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

In [3]:
```
import seaborn as sns
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',
 'taxis',
 'tips',
 'titanic']
```

In [4]:
```
import seaborn as sns
import matplotlib.pyplot as plt

#Load sample dataset
tips=sns.load_dataset('tips')

#set a visual theme
sns.set_theme(style='darkgrid')
```

In [5]:
```
tips
```

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
...	...	...	...	...	...	...	...
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 [6]:
```
# save to csv
tips.to_csv('tips_dataset.csv',index=False)
```

In [7]:
```
import os
os.getcwd()
```

Out[7]: 'C:\\Users\\abhis\\FSDS-ML-AI-GEN AI-AGENTIC AI'

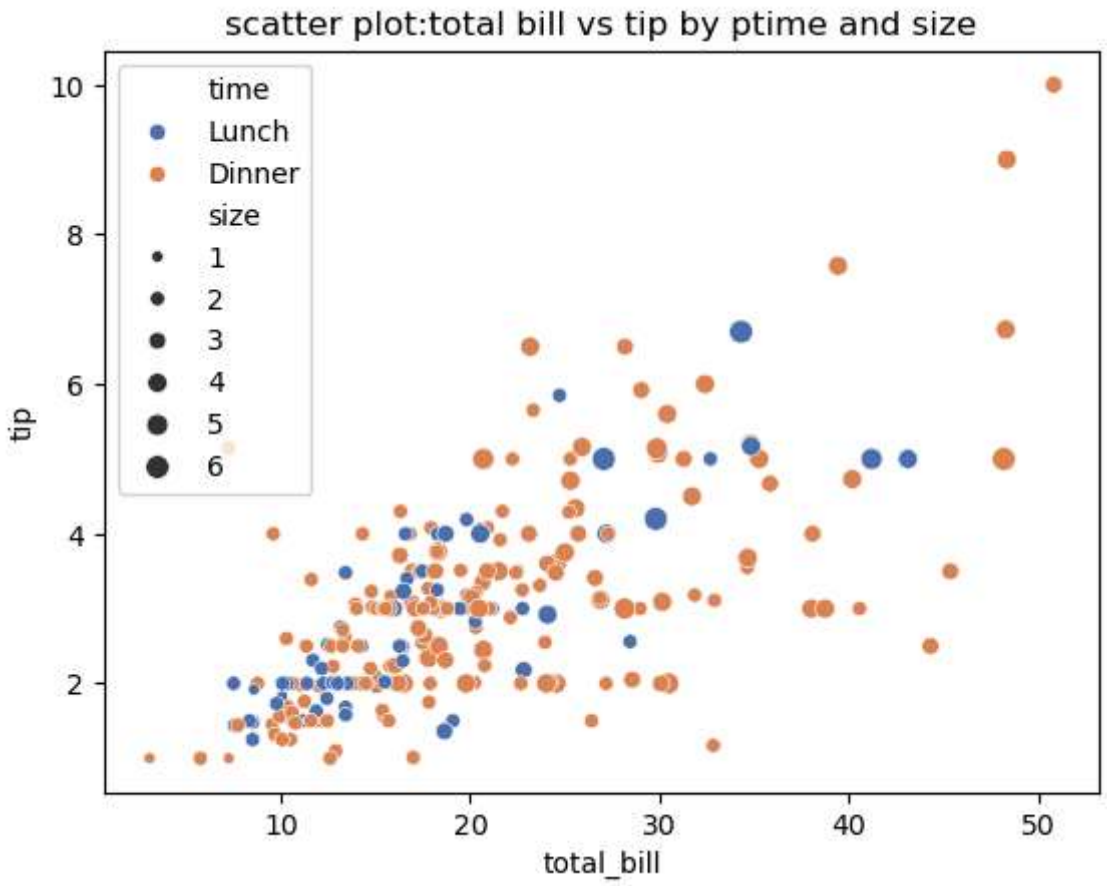
In [9]:
```
plt.figure(figsize=(8,6))
```

Out[9]: <Figure size 800x600 with 0 Axes>

<Figure size 800x600 with 0 Axes>

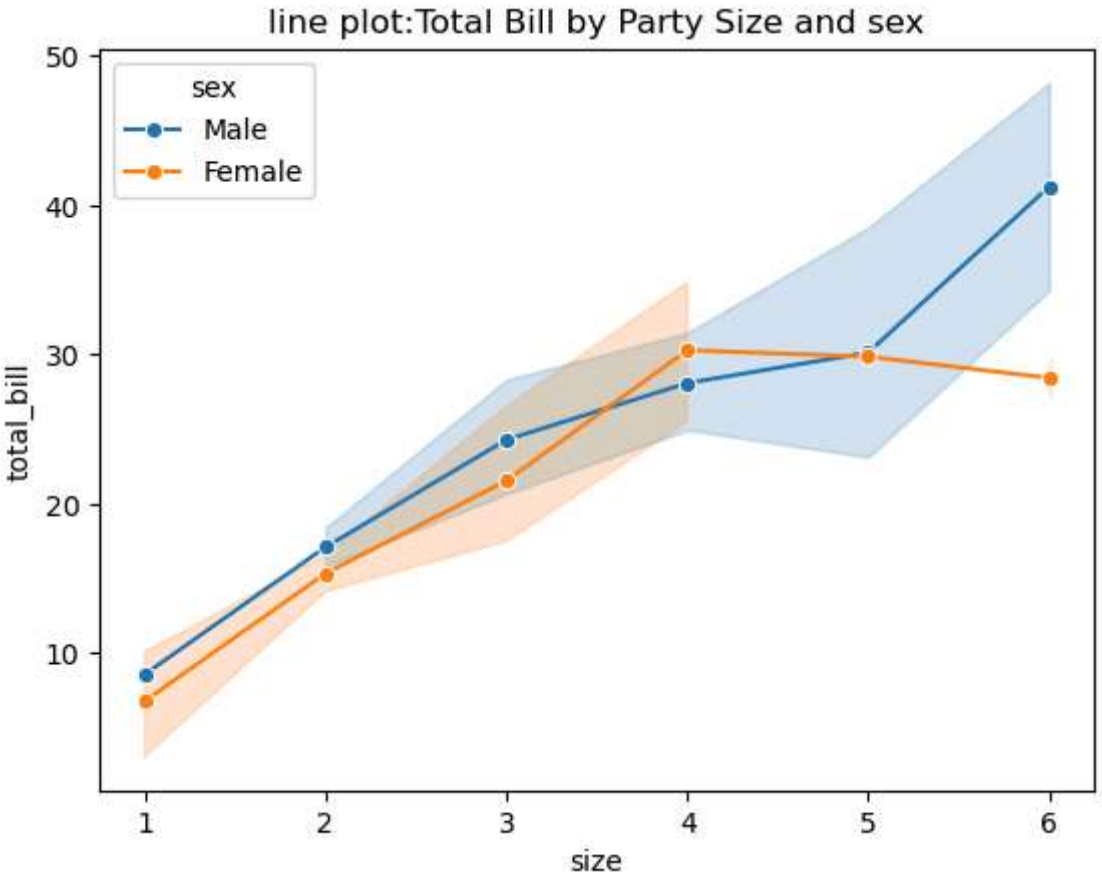
1. Scatter Plot: Total Bill vs Tip, with hue and size

In [14]:
```
sns.scatterplot(data=tips,x='total_bill',y='tip',hue='time',size='size',palette='de
plt.title('scatter plot:total bill vs tip by ptime and size')
plt.show()
```



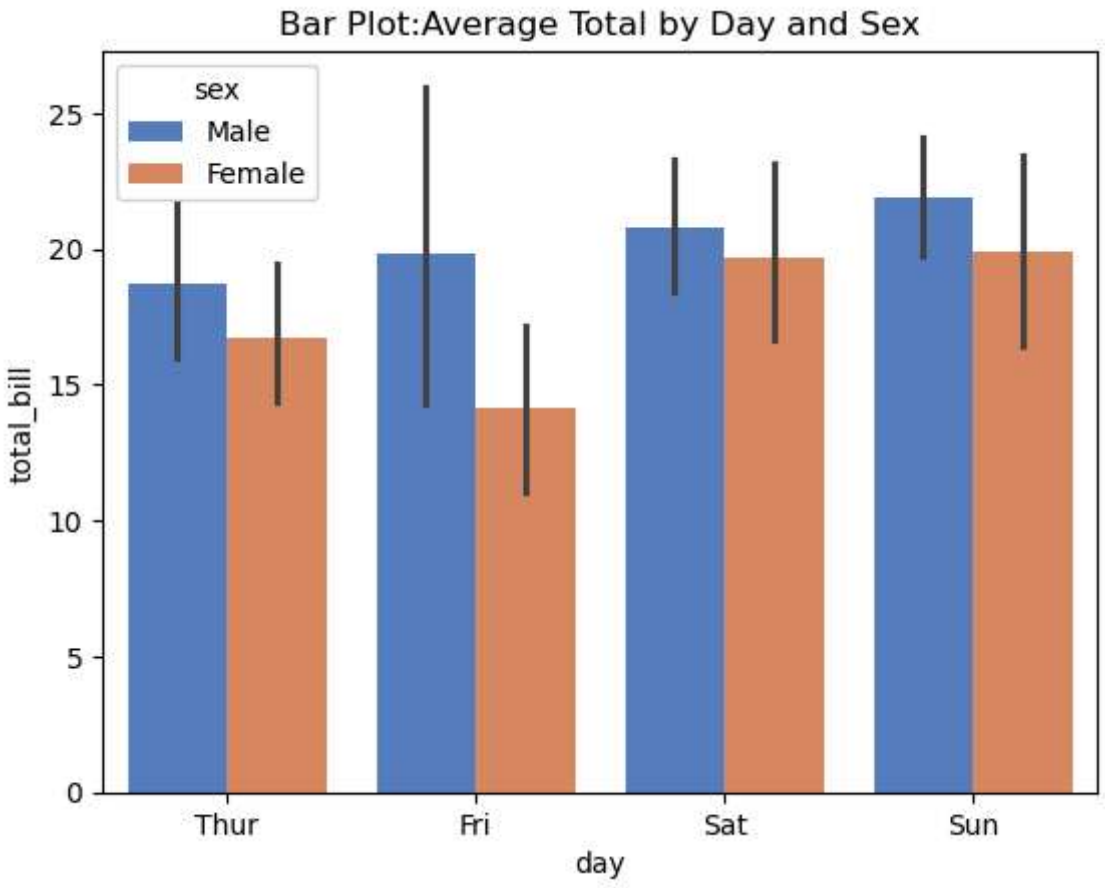
2. Line Plot: Total Bill by Party Size, split by Sex

In [16]:
```
sns.lineplot(data=tips,x='size',y='total_bill',hue='sex',marker='o')
plt.title('line plot:Total Bill by Party Size and sex')
plt.show()
```



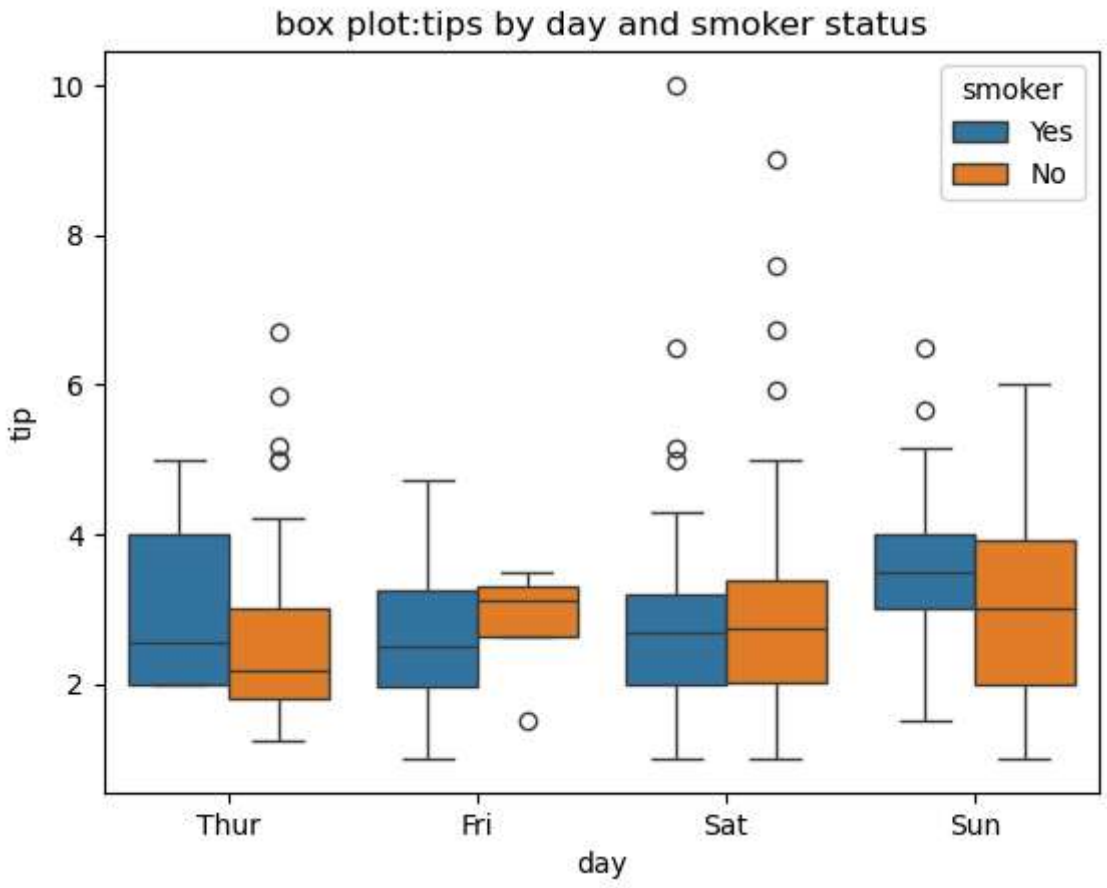
3.Bar plot:Average Total by Day,split by sex

In [17]:
```
import seaborn as sns


# load the data remember
tips=sns.load_dataset('tips')

import matplotlib.pyplot as plt


sns.barplot(data=tips,x='day',y='total_bill',hue='sex',palette='muted')
plt.title('Bar Plot:Average Total by Day and Sex')
plt.show()
```



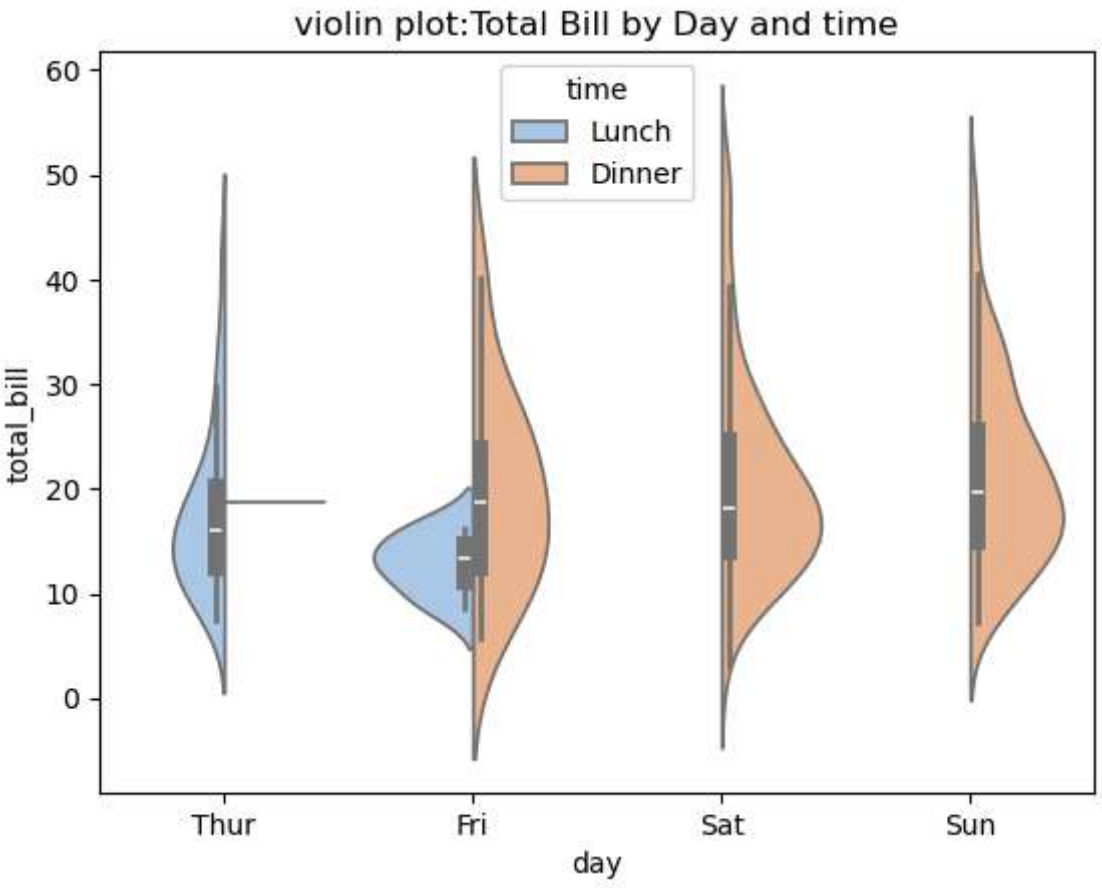
4. Box Plot: Total Bill by Day, split by Time

In [18]:
```
sns.boxplot(data=tips,x='day',y='tip',hue='smoker')
plt.title('box plot:tips by day and smoker status')
plt.show()
```



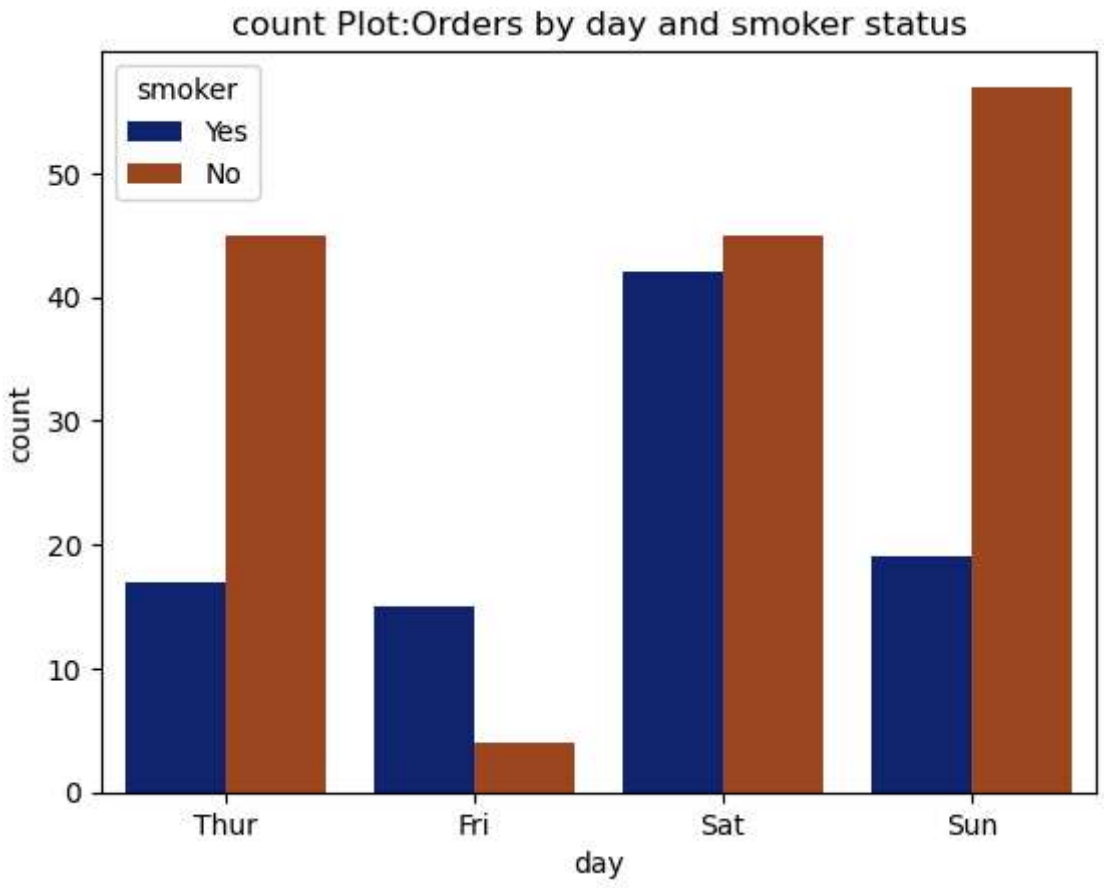
5. Violin Plot: Total Bill by Day, split by Time

In [11]:
```
sns.violinplot(data=tips,x='day',y='total_bill',hue='time',split=True,palette='past
plt.title('violin plot:Total Bill by Day and time')
plt.show()
```



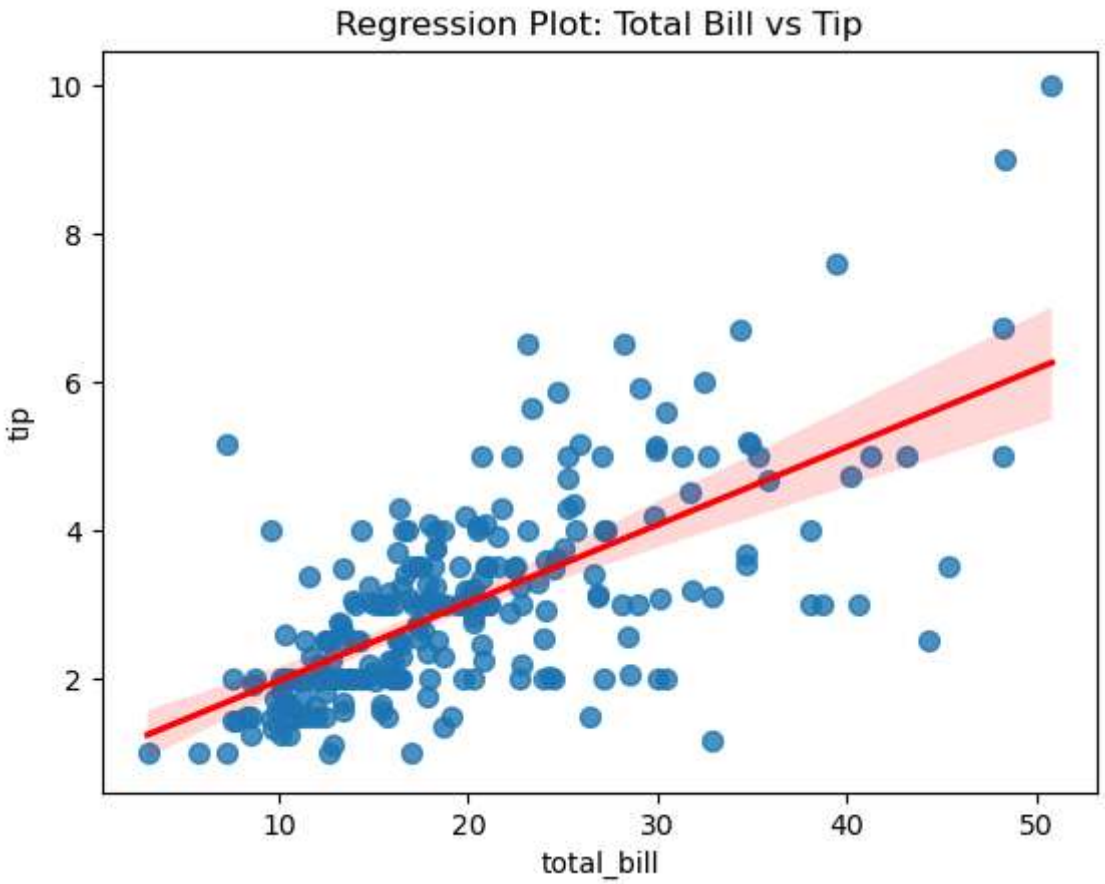
6. Count Plot: Orders by Day, split by Smoker

In [13]:
```
sns.countplot(data=tips,x='day',hue='smoker',palette='dark')
plt.title('count Plot:Orders by day and smoker status')
plt.show()
```



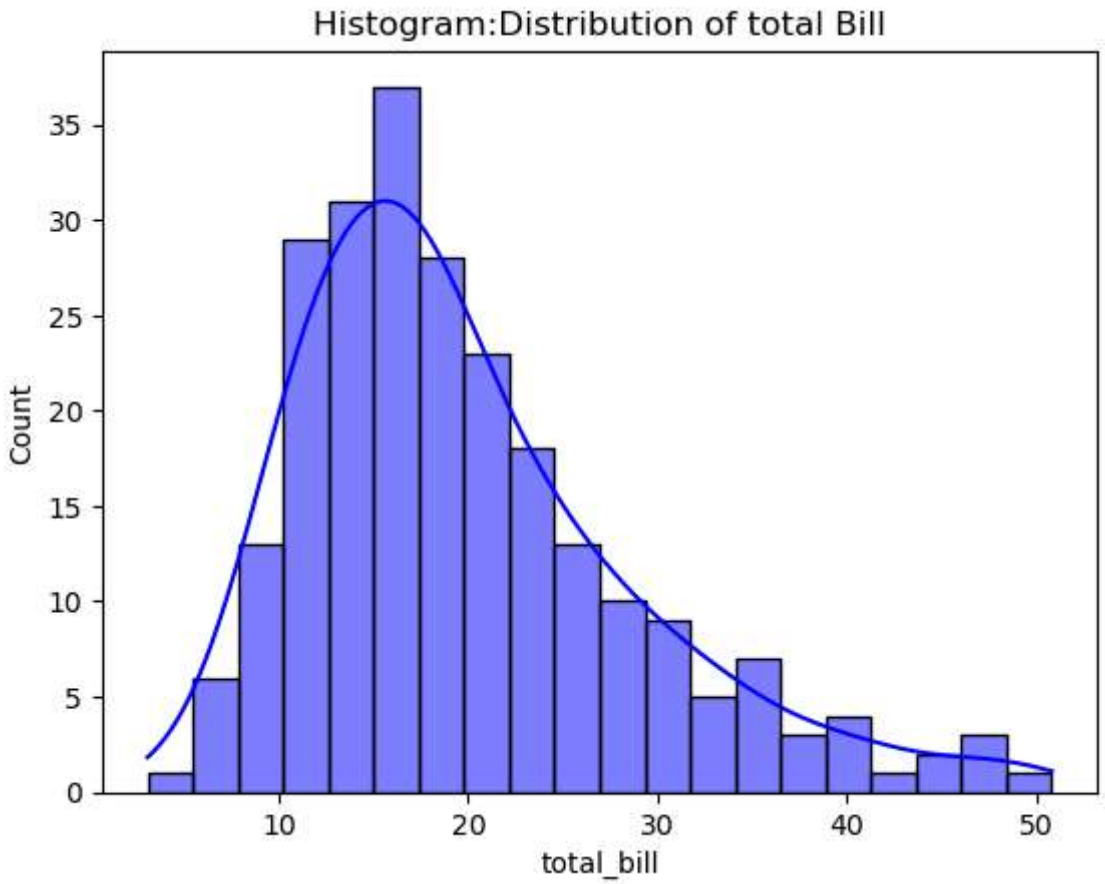
7. Regression Plot: Total Bill vs Tip with regression line

In [19]:
```
sns.regplot(data=tips,x='total_bill',y='tip',scatter_kws={'s':50},line_kws={'color'
plt.title("Regression Plot: Total Bill vs Tip")
plt.show()
```



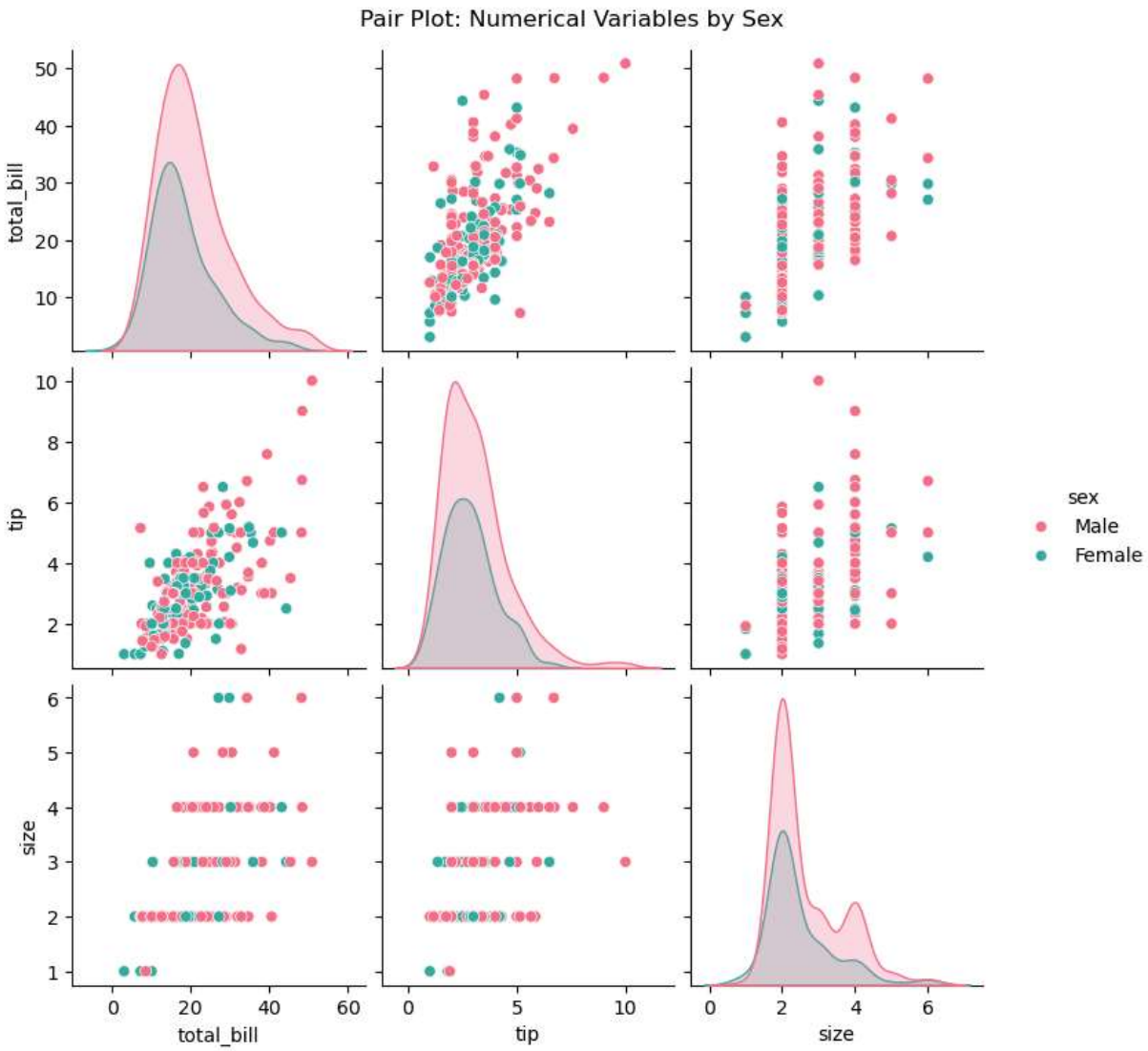
8. Histogram (Distribution Plot): Total Bill with KDE

In [21]:
```
sns.histplot(data=tips,x='total_bill',kde=True,bins=20,color='blue')
plt.title('Histogram:Distribution of total Bill')
plt.show()
```



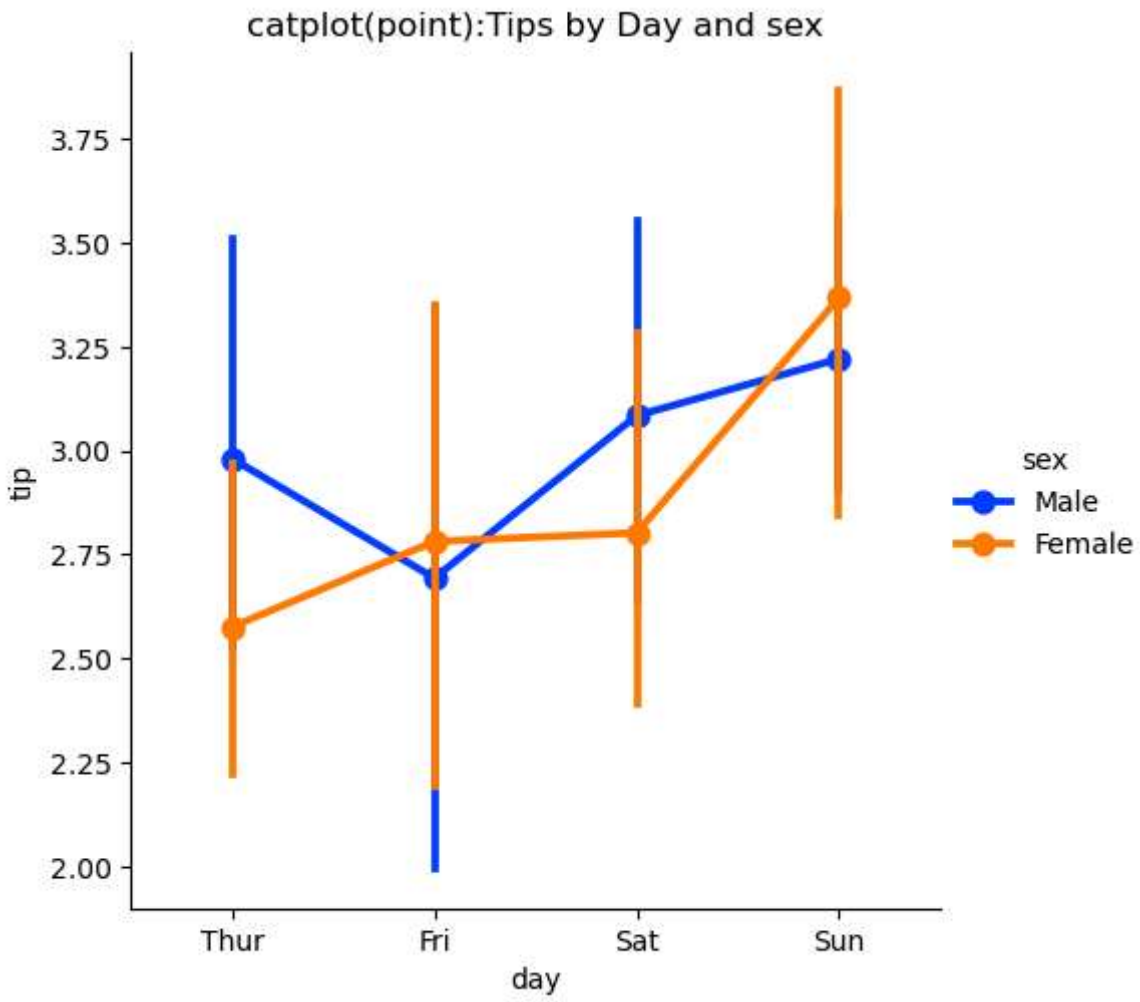
9. Pair Plot: Relationships between numerical variables

In [22]:
```
sns.pairplot(tips, hue="sex", vars=["total_bill", "tip", "size"], palette="husl")
plt.suptitle("Pair Plot: Numerical Variables by Sex", y=1.02)
plt.show()
```



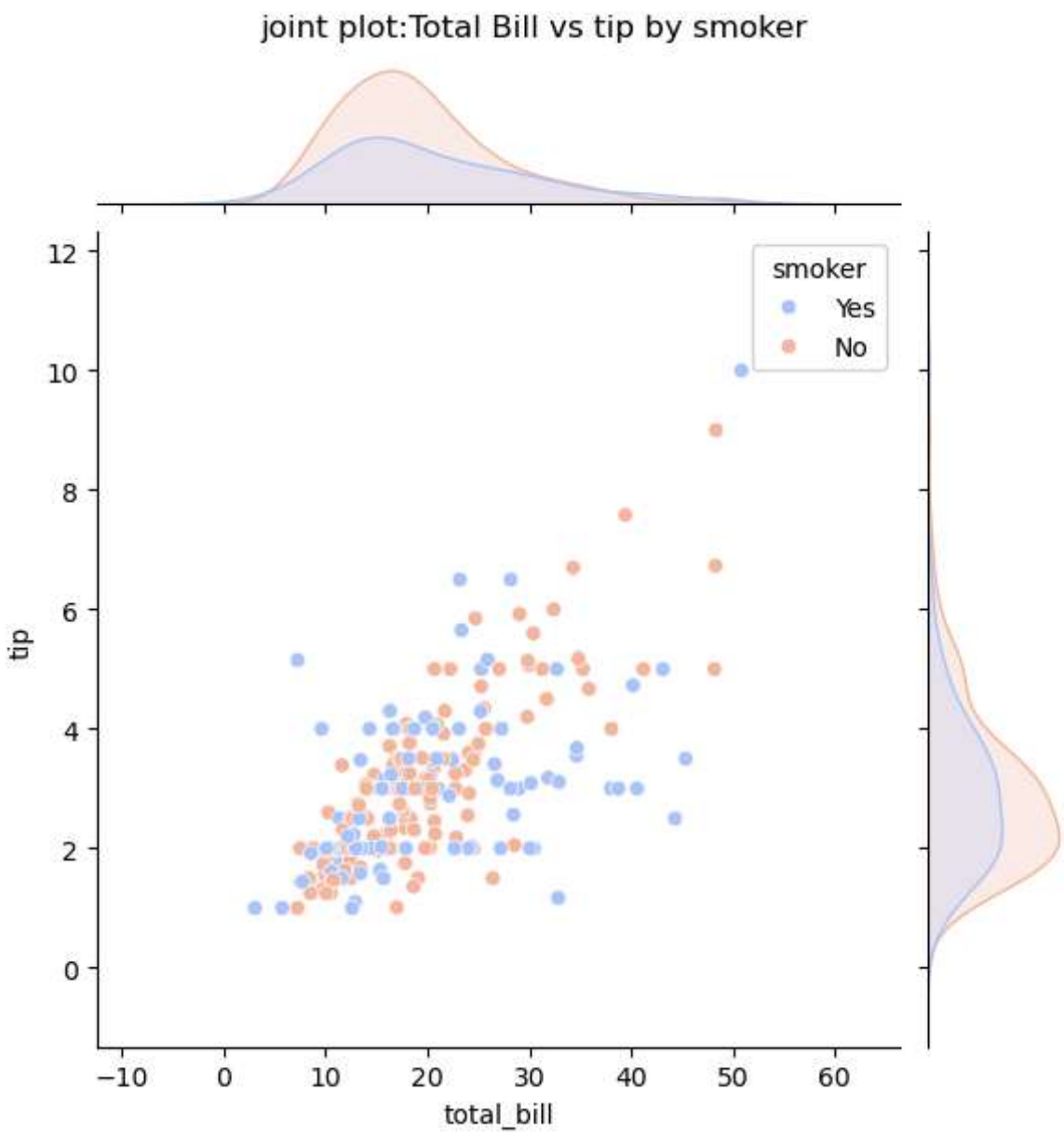
10. Catplot (Point Plot): Tip by Day and Sex

In [25]:
```
sns.catplot(data=tips,x='day',y='tip',hue='sex',kind='point',palette='bright')
plt.title('catplot(point):Tips by Day and sex')
plt.show()
```



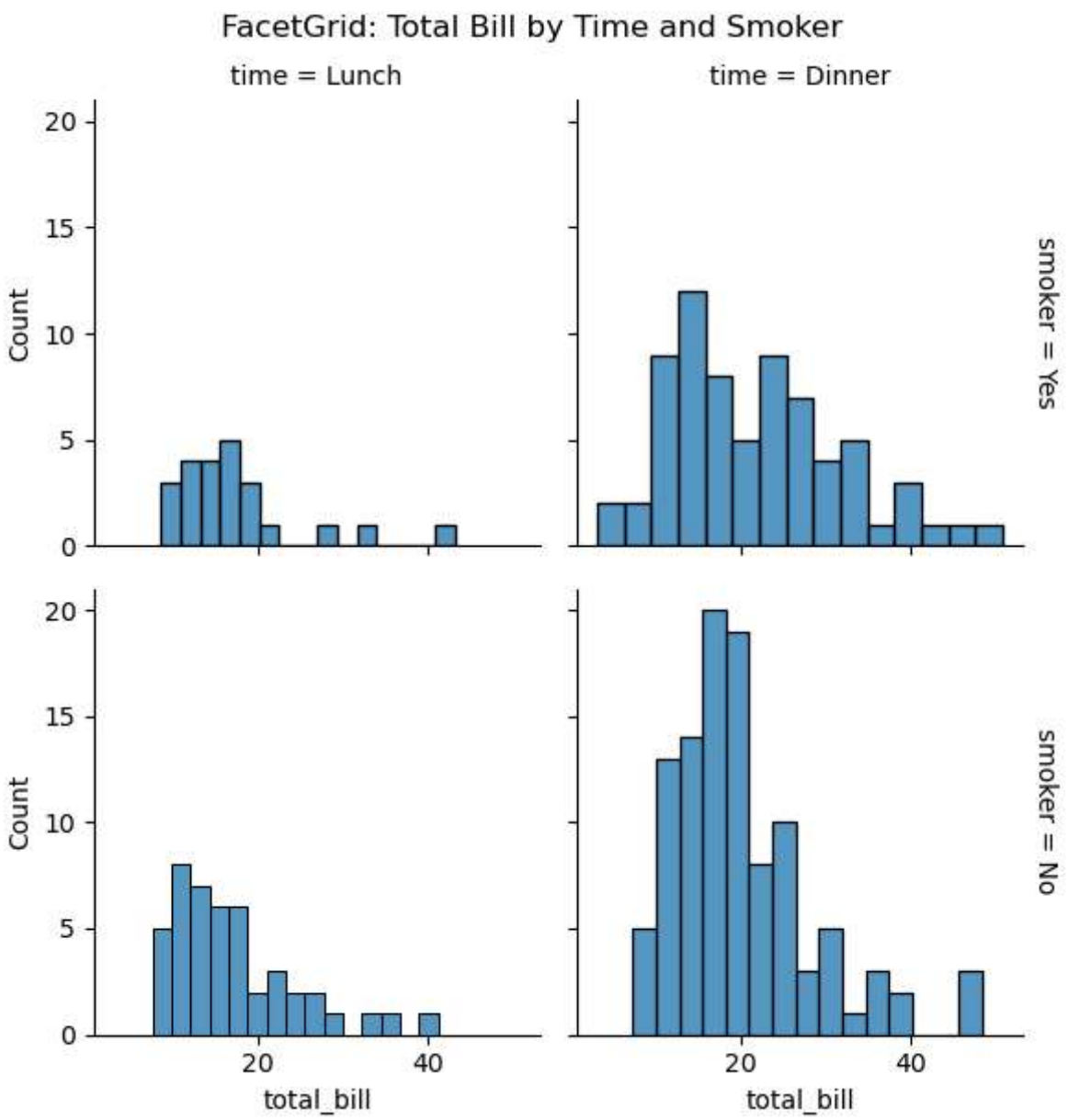
11. Joint Plot: Total Bill vs Tip with marginal distributions

In [27]:
```
sns.jointplot(data=tips,x='total_bill',y='tip',kind='scatter',hue='smoker',palette=
plt.suptitle('joint plot:Total Bill vs tip by smoker',y=1.02)
plt.show()
```



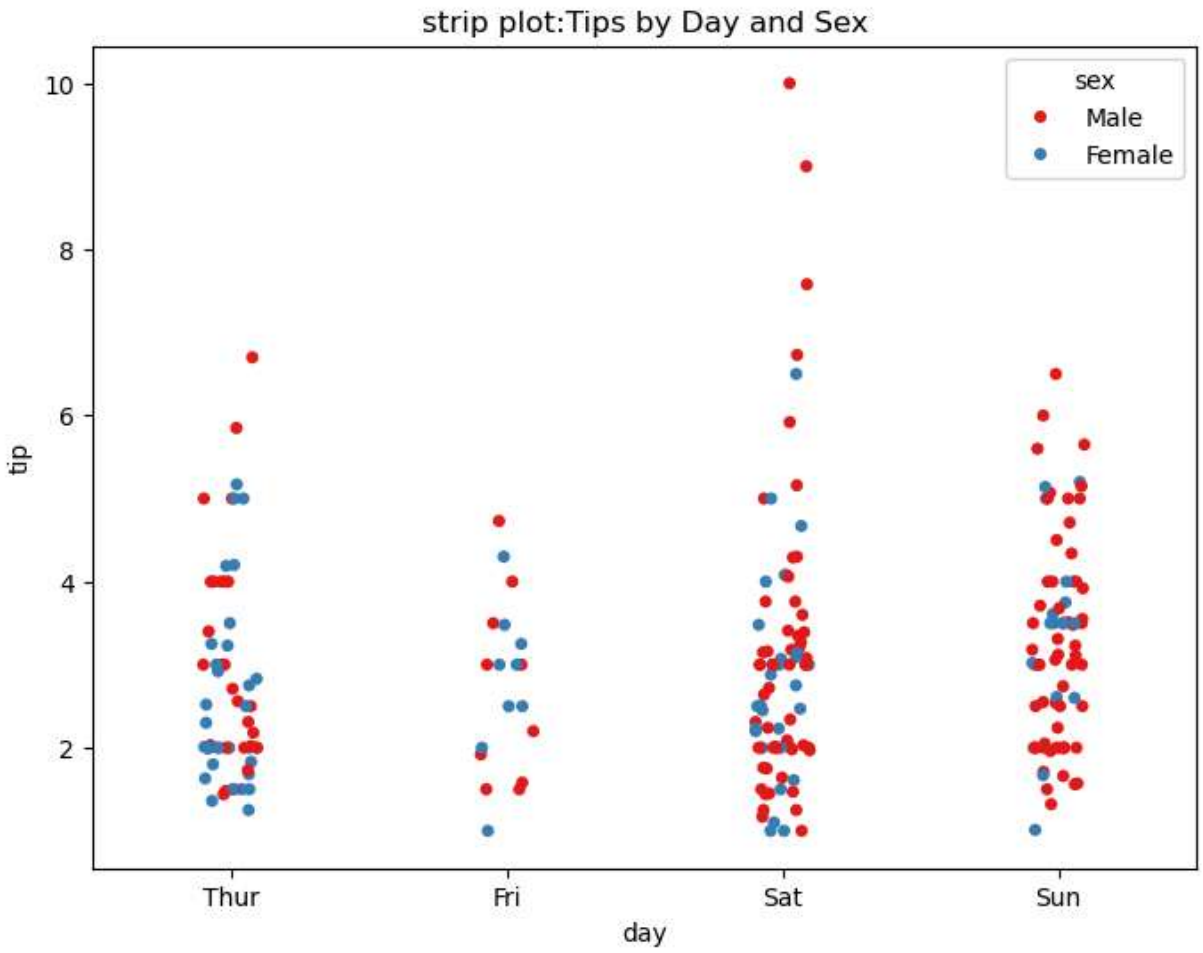
12. FacetGrid: Total Bill by Day, faceted by Time and Smoker

In [29]:
```
g=sns.FacetGrid(tips,col='time',row='smoker',margin_titles=True)
g.map(sns.histplot,'total_bill',bins=15)
g.fig.suptitle("FacetGrid: Total Bill by Time and Smoker", y=1.02)
plt.show()
```



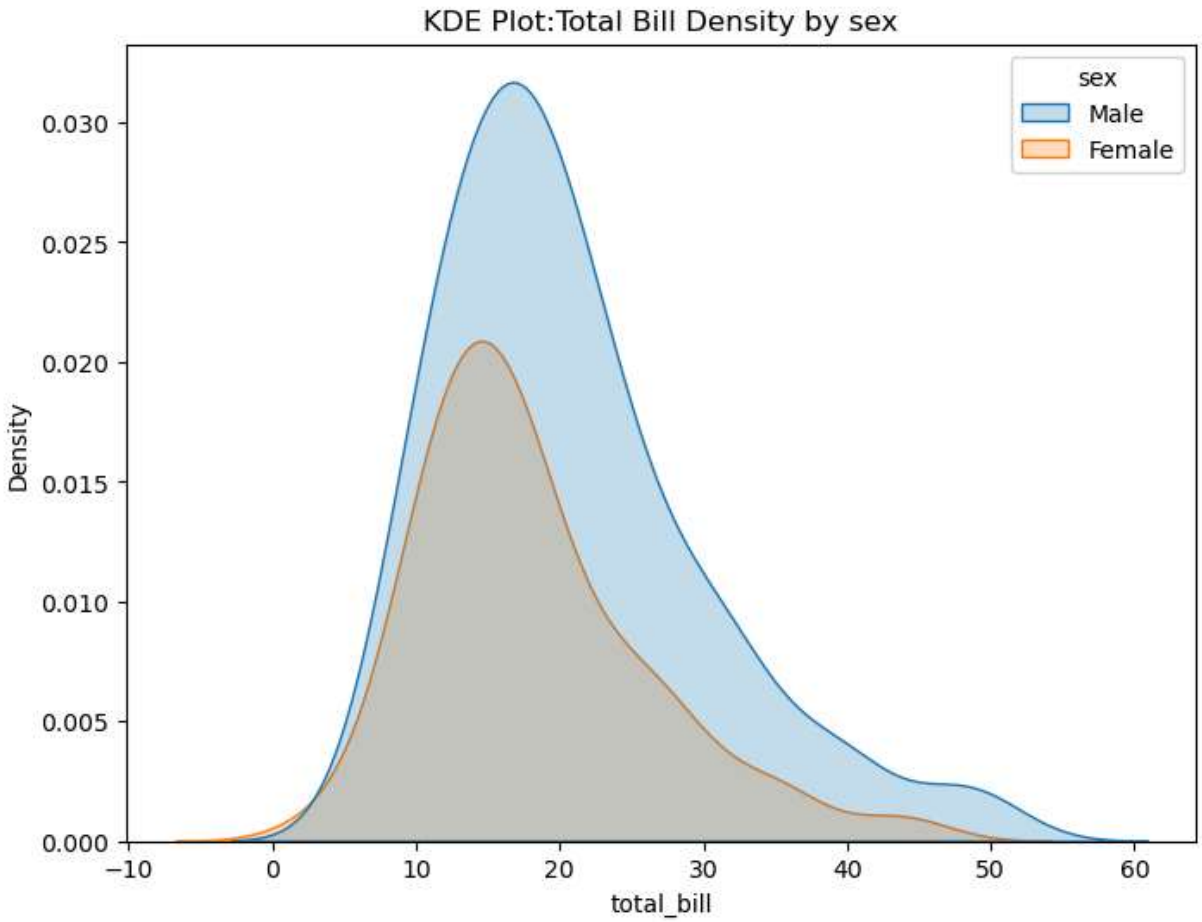
13. Strip Plot: Tips by Day, colored by Sex

In [31]:
```
plt.figure(figsize=(8,6))
sns.stripplot(data=tips, x='day',y='tip',hue='sex',palette='Set1',jitter=True)
plt.title('strip plot:Tips by Day and Sex')
plt.show()
```



14. KDE Plot: Total Bill density by Sex

In [33]:
```
plt.figure(figsize=(8,6))
sns.kdeplot(data=tips,x='total_bill',hue='sex',fill=True,palette='tab10')
plt.title('KDE Plot:Total Bill Density by sex')
plt.show()
```


KDE Plot:Total Bill Density by sex
sex
Male
Female
Density
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−10
0
10
20
30
40
50
60
total_bill

In [ ]: