

```
In [1]: import seaborn as sns
```

```
In [2]: import warnings  
warnings.filterwarnings("ignore", category=FutureWarning)
```

```
In [3]: sns.get_dataset_names()
```

```
Out[3]: ['anagrams',
         'anscombe',
         'attention',
         'brain_networks',
         'car_crashes',
         'diamonds',
         'dots',
         'dowjones',
         'exercise',
         'flights',
         'fmri',
         'geyser',
         'glue',
         'healthexp',
         'iris',
         'mpg',
         'penguins',
         'planets',
         'seaice',
         'taxi',
         'tips',
         'titanic',
         'anagrams',
         'anagrams',
         'anscombe',
         'anscombe',
         'attention',
         'attention',
         'brain_networks',
         'brain_networks',
         'car_crashes',
         'car_crashes',
         'diamonds',
         'diamonds',
         'dots',
         'dots',
         'dowjones',
         'dowjones',
         'exercise',
         'exercise',
         'flights',
         'flights',
         'fmri',
         'fmri',
         'geyser',
         'geyser',
         'glue',
         'glue',
         'healthexp',
         'healthexp',
         'iris',
         'iris',
         'mpg',
         'mpg',
         'penguins',
         'penguins',
         'planets',
         'planets',
         'seaice',
         'seaice',
```

```

'taxis',
'taxis',
'tips',
'tips',
'titanic',
'titanic',
'anagrams',
'anscombe',
'attention',
'brain_networks',
'car_crashes',
'diamonds',
'dots',
'dowjones',
'exercise',
'flights',
'fmri',
'geyser',
'glue',
'healthexp',
'iris',
'mpg',
'penguins',
'planets',
'seaice',
'taxis',
'tips',
'titanic']

```

```

In [4]: tips = sns.load_dataset("tips")
tips.head()

```

```

Out[4]:
   total_bill  tip  sex  smoker  day  time  size
0      16.99  1.01 Female     No  Sun  Dinner    2
1      10.34  1.66   Male     No  Sun  Dinner    3
2      21.01  3.50   Male     No  Sun  Dinner    3
3      23.68  3.31   Male     No  Sun  Dinner    2
4      24.59  3.61 Female     No  Sun  Dinner    4

```

```

In [5]: titanic = sns.load_dataset("titanic")
titanic.head()

```

```

Out[5]:
   survived  pclass  sex  age  sibsp  parch  fare  embarked  class  who  adul
0         0      3  male  22.0    1     0   7.2500          S  Third  man
1         1      1 female  38.0    1     0  71.2833          C  First  woman
2         1      3 female  26.0    0     0   7.9250          S  Third  woman
3         1      1 female  35.0    1     0  53.1000          S  First  woman
4         0      3  male  35.0    0     0   8.0500          S  Third  man

```



```
In [6]: tips
```

```
Out[6]:
```

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4
...
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2
243	18.78	3.00	Female	No	Thur	Dinner	2

244 rows × 7 columns

```
In [7]: sns.set_theme(style = "darkgrid")
```

```
In [8]: tips.to_csv("tips_dataset.csv",index=False)
import pandas as pd
```

```
In [9]: import os
os.getcwd()
```

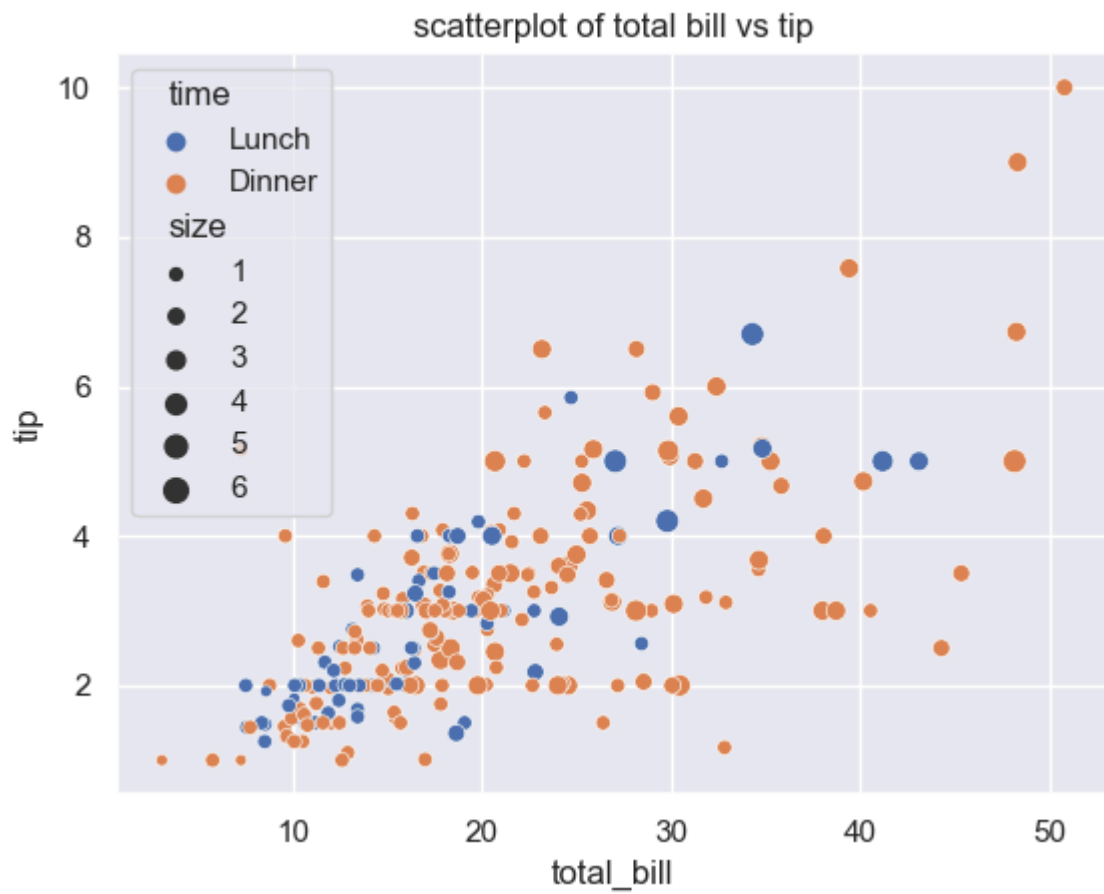
```
Out[9]: 'C:\\Users\\Prachi\\FSDS SENAPATI SIR\\Advanced Python'
```

```
In [10]: import matplotlib.pyplot as plt
```

```
In [11]: plt.figure(figsize=(8, 6))
```

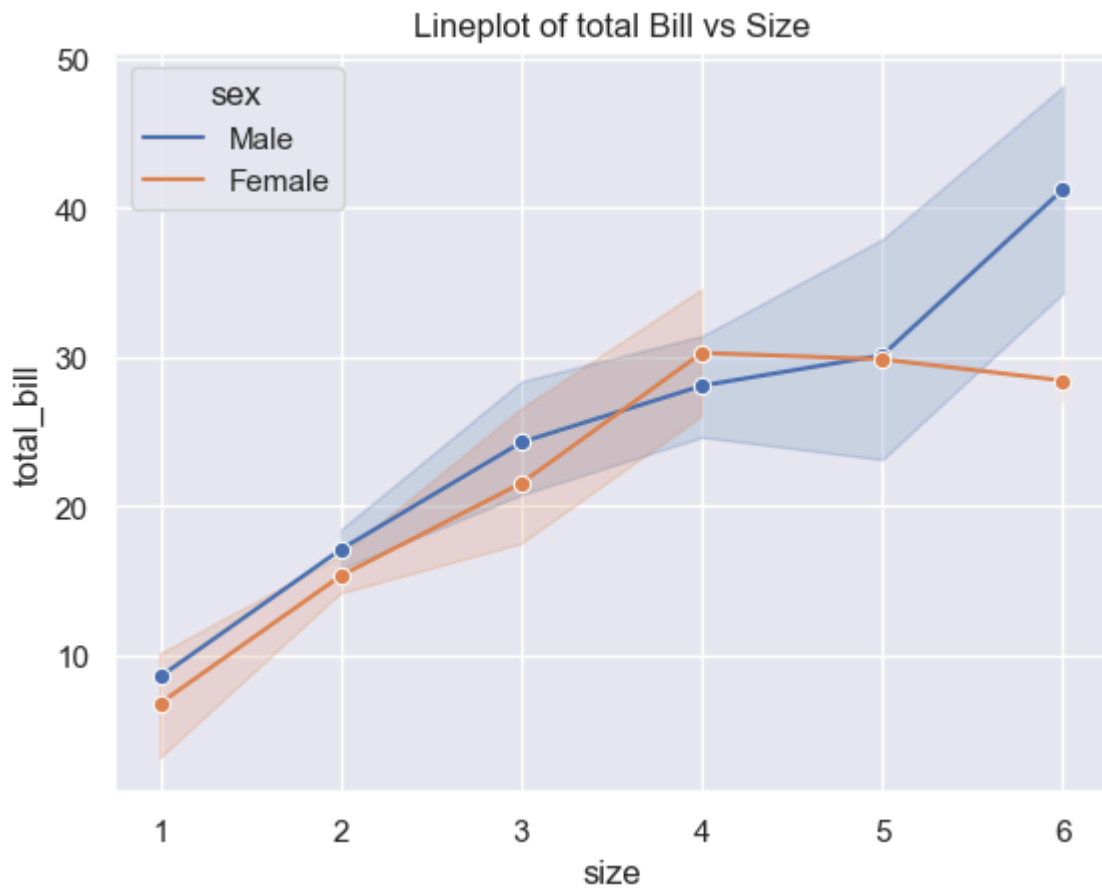
```
Out[11]: <Figure size 800x600 with 0 Axes>
<Figure size 800x600 with 0 Axes>
```

```
In [12]: # 1. Scatter Plot
sns.scatterplot(data=tips, x="total_bill", y="tip" , hue = "time", size="size",
plt.title("scatterplot of total bill vs tip")
plt.show()
```

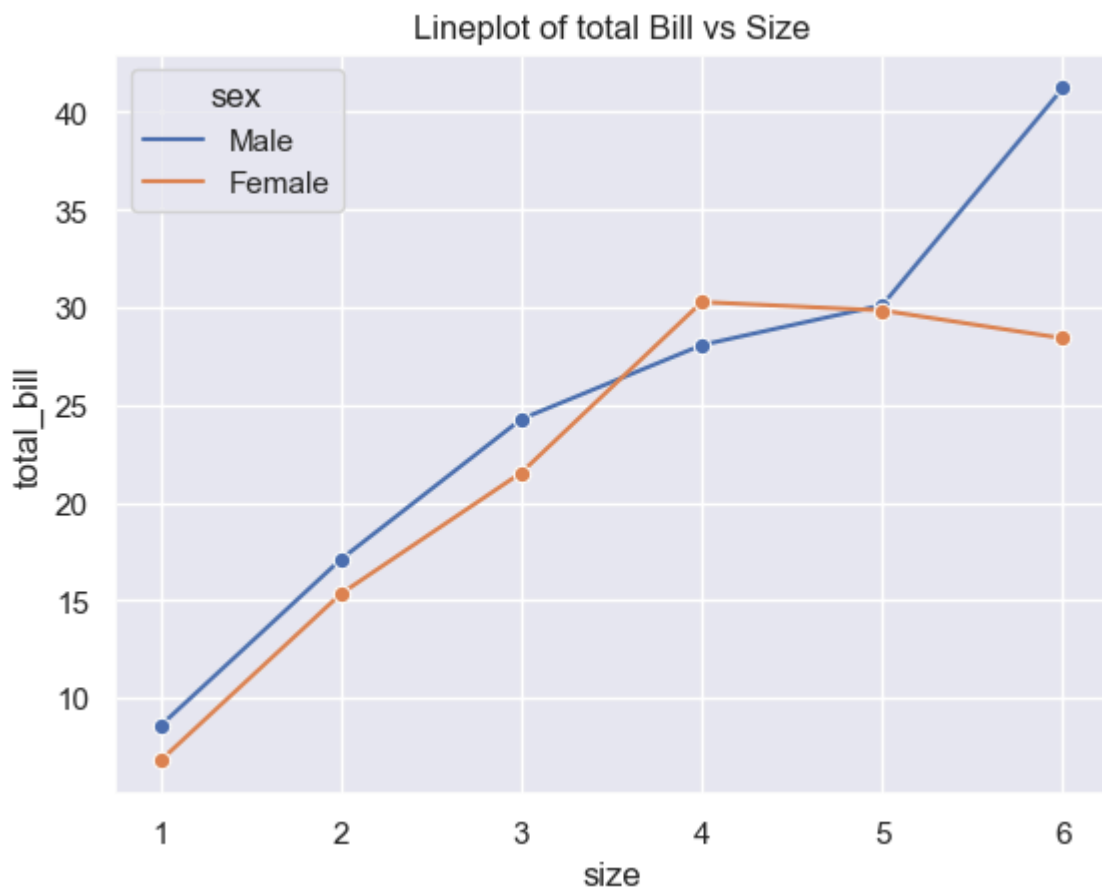


In [13]: # 2. Line plot

```
sns.lineplot(data=tips, x='size', y='total_bill', hue='sex', marker='o')
plt.title("Lineplot of total Bill vs Size")
plt.show()
```



```
In [14]: sns.lineplot(data=tips, x='size', y='total_bill', hue='sex', ci = None, marker='o')
plt.title("Lineplot of total Bill vs Size")
plt.show()
```

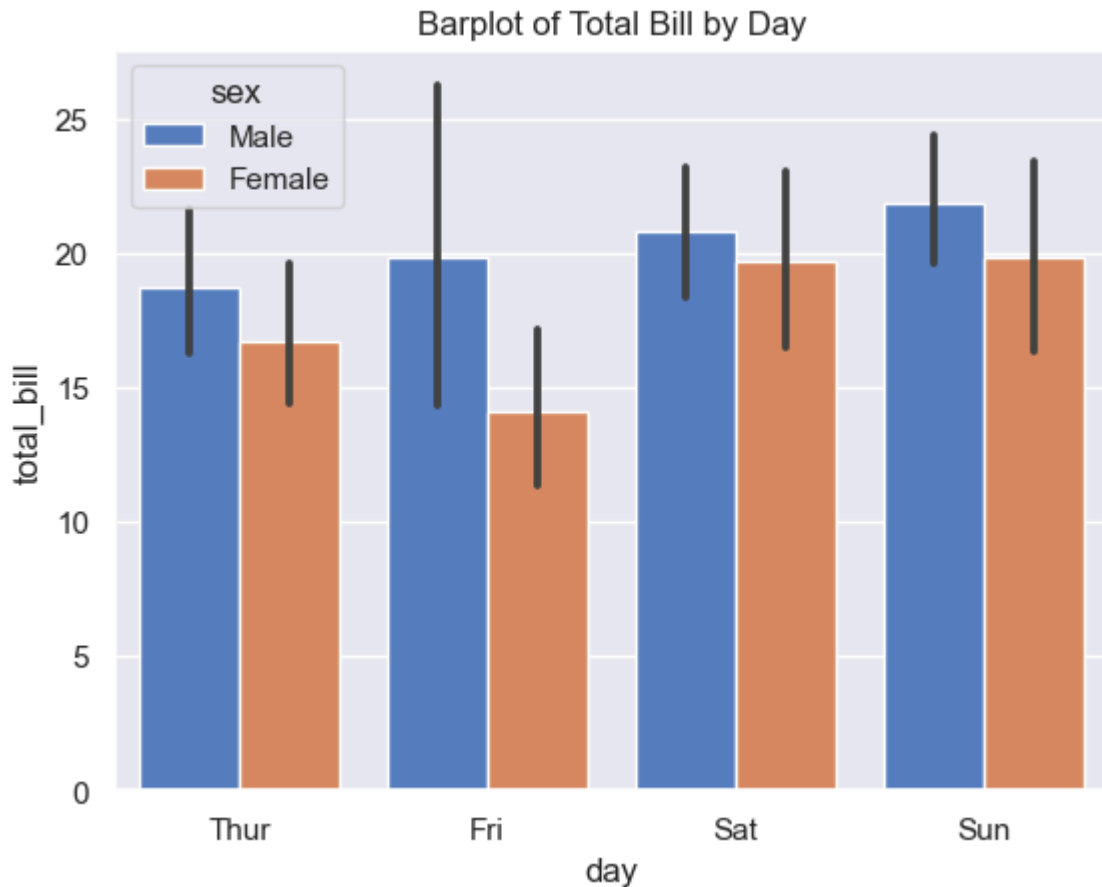


```
In [15]: tips.columns
```

```
Out[15]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

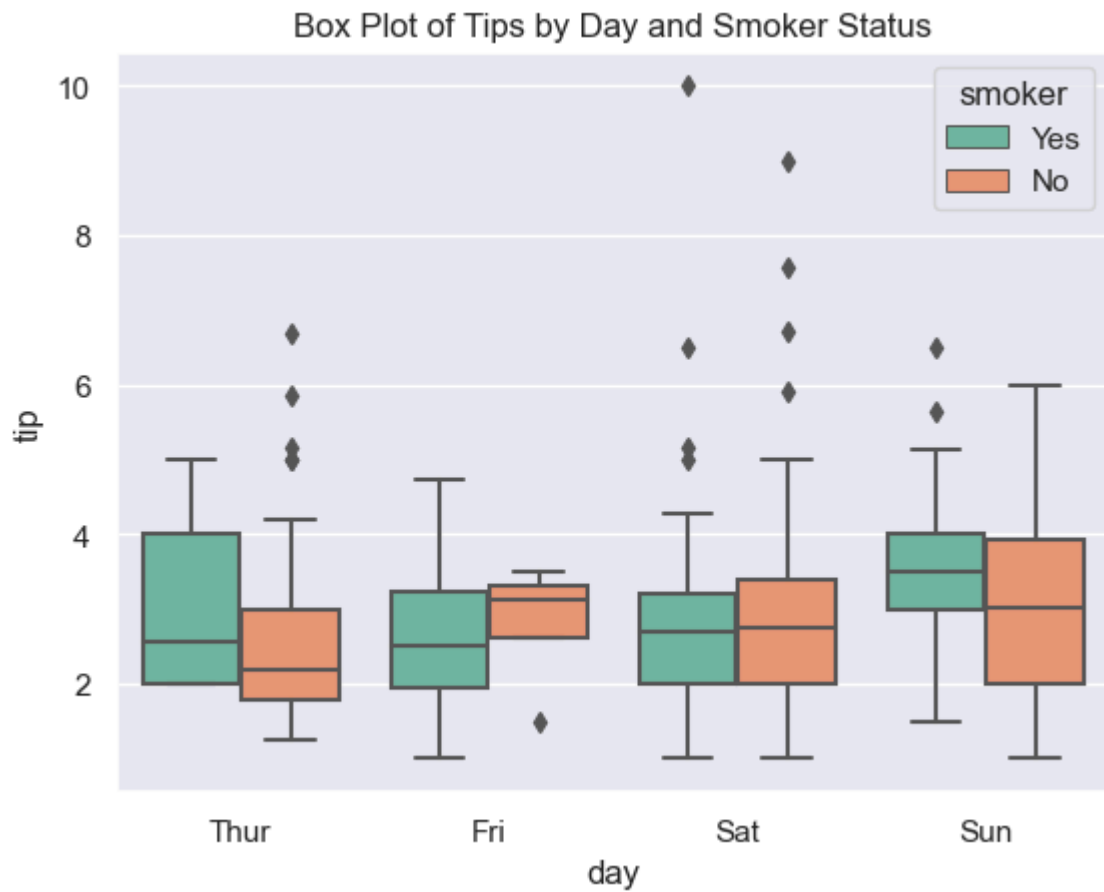
```
In [16]: # 3. Bar plot
```

```
sns.barplot(data=tips, x='day', y='total_bill', hue='sex', palette='muted')  
plt.title("Barplot of Total Bill by Day")  
plt.show()
```



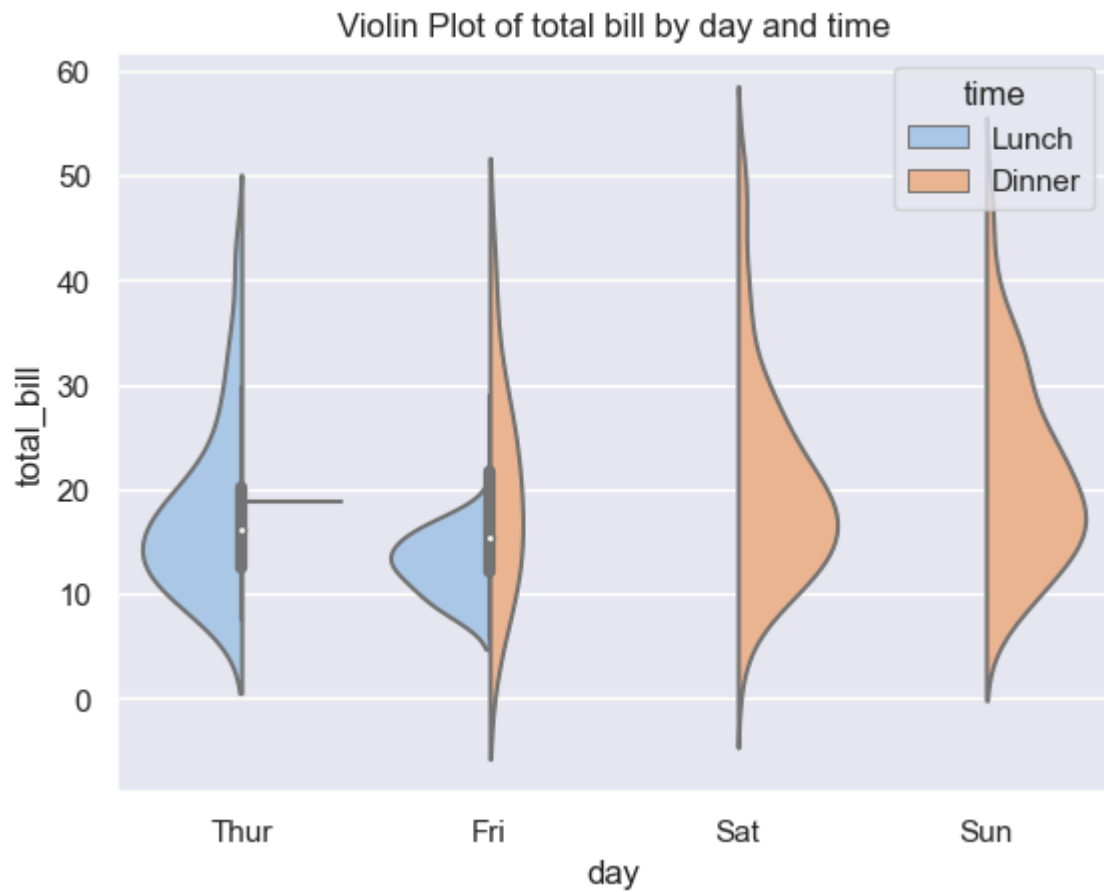
```
In [17]: # 4. Box Plot
```

```
sns.boxplot(data=tips, x='day', y='tip', hue='smoker', palette='Set2')  
plt.title("Box Plot of Tips by Day and Smoker Status")  
plt.show()
```

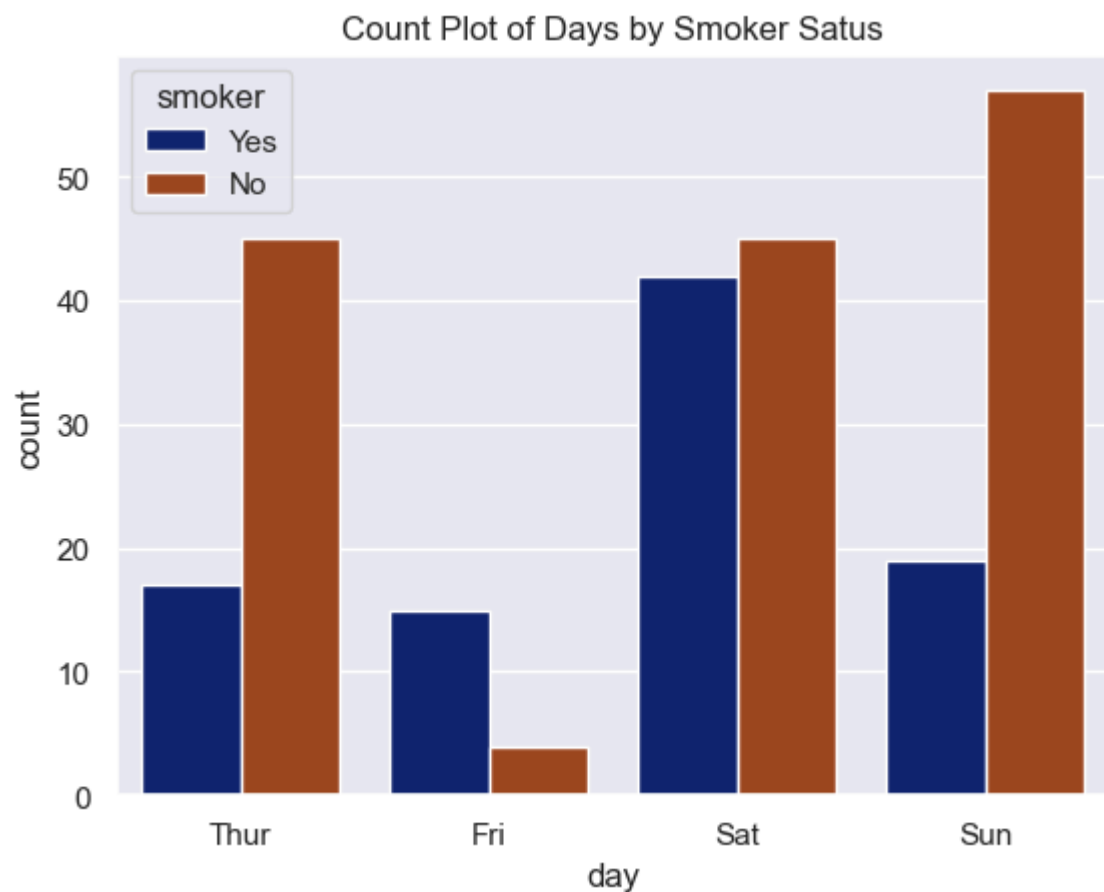


In [18]: *# 5. Violin Plot*

```
sns.violinplot(data=tips, x='day', y='total_bill', hue='time', split=True, palette='magma')
plt.title("Violin Plot of total bill by day and time")
plt.show()
```

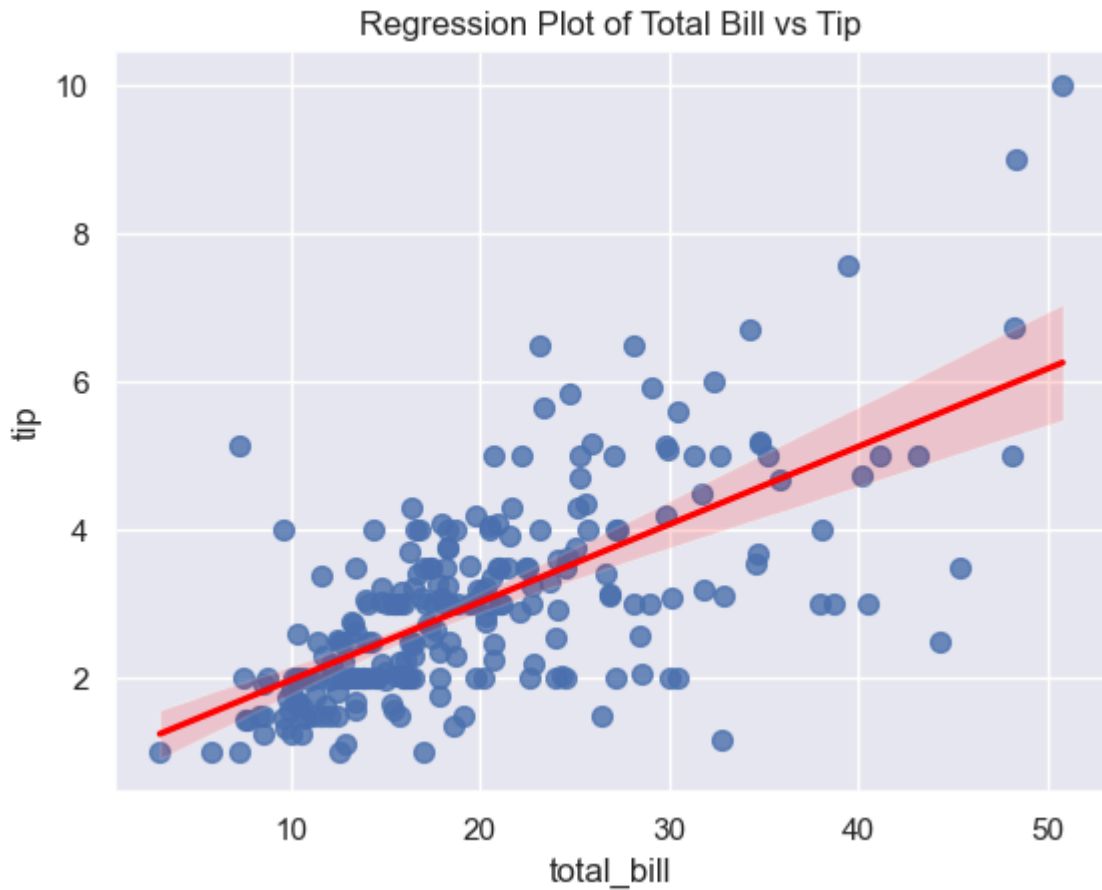
```
In [19]: #6. count plot
sns.countplot(data=tips, x='day', hue='smoker', palette='dark')
plt.title("Count Plot of Days by Smoker Satus")
plt.show()
```



```
In [21]: tips.columns
```

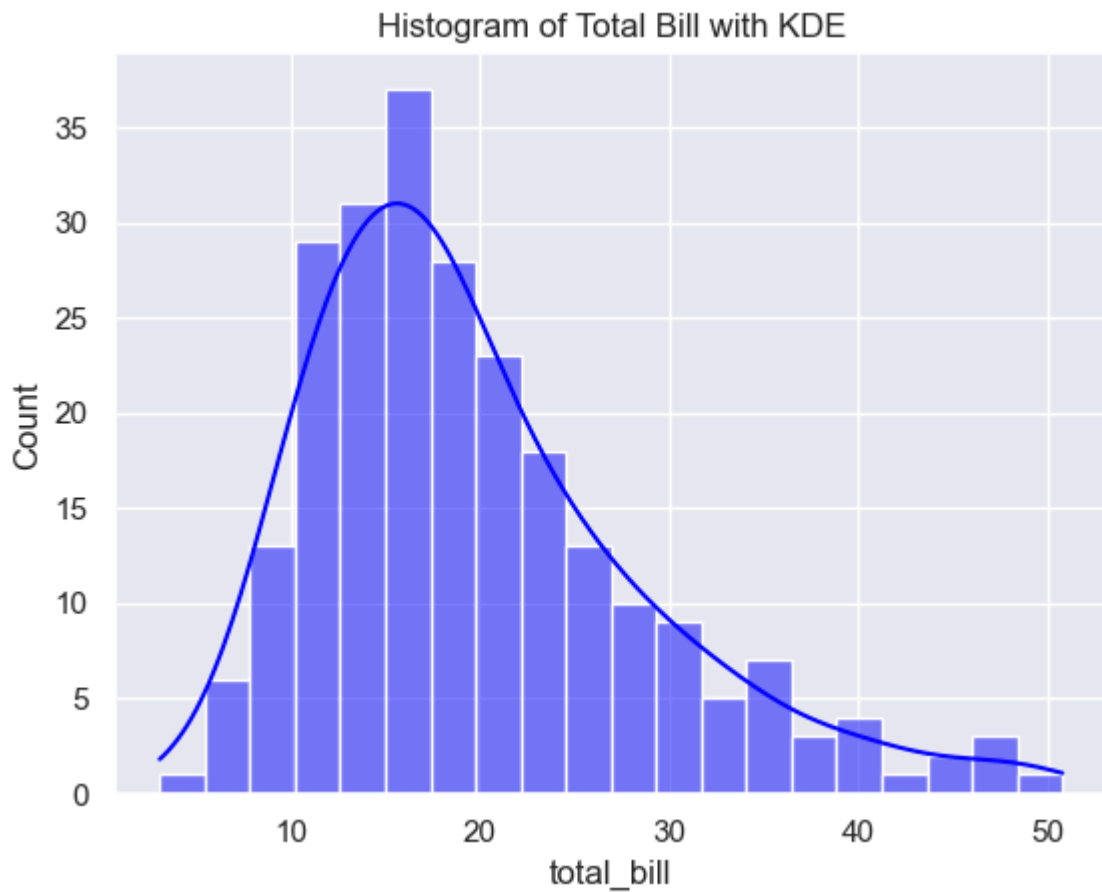
```
Out[21]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

```
In [25]: # 7. Regression Plot
sns.regplot(data=tips, x='total_bill', y='tip', scatter_kws={'s':50}, line_kws=
plt.title("Regression Plot of Total Bill vs Tip")
plt.show()
```



```
In [26]: # 8. Histogram
```

```
sns.histplot(data=tips, x='total_bill', bins=20, kde=True, color='blue')
plt.title("Histogram of Total Bill with KDE")
plt.show()
```

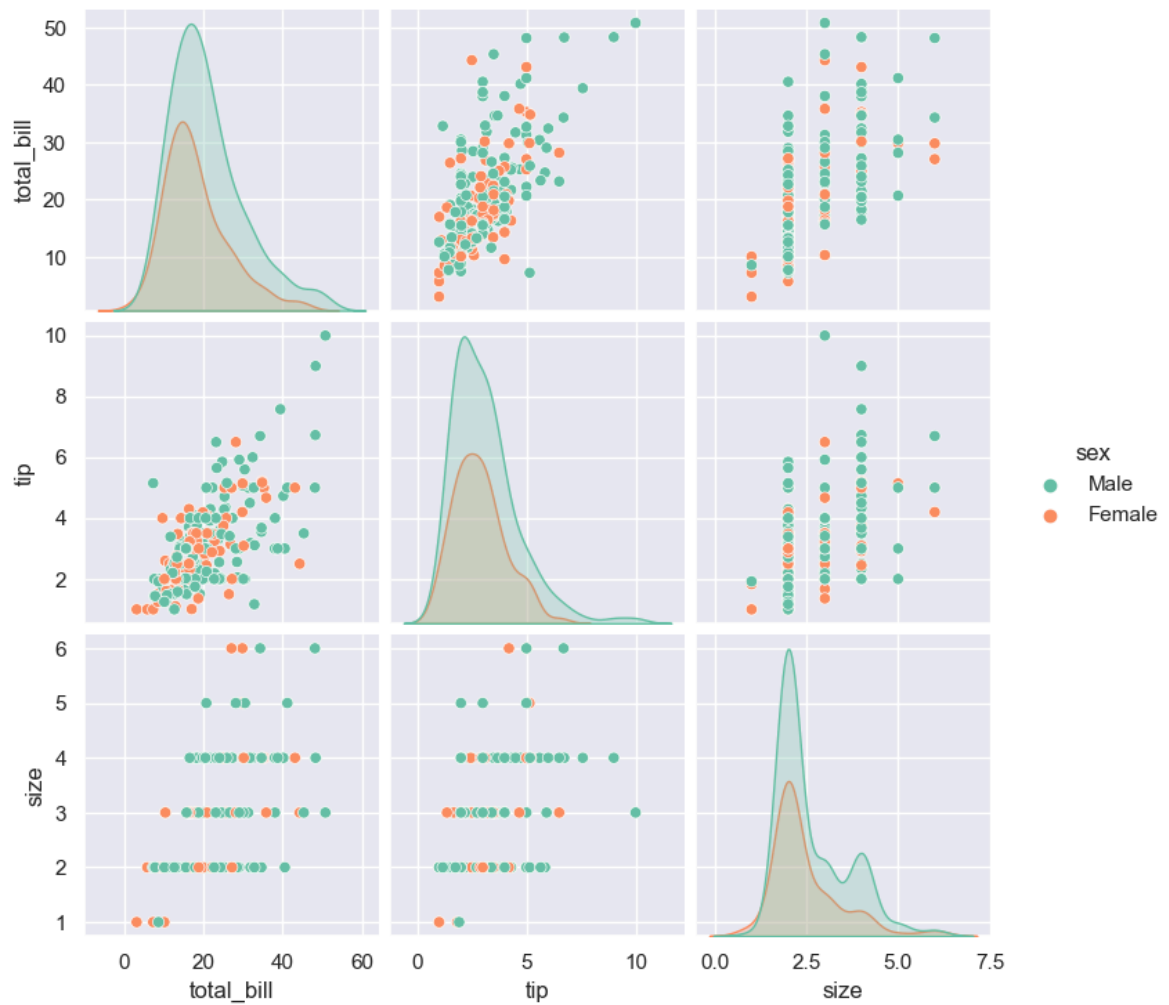


```
In [34]: # 9.Pairplot

sns.pairplot(tips, hue='sex', vars=["total_bill", "tip", "size"], palette='Set2')
plt.suptitle("Pair plot: numeric variables by gender", y=1.02)
plt.show()
```

C:\Users\Prachi\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning:
The figure layout has changed to tight
self._figure.tight_layout(*args, **kwargs)

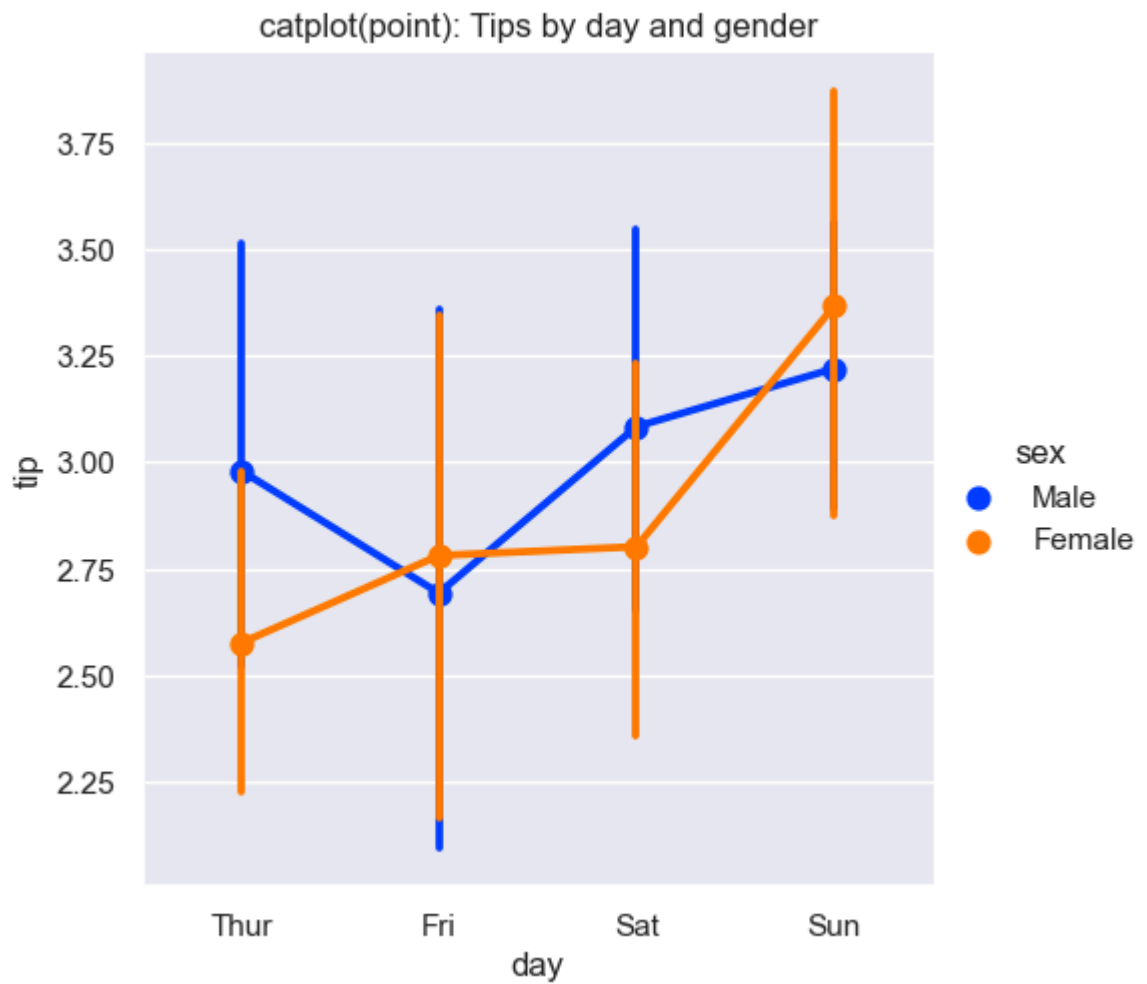
Pair plot: numeric variables by gender



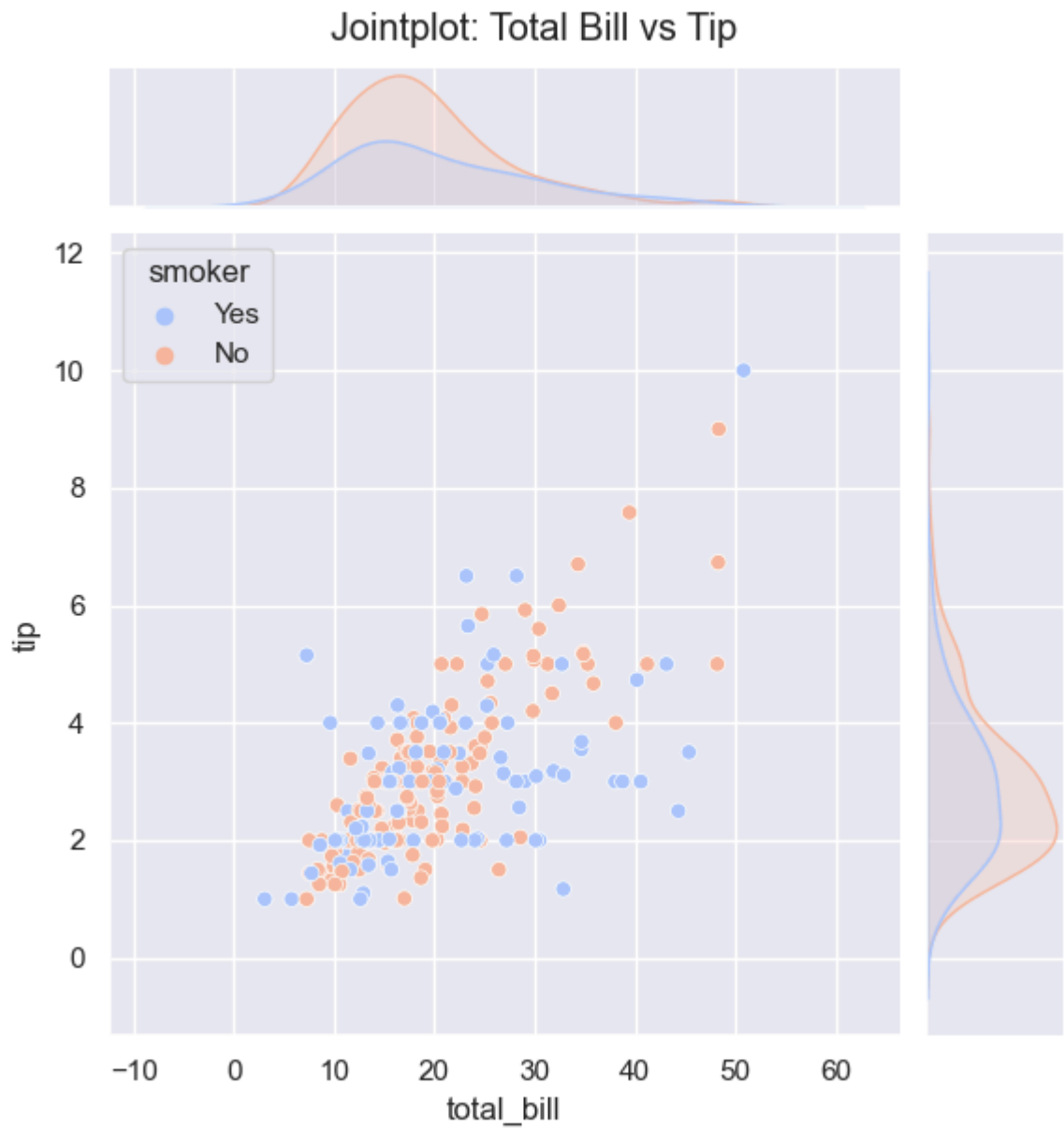
In [36]: # 10. Catplot

```
sns.catplot(data=tips, x='day', y='tip', hue='sex', kind='point', palette='bright')
plt.title("catplot(point): Tips by day and gender")
plt.show()
```

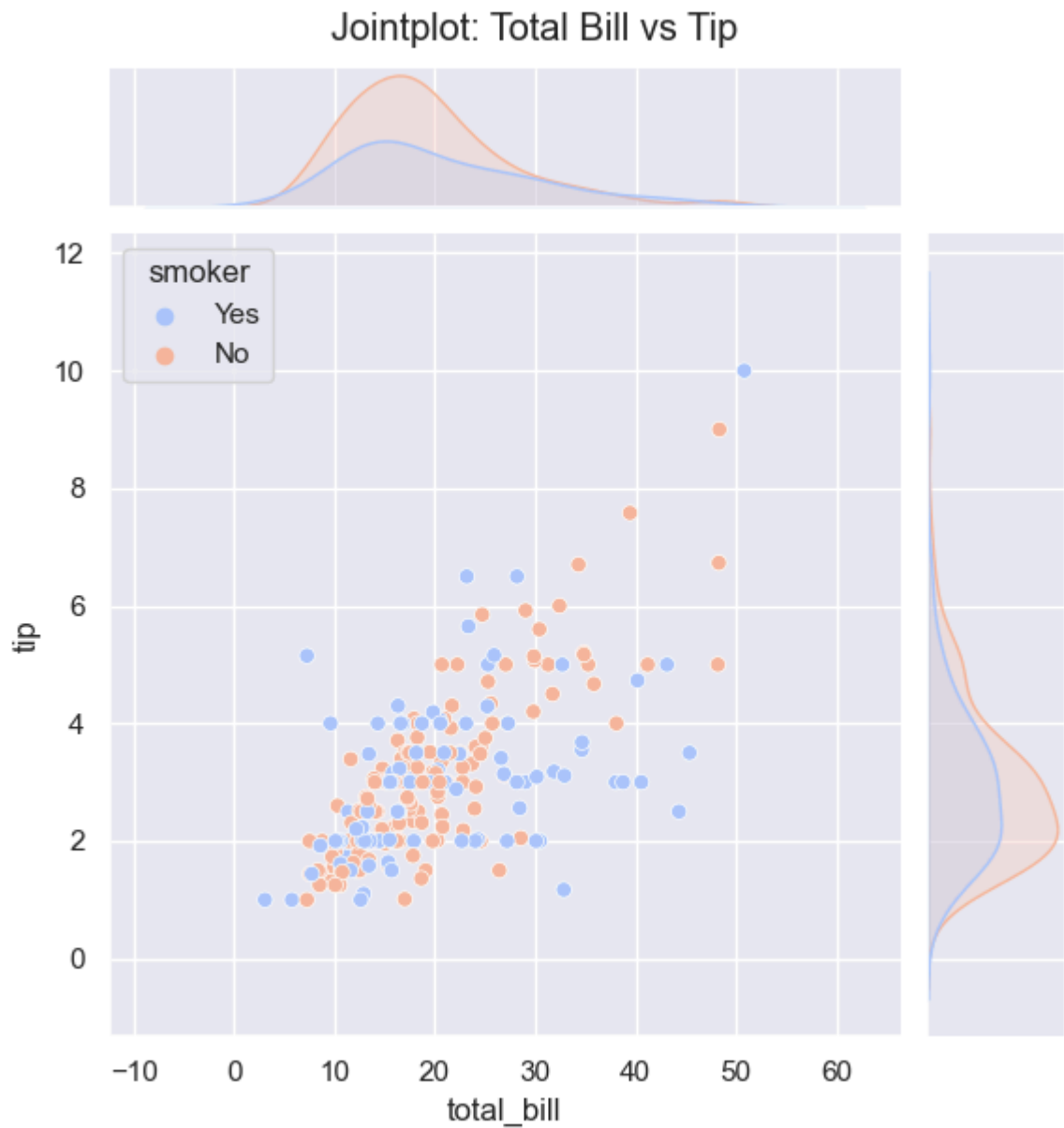
C:\Users\Prachi\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning:
The figure layout has changed to tight
self._figure.tight_layout(*args, **kwargs)



```
In [38]: # 11. Joint plot
sns.jointplot(data=tips, x='total_bill', y='tip', kind='scatter', hue='smoker', c
plt.suptitle("Jointplot: Total Bill vs Tip", y=1.02)
plt.show()
```



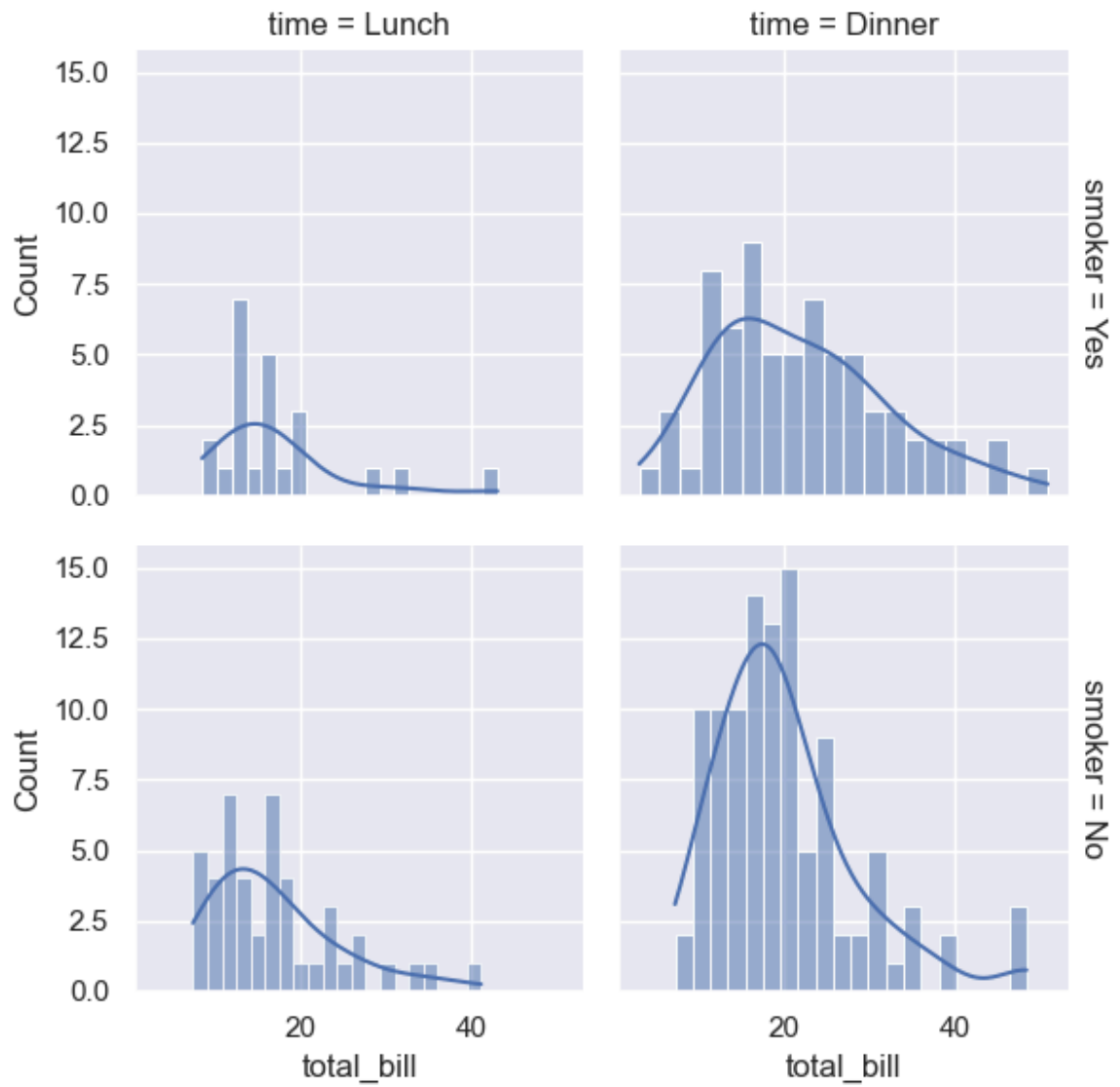
```
In [39]: # 11. Joint plot
sns.jointplot(data=tips, x='total_bill', y='tip', kind='scatter', hue='smoker', palette='muted')
plt.suptitle("Jointplot: Total Bill vs Tip", y=1.02)
plt.show()
```



```
In [46]: # 12. Facetgrid
g = sns.FacetGrid(tips , col='time', row='smoker', margin_titles=True).map(sns.h
g
```

C:\Users\Prachi\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning:
The figure layout has changed to tight
self._figure.tight_layout(*args, **kwargs)

```
Out[46]: <seaborn.axisgrid.FacetGrid at 0x185933bf810>
```



```
In [43]: # 14. KDE plot
sns.kdeplot(data=tips, x='total_bill', hue='sex', fill=True, palette='tab10')
plt.title("KDE plot: Total Bill density by Gender")
plt.show()
```


KDE plot: Total Bill density by Gender

