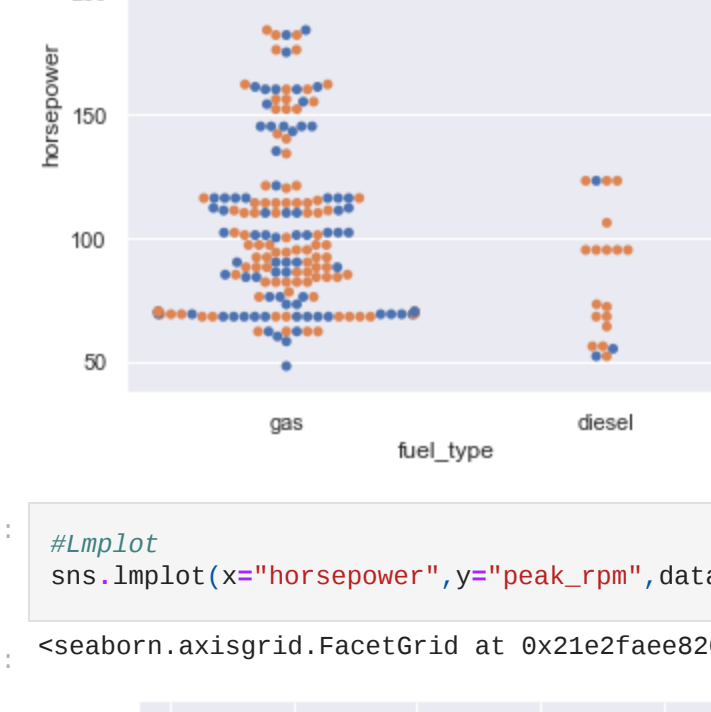
In [45]:
```python
#Factorplot
#various types of kind inputs:(point,bar,count,box,violine,strip)
sns.factorplot(x='fuel_type',
               y='horsepower',
               hue='number_of_doors',
               col='engine_location',
               data=auto,
               kind='swarm')
```

```
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\categorical.py:3717: UserWarning: The `factorplot` function has bee
n renamed to `catplot`. The original name will be removed in a future release. Please update your code. Note that the default `kind` in `factorplot
` (`'point'`) has changed `'strip'` in `catplot`.
  warnings.warn(msg)
C:\Users\swara\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\categorical.py:1296: UserWarning: 6.2% of the points cannot be plac
ed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

Out[45]:
```
<seaborn.axisgrid.FacetGrid at 0x21e2e9b1b50>
```

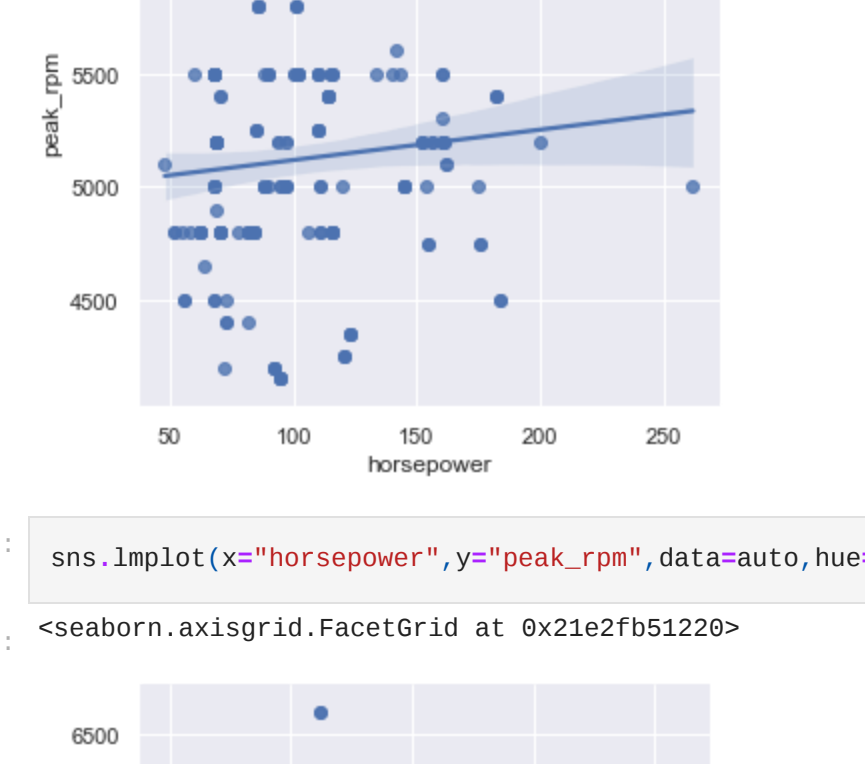
In [46]:
```python
#Lmplot
sns.lmplot(x="horsepower",y="peak_rpm",data=auto)
```

Out[46]:
```
<seaborn.axisgrid.FacetGrid at 0x21e2faee820>
```



In [48]:
```python
sns.lmplot(x="horsepower",y="peak_rpm",data=auto,hue="fuel_type")
```

Out[48]:
```
<seaborn.axisgrid.FacetGrid at 0x21e2fb51220>
```



In [ ]: