

```
In [1]: pip install --upgrade seaborn
```

```
Requirement already satisfied: seaborn in c:\users\dell\anaconda3\lib\site-packages (0.13.2)
Requirement already satisfied: numpy!=1.24.0,>=1.20 in c:\users\dell\anaconda3\lib\site-packages (from seaborn) (1.26.4)
Requirement already satisfied: pandas>=1.2 in c:\users\dell\anaconda3\lib\site-packages (from seaborn) (2.2.2)
Requirement already satisfied: matplotlib!=3.6.1,>=3.4 in c:\users\dell\anaconda3\lib\site-packages (from seaborn) (3.9.2)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (1.2.0)
Requirement already satisfied: cycler>=0.10 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (4.51.0)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (1.4.4)
Requirement already satisfied: packaging>=20.0 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (24.1)
Requirement already satisfied: pillow>=8 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (10.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (3.1.2)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\dell\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\dell\anaconda3\lib\site-packages (from pandas>=1.2->seaborn) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in c:\users\dell\anaconda3\lib\site-packages (from pandas>=1.2->seaborn) (2023.3)
Requirement already satisfied: six>=1.5 in c:\users\dell\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib!=3.6.1,>=3.4->seaborn) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

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

```
In [3]: import seaborn as sns
```

```
In [4]: sns.get_dataset_names()
```

```
Out[4]: ['anagrams',
        'anscombe',
        'attention',
        'brain_networks',
        'car_crashes',
        'diamonds',
        'dots',
        'dowjones',
        'exercise',
        'flights',
        'fmri',
        'geyser',
        'glue',
        'healthexp',
        'iris',
        'mpg',
        'penguins',
        'planets',
        'seaice',
        'taxi',
        'tips',
        'titanic']
```

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

```
Out[5]:
```

	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 [6]: titanic = sns.load_dataset("titanic")
        titanic.head()
```

```
Out[6]:
```

	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 [7]: tips
```

```
Out[7]:
```

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

```
In [9]: tips.to_csv("tips_dataset.csv", index=False)
import pandas as pd
```

```
In [10]: import os
os.getcwd()
```

```
Out[10]: 'C:\\Users\\DELL\\anaconda3'
```

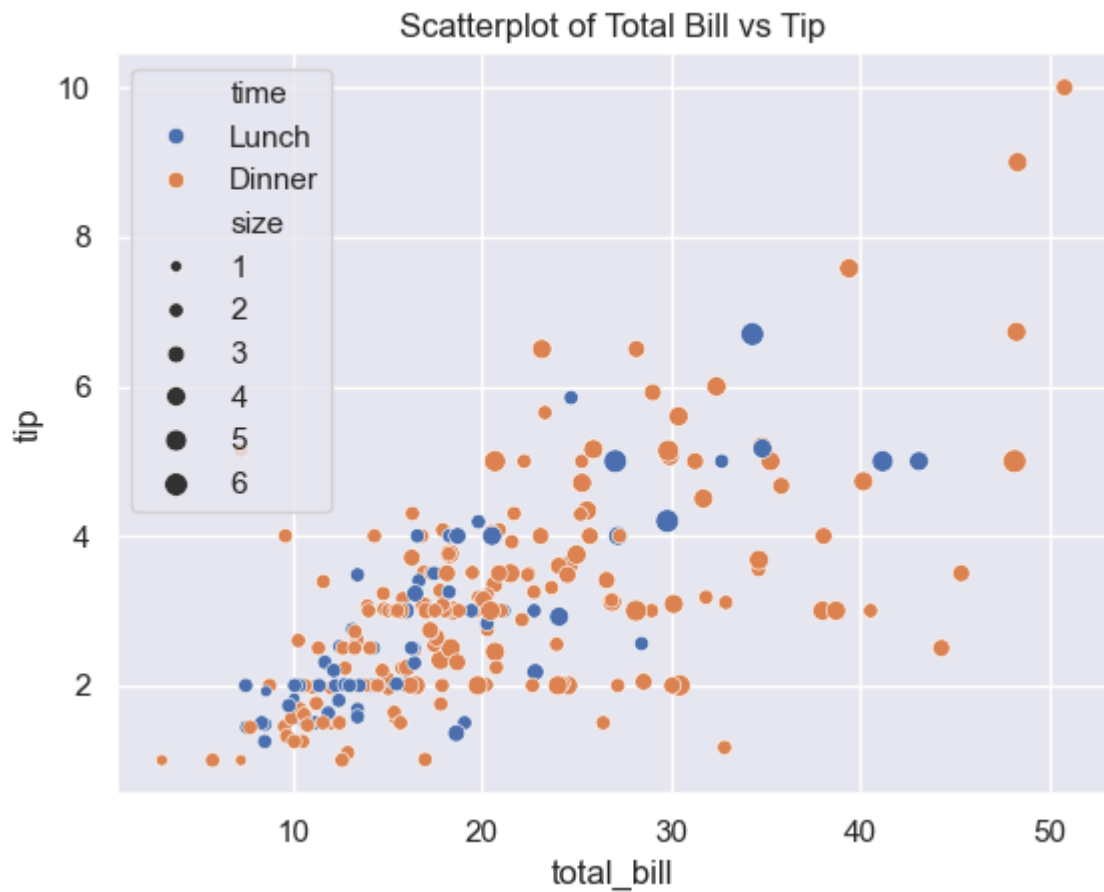
```
In [11]: import matplotlib.pyplot as plt
```

```
In [12]: plt.figure(figsize=(8, 6))
```

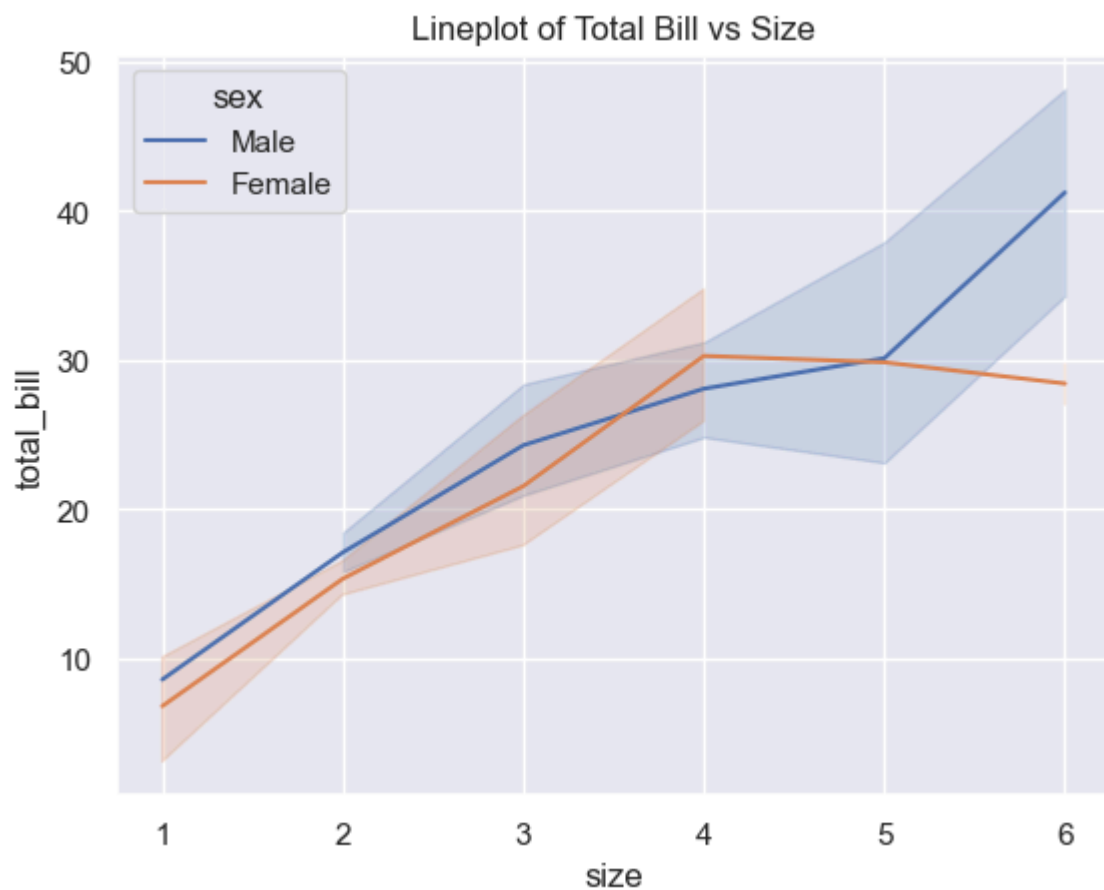
```
Out[12]: <Figure size 800x600 with 0 Axes>
```

```
<Figure size 800x600 with 0 Axes>
```

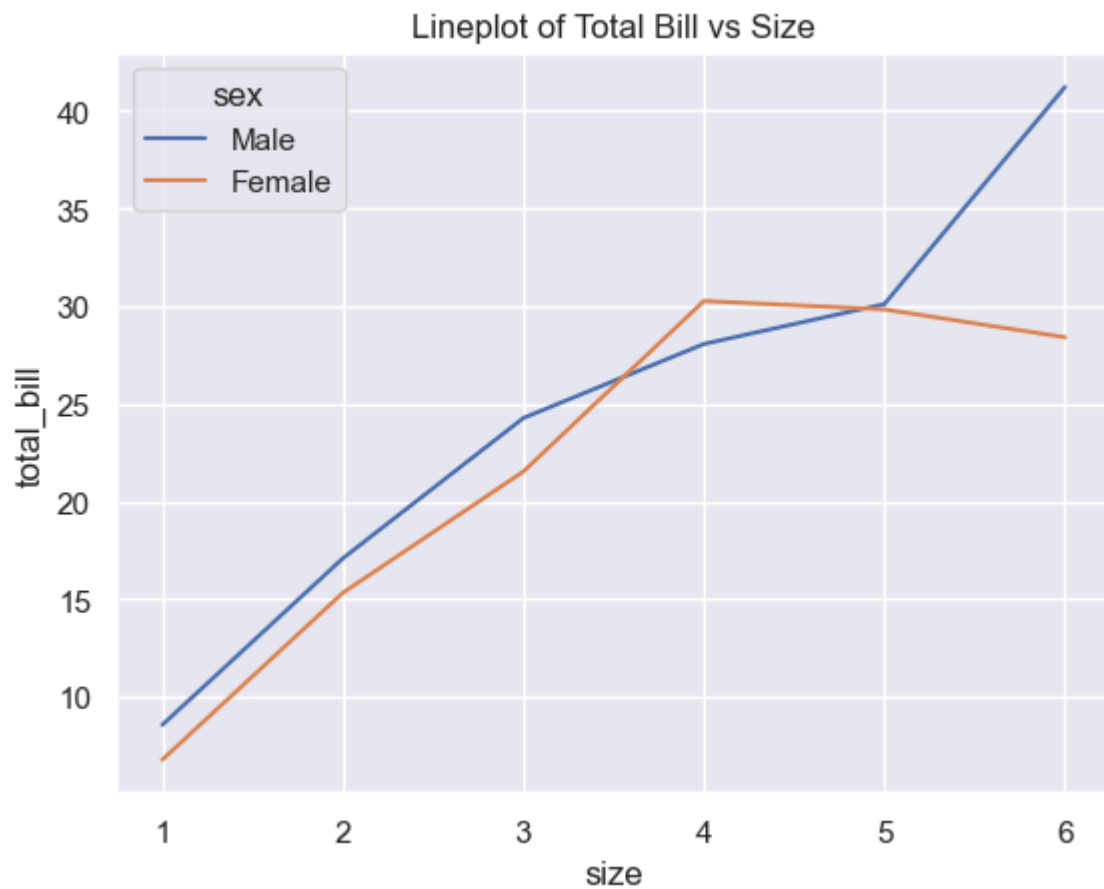
```
In [28]: # 1. scatter plot
sns.scatterplot(data=tips, x="total_bill", y="tip", hue="time", size="size", palette="magma")
plt.title("Scatterplot of Total Bill vs Tip")
plt.show()
```



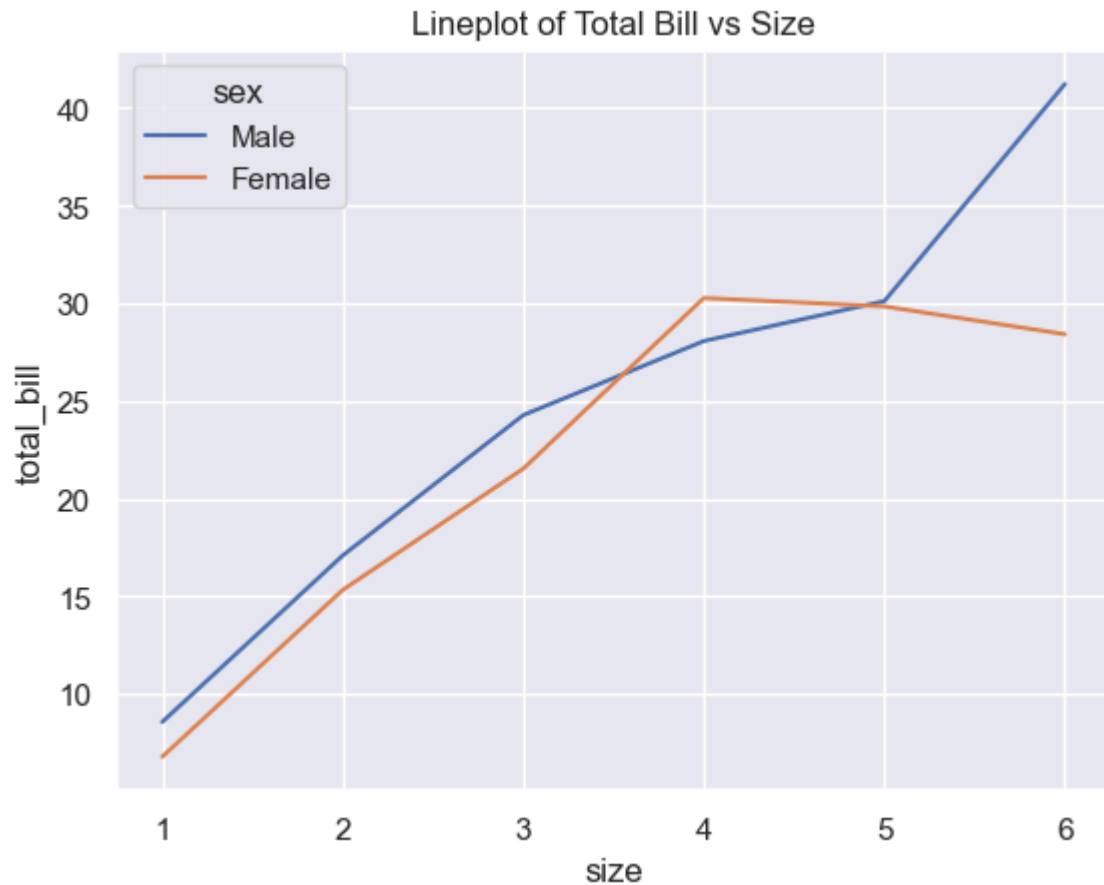
```
In [29]: # 2. line plot
sns.lineplot(data=tips, x='size', y='total_bill', hue='sex', markers='o')
plt.title("Lineplot of Total Bill vs Size")
plt.show()
```



```
In [15]: sns.lineplot(data=tips, x='size', y='total_bill', hue='sex', ci=None, markers='o',  
plt.title("Lineplot of Total Bill vs Size")  
plt.show())
```



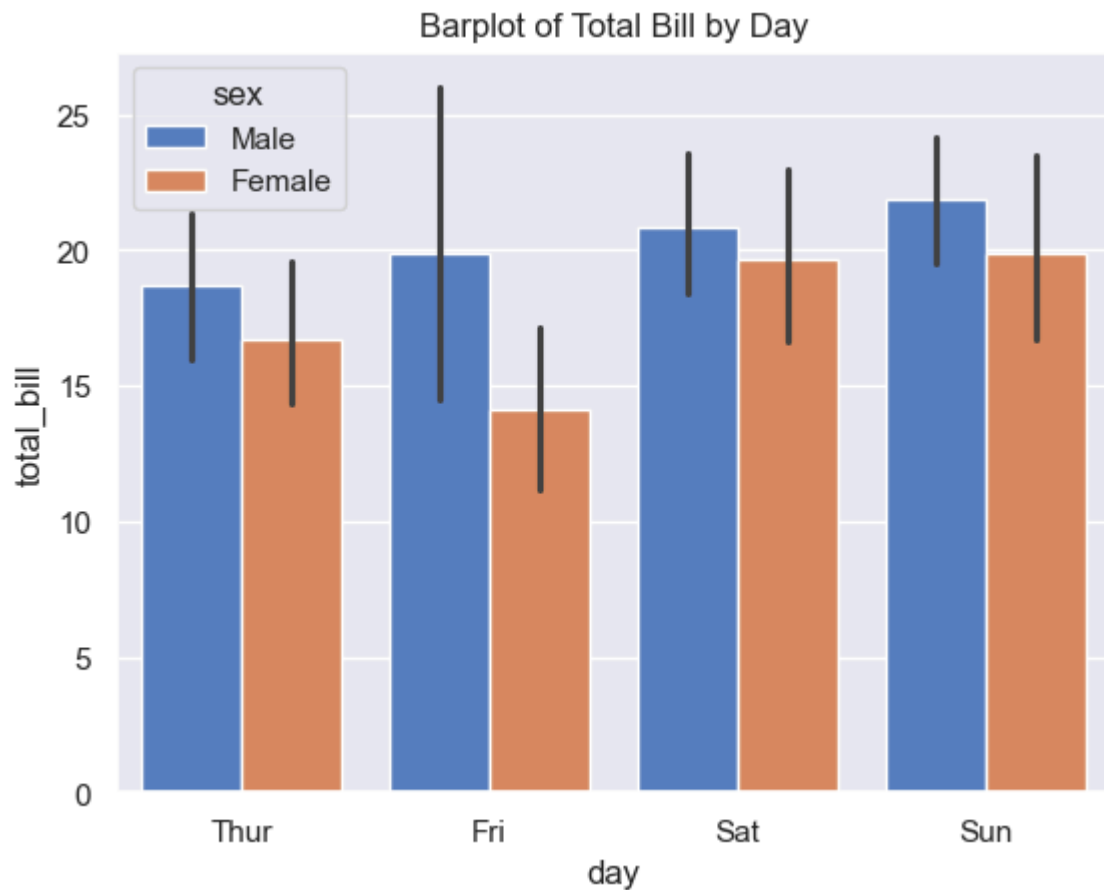
```
In [16]: sns.lineplot(data=tips, x='size', y='total_bill', hue='sex', ci=None, markers='o',  
plt.title("Lineplot of Total Bill vs Size")  
plt.show())
```



```
In [17]: tips.columns
```

```
Out[17]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

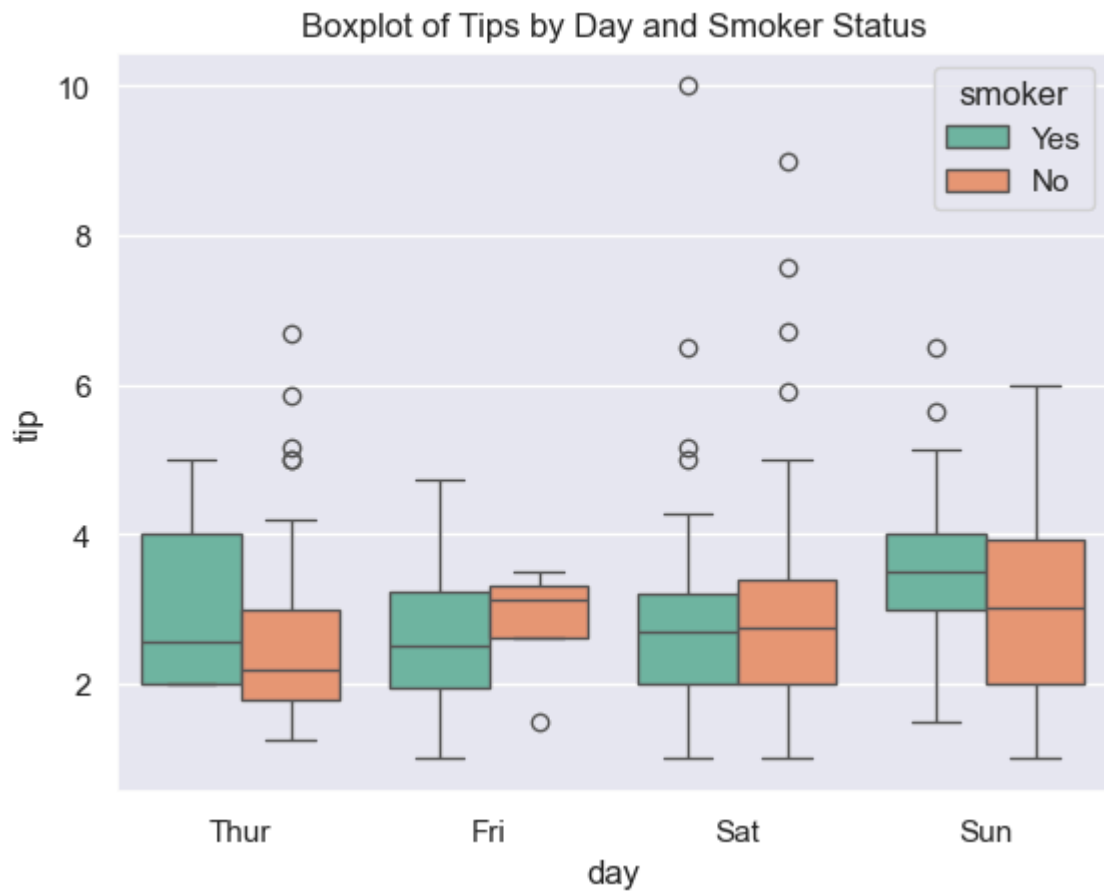
```
In [30]: #3. bar plot
sns.barplot(data=tips, x='day', y='total_bill', hue = 'sex',palette='muted')
plt.title("Barplot of Total Bill by Day")
plt.show()
```



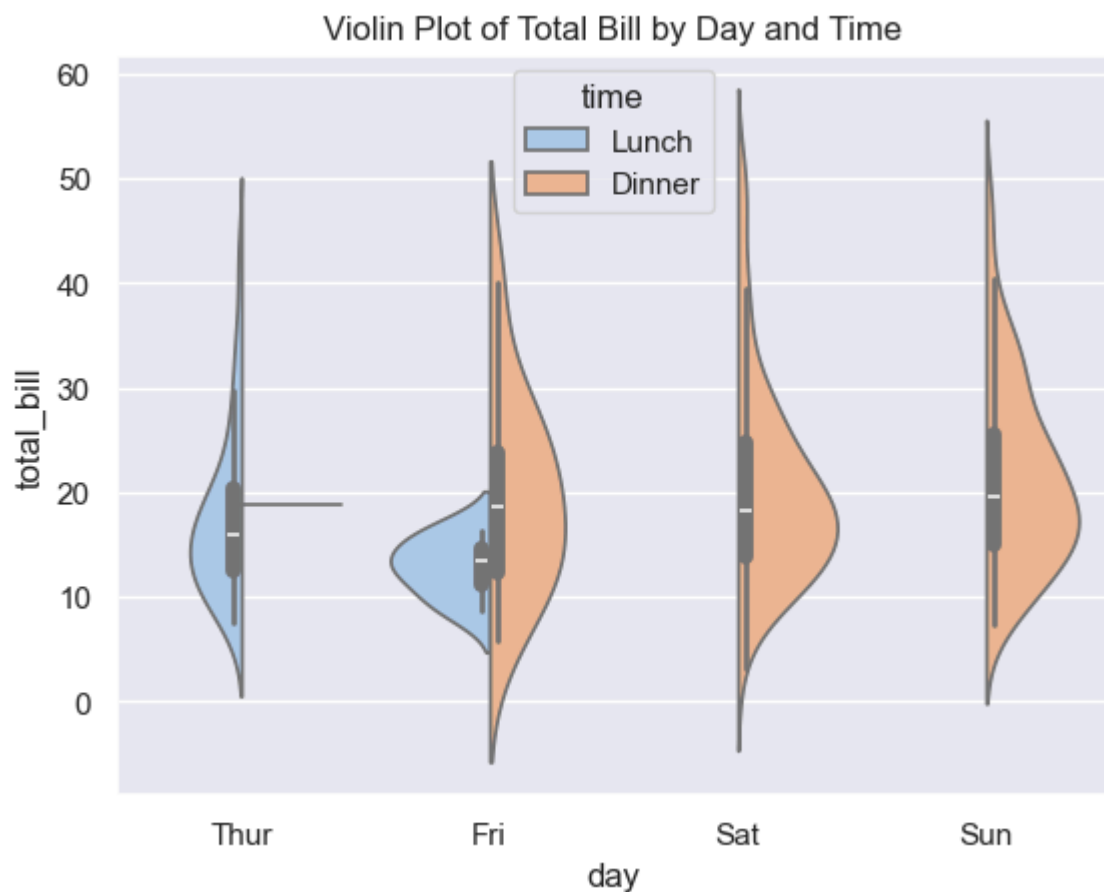
```
In [19]: tips.columns
```

```
Out[19]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

```
In [31]: # 4. Boxplot
sns.boxplot(data=tips, x='day', y='tip', hue='smoker', palette='Set2')
plt.title("Boxplot of Tips by Day and Smoker Status")
plt.show()
```



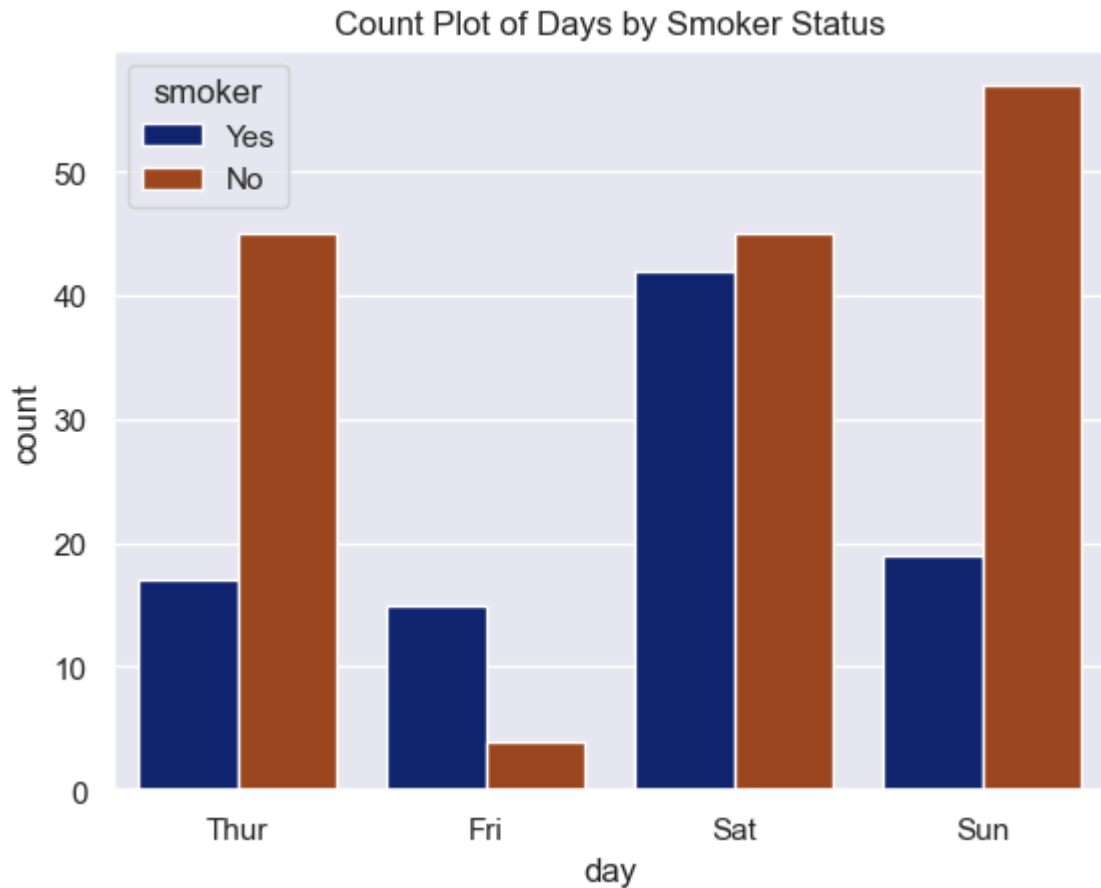
```
In [32]: # 5. violin plot
sns.violinplot(data=tips, x='day', y='total_bill', hue='time', split=True, palette=
plt.title("Violin Plot of Total Bill by Day and Time")
plt.show()
```




```
In [22]: tips.columns
```

```
Out[22]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

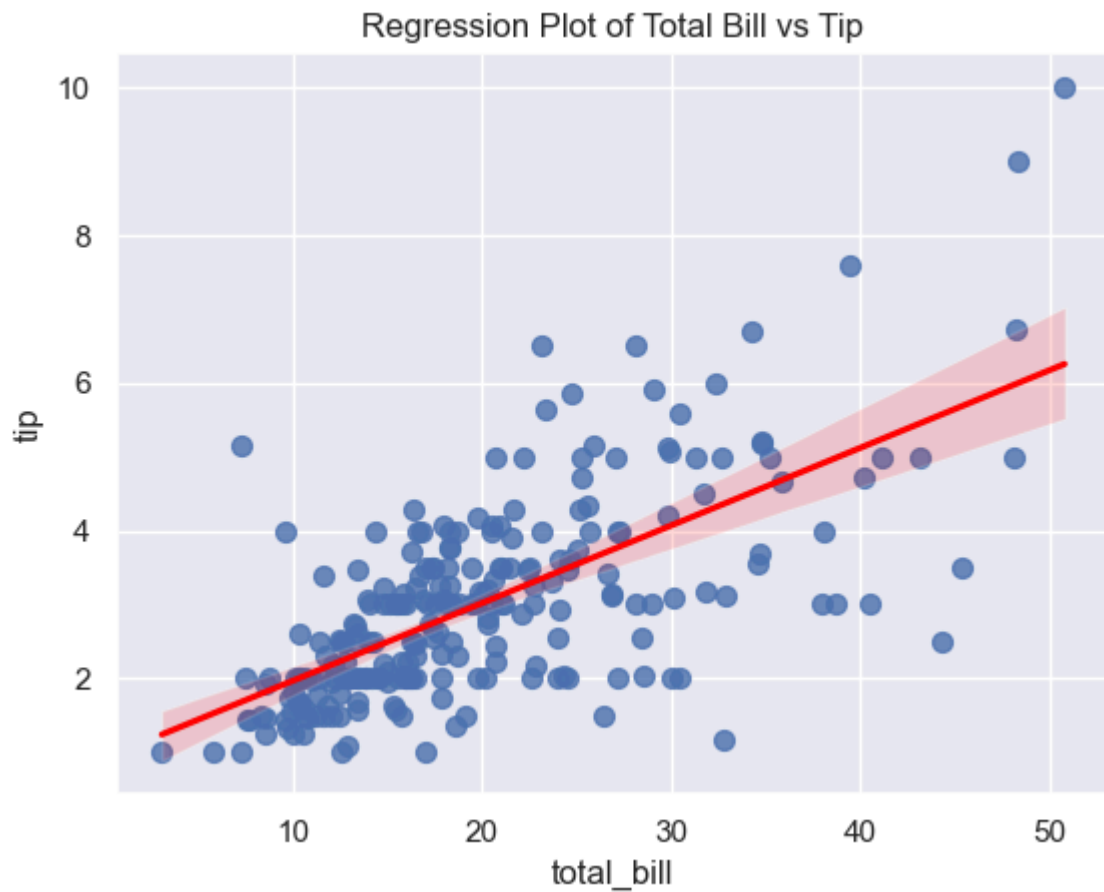
```
In [33]: #6. count plot
sns.countplot(data=tips, x='day', hue='smoker', palette='dark')
plt.title("Count Plot of Days by Smoker Status")
plt.show()
```



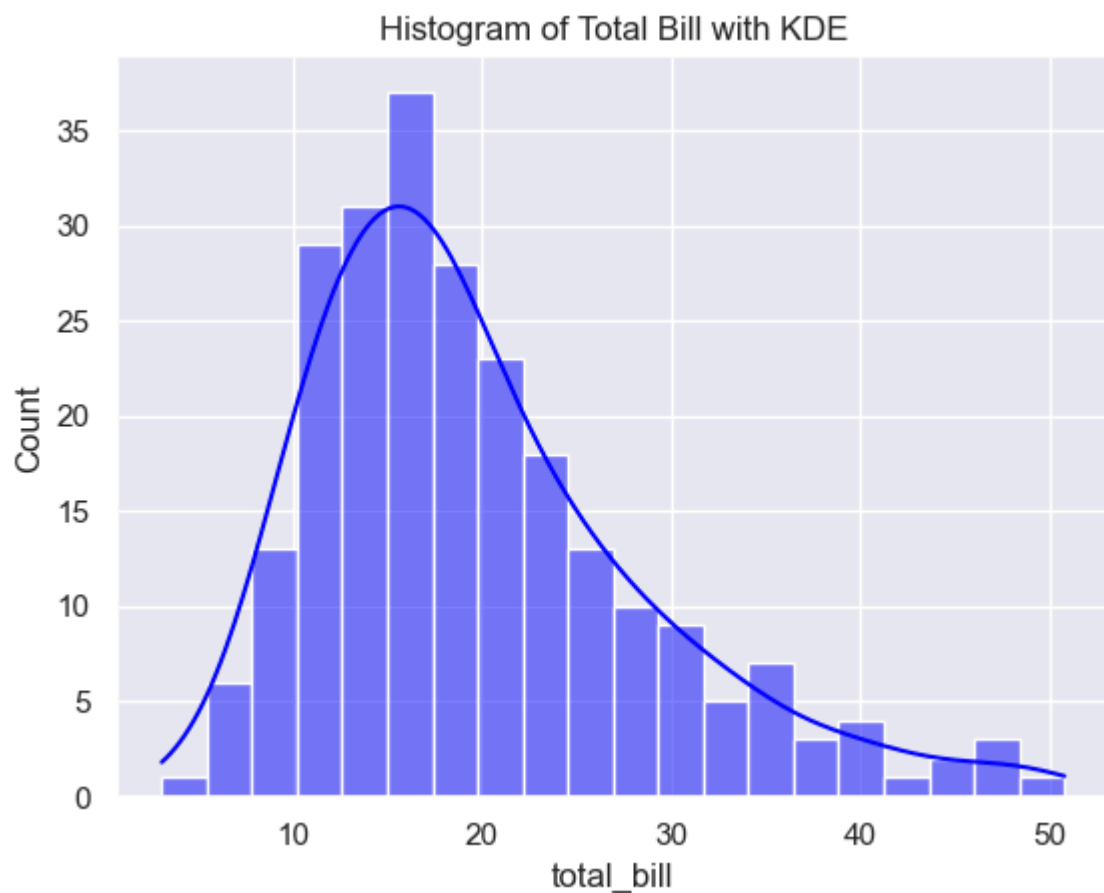
```
In [24]: tips.columns
```

```
Out[24]: Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

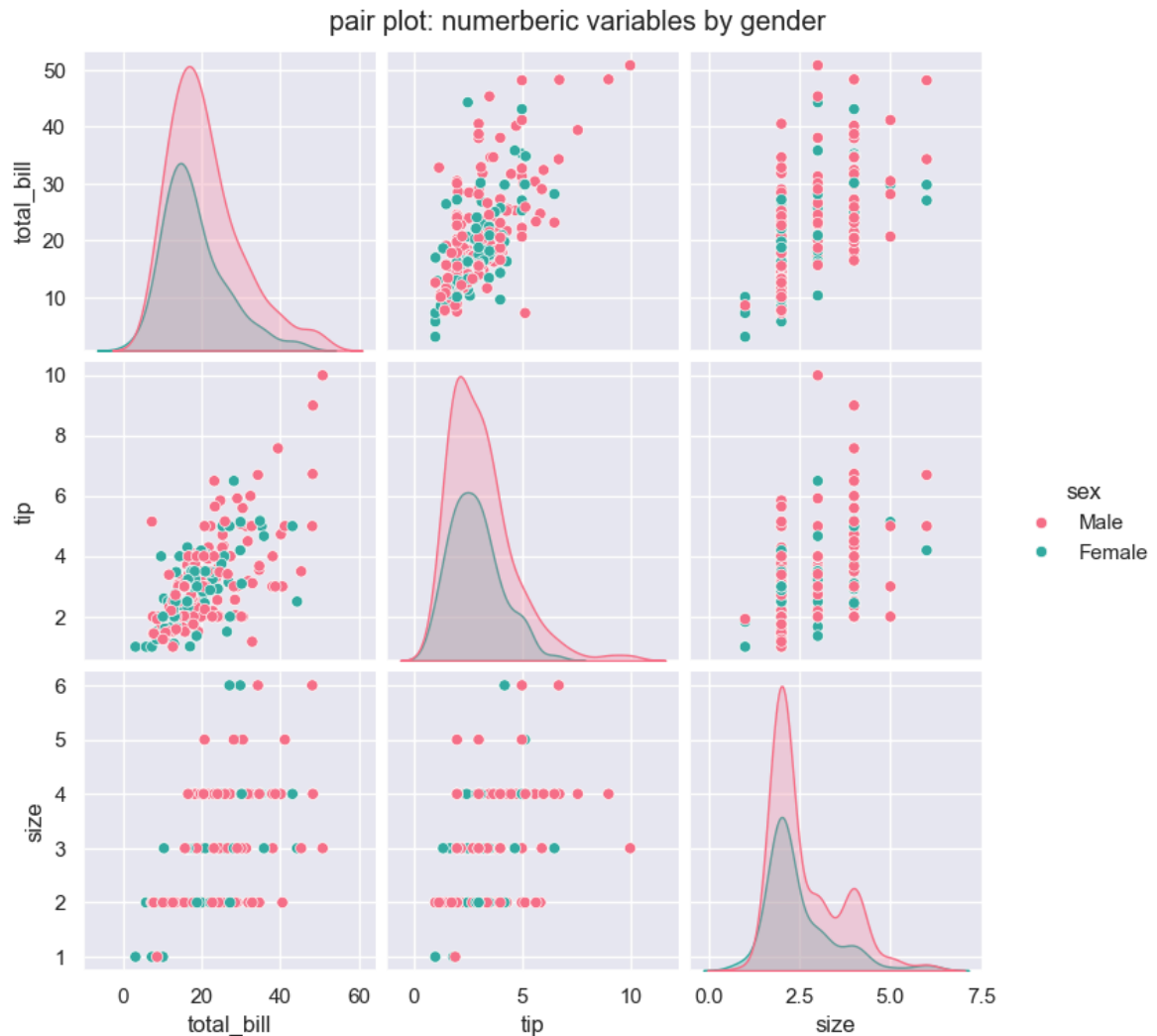
```
In [34]: #7. regression plot
sns.regplot(data=tips, x='total_bill', y='tip', scatter_kws={'s':50}, line_kws={
plt.title("Regression Plot of Total Bill vs Tip")
plt.show()
})
```



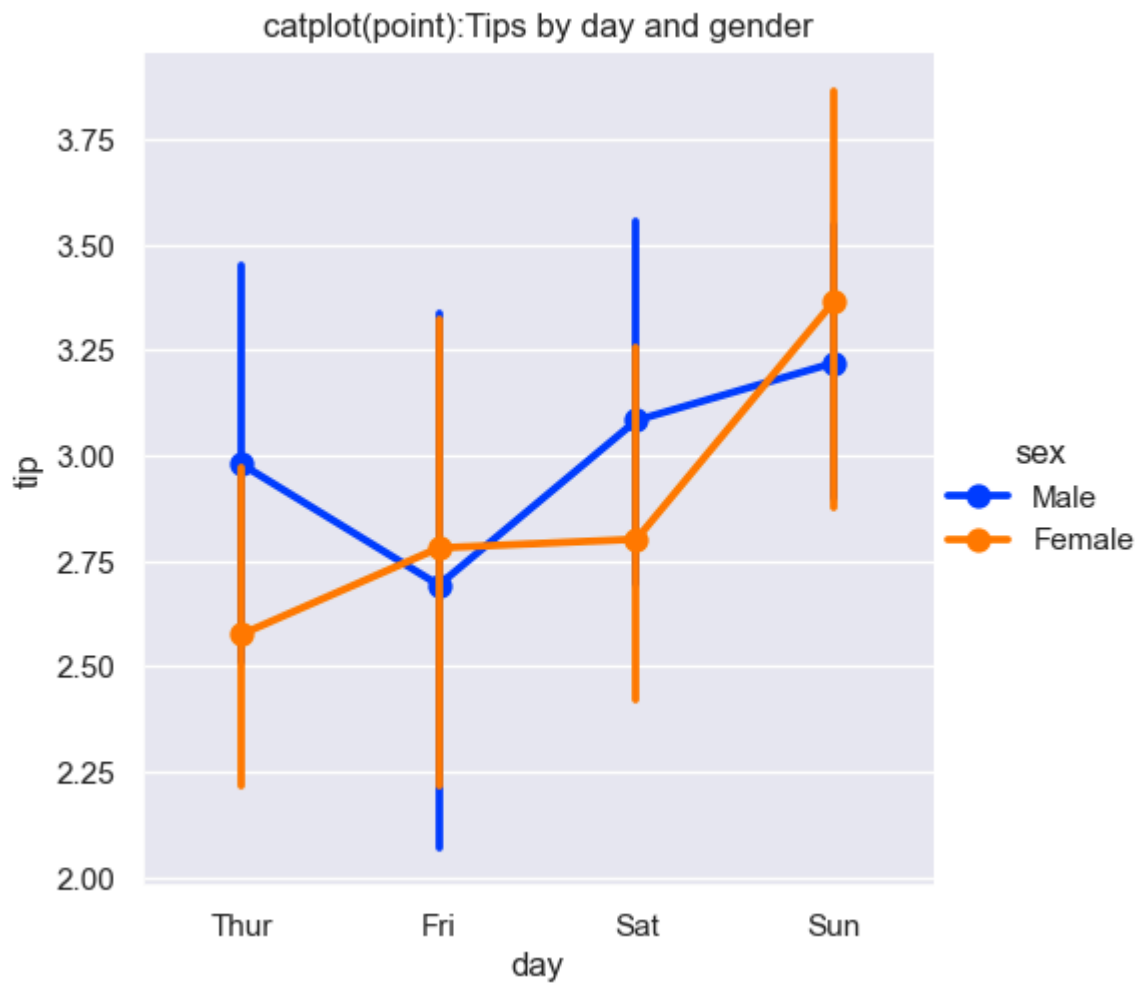
```
In [35]: # 8. Histogram of total bill with KDE
sns.histplot(data=tips, x='total_bill', bins=20, kde=True, color='blue')
plt.title("Histogram of Total Bill with KDE")
plt.show()
```



```
In [36]: #9. pairplot
sns.pairplot(tips, hue='sex', vars=["total_bill", "tip", "size"], palette='husl'
plt.suptitle("pair plot: numerberic variables by gender", y=1.02)
plt.show()
```

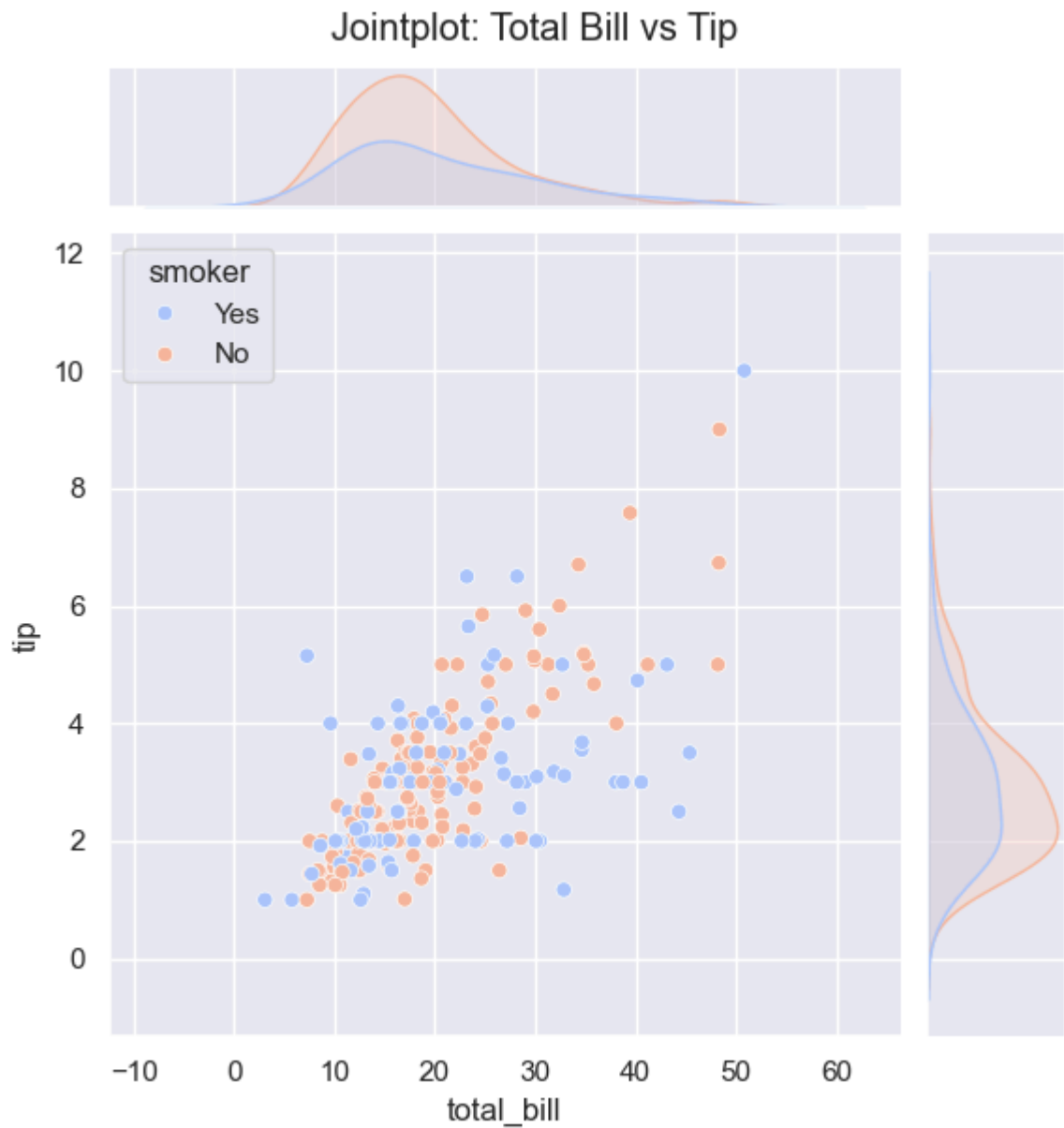


```
In [37]: # 10 catplot
sns.catplot(data=tips, x='day', y='tip', hue='sex', kind='point', palette='brigh
plt.title("catplot(point):Tips by day and gender")
plt.show()
```



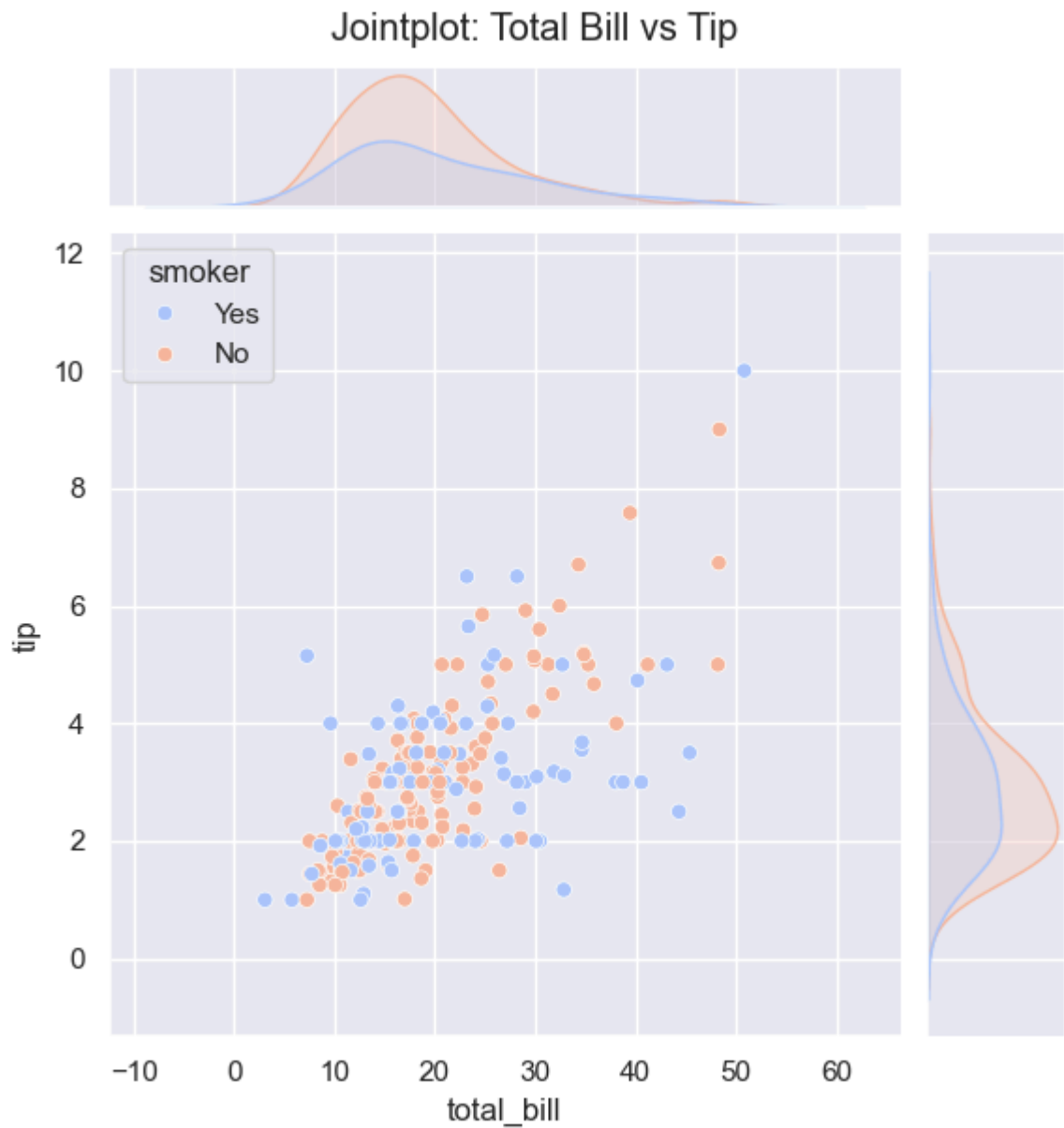
```
In [38]: # 11. jointplot

sns.jointplot(data=tips, x='total_bill', y='tip', kind='scatter', hue='smoker',
plt.suptitle("Jointplot: Total Bill vs Tip", y=1.02)
plt.show()
```



```
In [39]: # 11. jointplot

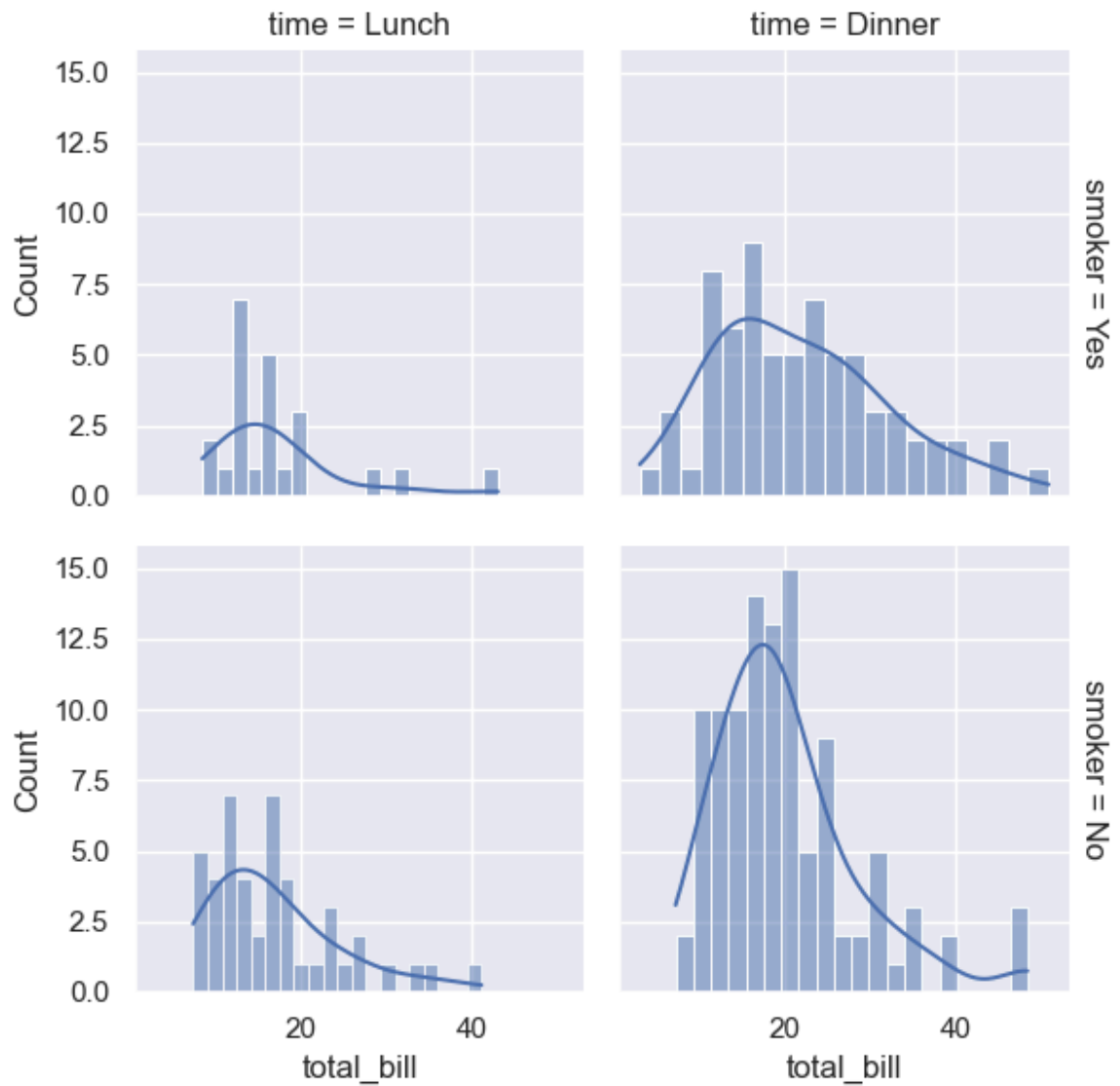
sns.jointplot(data=tips, x='total_bill', y='tip', kind='scatter', hue='smoker',
plt.suptitle("Jointplot: Total Bill vs Tip", y=1.02)
plt.show()
```



```
In [40]: # Facetgrid

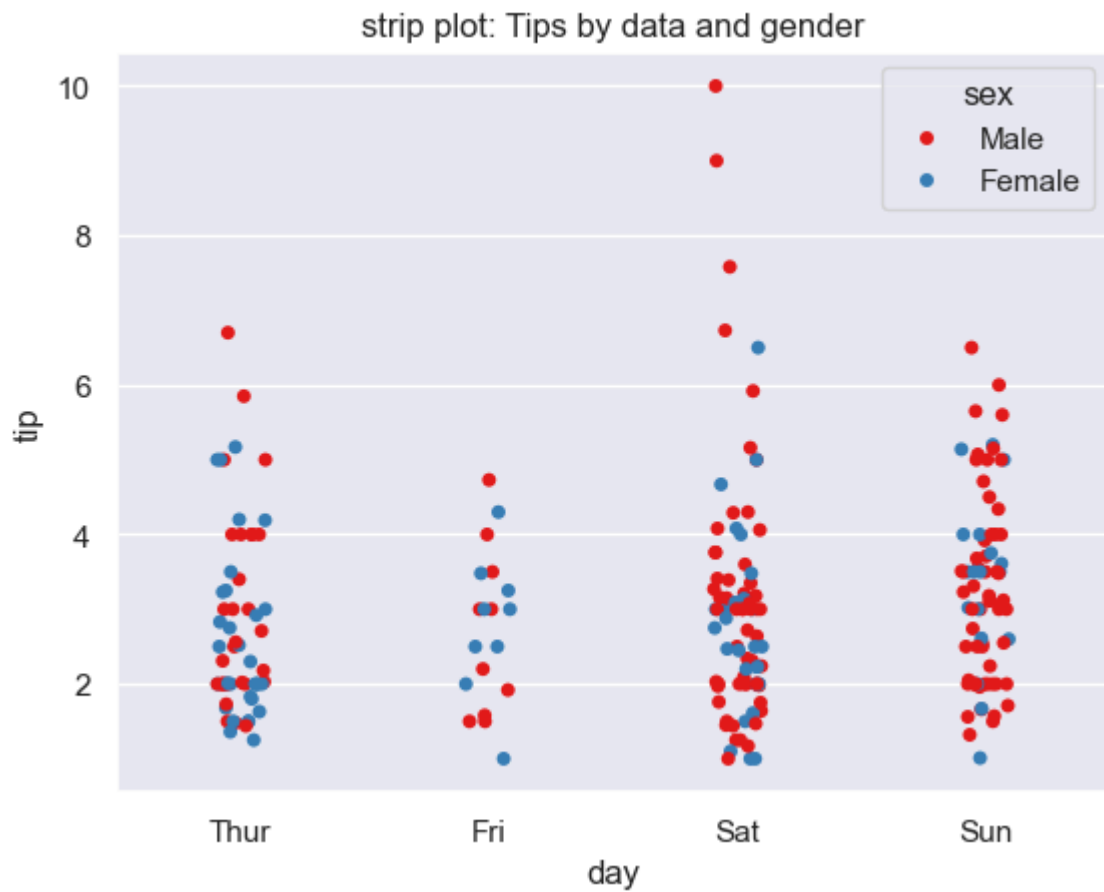
g = sns.FacetGrid(tips, col='time', row='smoker', margin_titles=True).map(sns.hist)
```

```
Out[40]: <seaborn.axisgrid.FacetGrid at 0x1f656593620>
```



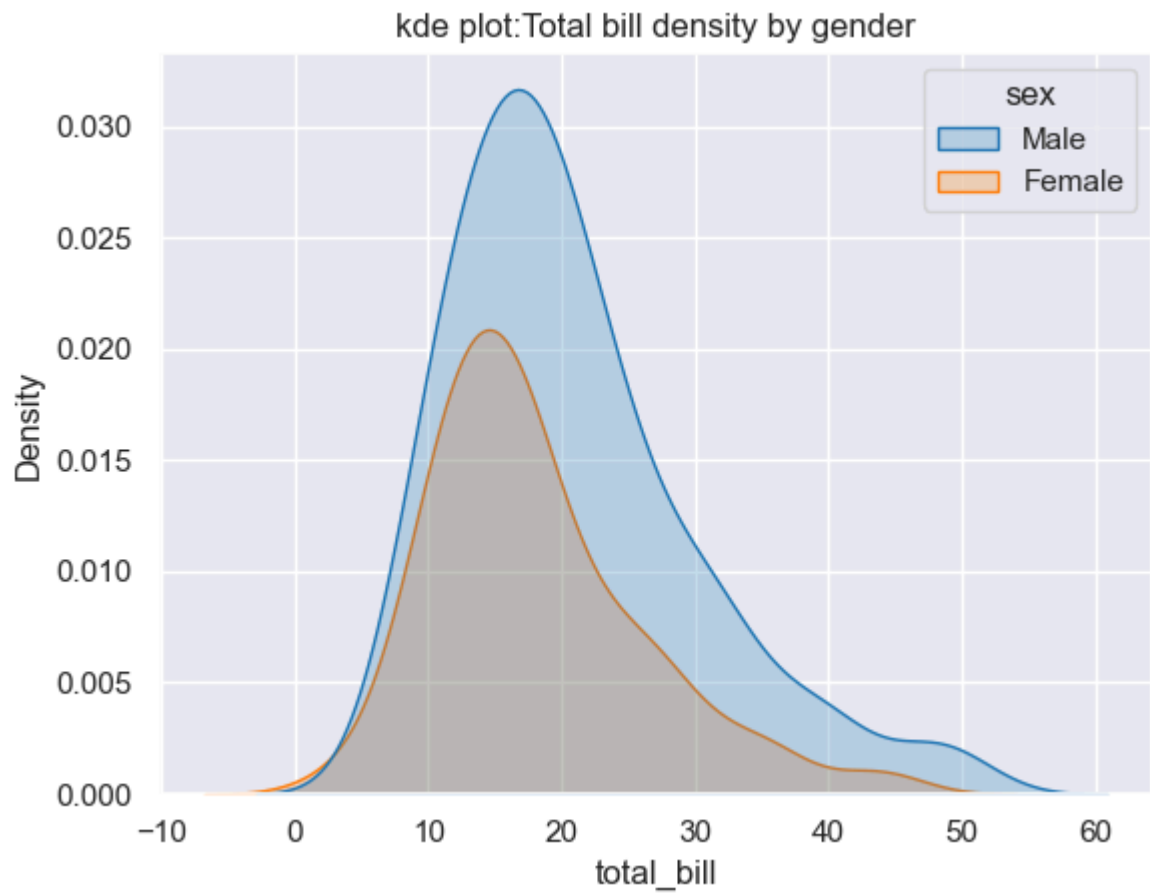
In [41]: *#13. strip plot*

```
sns.stripplot(data=tips, x='day', y='tip', hue='sex', jitter=True, palette='Set1')
plt.title("strip plot: Tips by data and gender")
plt.show()
```



In [42]: # 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()
```

In []: