In [6]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import os
```

In [8]:

```
os.chdir("C:/Users/MSCIT/Downloads")
cars_data=pd.read_csv("Toyota.csv",index_col=0,na_values=["??","????"])
cars_data.size
```

Out[8]:

```
14360
```

In [30]:

```
cars_data.dropna(axis=0,inplace=True)
cars_data.size
```

Out[30]:

```
10960
```

In [35]:

```
cars_data=pd.read_csv('Toyota.csv',index_col=0)
cars_data.head()
```

Out[35]:

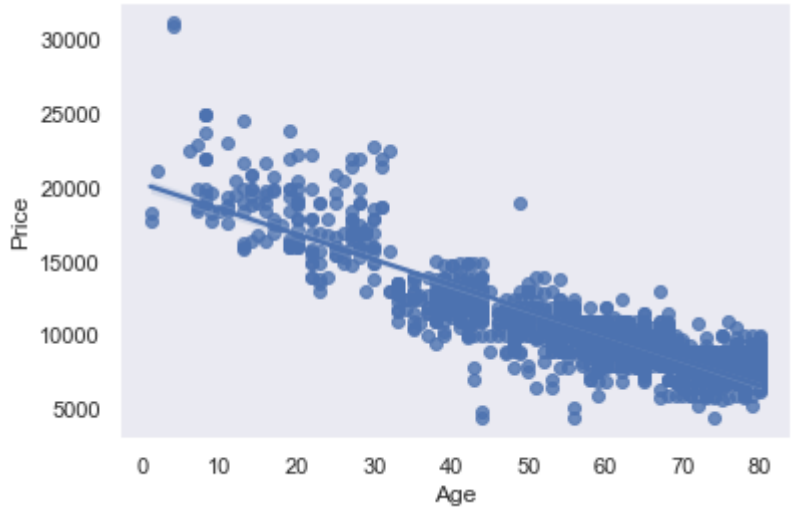
	Price	Age	KM	FuelType	HP	MetColor	Automatic	CC	Doors	Weight
0	13500	23.0	46986	Diesel	90	1.0	0	2000	three	1165
1	13750	23.0	72937	Diesel	90	1.0	0	2000	3	1165
2	13950	24.0	41711	Diesel	90	NaN	0	2000	3	1165
3	14950	26.0	48000	Diesel	90	0.0	0	2000	3	1165
4	13750	30.0	38500	Diesel	90	0.0	0	2000	3	1170

In [10]:

```
sns.set(style="dark")
sns.regplot(x=cars_data['Age'], y=cars_data['Price'])
```

Out[10]:

```
<AxesSubplot:xlabel='Age', ylabel='Price'>
```

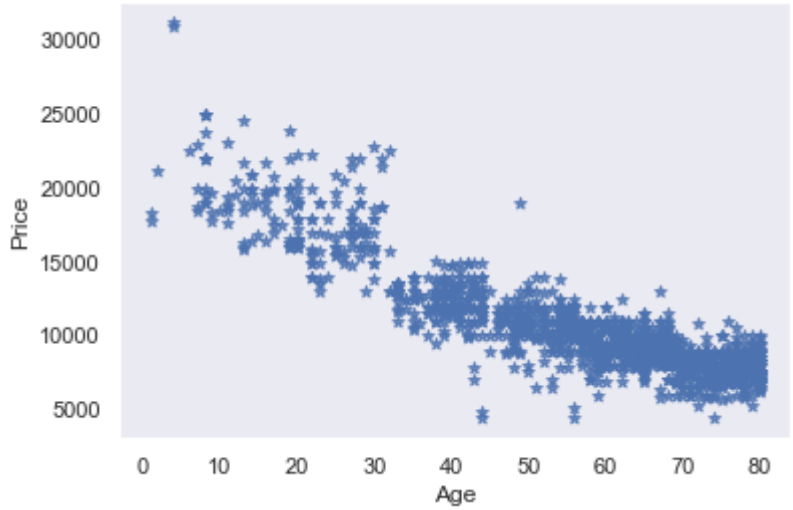


In [50]:

```
sns.regplot(x=cars_data['Age'], y=cars_data['Price'], marker="*", fit_reg=False)
```

Out[50]:

```
<AxesSubplot:xlabel='Age', ylabel='Price'>
```

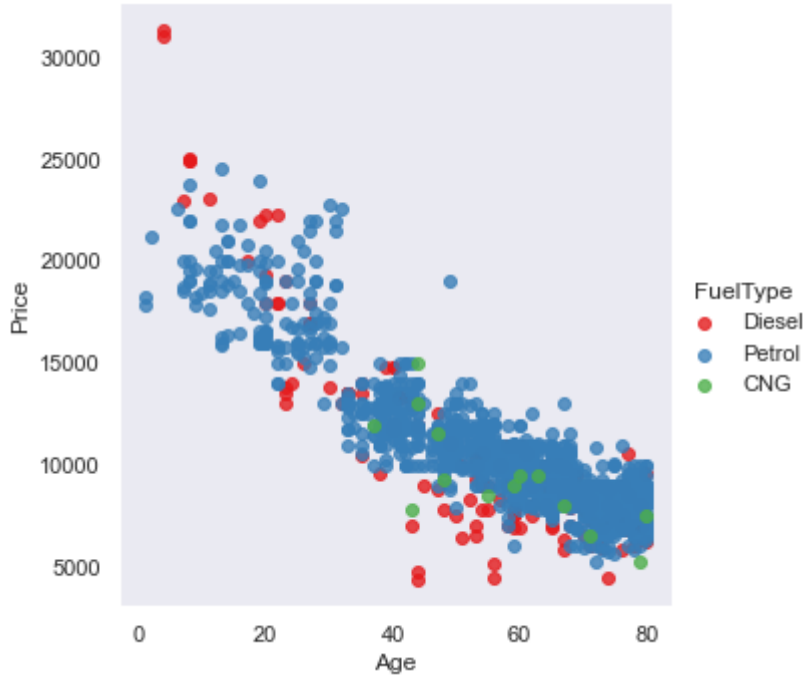


In [21]:

```
sns.lmplot(x='Age', y='Price', data=cars_data, fit_reg=False, hue="FuelType", legend=True,
```

Out[21]:

```
<seaborn.axisgrid.FacetGrid at 0x1d523a6b7f0>
```



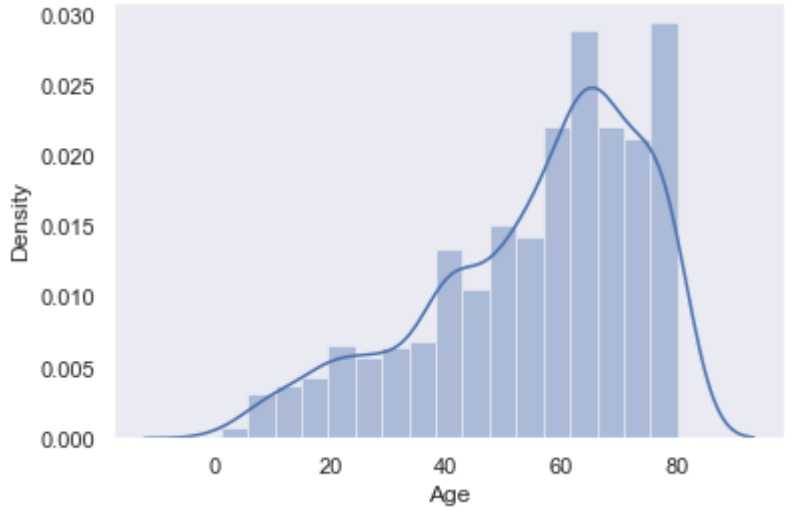
In [16]:

```
sns.distplot(cars_data['Age'])
```

```
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

Out[16]:

```
<AxesSubplot:xlabel='Age', ylabel='Density'>
```



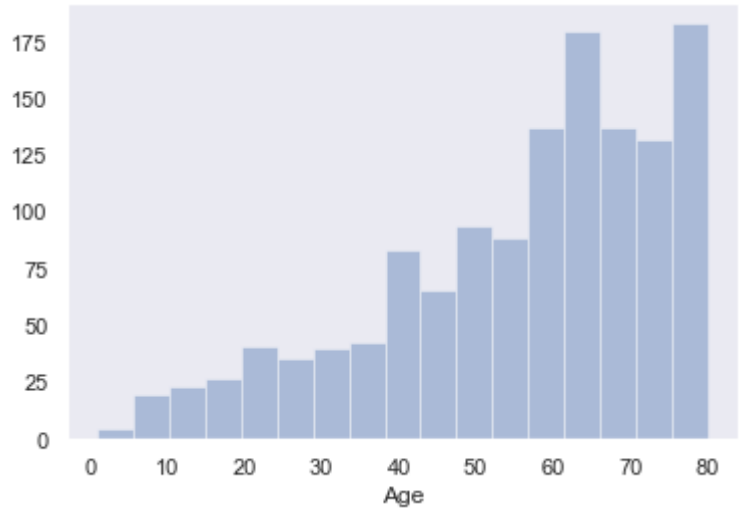
In [17]:

```
sns.distplot(cars_data['Age'],kde=False)
```

```
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

Out[17]:

```
<AxesSubplot:xlabel='Age'>
```

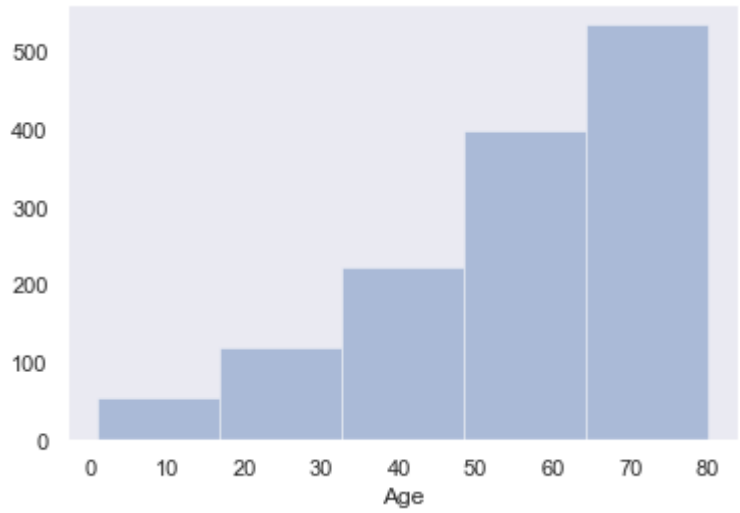


In [18]:

```
sns.distplot(cars_data['Age'],kde=False,bins=5)
```

Out[18]:

```
<AxesSubplot:xlabel='Age'>
```

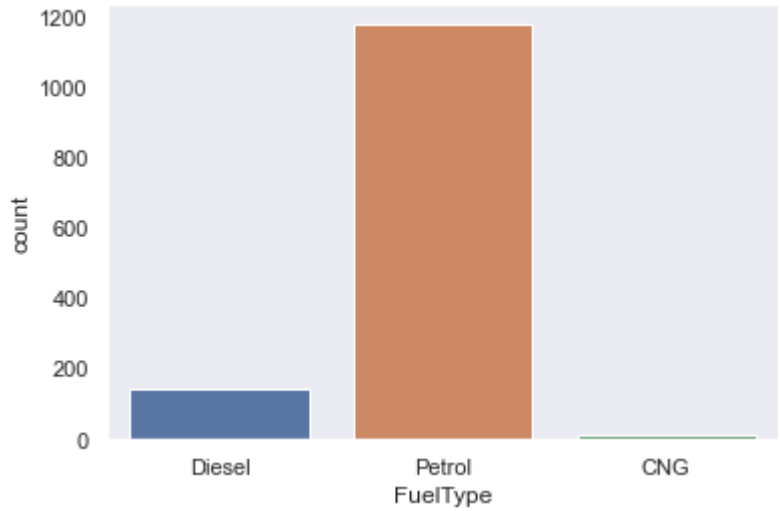


In [22]:

```
sns.countplot(x="FuelType", data=cars_data)
```

Out[22]:

```
<AxesSubplot:xlabel='FuelType', ylabel='count'>
```

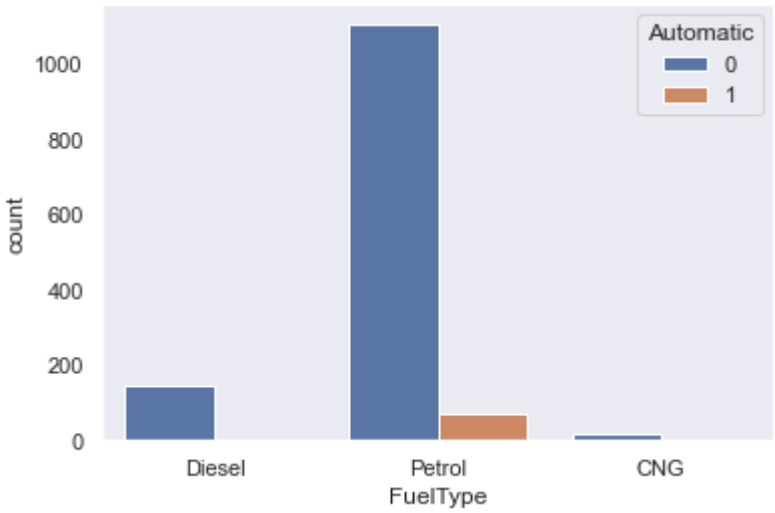


In [23]:

```
sns.countplot(x="FuelType", data=cars_data, hue="Automatic")
```

Out[23]:

```
<AxesSubplot:xlabel='FuelType', ylabel='count'>
```



In [24]:

```
pd.crosstab(index=cars_data['Automatic'], columns=cars_data['FuelType'], dropna=True)
```

Out[24]:

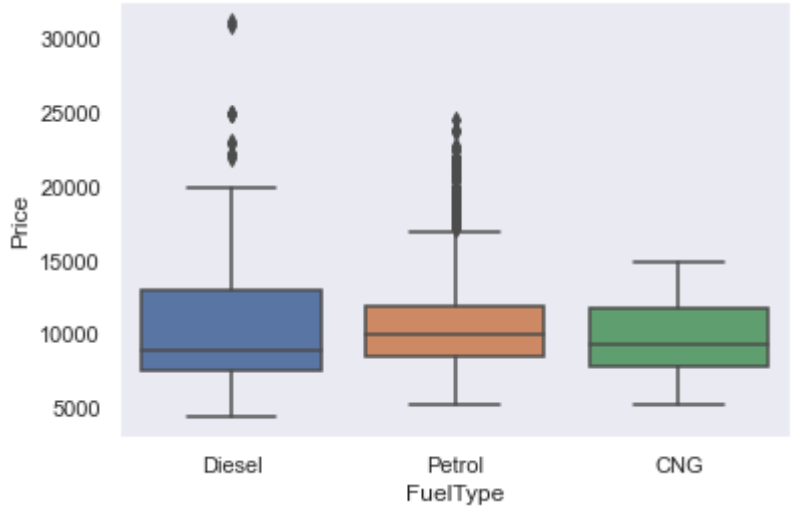
FuelType	CNG	Diesel	Petrol
Automatic			
0	15	144	1104
1	0	0	73

In [25]:

```
sns.boxplot(x=cars_data['FuelType'], y=cars_data['Price'])
```

Out[25]:

```
<AxesSubplot:xlabel='FuelType', ylabel='Price'>
```

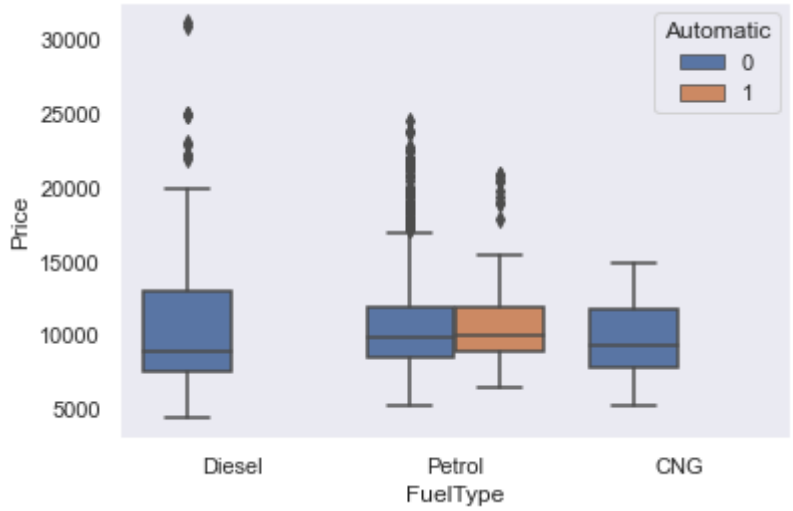


In [28]:

```
sns.boxplot(x=cars_data['FuelType'], y=cars_data['Price'],hue='Automatic',data=cars_data)
```

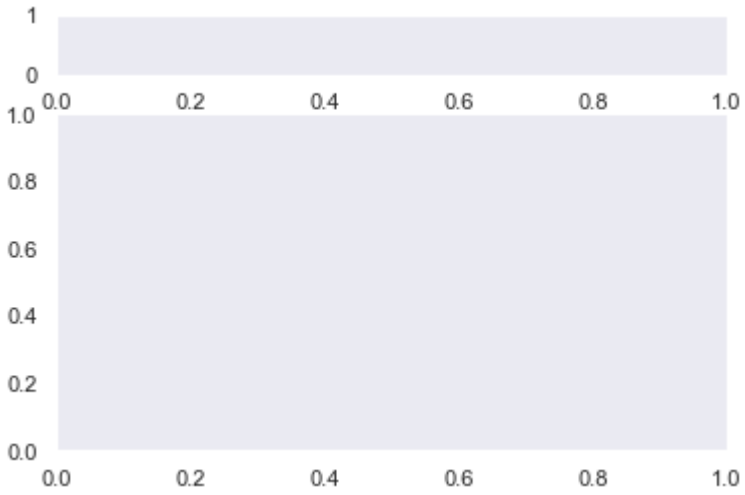
Out[28]:

```
<AxesSubplot:xlabel='FuelType', ylabel='Price'>
```



In [34]:

```
f,(ax_box,ax_hist)=plt.subplots(2,gridspec_kw={"height_ratios":(0.15,0.85)})
```



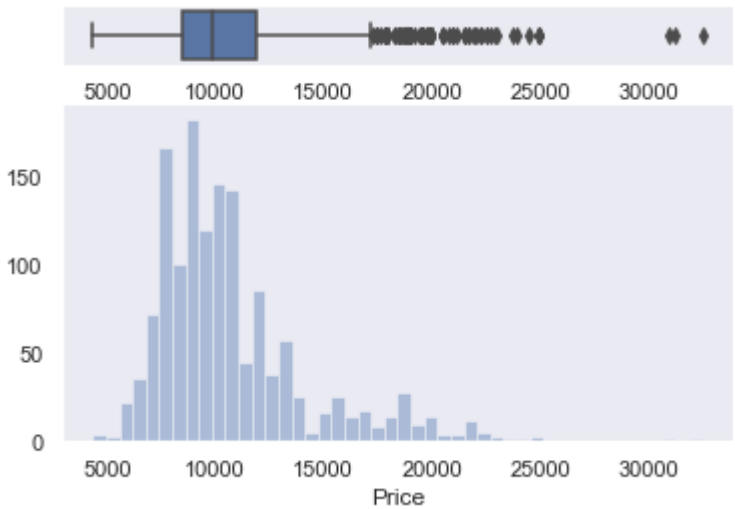
In [36]:

```
f,(ax_box,ax_hist)=plt.subplots(2,gridspec_kw={"height_ratios":(0.15,0.85)})
sns.boxplot(cars_data['Price'],ax=ax_box)
sns.distplot(cars_data['Price'],ax=ax_hist,kde=False)
```

```
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\_decorators.py:36: Future
Warning: Pass the following variable as a keyword arg: x. From version 0.12,
the only valid positional argument will be `data`, and passing other argumen
ts without an explicit keyword will result in an error or misinterpretation.
  warnings.warn(
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

Out[36]:

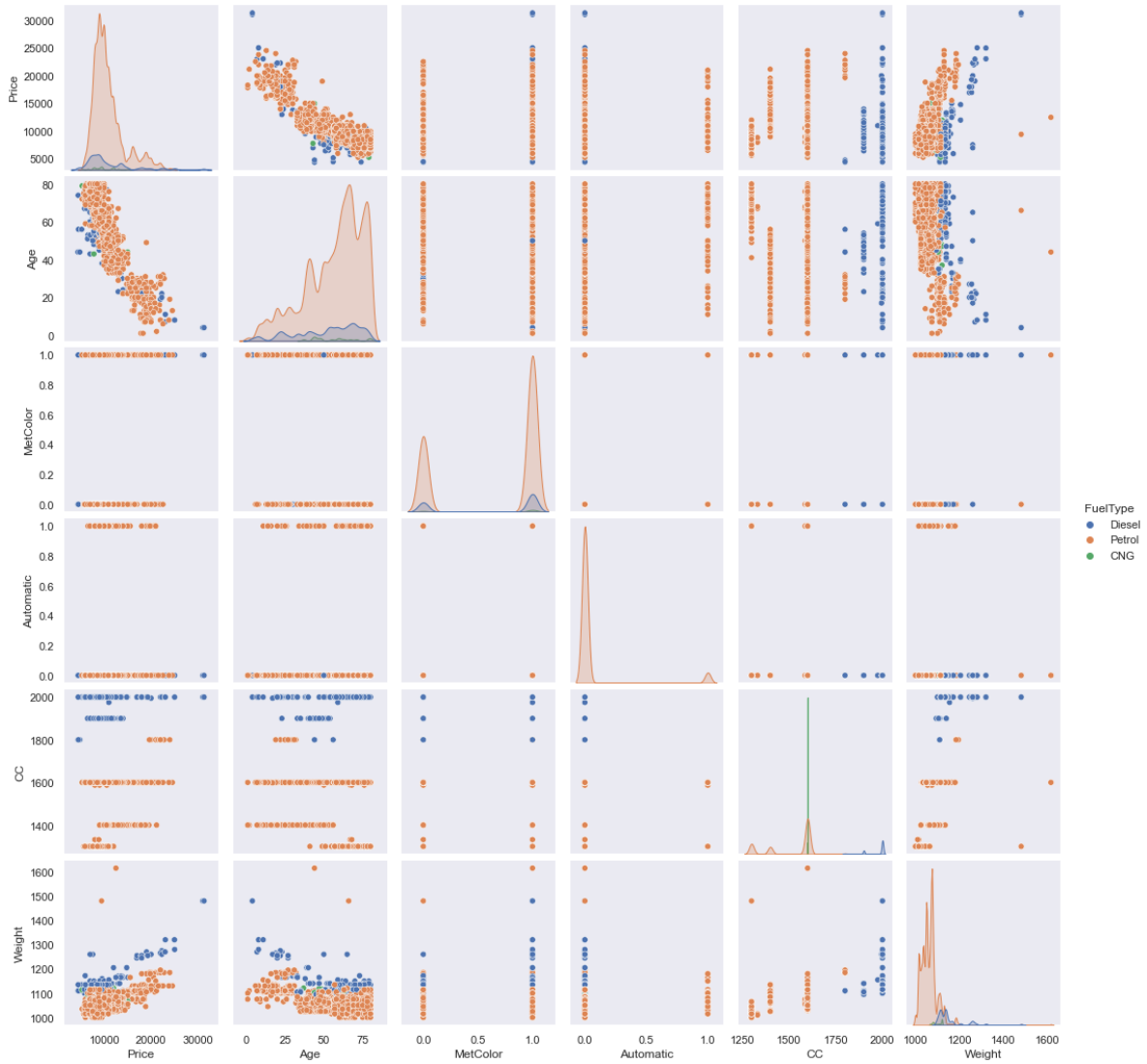
```
<AxesSubplot:xlabel='Price'>
```



In [39]:

```
sns.pairplot(cars_data,kind="scatter",hue="FuelType",diag_kws={'bw':0.1})
plt.show()
```

```
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
C:\Users\MSCIT\anaconda3\lib\site-packages\seaborn\distributions.py:1699: Fu
tureWarning: The `bw` parameter is deprecated in favor of `bw_method` and `b
w_adjust`. Using 0.1 for `bw_method`, but please see the docs for the new pa
rameters and update your code.
  warnings.warn(msg, FutureWarning)
```



In [40]:

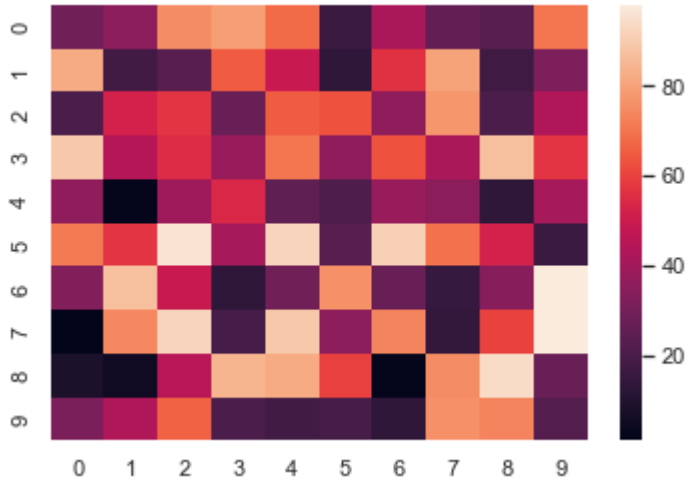
```
data=np.random.randint(1,100,size=(10,10))
print("the data to be plotted:\n")
print(data)
```

```
the data to be plotted:

[[29 35 75 79 68 16 42 26 23 70]
 [82 18 23 65 49 13 56 80 17 32]
 [20 52 57 27 65 63 36 77 20 43]
 [89 44 55 38 70 36 63 42 87 57]
 [36  2 39 54 25 21 38 35 13 41]
 [71 57 96 41 92 23 91 69 52 16]
 [33 87 49 13 29 76 27 15 34 98]
 [ 1 74 92 19 89 35 73 14 60 98]
 [ 8  5 45 84 82 59  2 75 94 27]
 [31 43 66 20 18 19 13 76 73 22]]
```

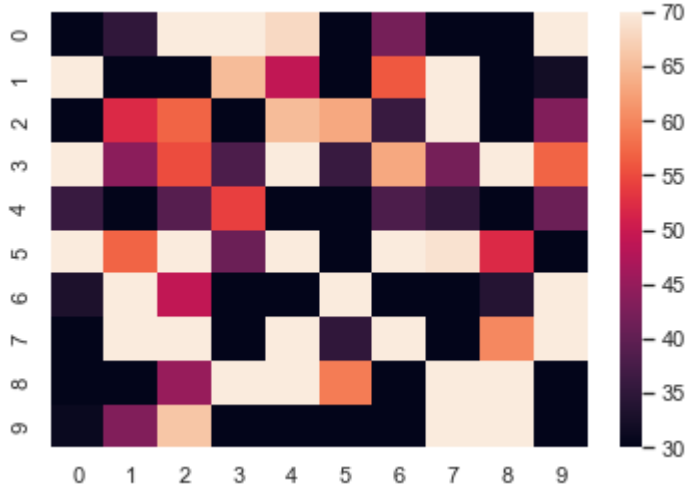
In [41]:

```
#heatmap
hm=sns.heatmap(data=data)
plt.show()
```



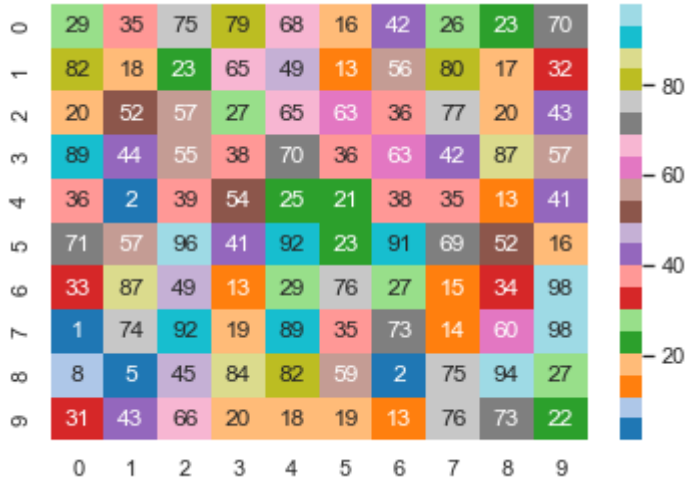
In [43]:

```
hm=sns.heatmap(data=data,vmin=30,vmax=70)
plt.show()
```



In [48]:

```
#setting the parameter value
cmap="tab20"
center=0
annot=True #setting the parameter values
hm=sns.heatmap(data=data,cmap=cmap,annot=annot) #plotting the heatmap
plt.show()
```



In [ ]:

```
```