

```
In [1]: #Seaborn-Library: Seaborn is an advanced python library used for data v  
isualisation which is built-in on matplotlib library.
```

```
In [2]: #(i).Lineplot:
```

```
In [3]: #Example-01:
```

```
In [4]: import seaborn as sns
```

```
In [5]: from matplotlib import pyplot as plt
```

```
In [6]: pwd
```

```
Out[6]: 'C:\\\\Users\\\\Badshah'
```

```
In [7]: fmri = sns.load_dataset('fmri')
```

```
In [8]: fmri.head()
```

```
Out[8]:
```

	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970

```
In [9]: fmri.tail()
```

```
Out[9]:
```

subject	timepoint	event	region	signal	
1059	s0	8	cue	frontal	0.018165
1060	s13	7	cue	frontal	-0.029130
1061	s12	7	cue	frontal	-0.004939
1062	s11	7	cue	frontal	-0.025367
1063	s0	0	cue	parietal	-0.006899

```
In [10]: fmri.shape
```

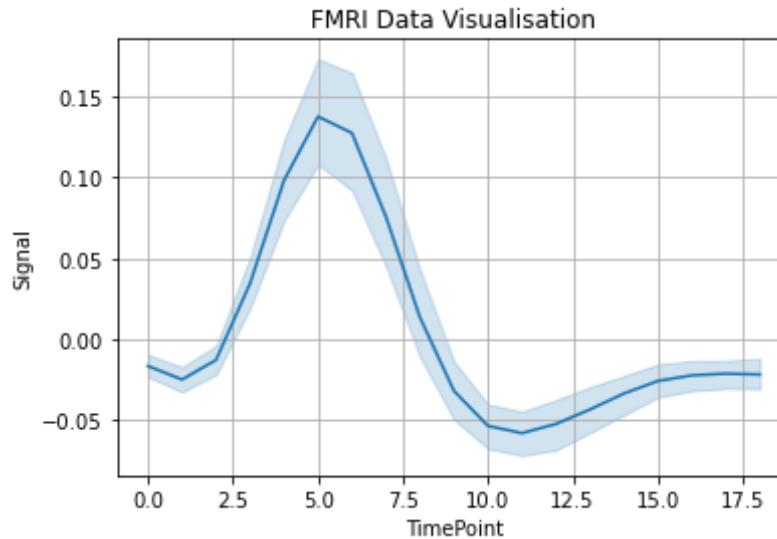
```
Out[10]: (1064, 5)
```

```
In [11]: fmri.describe()
```

```
Out[11]:
```

	timepoint	signal
count	1064.000000	1064.000000
mean	9.000000	0.003540
std	5.479801	0.093930
min	0.000000	-0.255486
25%	4.000000	-0.046070
50%	9.000000	-0.013653
75%	14.000000	0.024293
max	18.000000	0.564985

```
In [12]: sns.lineplot(x='timepoint',y='signal',data = fmri)
plt.xlabel('TimePoint')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



```
In [13]: #Example-02:
```

```
In [14]: import seaborn as sns
```

```
In [15]: from matplotlib import pyplot as plt
```

```
In [16]: fmri = sns.load_dataset('fmri')
```

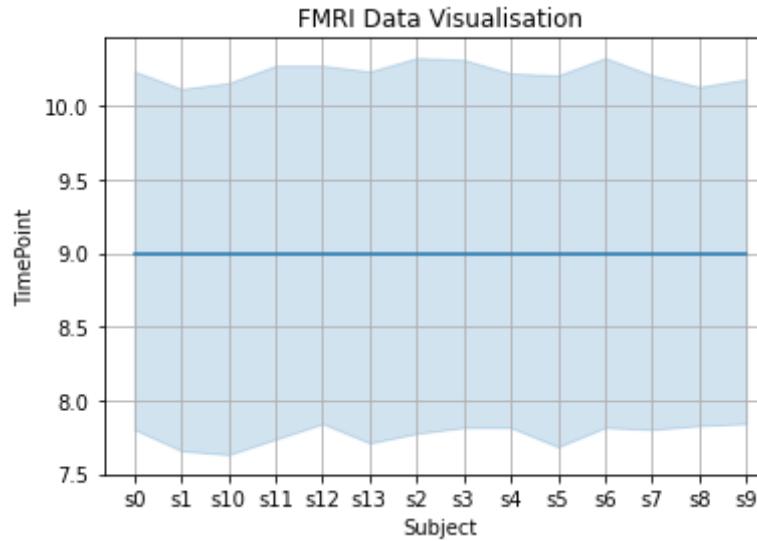
```
In [17]: fmri.head(15)
```

Out[17]:

	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970

	subject	timepoint	event	region	signal
5	s9	18	stim	parietal	-0.103513
6	s8	18	stim	parietal	-0.064408
7	s7	18	stim	parietal	-0.060526
8	s6	18	stim	parietal	-0.007029
9	s5	18	stim	parietal	-0.040557
10	s4	18	stim	parietal	-0.048812
11	s3	18	stim	parietal	-0.047148
12	s2	18	stim	parietal	-0.086623
13	s1	18	stim	parietal	-0.046659
14	s0	18	stim	parietal	-0.075570

```
In [18]: sns.lineplot(x='subject',y='timepoint',data=fmri)
plt.ylabel('TimePoint')
plt.xlabel('Subject')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



```
In [19]: #Example-03:
```

```
In [20]: import seaborn as sns
from matplotlib import pyplot as plt
fmri = sns.load_dataset('fmri')
fmri.head(56)
```

Out[20]:

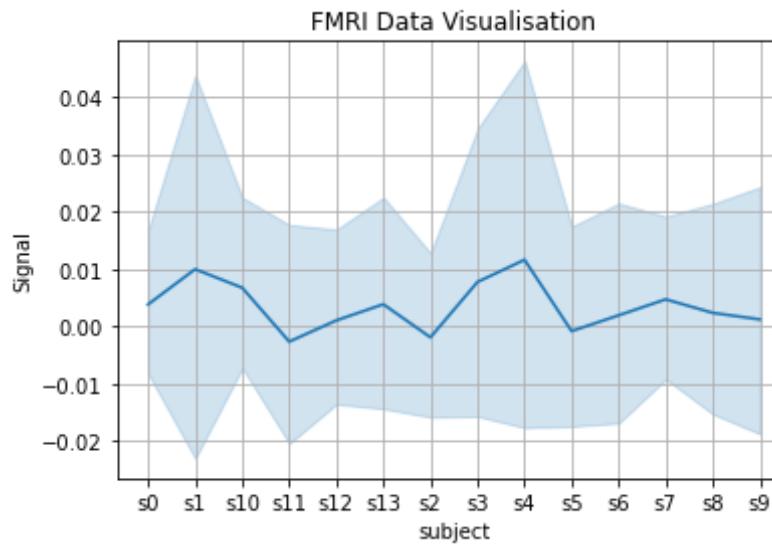
	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970
5	s9	18	stim	parietal	-0.103513
6	s8	18	stim	parietal	-0.064408
7	s7	18	stim	parietal	-0.060526

	subject	timepoint	event	region	signal
8	s6	18	stim	parietal	-0.007029
9	s5	18	stim	parietal	-0.040557
10	s4	18	stim	parietal	-0.048812
11	s3	18	stim	parietal	-0.047148
12	s2	18	stim	parietal	-0.086623
13	s1	18	stim	parietal	-0.046659
14	s0	18	stim	parietal	-0.075570
15	s13	17	stim	parietal	-0.008265
16	s12	17	stim	parietal	-0.088512
17	s7	9	stim	parietal	0.058897
18	s10	17	stim	parietal	-0.016847
19	s9	17	stim	parietal	-0.121574
20	s8	17	stim	parietal	-0.076287
21	s7	17	stim	parietal	-0.043812
22	s6	17	stim	parietal	-0.014746
23	s5	17	stim	parietal	-0.056682
24	s4	17	stim	parietal	-0.044582
25	s3	17	stim	parietal	-0.053514
26	s2	17	stim	parietal	-0.077292
27	s1	17	stim	parietal	-0.038021
28	s0	17	stim	parietal	-0.071300
29	s13	16	stim	parietal	-0.002856
30	s12	16	stim	parietal	-0.089943
31	s11	16	stim	parietal	-0.049587
32	s10	16	stim	parietal	-0.013566

	subject	timepoint	event	region	signal
33	s9	16	stim	parietal	-0.131641
34	s8	16	stim	parietal	-0.093024
35	s7	16	stim	parietal	-0.021897
36	s8	9	stim	parietal	0.170227
37	s5	16	stim	parietal	-0.064138
38	s4	16	stim	parietal	-0.047433
39	s3	16	stim	parietal	-0.071022
40	s2	16	stim	parietal	-0.064998
41	s1	16	stim	parietal	-0.061356
42	s0	16	stim	parietal	-0.057715
43	s13	15	stim	parietal	-0.010971
44	s12	15	stim	parietal	-0.080698
45	s11	15	stim	parietal	-0.072112
46	s10	15	stim	parietal	-0.028809
47	s9	15	stim	parietal	-0.134828
48	s8	15	stim	parietal	-0.112578
49	s7	15	stim	parietal	-0.009383
50	s6	15	stim	parietal	-0.068720
51	s5	15	stim	parietal	-0.070562
52	s4	15	stim	parietal	-0.056031
53	s3	15	stim	parietal	-0.090735
54	s2	15	stim	parietal	-0.055462
55	s1	15	stim	parietal	-0.110742

```
In [21]: sns.lineplot(x='subject',y='signal',data = fmri)
```

```
plt.xlabel('subject')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



In [22]: `#(i).(a).Adding hue to lineplot:-`

In [23]: `#Example-01:`

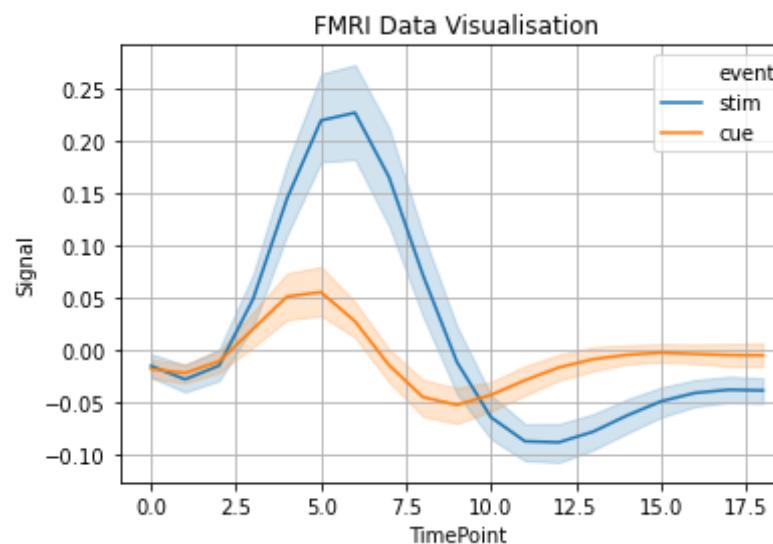
In [24]: `import seaborn as sns
from matplotlib import pyplot as plt
fmri=sns.load_dataset('fmri')
fmri.head()`

Out[24]:

	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883

	subject	timepoint	event	region	signal
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970

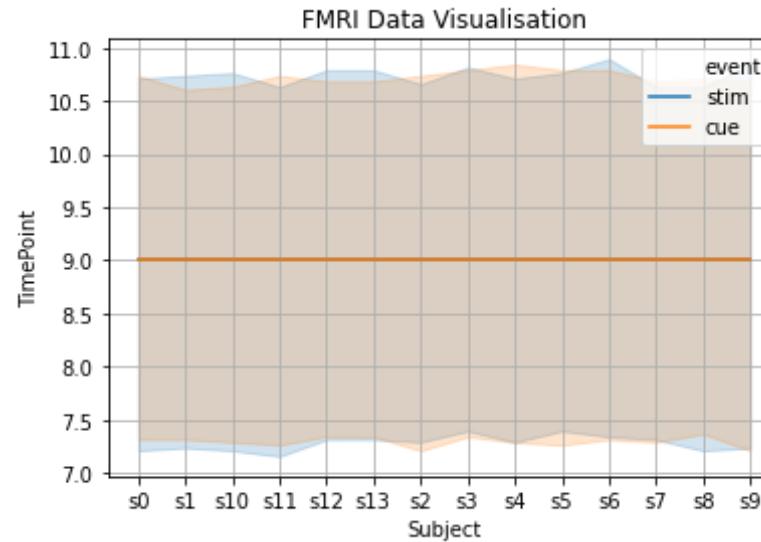
```
In [25]: sns.lineplot(x='timepoint',y='signal',data=fMRI,hue='event')
plt.xlabel('TimePoint')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



```
In [26]: #Example-02:
```

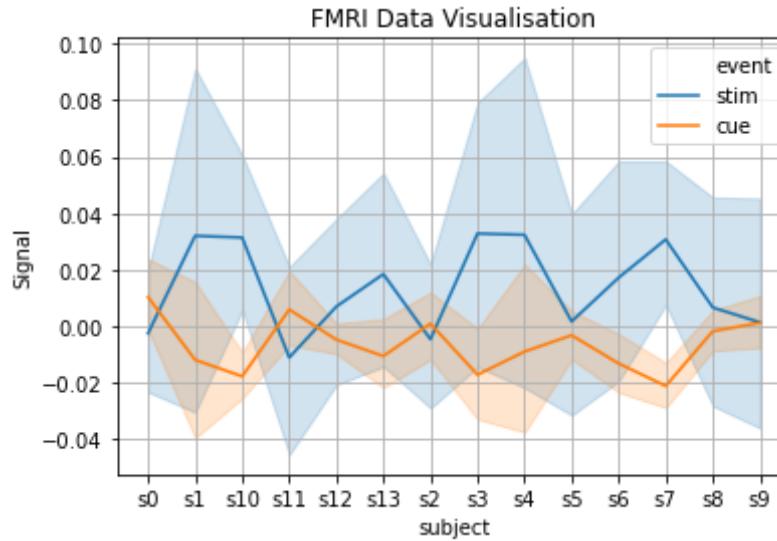
```
In [27]: sns.lineplot(x='subject',y='timepoint',data=fMRI,hue='event')
plt.xlabel('Subject')
plt.ylabel('TimePoint')
plt.title("FMRI Data Visualisation")
```

```
plt.grid(True)  
plt.show()
```



In [28]: #Example-03:

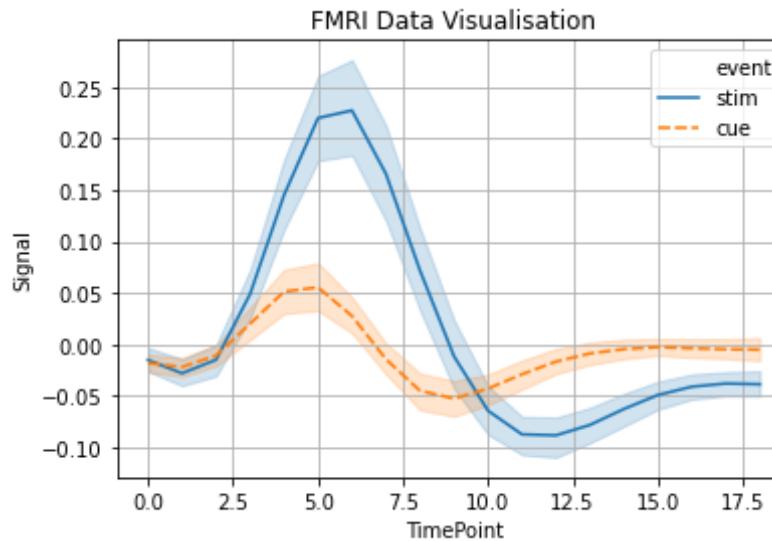
```
sns.lineplot(x='subject',y='signal',data = fmri,hue='event')  
plt.xlabel('subject')  
plt.ylabel('Signal')  
plt.title("FMRI Data Visualisation")  
plt.grid(True)  
plt.show()
```



```
In [30]: #(i).(b). Changing style of lines in the lineplot:-
```

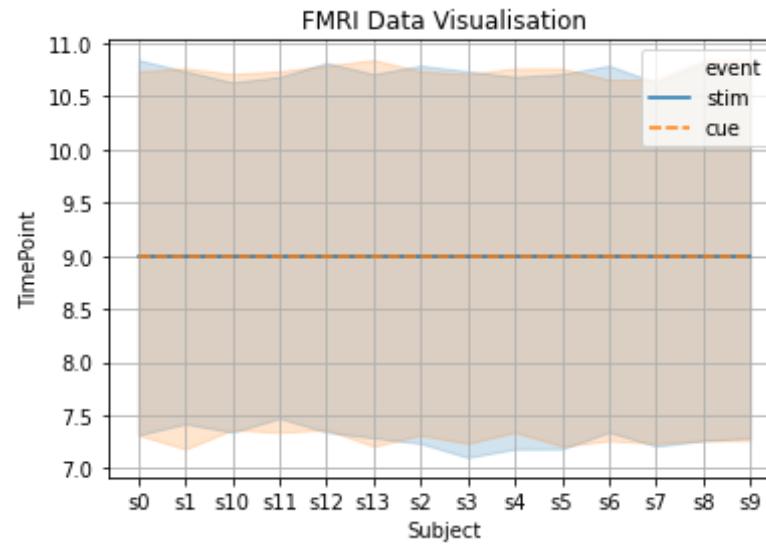
```
In [31]: #Example-01:
```

```
In [32]: sns.lineplot(x='timepoint',y='signal',data=fMRI,hue='event',style='even  
t')  
plt.xlabel('TimePoint')  
plt.ylabel('Signal')  
plt.title("FMRI Data Visualisation")  
plt.grid(True)  
plt.show()
```



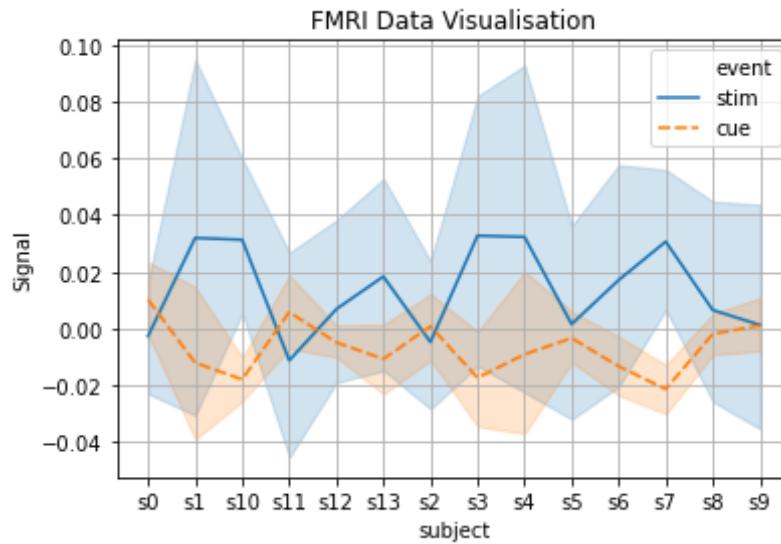
```
In [33]: #Example-02:
```

```
In [34]: sns.lineplot(x='subject',y='timepoint',data=fmri,hue='event',style='event')
plt.ylabel('TimePoint')
plt.xlabel('Subject')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



```
In [35]: #Example-03:
```

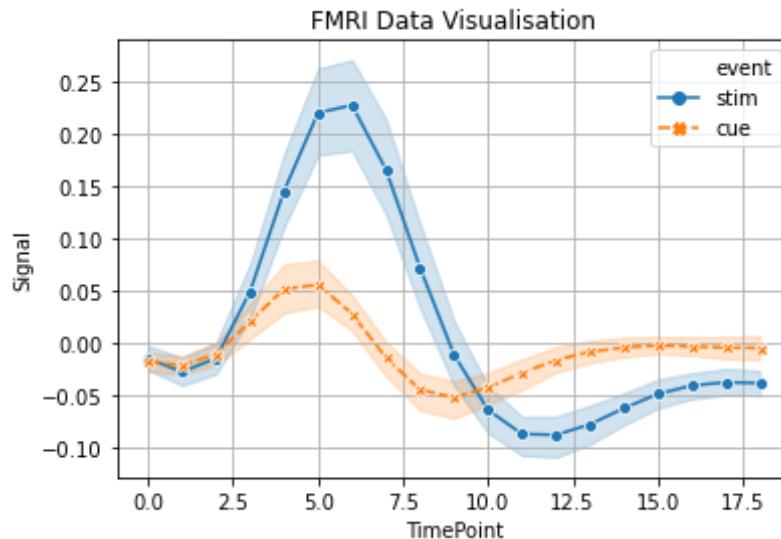
```
In [36]: sns.lineplot(x='subject',y='signal',data = fmri,hue='event',style='even  
t')  
plt.xlabel('subject')  
plt.ylabel('Signal')  
plt.title("FMRI Data Visualisation")  
plt.grid(True)  
plt.show()
```



```
In [37]: #(i).(c). Adding markers to lines in the lineplot:-
```

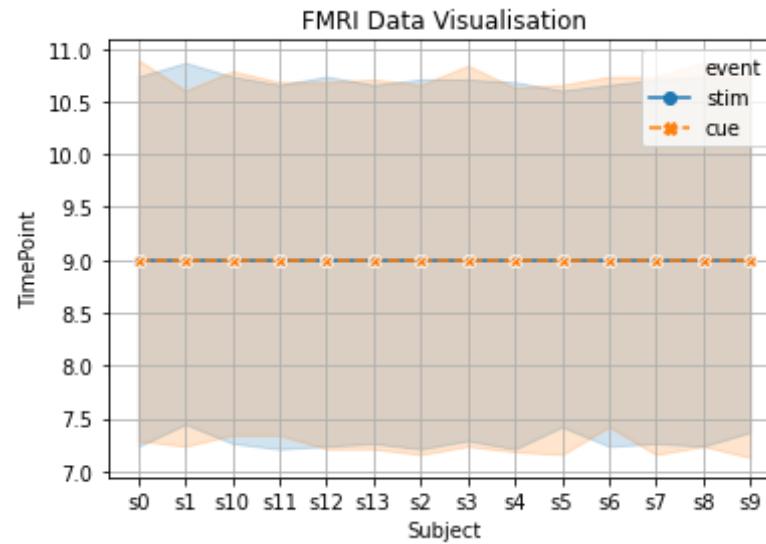
```
In [38]: #Example-01:
```

```
In [39]: sns.lineplot(x='timepoint',y='signal',data=fMRI,hue='event',style='even  
t',markers=True)  
plt.xlabel('TimePoint')  
plt.ylabel('Signal')  
plt.title("FMRI Data Visualisation")  
plt.grid(True)  
plt.show()
```



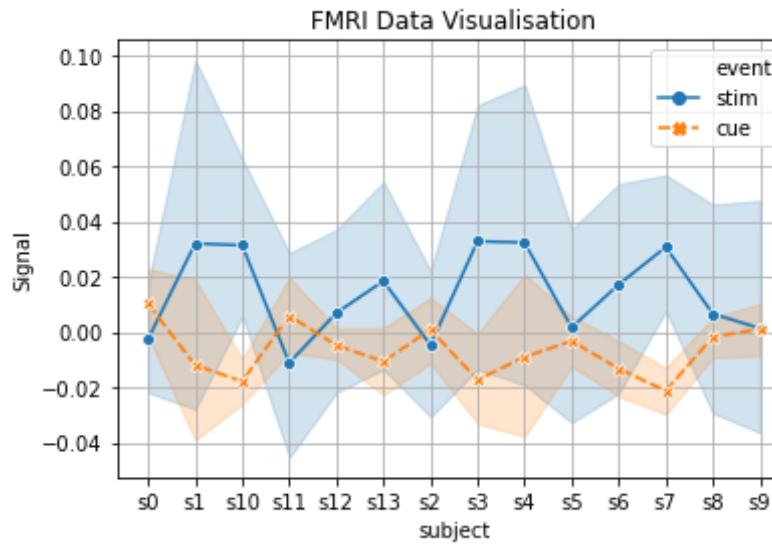
```
In [40]: #Example-02:
```

```
In [41]: sns.lineplot(x='subject',y='timepoint',data=fmri,hue='event',style='event',markers=True)
plt.ylabel('TimePoint')
plt.xlabel('Subject')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



In [42]: #Example-03:

```
In [43]: sns.lineplot(x='subject',y='signal',data = fmri,hue='event',style='even  
t',markers=True)  
plt.xlabel('subject')  
plt.ylabel('Signal')  
plt.title("FMRI Data Visualisation")  
plt.grid(True)  
plt.show()
```

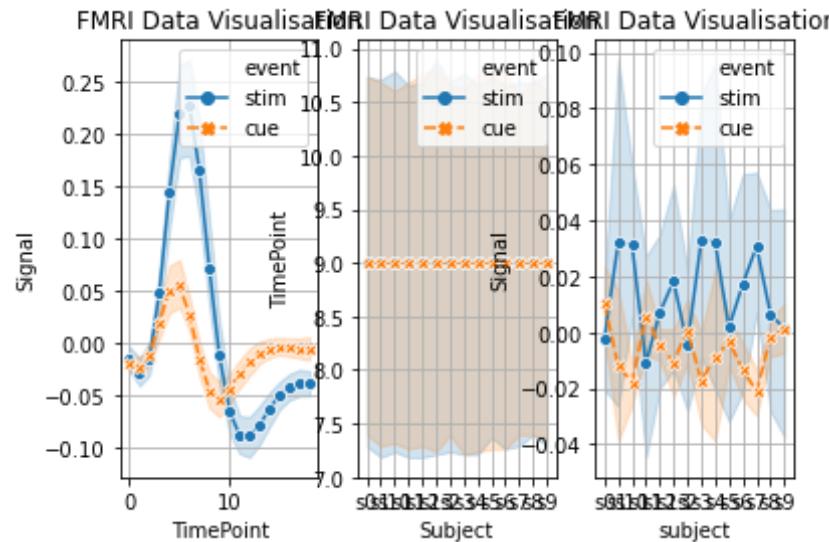


```
In [44]: #(i).(d). Adding subplots to lines in the lineplot:-
```

```
In [45]: #Example-01:
```

```
In [46]: plt.subplot(1,3,1)
sns.lineplot(x='timepoint',y='signal',data=fMRI,hue='event',style='even
t',markers=True)
plt.xlabel('TimePoint')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.subplot(1,3,2)
sns.lineplot(x='subject',y='timepoint',data=fMRI,hue='event',style='eve
nt',markers=True)
plt.xlabel('Subject')
plt.ylabel('TimePoint')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.subplot(1,3,3)
sns.lineplot(x='subject',y='signal',data = fMRI,hue='event',style='even
```

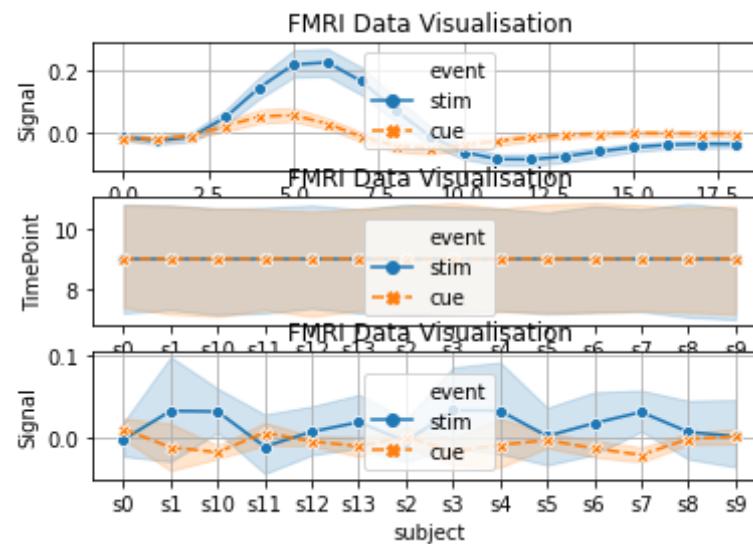
```
t',markers=True)
plt.xlabel('subject')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



In [47]: #Example-01:

```
In [48]: plt.subplot(3,1,1)
sns.lineplot(x='timepoint',y='signal',data=fmri,hue='event',style='even
t',markers=True)
plt.xlabel('TimePoint')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.subplot(3,1,2)
sns.lineplot(x='subject',y='timepoint',data=fmri,hue='event',style='eve
nt',markers=True)
plt.xlabel('Subject')
plt.ylabel('TimePoint')
plt.title("FMRI Data Visualisation")
```

```
plt.grid(False)
plt.subplot(3,1,3)
sns.lineplot(x='subject',y='signal',data = fmri,hue='event',style='event',markers=True)
plt.xlabel('subject')
plt.ylabel('Signal')
plt.title("FMRI Data Visualisation")
plt.grid(True)
plt.show()
```



In [49]: #(ii). Bar Plot:

In [50]: #Example-01:

In [51]: `import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt`

In [52]: `sns.set(style='whitegrid')`

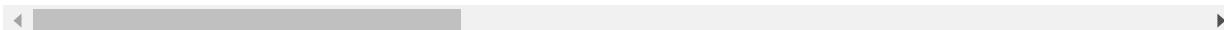
```
In [53]: pokemon = pd.read_csv('pokemon.csv')
```

```
In [54]: pokemon.head()
```

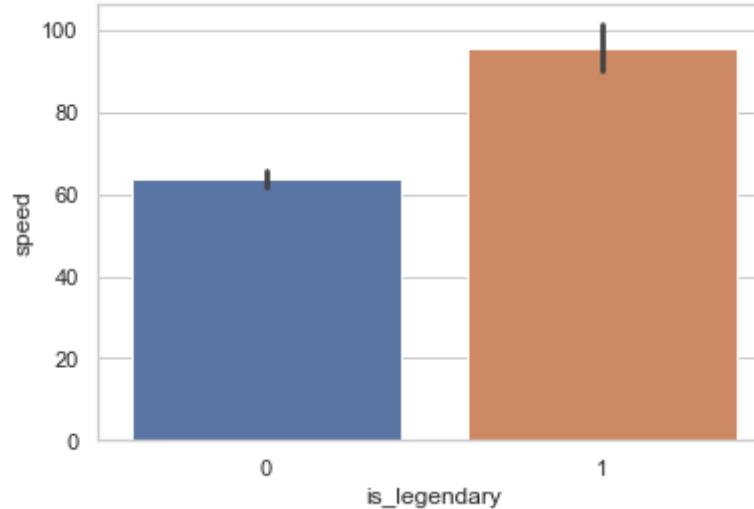
Out[54]:

	abilities	against_bug	against_dark	against_dragon	against_electric	against_fairy	against
0	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
1	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
2	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
3	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	
4	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	

5 rows × 41 columns



```
In [55]: sns.barplot(x='is_legendary',y='speed',data=pokemon)  
plt.show()
```



```
In [56]: #Example-02:
```

```
In [57]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
```

```
In [58]: sns.set(style='whitegrid')
```

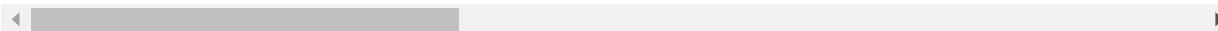
```
In [59]: pokemon = pd.read_csv('pokemon.csv')
pokemon.head()
```

Out[59]:

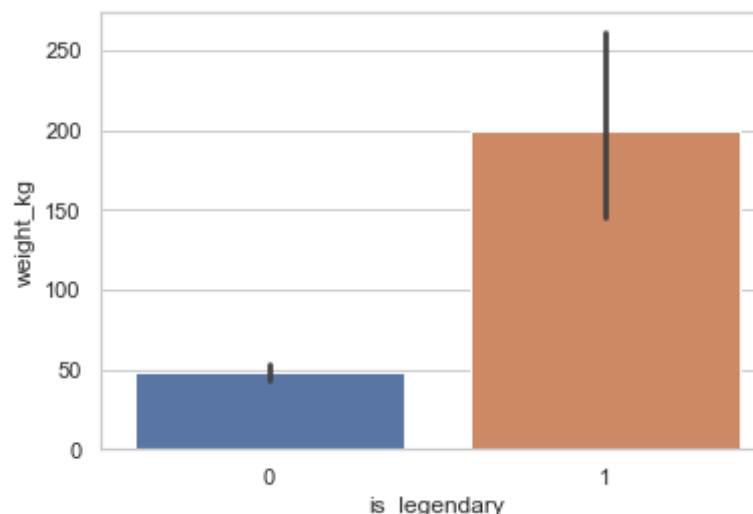
	abilities	against_bug	against_dark	against_dragon	against_electric	against_fairy	against
0	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
1	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
2	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	

	abilities	against_bug	against_dark	against_dragon	against_electric	against_fairy	against
3	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	
4	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	

5 rows × 41 columns



```
In [60]: sns.barplot(x='is_legendary',y='weight_kg',data=pokemon)  
plt.show()
```



```
In [61]: #Example-03:
```

```
In [62]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt
```

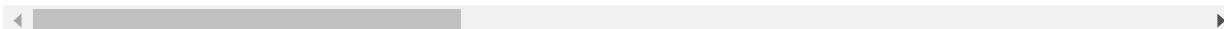
```
In [63]: sns.set(style='darkgrid')
```

```
In [64]: pokemon = pd.read_csv('pokemon.csv')
pokemon.head()
```

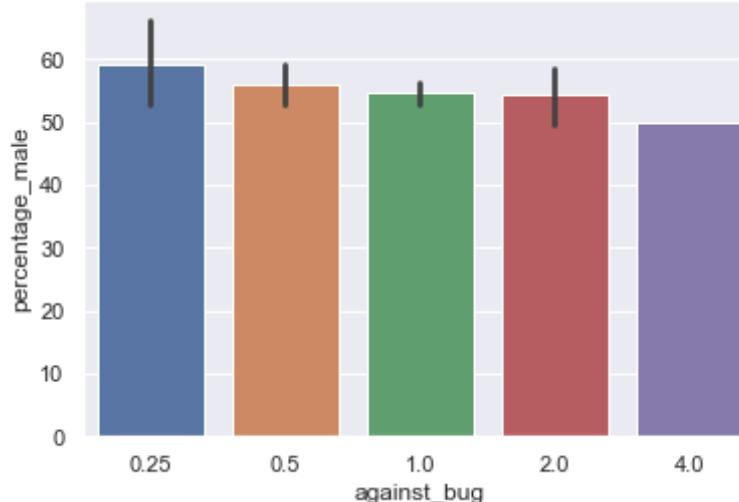
Out[64]:

	abilities	against_bug	against_dark	against_dragon	against_electric	against_fairy	against
0	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
1	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
2	['Overgrow', 'Chlorophyll']	1.0	1.0	1.0	0.5	0.5	
3	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	
4	['Blaze', 'Solar Power']	0.5	1.0	1.0	1.0	0.5	

5 rows × 41 columns



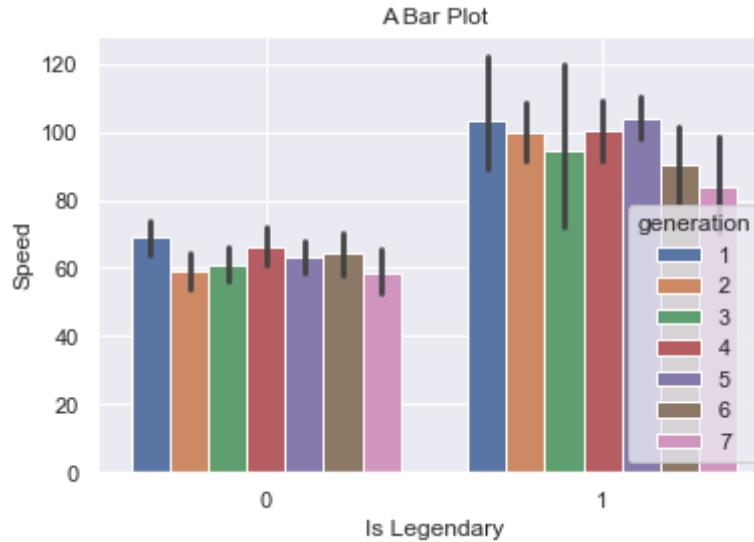
```
In [65]: sns.barplot(x='against_bug', y='percentage_male', data=pokemon)
plt.show()
```



```
In [66]: #(ii).(a).Adding hue:
```

```
In [67]: #Example-01:
```

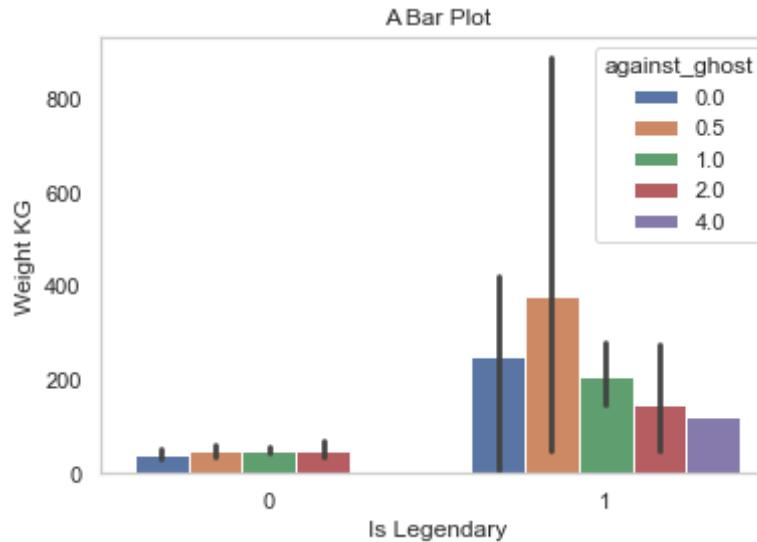
```
In [68]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,hue='generation')
plt.title('A Bar Plot')
plt.xlabel('Is Legendary')
plt.ylabel('Speed')
plt.grid(True)
plt.show()
```



In [69]: #Example-02:

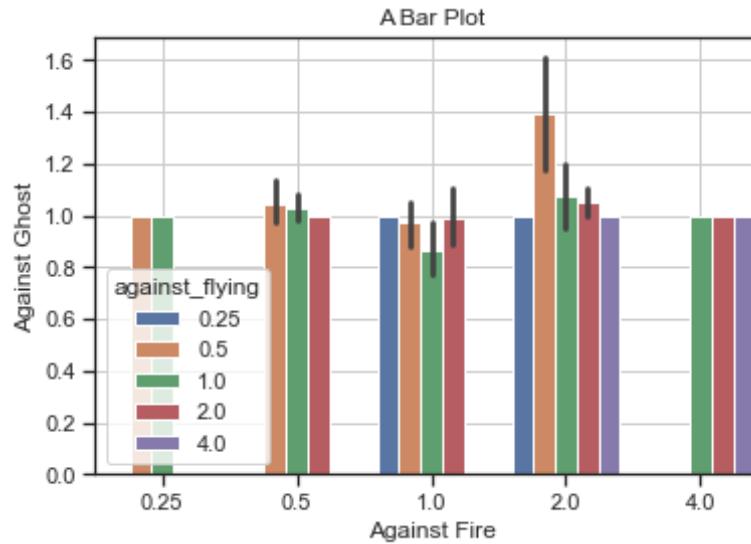
In [70]: 

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='whitegrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='isLegendary',y='weight_kg',data=pokemon,hue='against_ghost')
plt.title('A Bar Plot')
plt.xlabel('Is Legendary')
plt.ylabel('Weight KG')
plt.grid(False)
plt.show()
```



```
In [71]: #Example-03:
```

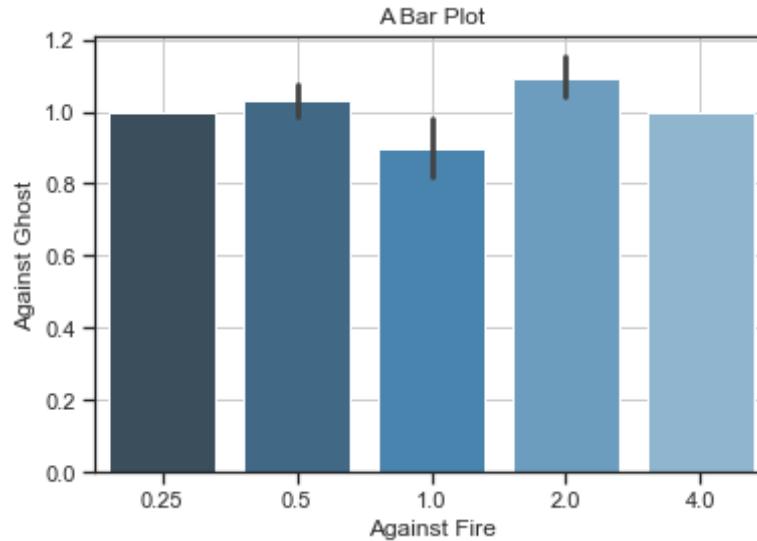
```
In [72]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fire',y='against_ghost',data=pokemon,hue='against_flying')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [73]: #(ii).(b).Adding palette:-
```

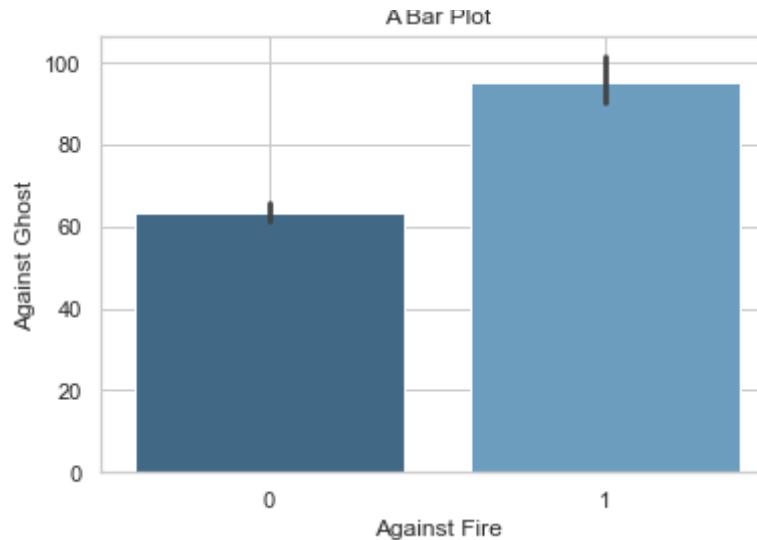
```
In [74]: #Example-01:
```

```
In [75]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fire',y='against_ghost',data=pokemon,palette='Blues_d')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



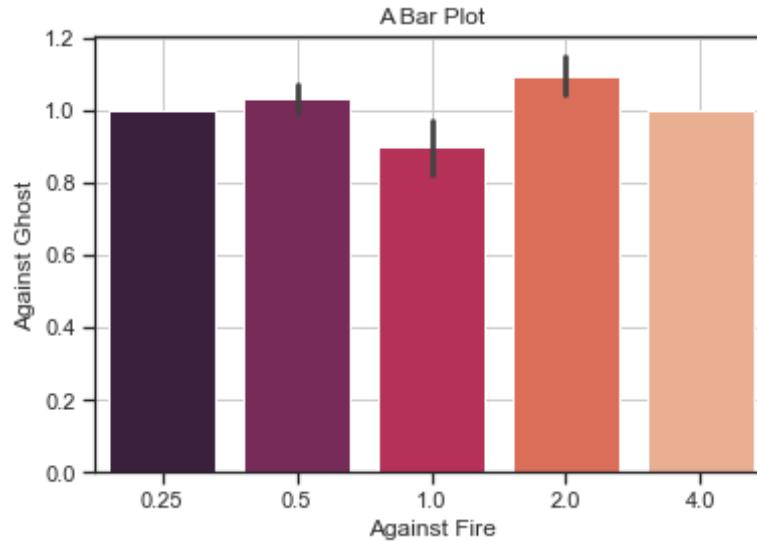
In [76]: #Example-02:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='whitegrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='Blues_d')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



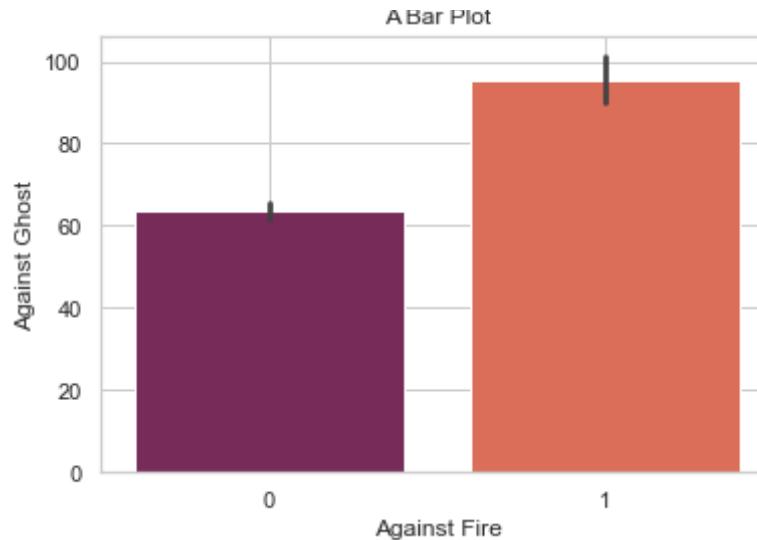
In [78]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fire',y='against_ghost',data=pokemon,palette='rocket')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [80]: #Example-04:
```

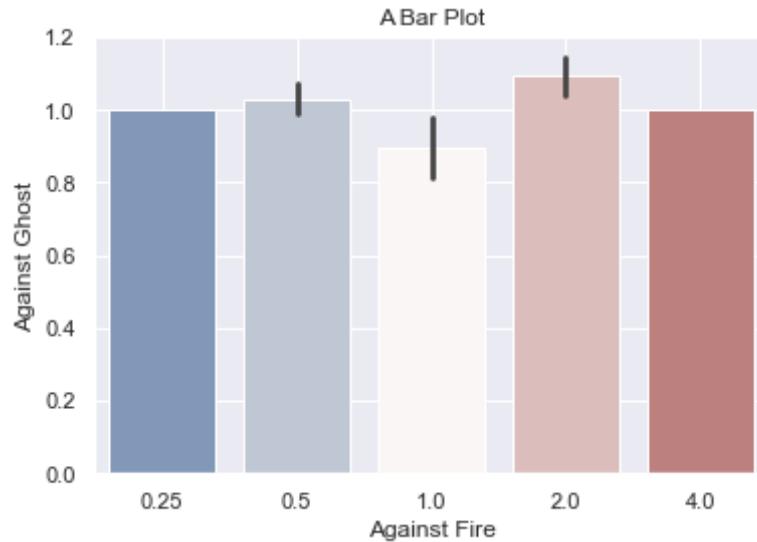
```
In [81]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='whitegrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='rocket')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



In [82]: #Example-05:

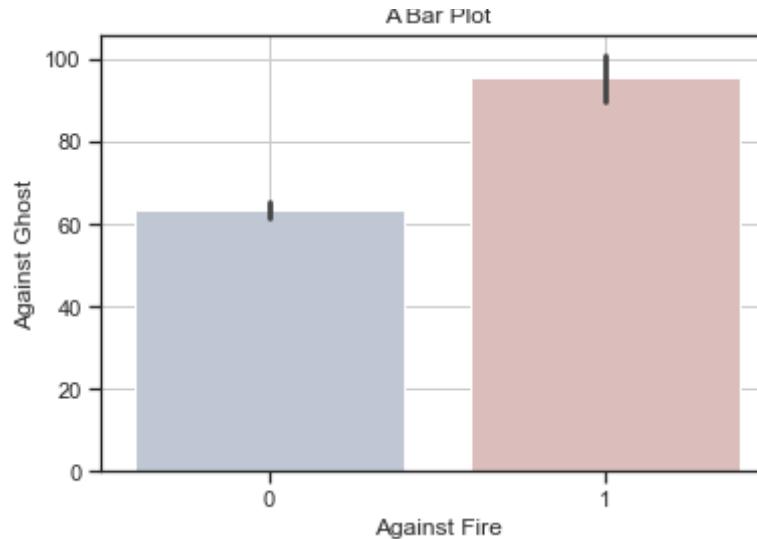
In [83]:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fire',y='against_ghost',data=pokemon,palette='viridis')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



In [84]: #Example-06:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='vlag')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

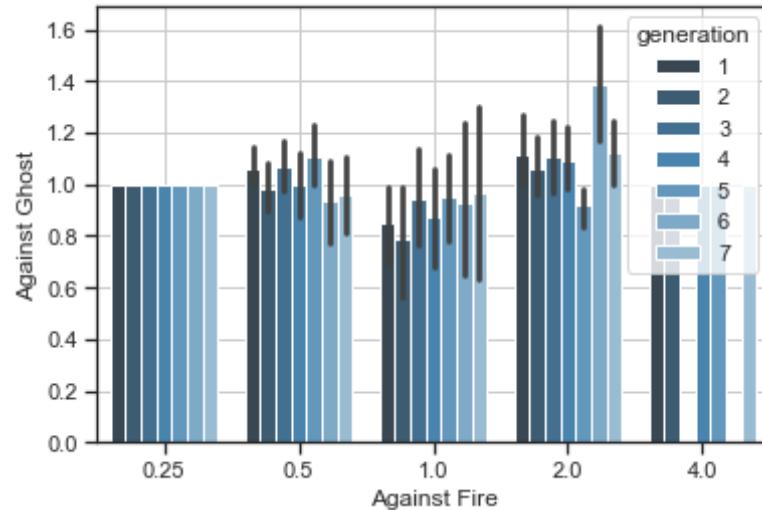


```
In [86]: #(ii).(c).Adding hue and palette together:-
```

```
In [87]: #Example-01:
```

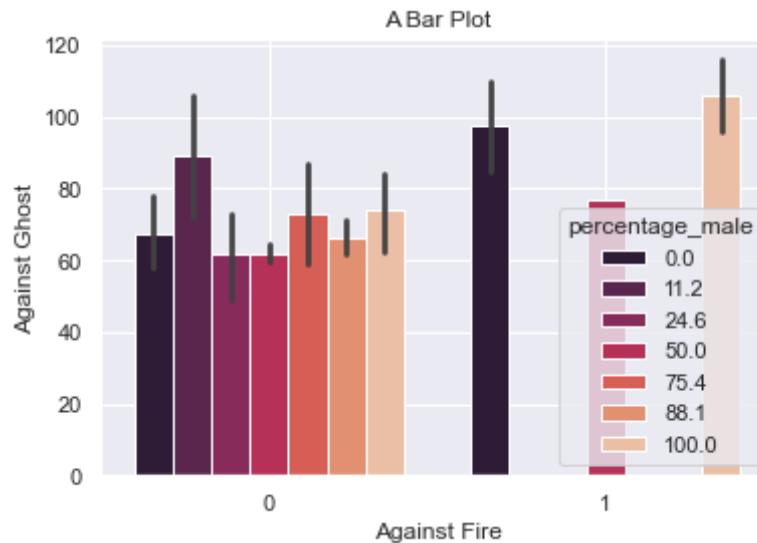
```
In [88]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fire',y='against_ghost',data=pokemon,palette='Blues_d',hue = 'generation')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

A Bar Plot



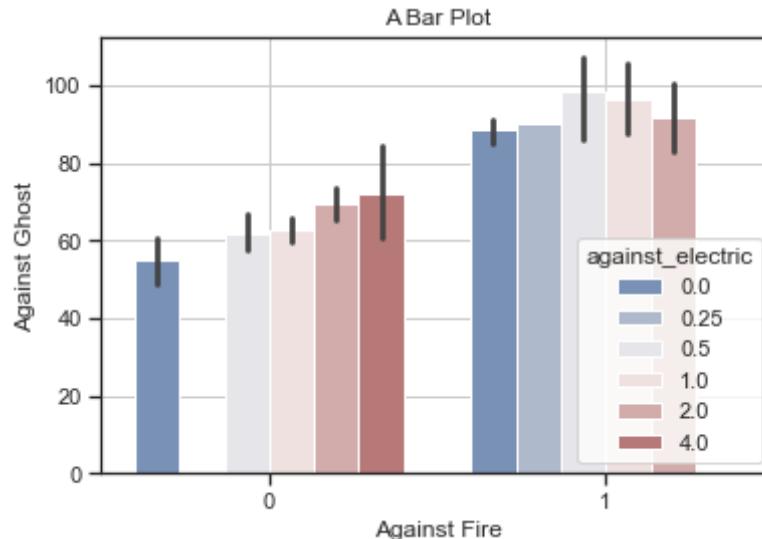
In [89]:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='rocket',hue='percentage_male')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [90]: #Example-03:-
```

```
In [91]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='vlag',hue='against_electric')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

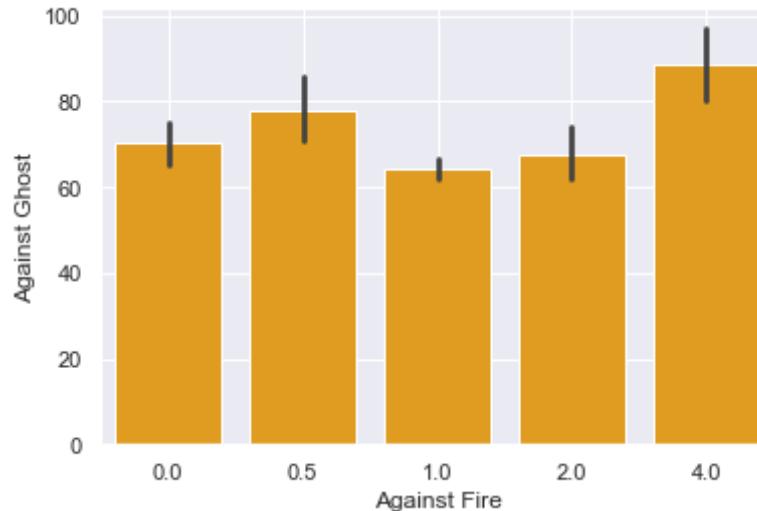


```
In [92]: #(ii).(d).Adding color together:-
```

```
In [93]: #Example-01:
```

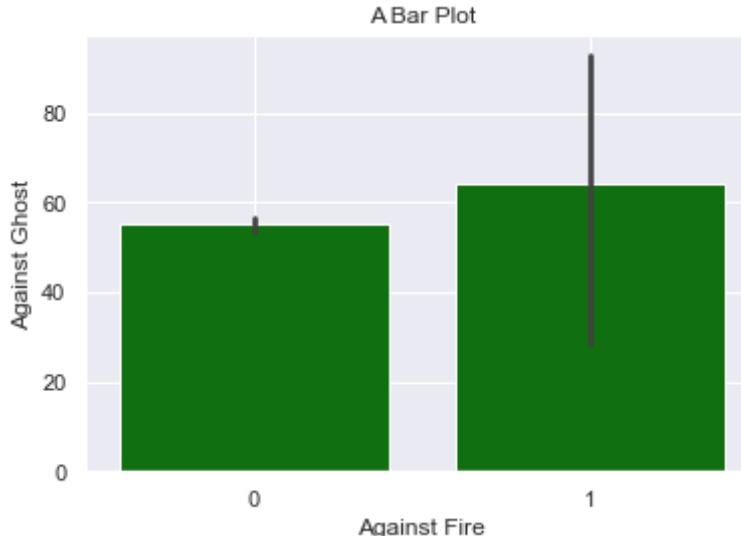
```
In [94]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_ghost',y='speed',data=pokemon,color='orange')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

A Bar Plot



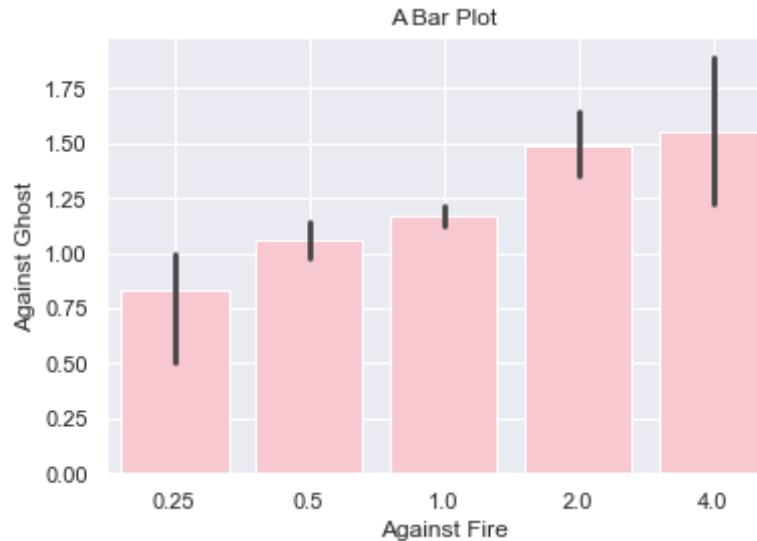
In [95]: #Example-02:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='percentage_male',data=pokemon,color='green')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [97]: #Example-03:
```

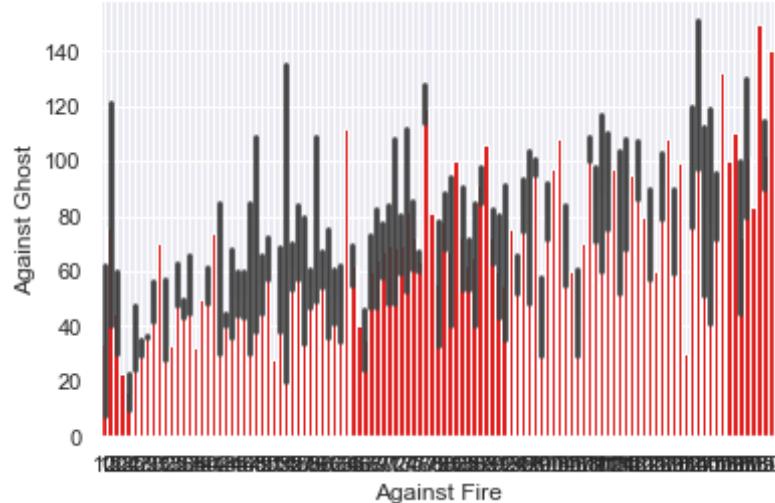
```
In [98]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fairy',y='against_flying',data=pokemon,color='pink')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [99]: #Example-04:
```

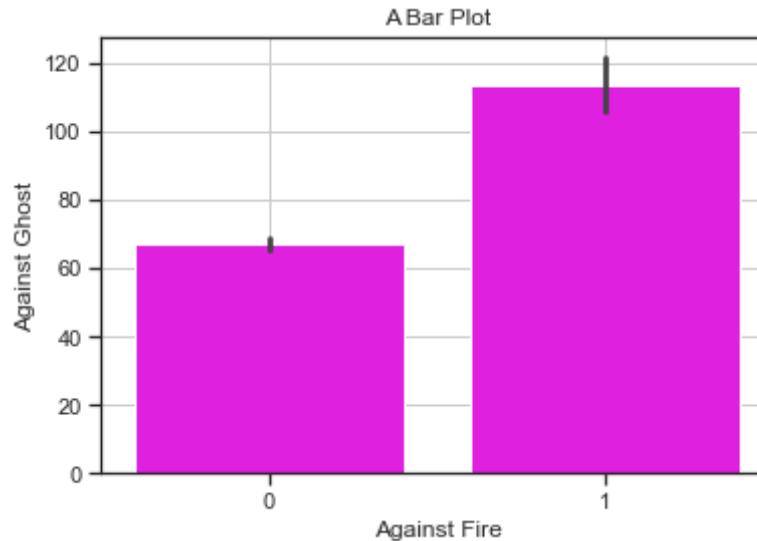
```
In [100]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='sp_attack',y='speed',data=pokemon,color='red')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

A Bar Plot



```
In [101]: #Example-05:
```

```
In [102]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='sp_attack',data=pokemon,color='magenta')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

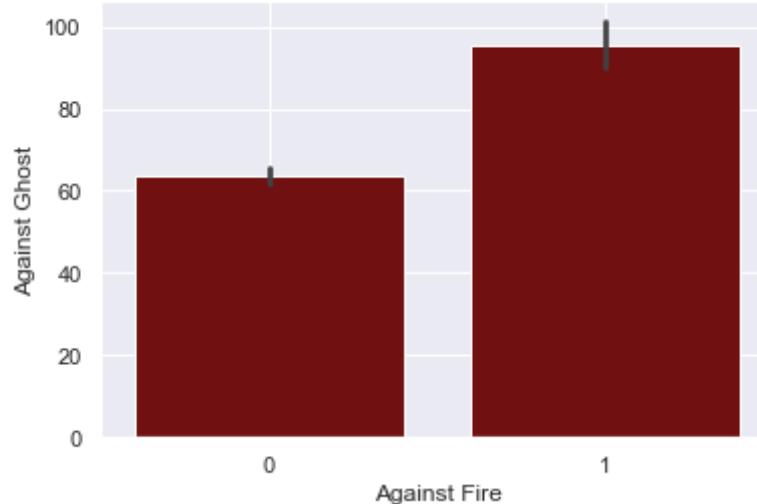


In [103]: #Example-06:

In [104]: 

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,color='maroon')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```

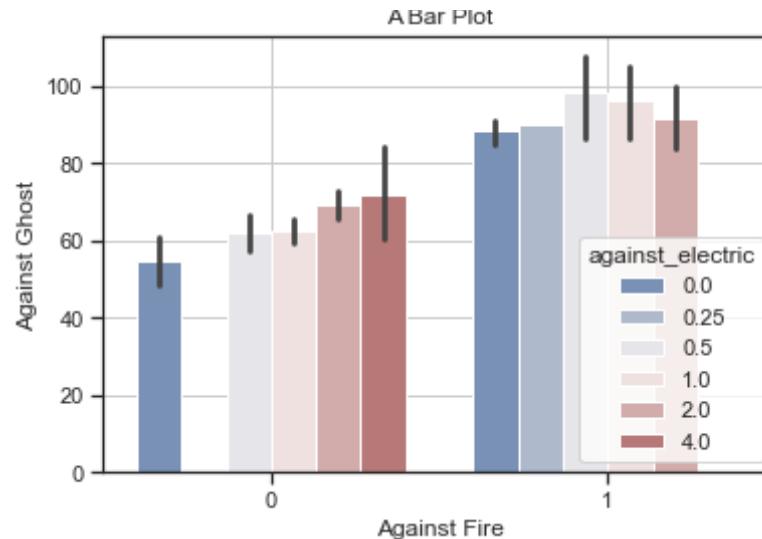
A Bar Plot



```
In [105]: #(ii).(e).Adding ,hue,palette and color together:-
```

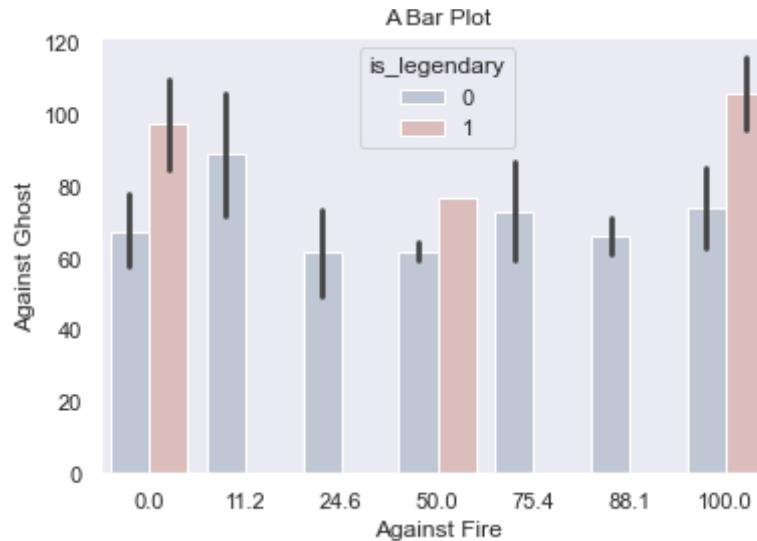
```
In [106]: #Example-01:
```

```
In [107]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='is_legendary',y='speed',data=pokemon,palette='vlag',hue='against_electric',color='violet')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



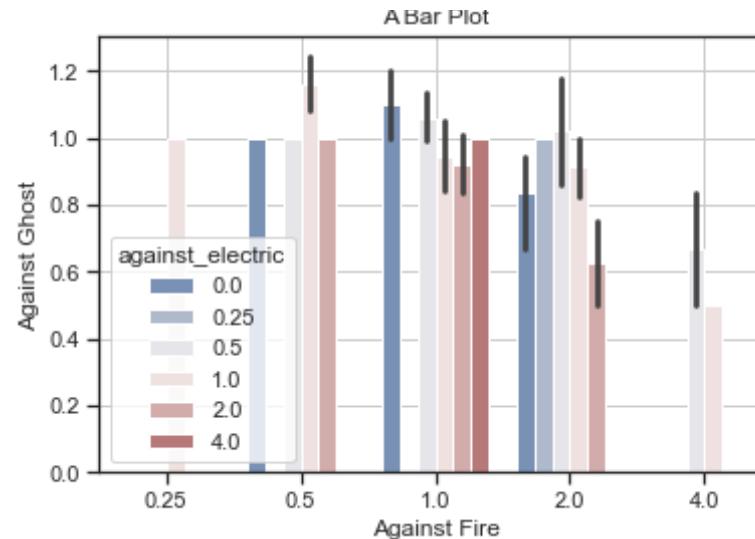
In [108]: #Example-02:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='darkgrid')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='percentage_male',y='speed',data=pokemon,palette='vlag',hue='is_legendary',color='yellow')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(False)
plt.show()
```



In [110]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
sns.set(style='ticks')
pokemon = pd.read_csv('pokemon.csv')
sns.barplot(x='against_fairy',y='against_ghost',data=pokemon,palette='viridis',hue='against_electric',color='teal')
plt.title('A Bar Plot')
plt.xlabel('Against Fire')
plt.ylabel('Against Ghost')
plt.grid(True)
plt.show()
```



```
In [112]: #(iii). Scatter Plot:
```

```
In [113]: #Example-01:
```

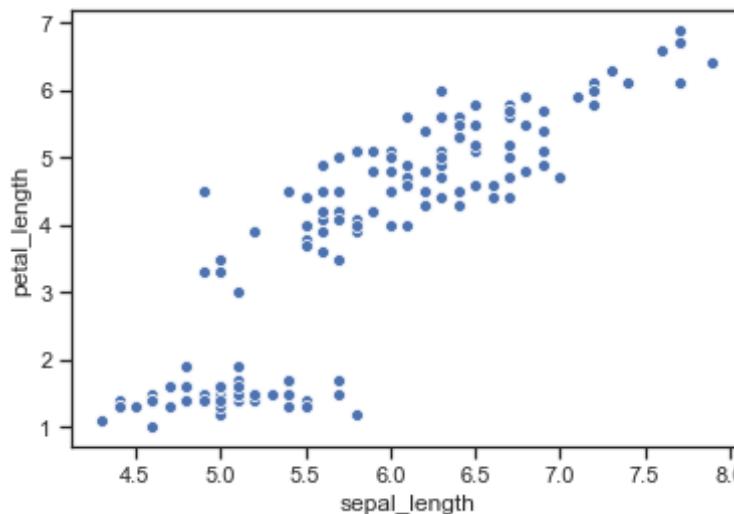
```
In [114]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
```

```
In [115]: iris=pd.read_csv("iris.csv")
iris.head()
```

Out[115]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [116]: sns.scatterplot(x='sepal_length',y='petal_length',data=iris)  
plt.show()
```



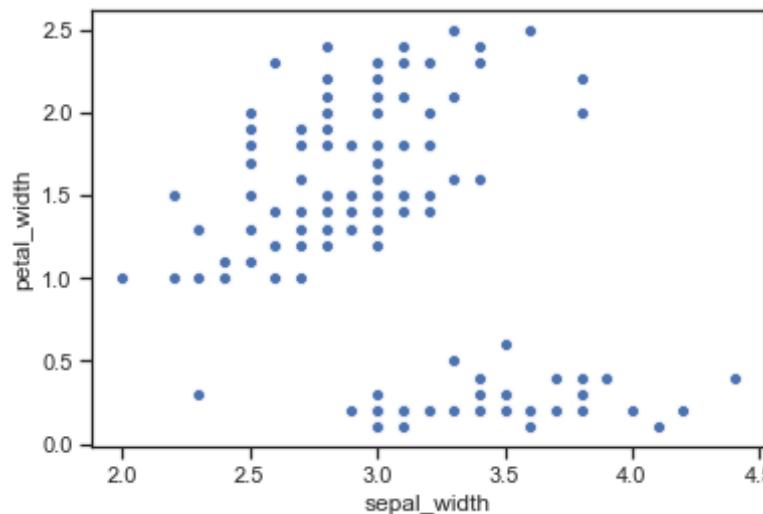
```
In [117]: #Example-02:
```

```
In [118]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt  
iris=pd.read_csv("iris.csv")  
iris.head()
```

Out[118]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [119]: sns.scatterplot(x='sepal_width',y='petal_width',data=iris)  
plt.show()
```



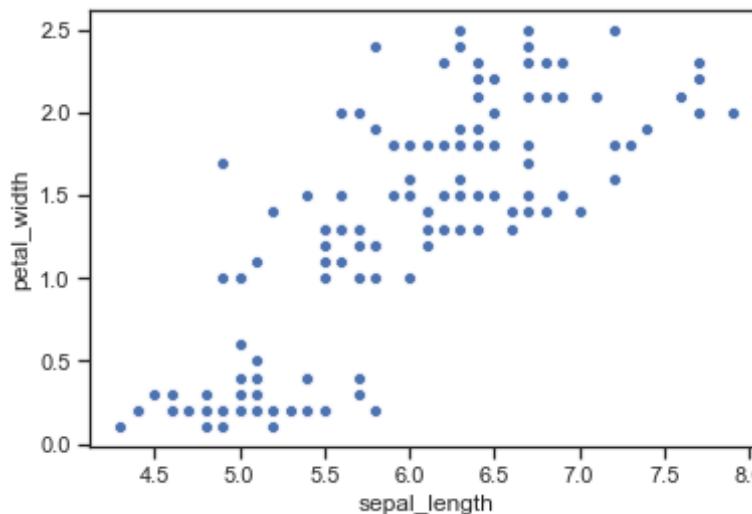
```
In [120]: #Example-03:
```

```
In [121]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt  
iris=pd.read_csv("iris.csv")  
  
iris.head()
```

Out[121]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [122]: sns.scatterplot(x='sepal_length',y='petal_width',data=iris)  
plt.show()
```



```
In [123]: #(iii).(a). Adding hue to scatter plot:
```

```
In [124]: #Example-01:
```

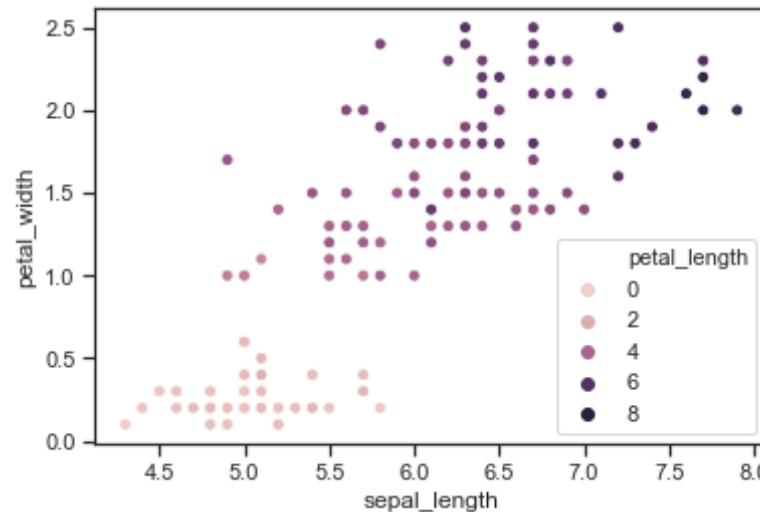
```
In [125]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt  
iris=pd.read_csv("iris.csv")  
iris.head()
```

Out[125]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
4	5.0	3.6	1.4	0.2	setosa

```
In [126]: sns.scatterplot(x='sepal_length',y='petal_width',data=iris,hue='petal_length')
plt.show()
```



```
In [127]: #Example-02:
```

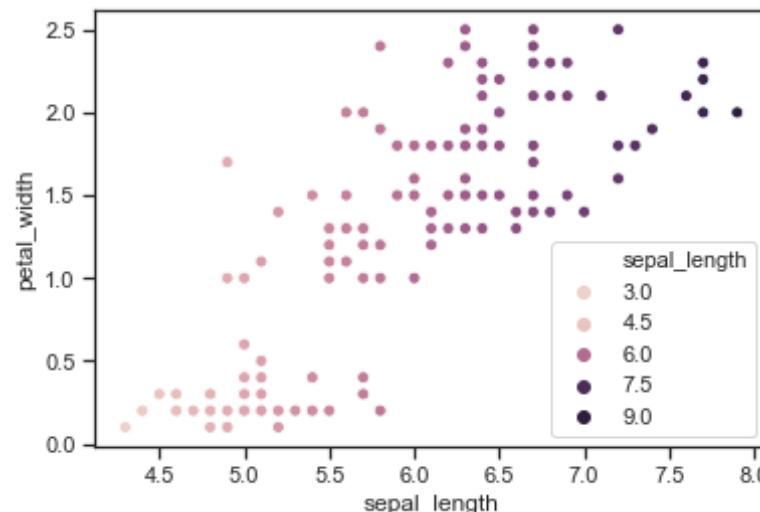
```
In [128]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[128]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [129]: sns.scatterplot(x='sepal_length',y='petal_width',data=iris,hue='sepal_length')
plt.show()
```



```
In [130]: #Example-03:
```

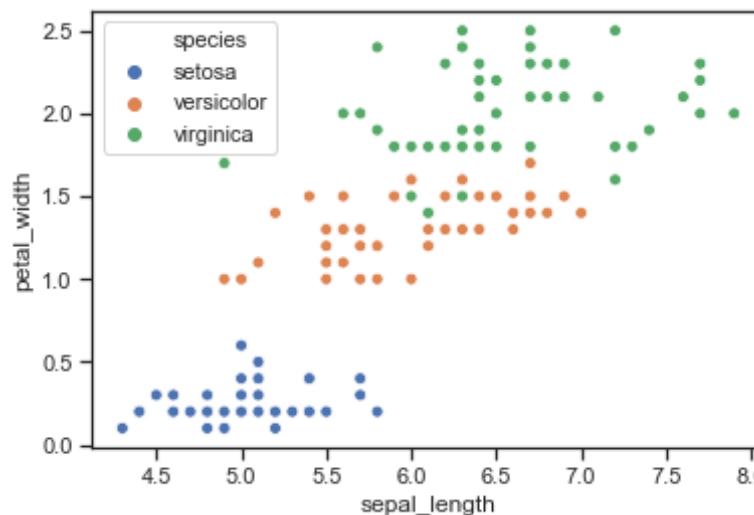
```
In [131]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[131]:

	sepal_length	sepal_width	petal_length	petal_width	species
--	--------------	-------------	--------------	-------------	---------

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [132]: sns.scatterplot(x='sepal_length',y='petal_width',data=iris,hue='species')
plt.show()
```



```
In [133]: #(iii).(b). Adding hue and style to scatter plot:
```

```
In [134]: #Example-01:
```

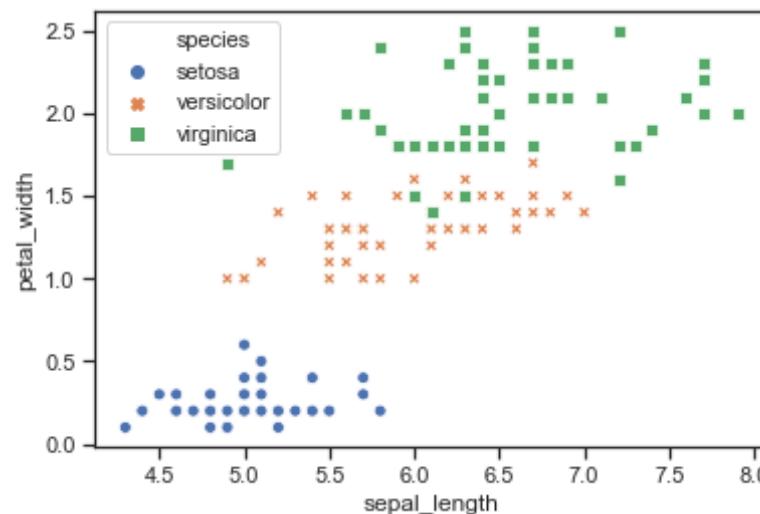
```
In [135]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
```

```
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[135]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [136]: `sns.scatterplot(x='sepal_length',y='petal_width',data=iris,hue='species',style = 'species')
plt.show()`



In [137]: `#Example-02;`

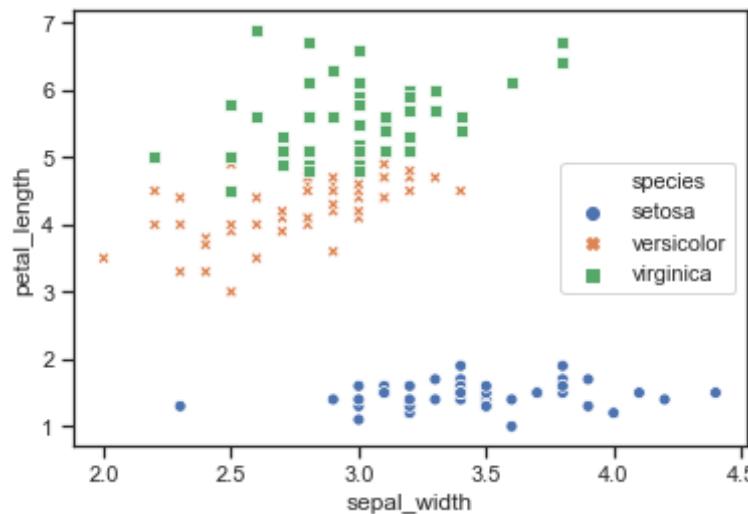
In [138]: `import pandas as pd
import seaborn as sns`

```
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[138]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [139]: sns.scatterplot(x='sepal_width',y='petal_length',data=iris,hue='species',style ='species')
plt.show()
```



```
In [140]: #Example-03:
```

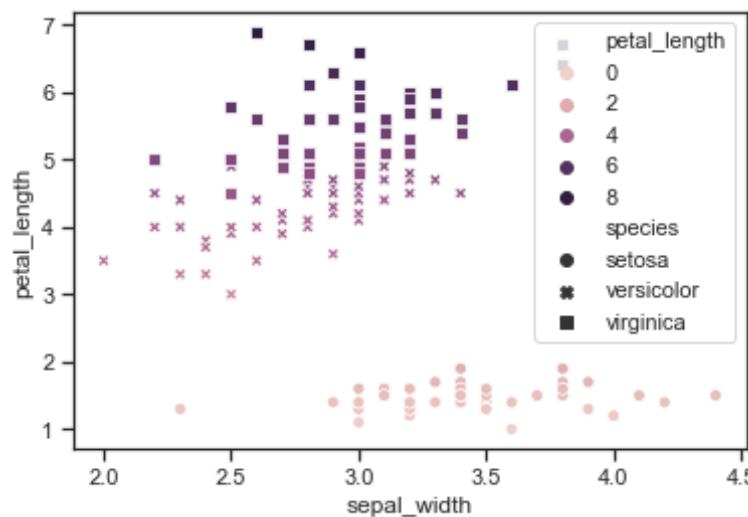
```
In [141]: import pandas as pd
```

```
import seaborn as sns
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[141]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [142]: `sns.scatterplot(x='sepal_width',y='petal_length',data=iris,hue='petal_length',style ='species')
plt.show()`



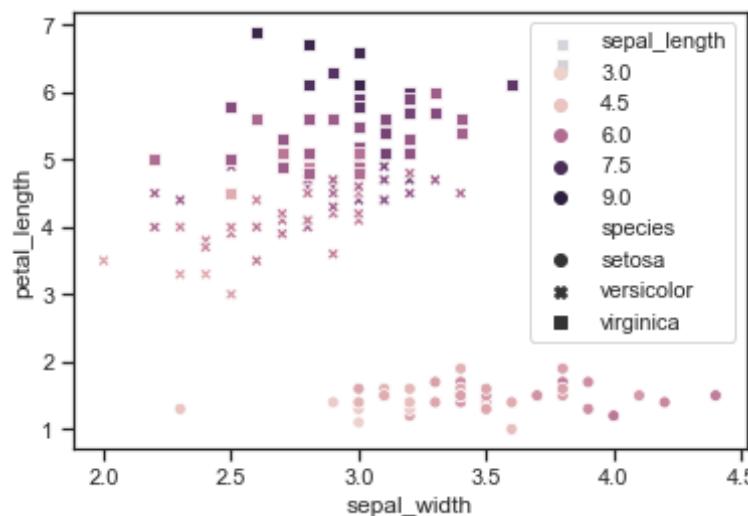
In [143]: #Example-04:

```
In [144]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[144]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [145]: sns.scatterplot(x='sepal_width',y='petal_length',data=iris,hue='sepal_l
ength',style ='species')
plt.show()
```



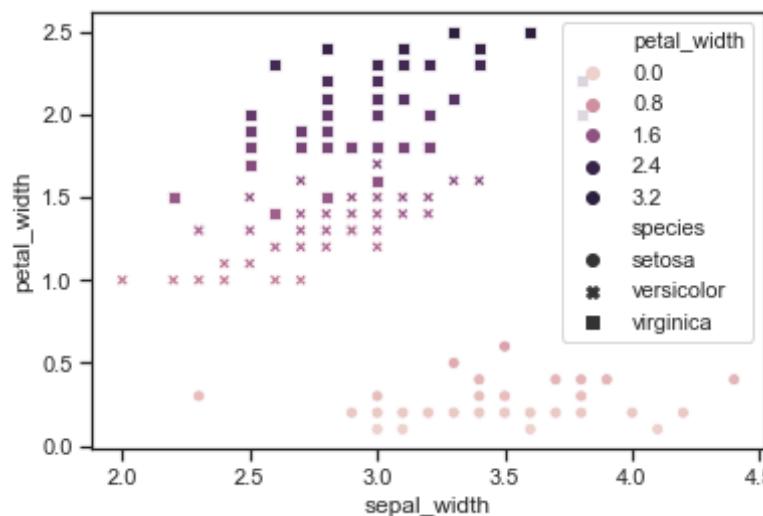
```
In [146]: #Example-05:
```

```
In [147]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris=pd.read_csv("iris.csv")
iris.head()
```

Out[147]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [148]: sns.scatterplot(x='sepal_width',y='petal_width',data=iris,hue='petal_width',style ='species')
plt.show()
```



```
In [149]: #(iv). Distribution Plot:-
```

```
In [150]: #Example-01:
```

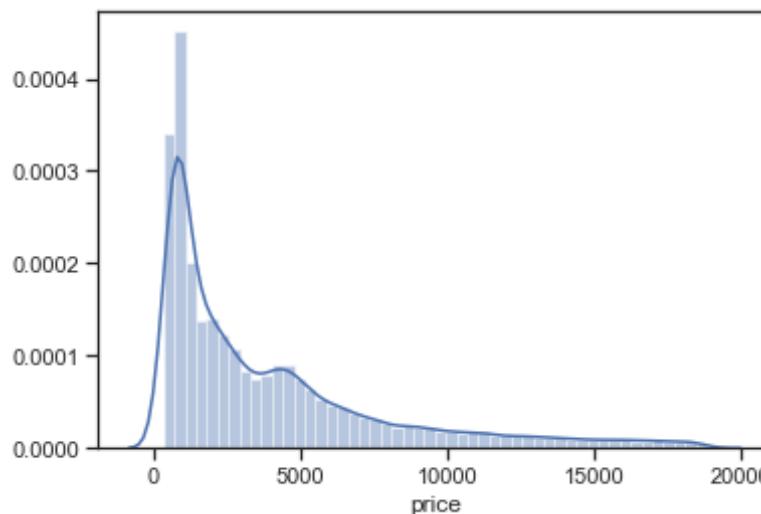
```
In [151]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt
```

```
In [152]: diamonds = pd.read_csv('diamonds.csv')  
diamonds.head()
```

Out[152]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [153]: sns.distplot(diamonds['price'])  
plt.show()
```



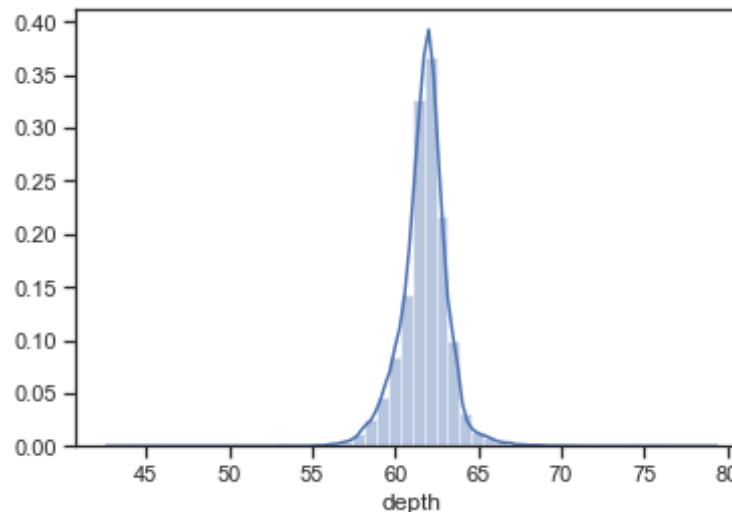
```
In [154]: #Example-02:
```

```
In [155]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[155]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [156]: sns.distplot(diamonds['depth'])
plt.show()
```



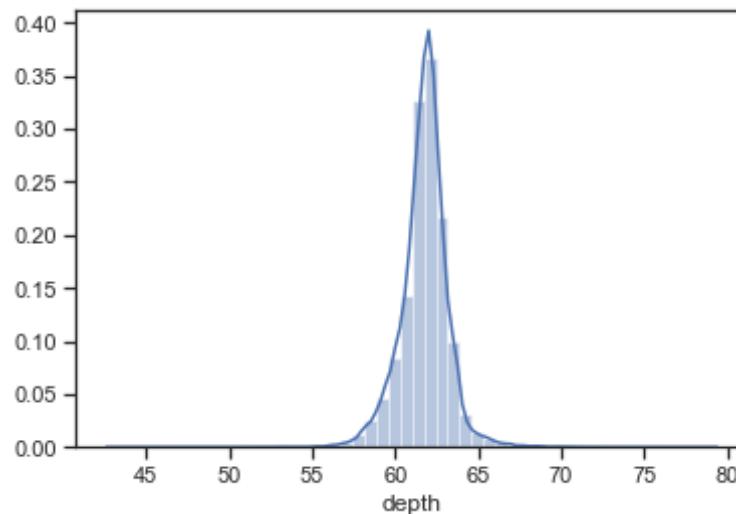
```
In [157]: #Example-03:
```

```
In [158]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

```
Out[158]:
```

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [159]: sns.distplot(diamonds['depth'])
plt.show()
```



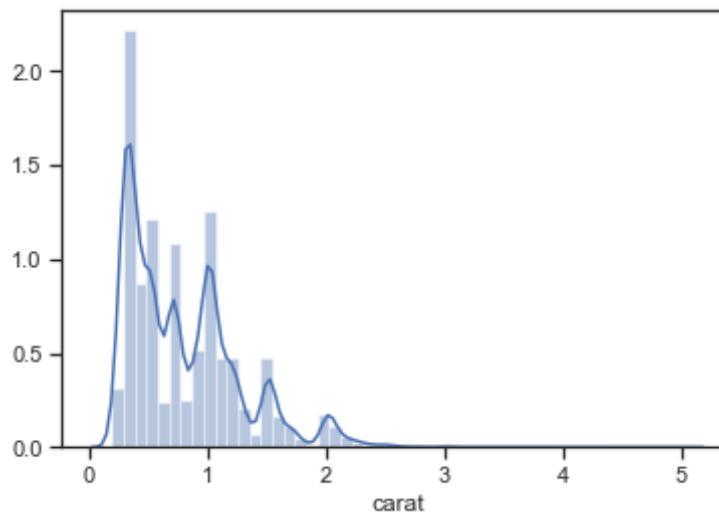
```
In [160]: #Example-04:
```

```
In [161]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[161]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [162]: sns.distplot(diamonds['carat'])
plt.show()
```



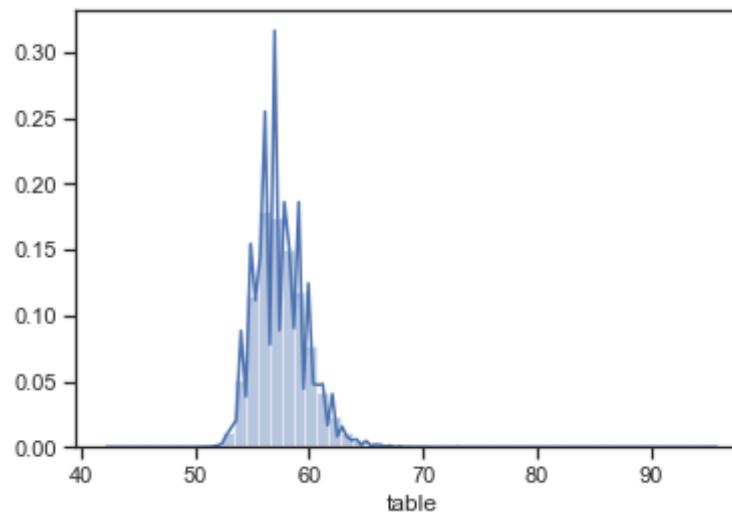
```
In [163]: #Example-05:
```

```
In [164]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[164]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [165]: sns.distplot(diamonds['table'])
plt.show()
```



```
In [166]: #iv. (a).Hiding histogram from distribution plot:
```

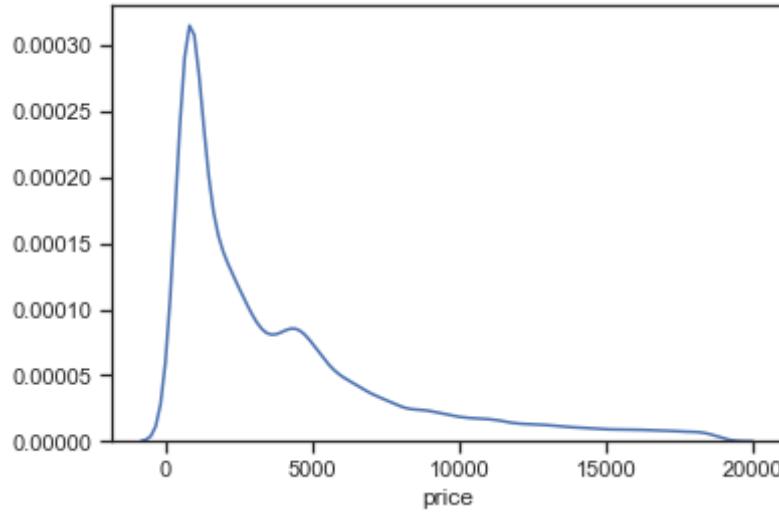
```
In [167]: #Example-01:
```

```
In [168]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[168]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [169]: sns.distplot(diamonds['price'],hist=False)
plt.show()
```



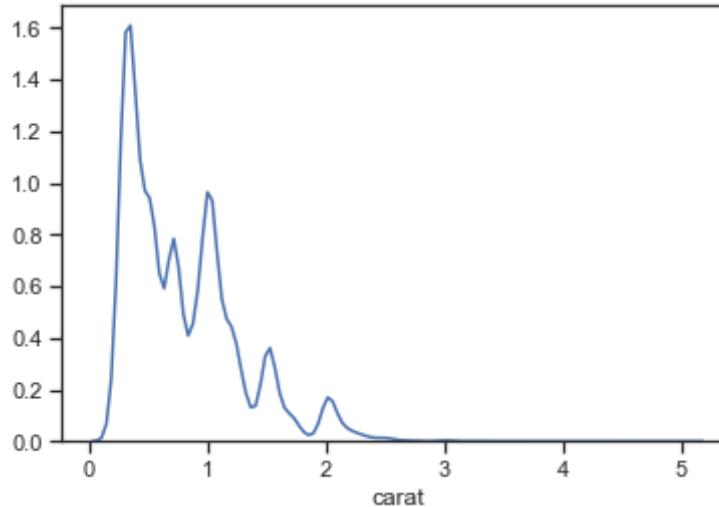
```
In [170]: #Example-02:
```

```
In [171]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[171]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [172]: sns.distplot(diamonds['carat'],hist=False)
plt.show()
```



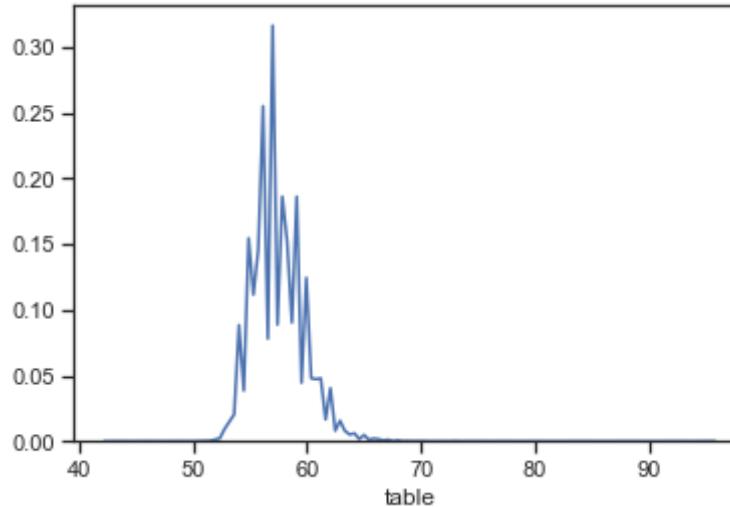
```
In [173]: #Example-03:
```

```
In [174]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[174]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [175]: sns.distplot(diamonds['table'], hist=False)
plt.show()
```



```
In [176]: #iv.(b).Adding color to distribution plot(with and without hiding histogram):
```

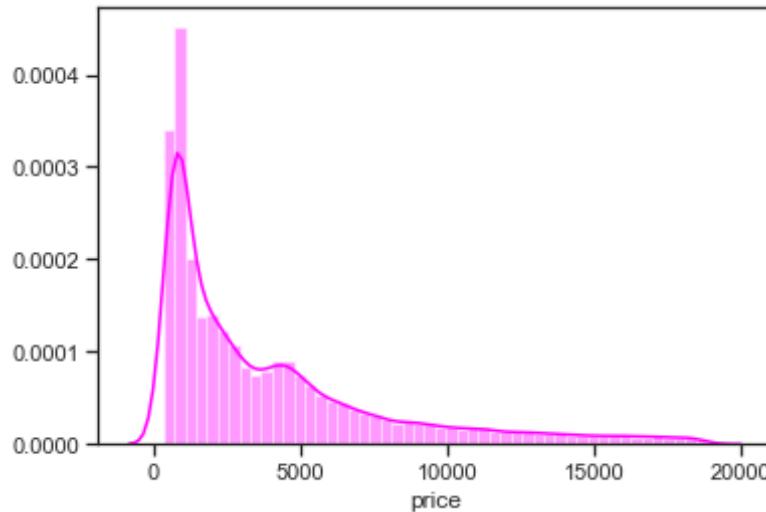
```
In [177]: #Example-01:
```

```
In [178]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[178]:

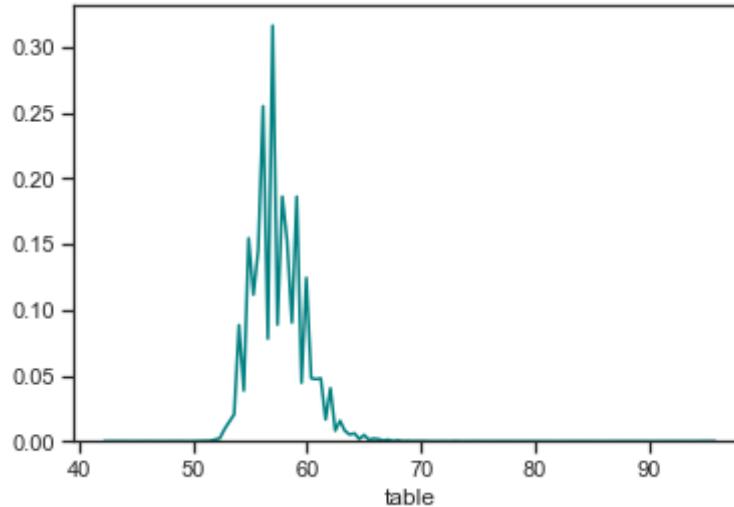
	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [179]: sns.distplot(diamonds['price'],hist=True,color = "Magenta")
plt.show()
```



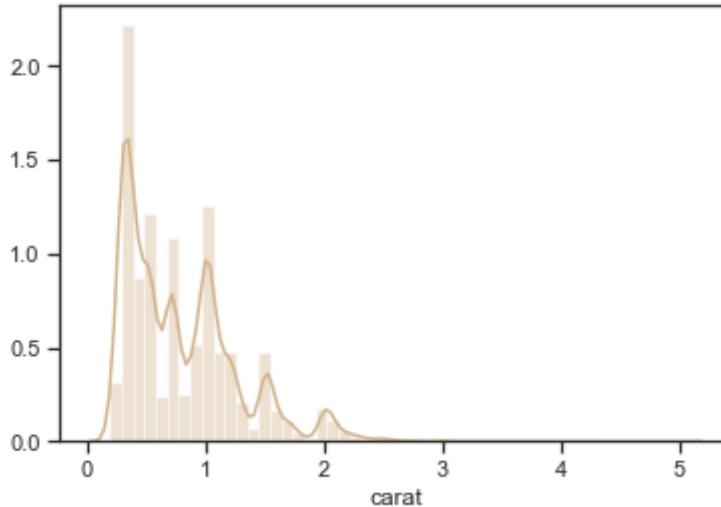
```
In [180]: #Example-02:
```

```
In [181]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['table'],hist=False,color = "teal")
plt.show()
```



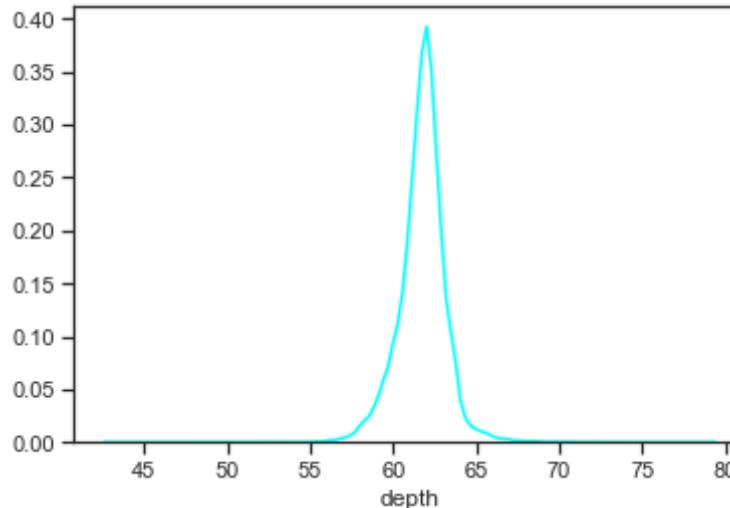
```
In [182]: #Example-03:
```

```
In [183]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['carat'],hist=True,color = "tan")
plt.show()
```



In [184]: #Example-04:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['depth'], hist=False, color = "cyan")
plt.show()
```



```
In [186]: #iv.(c).Hiding frequency curve from distribution plot:
```

```
In [187]: #Example-01:
```

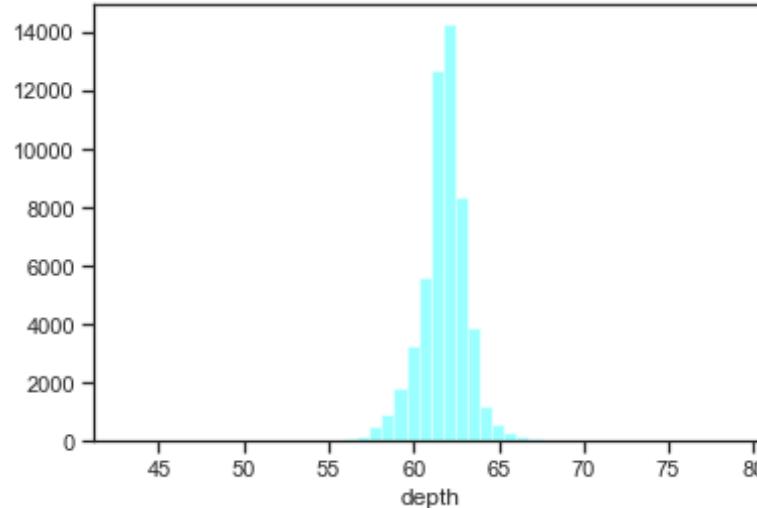
```
In [188]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[188]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

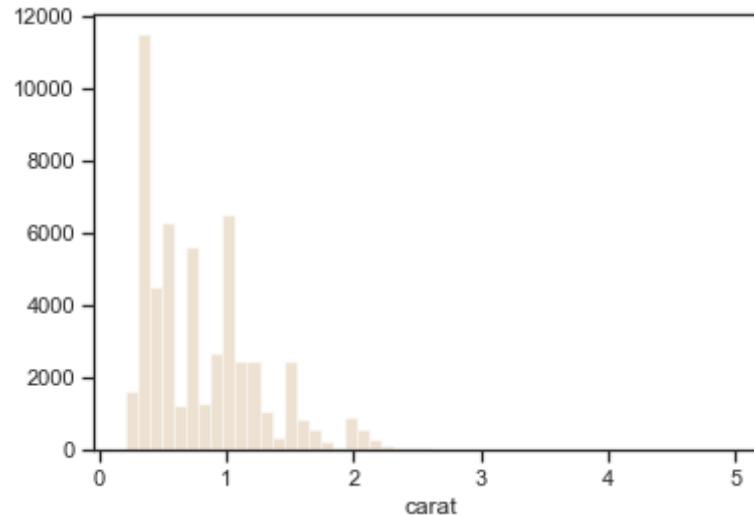
```
In [189]: sns.distplot(diamonds['depth'], color = "cyan", kde=False)
```

```
plt.show()
```



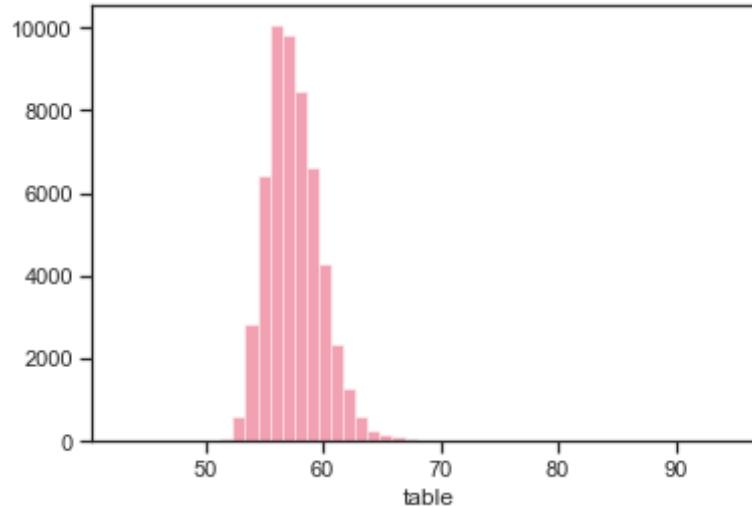
```
In [190]: #Example-02:
```

```
In [191]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['carat'],hist=True,color = "tan",kde=False)
plt.show()
```



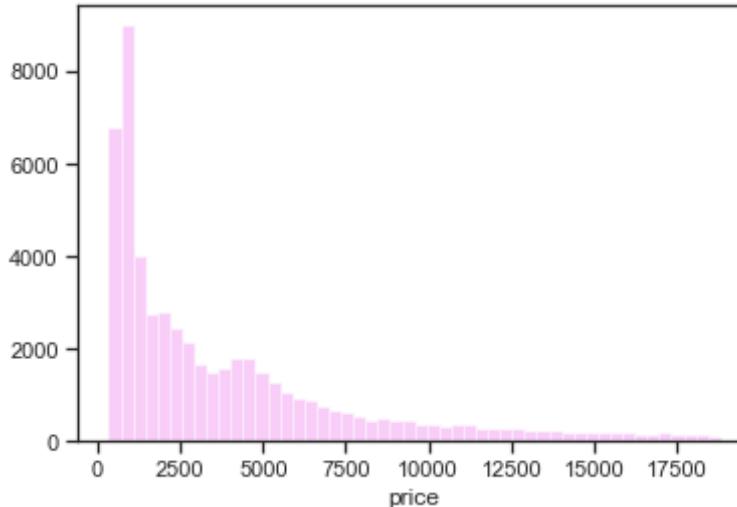
In [192]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['table'],color = "crimson",kde=False)
plt.show()
```



```
In [194]: #Example-04:
```

```
In [195]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['price'],hist=True,color = "violet",kde=False)
plt.show()
```



```
In [196]: #iv.(d). Fixing number of bins to histogram of distribution plot:
```

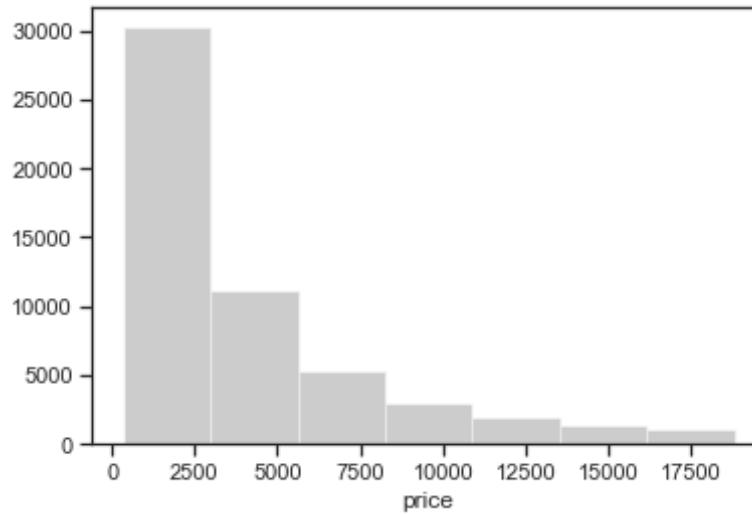
```
In [197]: #Example-01:
```

```
In [198]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[198]:

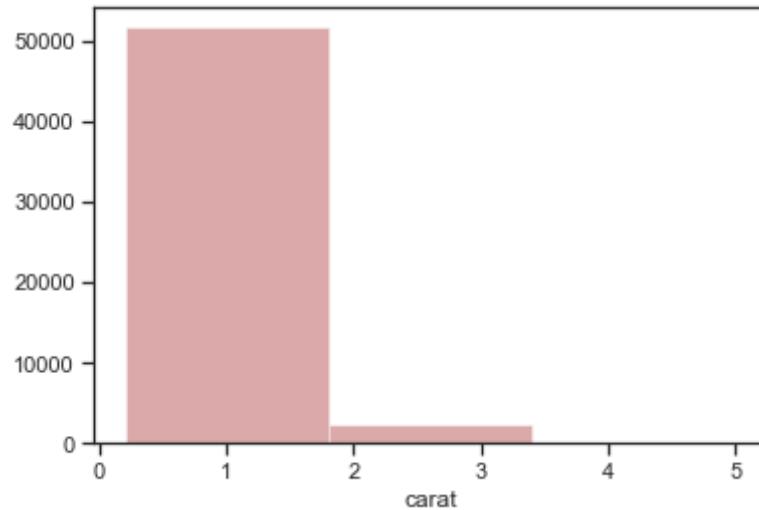
	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [199]: sns.distplot(diamonds['price'],color='Grey',kde=False,bins=7)
plt.show()
```



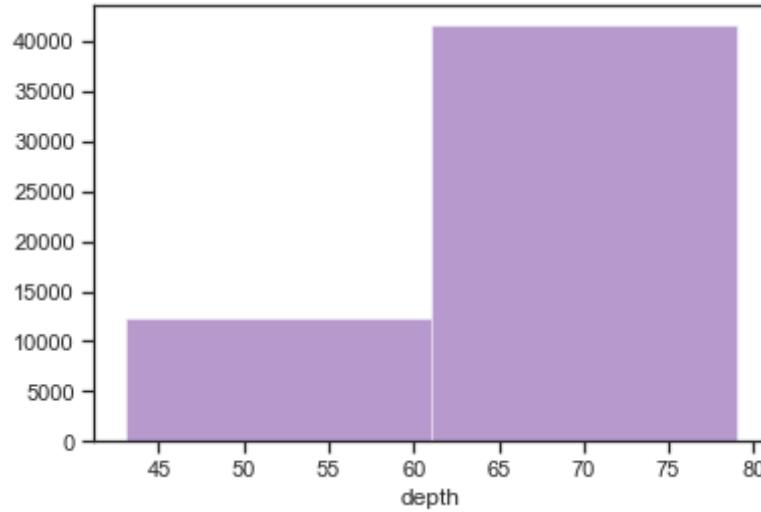
```
In [200]: #Example-02:
```

```
In [201]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['carat'],color='Brown',hist=True,kde=False,bins=3
)
plt.show()
```



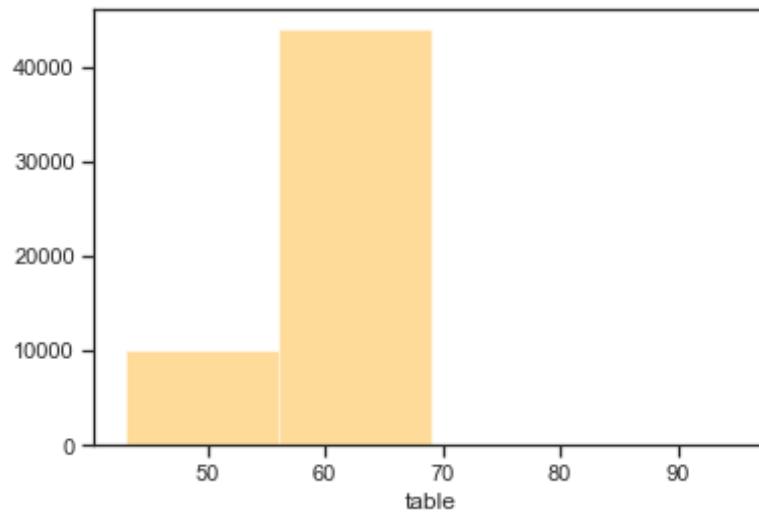
In [202]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
sns.distplot(diamonds['depth'],color='indigo',kde=False,bins=2)
plt.show()
```



In [204]: #Example-04:

In [205]:  
import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt  
diamonds = pd.read\_csv('diamonds.csv')  
sns.distplot(diamonds['table'], color='orange', hist=True, kde=False, bins=4)  
plt.show()



In [206]: *#iv.(e). Representing distplot parallel to x-axis i.e. horizontally i.e. mapping to x-axis:*

In [207]: *#Example-01:*

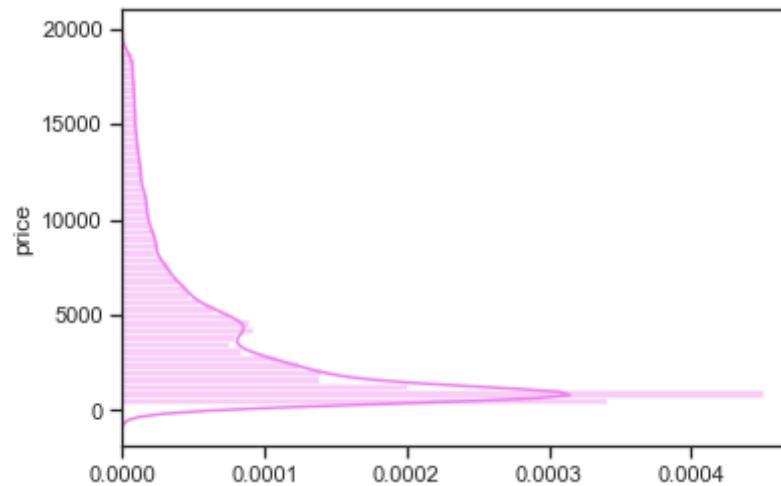
In [208]:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[208]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [209]: sns.distplot(diamonds['price'],color='violet',vertical=True)
plt.show()
```



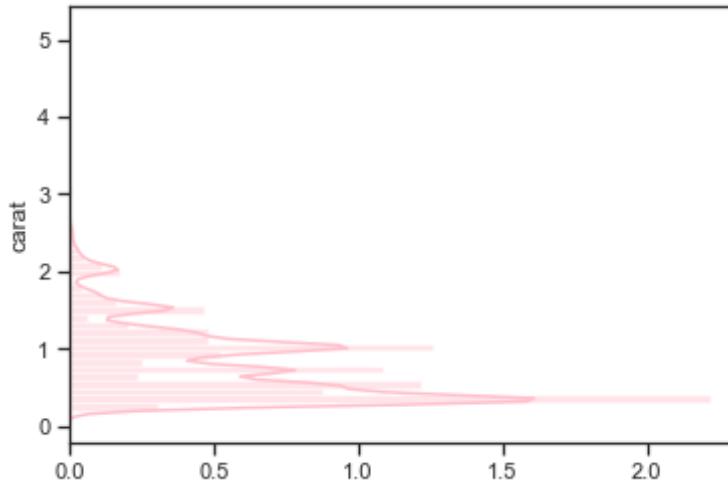
```
In [210]: #Example-02:
```

```
In [211]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[211]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [212]: sns.distplot(diamonds['carat'],hist=True,kde=True,color='pink',vertical  
=True)  
plt.show()
```



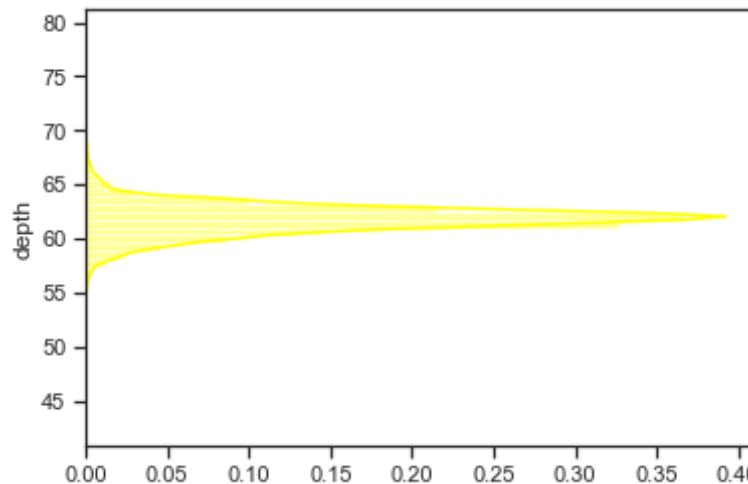
```
In [213]: #Example-03:
```

```
In [214]: import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt  
diamonds = pd.read_csv('diamonds.csv')  
diamonds.head()
```

Out[214]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [215]: sns.distplot(diamonds['depth'],hist=True,kde=True,color='yellow',vertical=True)
plt.show()
```



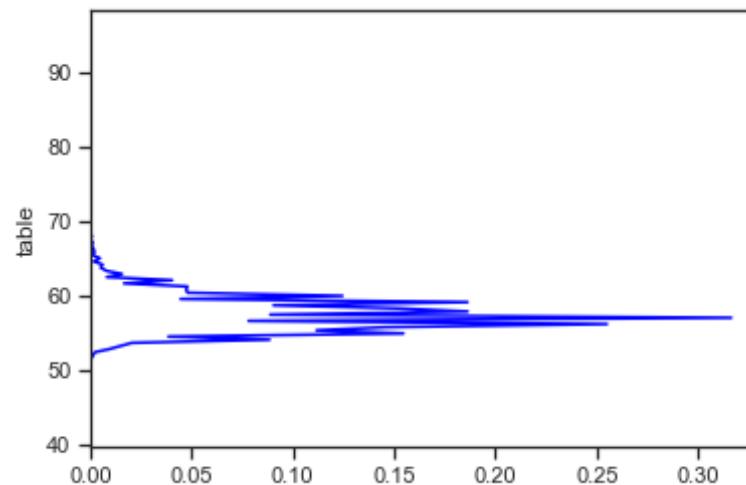
```
In [216]: #Example-04:
```

```
In [217]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[217]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [218]: sns.distplot(diamonds['table'],hist=False,kde=True,color='blue',vertical=True)
plt.show()
```



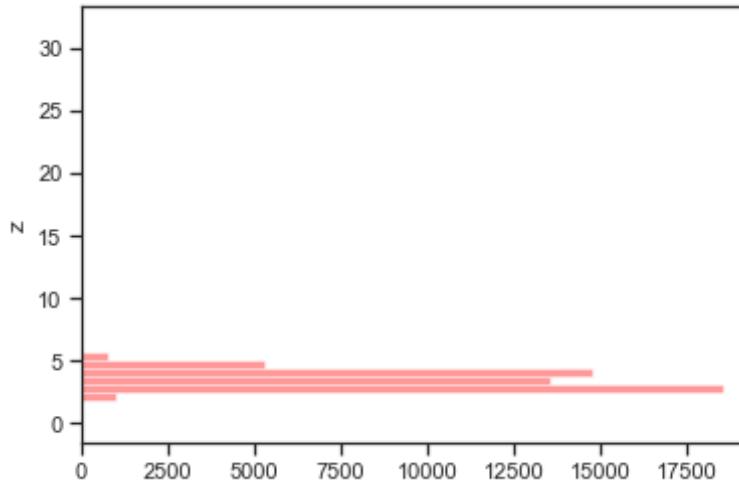
```
In [219]: #Example-05:
```

```
In [220]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
diamonds = pd.read_csv('diamonds.csv')
diamonds.head()
```

Out[220]:

	Unnamed: 0	carat	cut	color	clarity	depth	table	price	x	y	z
0	1	0.23	Ideal	E	SI2	61.5	55.0	326	3.95	3.98	2.43
1	2	0.21	Premium	E	SI1	59.8	61.0	326	3.89	3.84	2.31
2	3	0.23	Good	E	VS1	56.9	65.0	327	4.05	4.07	2.31
3	4	0.29	Premium	I	VS2	62.4	58.0	334	4.20	4.23	2.63
4	5	0.31	Good	J	SI2	63.3	58.0	335	4.34	4.35	2.75

```
In [221]: sns.distplot(diamonds['z'],hist=True,kde=False,color='red',vertical=True)
plt.show()
```



```
In [222]: #v.Joint Plot(a combination of histogram and scatterplot):
```

```
In [223]: #Example-01:
```

```
In [224]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
```

```
In [225]: iris = pd.read_csv('iris.csv')
```

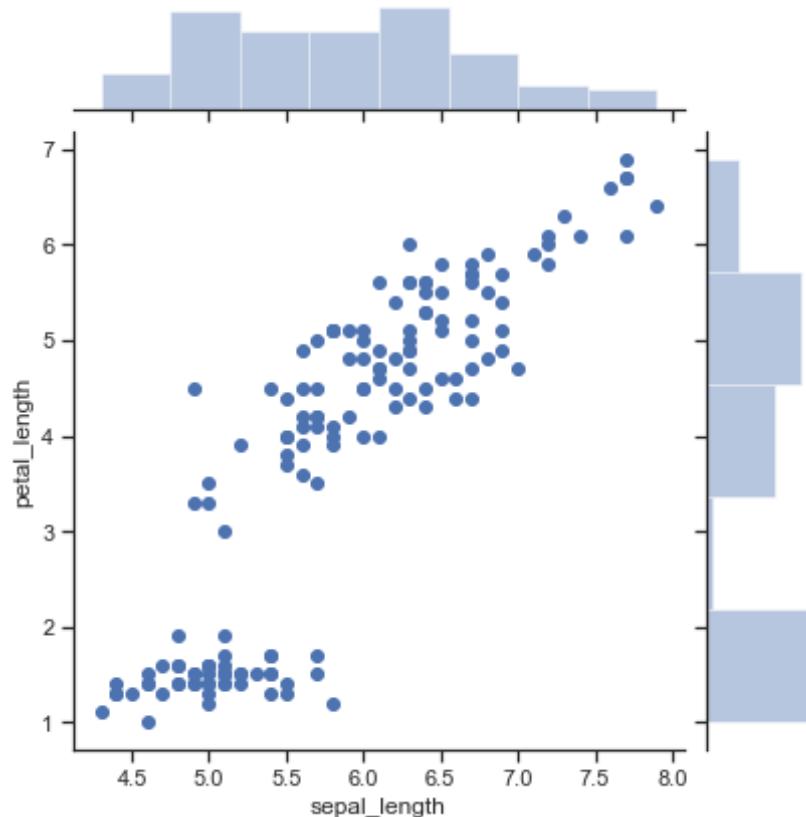
```
In [226]: iris.head()
```

```
Out[226]:
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [227]: sns.jointplot(x='sepal_length',y='petal_length',data=iris)  
plt.show()
```



```
In [228]: #Example-02:
```

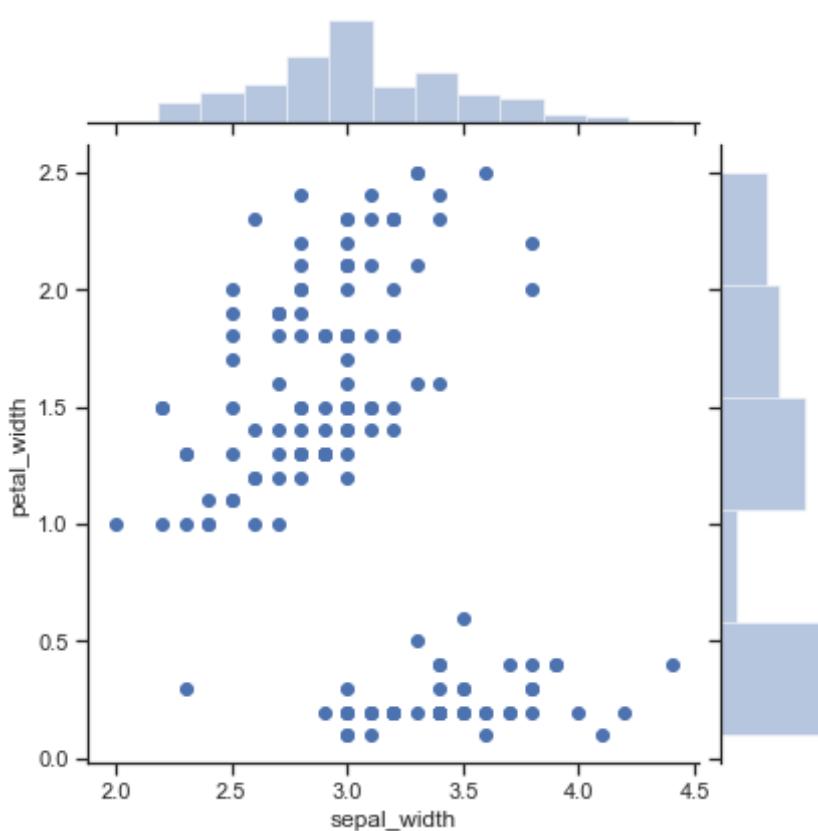
```
In [229]: import pandas as pd
```

```
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
iris.head()
```

Out[229]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [230]: `sns.jointplot(x='sepal_width',y='petal_width',data=iris)`  
`plt.show()`



In [231]: #Example-03:

In [232]:

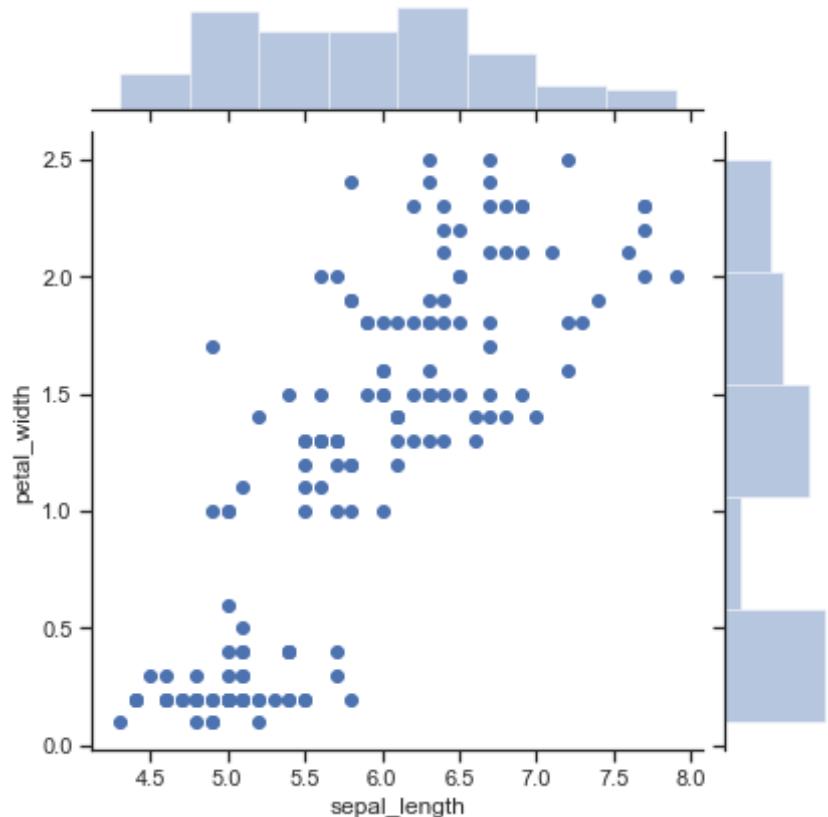
```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
iris.head()
```

Out[232]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [233]: sns.jointplot(x='sepal_length',y='petal_width',data=iris)  
plt.show()
```



```
In [234]: #v. (a).Adding color to jointplot:
```

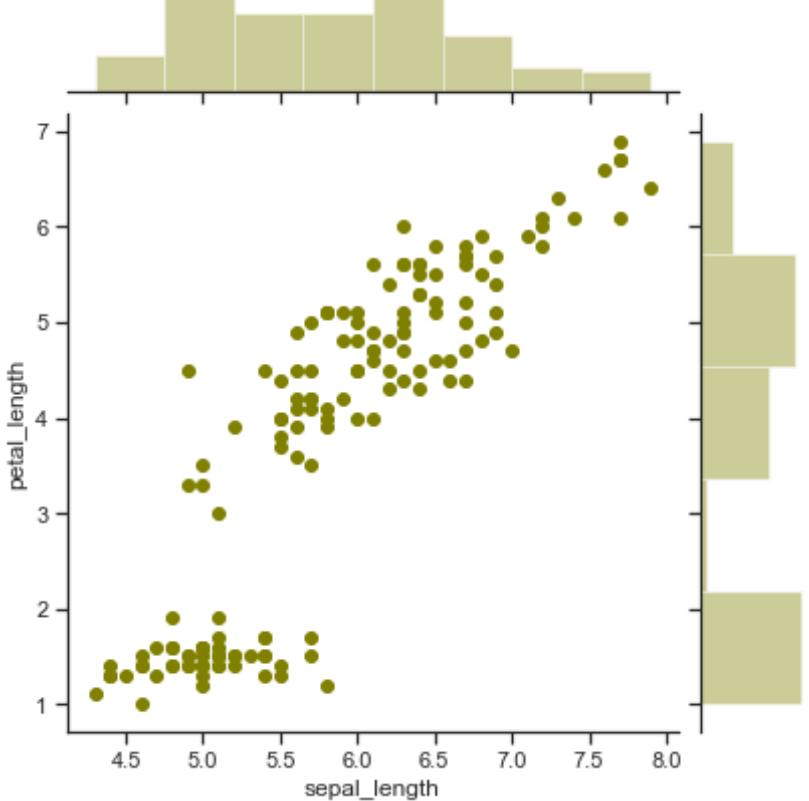
```
In [235]: #Example-01:
```

```
In [236]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
iris.head()
```

Out[236]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [237]: sns.jointplot(x='sepal_length',y='petal_length',data=iris,color='olive')
plt.show()
```



In [238]: #Example-02:

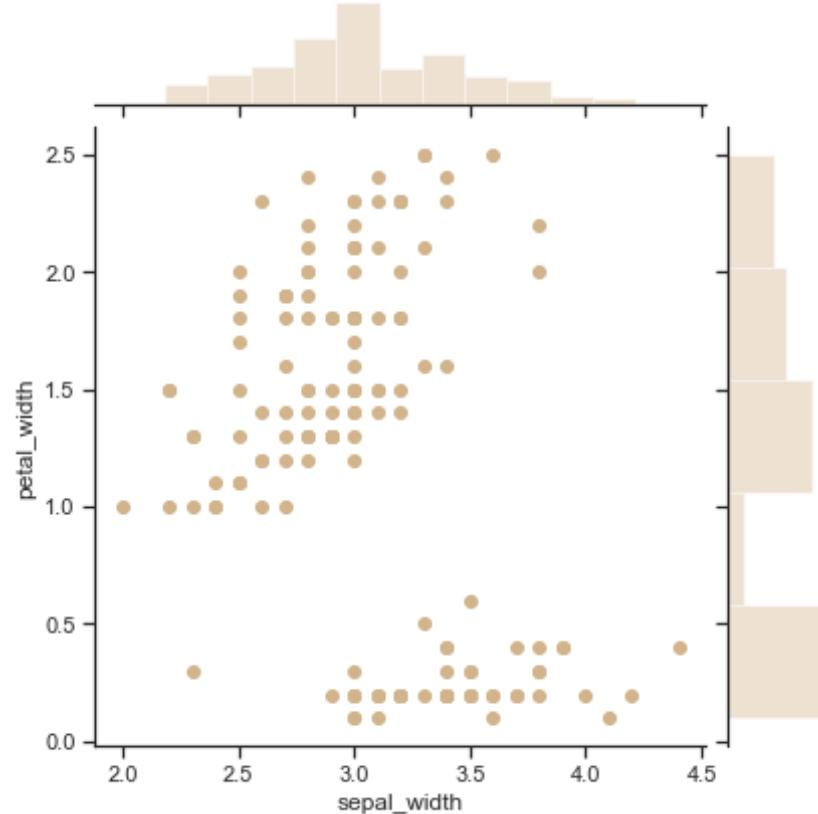
```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
iris.head()
```

Out[239]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa

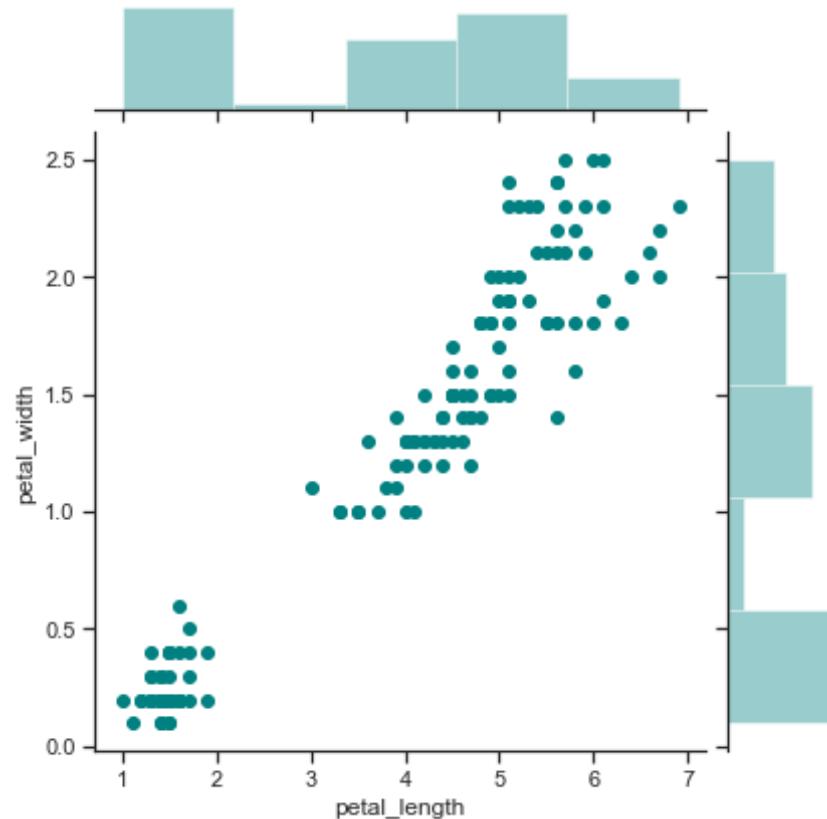
	sepal_length	sepal_width	petal_length	petal_width	species
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [240]: sns.jointplot(x='sepal_width',y='petal_width',data=iris,color='tan')
plt.show()
```



```
In [241]: #Example-03:
```

```
In [242]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
sns.jointplot(x='petal_length',y='petal_width',data=iris,color='teal')
plt.show()
```

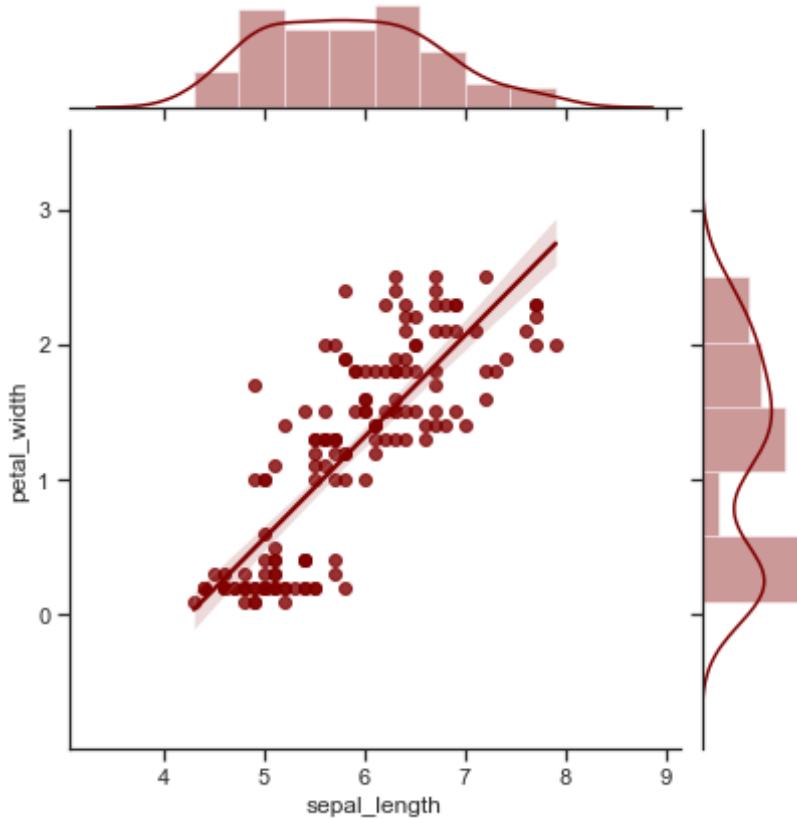


```
In [243]: #v.(b).Adding a regression line to jointplot:
```

```
In [244]: #Example-01:
```

```
In [245]: import pandas as pd
```

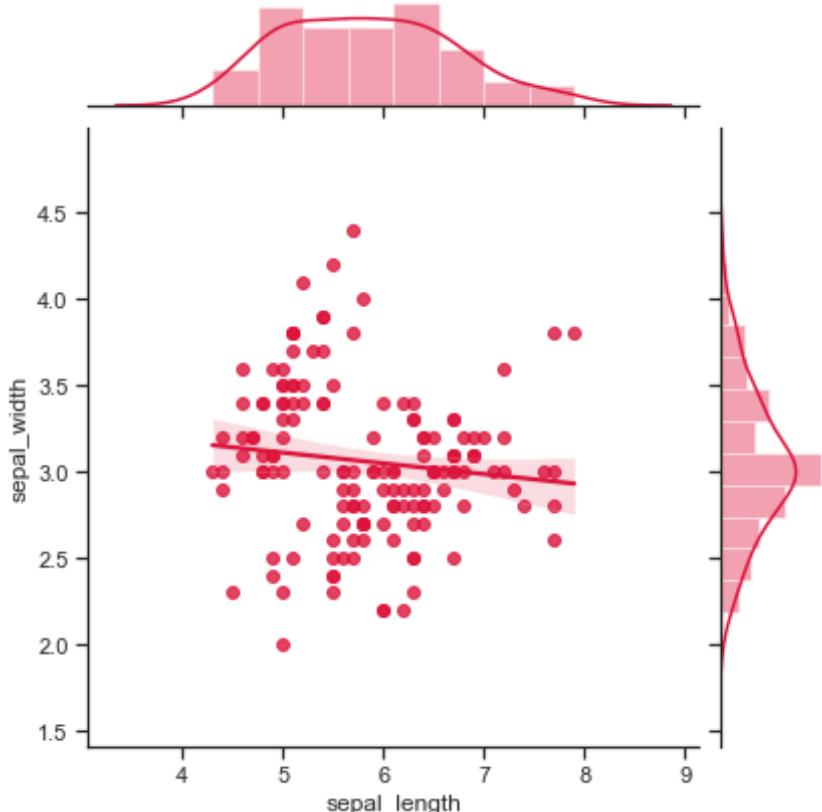
```
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
sns.jointplot(x='sepal_length',y='petal_width',data=iris,color='maroon'
,kind='reg')
plt.show()
```



In [246]: #Example-02:

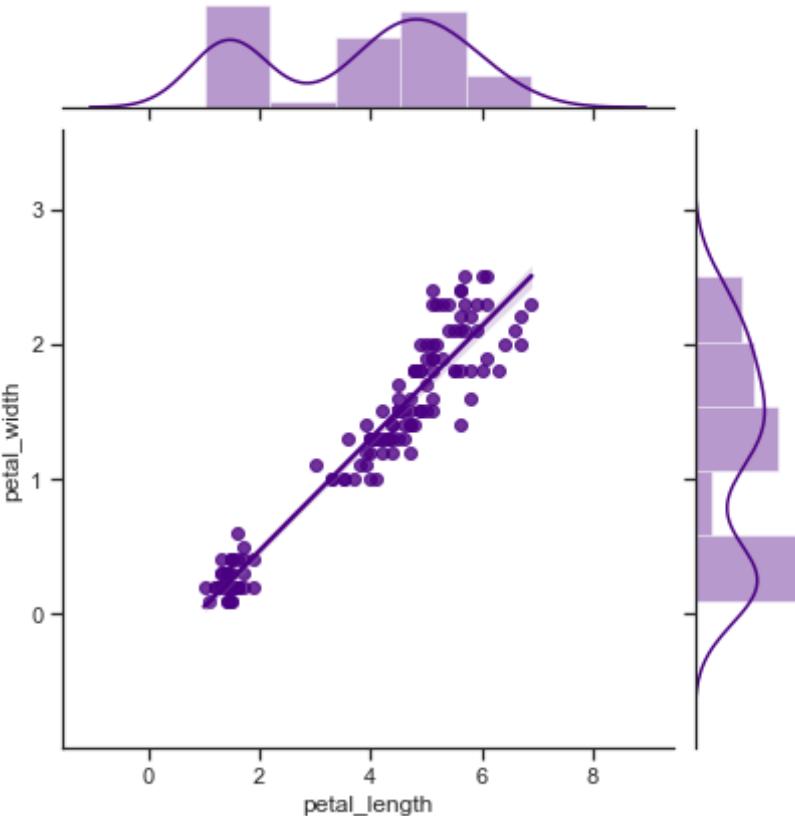
```
In [247]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
```

```
sns.jointplot(x='sepal_length',y='sepal_width',data=iris,color='crimson',kind='reg')
plt.show()
```



In [248]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
iris = pd.read_csv('iris.csv')
sns.jointplot(x='petal_length',y='petal_width',data=iris,color='indigo',kind='reg')
plt.show()
```



```
In [250]: #Vi.Box Plot:
```

```
In [251]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
```

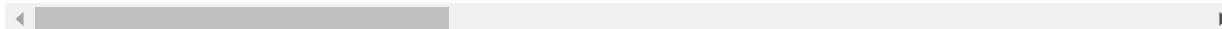
```
In [252]: churn = pd.read_csv('churn.csv')
churn.head()
```

```
Out[252]:
```

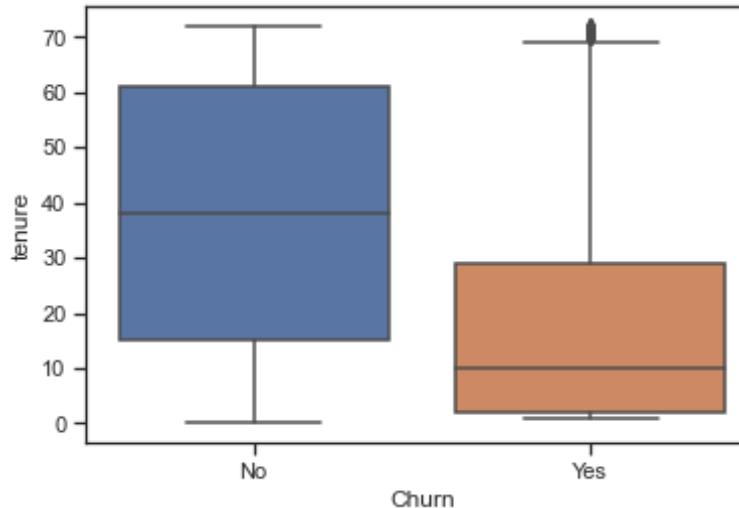
customerID	gender	SeniorCitizen	Partner	Dependents	tenure	PhoneService	MultipleLines
------------	--------	---------------	---------	------------	--------	--------------	---------------

	customerID	gender	SeniorCitizen	Partner	Dependents	tenure	PhoneService	MultipleLines
0	7590-VHVEG	Female	0	Yes	No	1	No	No phone service
1	5575-GNVDE	Male	0	No	No	34	Yes	No
2	3668-QPYBK	Male	0	No	No	2	Yes	No
3	7795-CFOCW	Male	0	No	No	45	No	No phone service
4	9237-HQITU	Female	0	No	No	2	Yes	No

5 rows × 21 columns

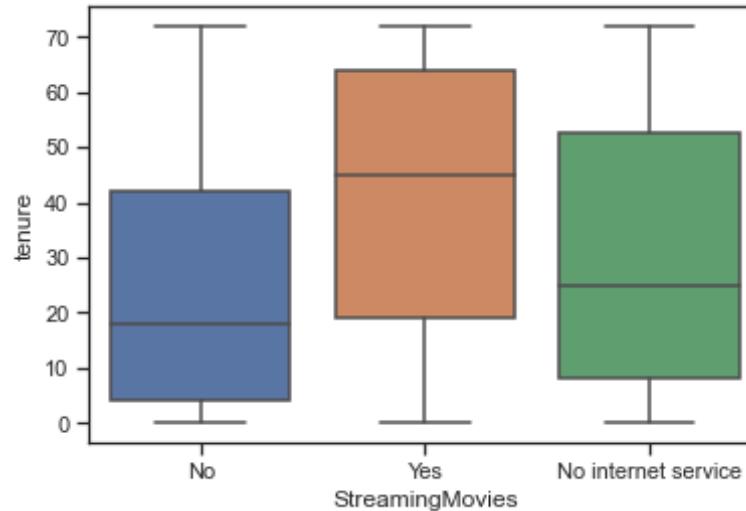


```
In [253]: sns.boxplot(x='Churn',y='tenure',data=churn)  
plt.show()
```



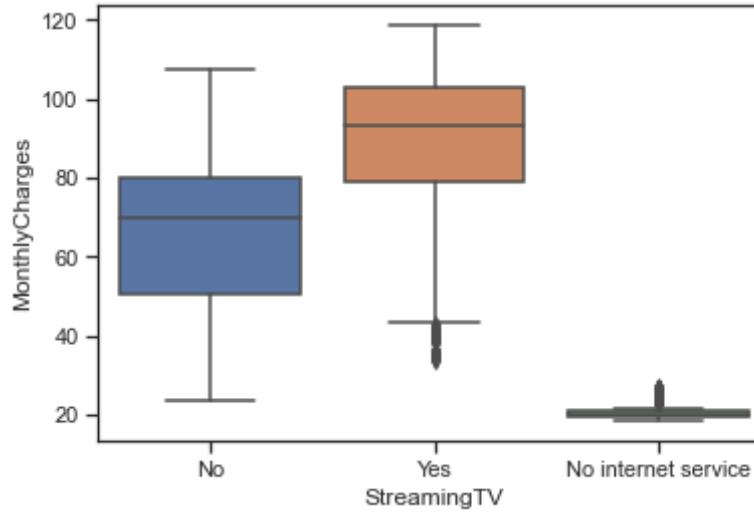
```
In [254]: #Example-02:
```

```
In [255]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='StreamingMovies',y='tenure',data=churn)
plt.show()
```



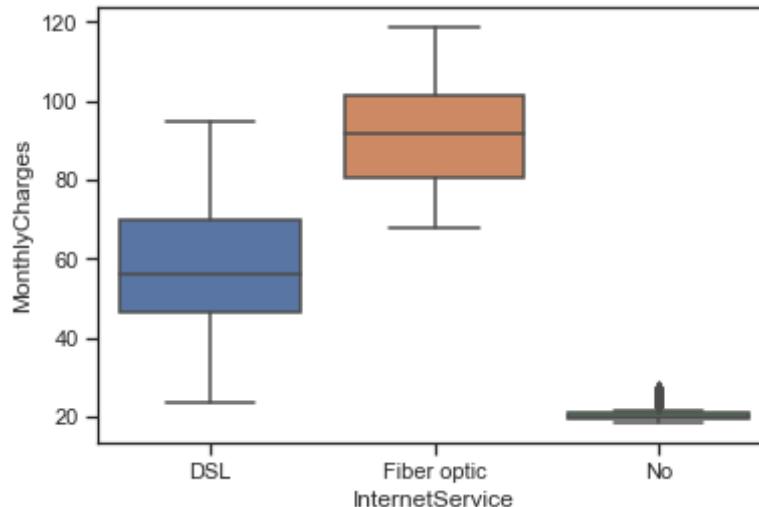
```
In [256]: #Example-03:
```

```
In [257]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='StreamingTV',y='MonthlyCharges',data=churn)
plt.show()
```



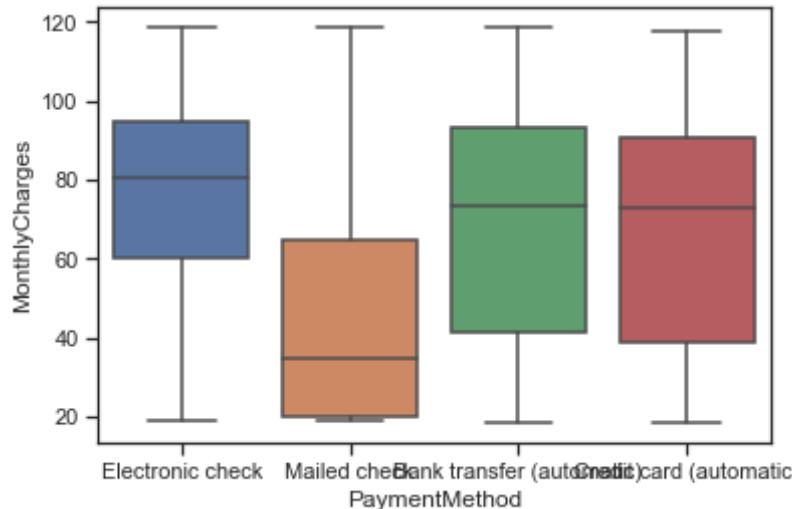
In [258]: #Example-04:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='InternetService',y='MonthlyCharges',data=churn)
plt.show()
```



```
In [260]: #Example-05:
```

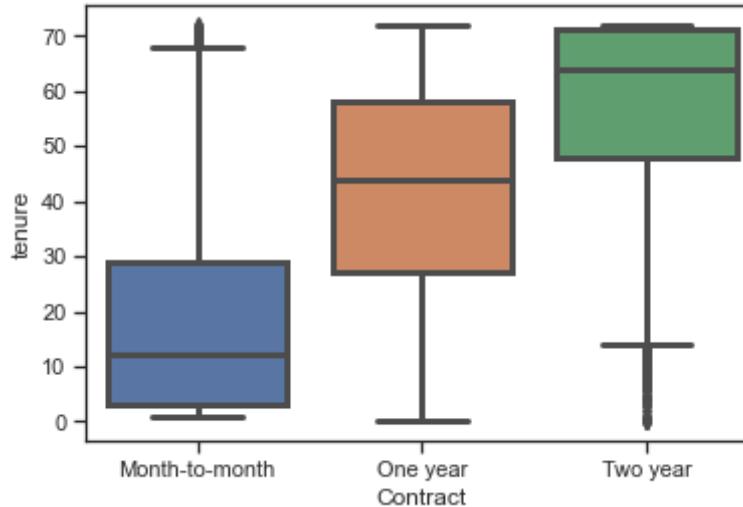
```
In [261]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='PaymentMethod',y='MonthlyCharges',data=churn)
plt.show()
```



```
In [262]: #vi.(a).Adding linewidth to boxplot:
```

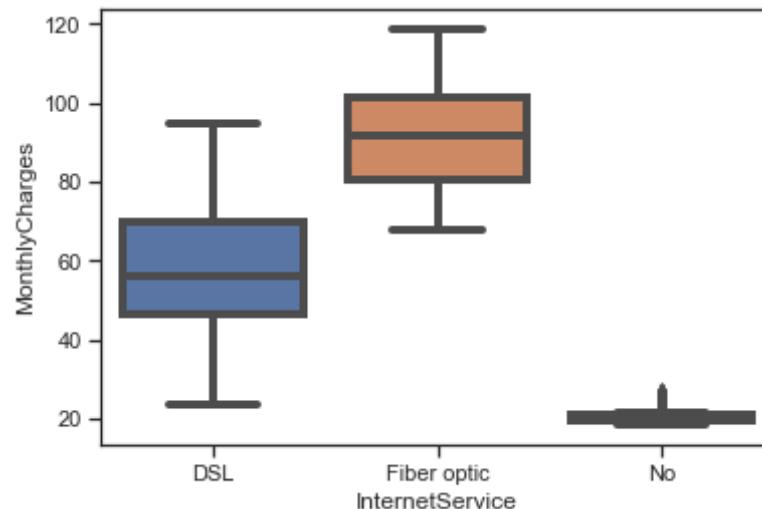
```
In [263]: #Example-01:
```

```
In [264]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='Contract',y='tenure',data=churn,linewidth=3)
plt.show()
```



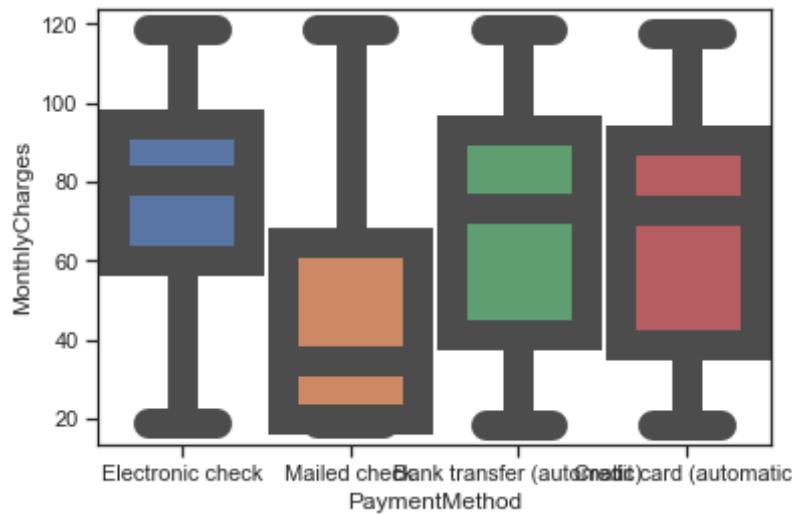
In [265]: #Example-02:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='InternetService',y='MonthlyCharges',data=churn,linewidth=4)
plt.show()
```



In [267]: #Example-03:

```
import pandas as pd
import seaborn as sns
from matplotlib import pyplot as plt
churn = pd.read_csv('churn.csv')
sns.boxplot(x='PaymentMethod',y='MonthlyCharges',data=churn,linewidth=1.5)
plt.show()
```



```
In [269]: #vii.PairPlot:
```

```
In [270]: #Example-01:
```

```
In [271]: import pandas as pd
import seaborn as sns
from matplotlib import pyplot as pd
```

```
In [272]: df = sns.load_dataset('iris')
```

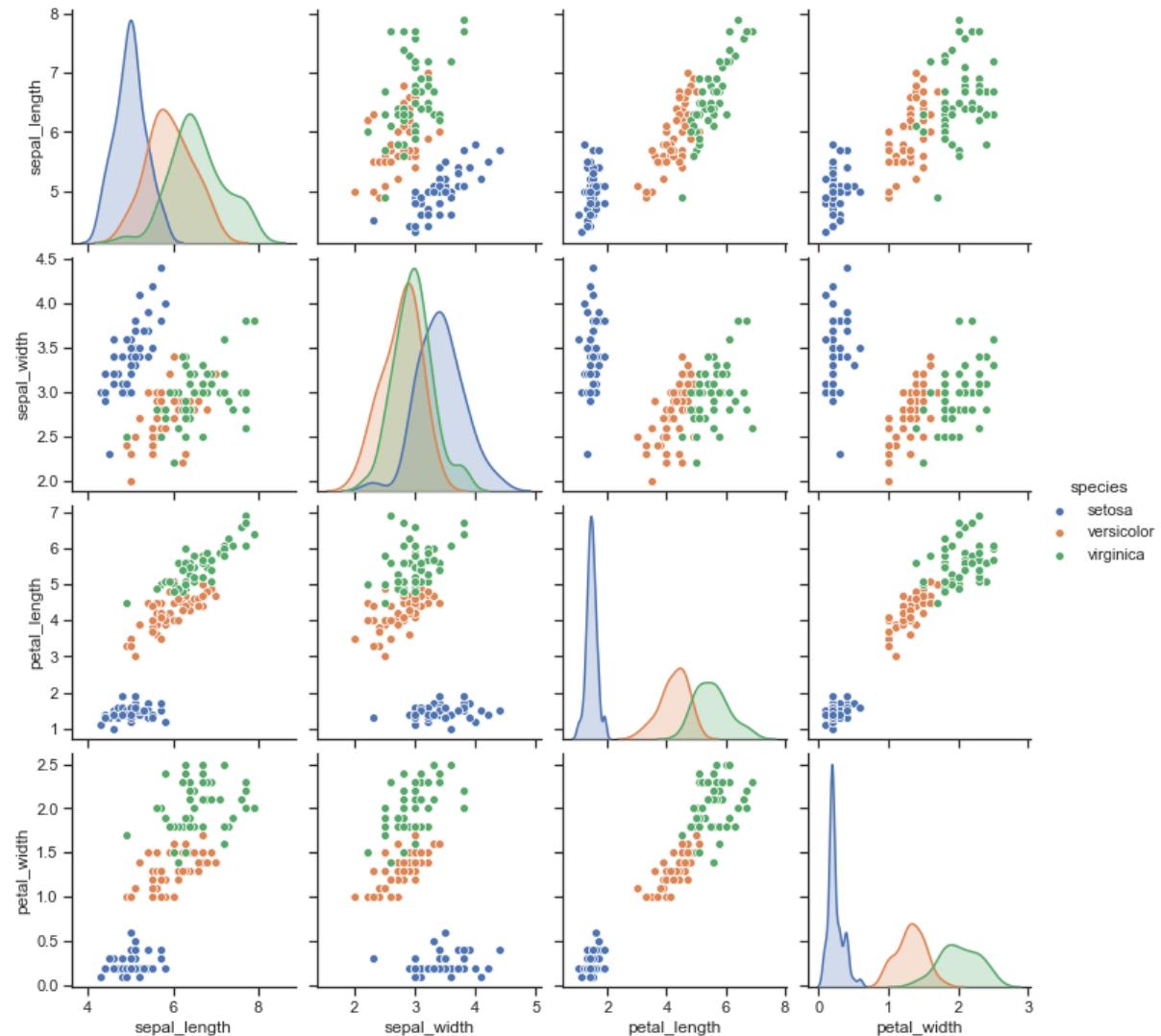
```
In [273]: df.head()
```

Out[273]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
In [274]: sns.pairplot(df,hue='species')
plt.show()
```



In [275]: #Example - 02:

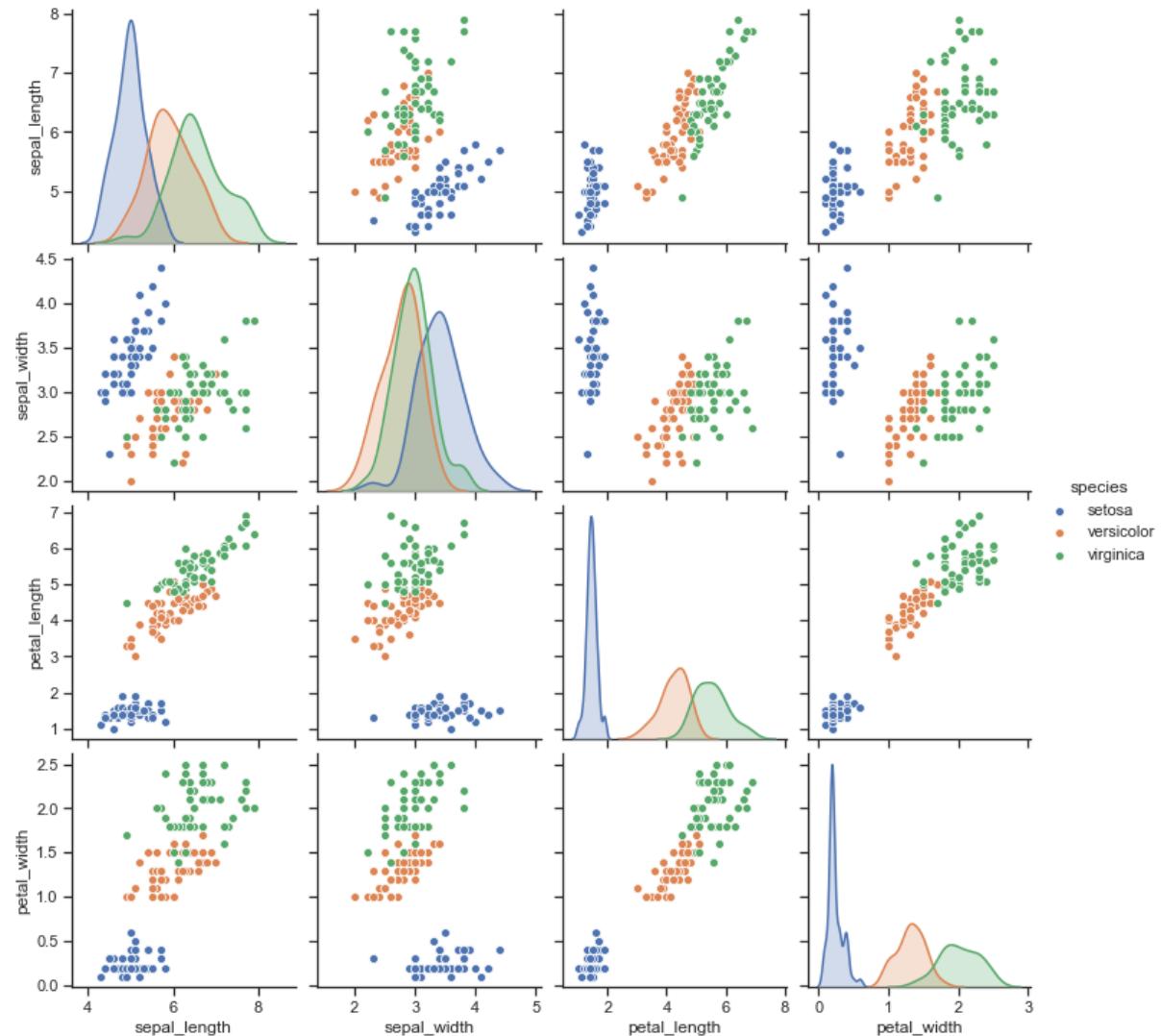
In [276]:  
import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt

```
iris= pd.read_csv('iris.csv')
iris.head()
```

Out[276]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [277]: `sns.pairplot(iris,hue='species')`  
`plt.show()`



In [278]: #Example -03:

In [279]:  
import pandas as pd  
import seaborn as sns  
from matplotlib import pyplot as plt

```
fmri= sns.load_dataset('fmri')
fmri.head()
```

Out[279]:

	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970

In [280]: `sns.pairplot(fmri,hue='region')
plt.show()`

