In [1]:

```
pwd
```

Out[1]:

```
'C:\\Users\\Lenovo'
```

In [2]:

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

In [7]:

```python
df=pd.read_csv("tips.csv")
```

In [8]:

```python
df
```

Out[8]:

	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

Barplot

In [10]:

```python
sns.barplot(x='day',y='total_bill',data=df)
```
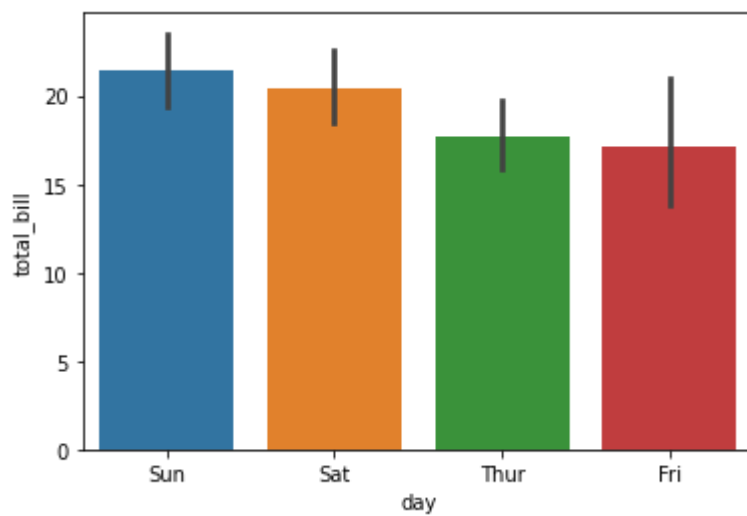
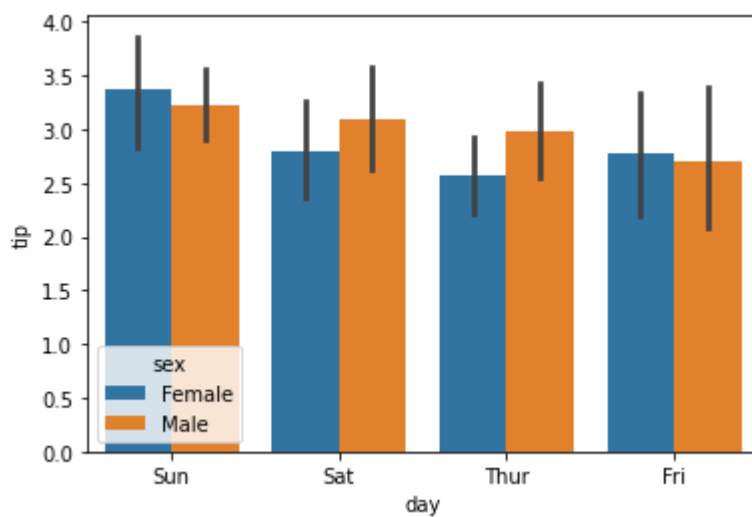Out[10]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```


In [12]:

```python
# for comparison we use hue argument in syntax
sns.barplot(x='day',y='tip',hue='sex',data=df)
```
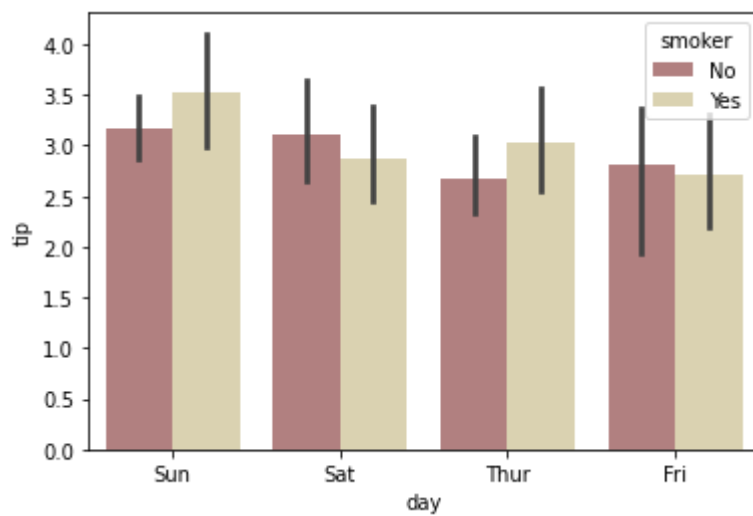
Out[12]:

```
<AxesSubplot:xlabel='day', ylabel='tip'>
```

In [17]:

```python
sns.barplot(x="day",y="tip",data=df,palette="pink",hue="smoker")
```
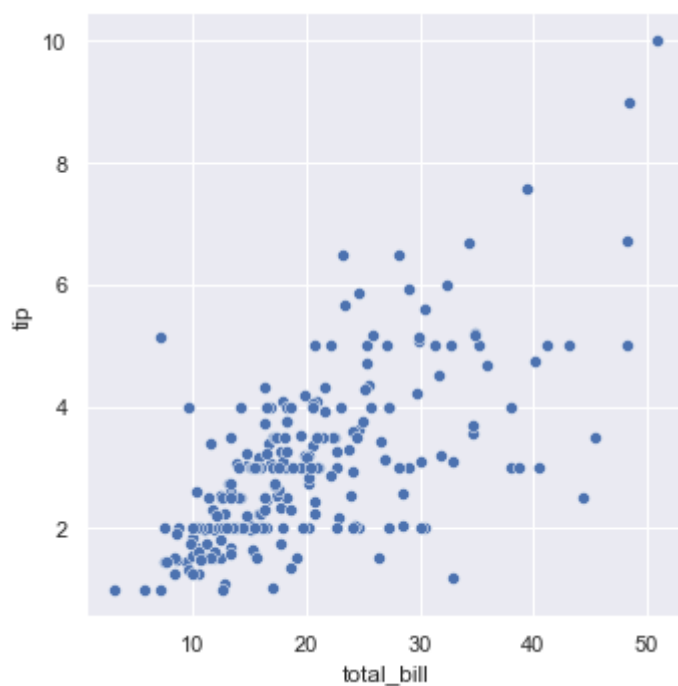
Out[17]:

```
<AxesSubplot:xlabel='day', ylabel='tip'>
```


visualizing statistical relationships

In [24]:

```python
sns.set(style="darkgrid")
```

In [25]:

```python
sns.relplot(x="total_bill",y="tip",data=df)
```
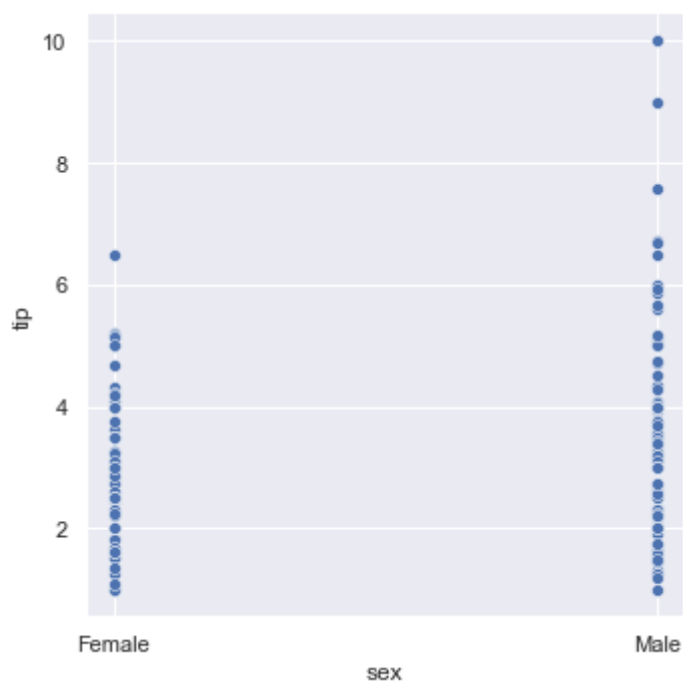
Out[25]:

```
<seaborn.axisgrid.FacetGrid at 0x257aee536a0>
```


In [26]:

```python
sns.relplot(x="sex",y="tip",data=df)
```

Out[26]:

```
<seaborn.axisgrid.FacetGrid at 0x257af4b8a30>
```
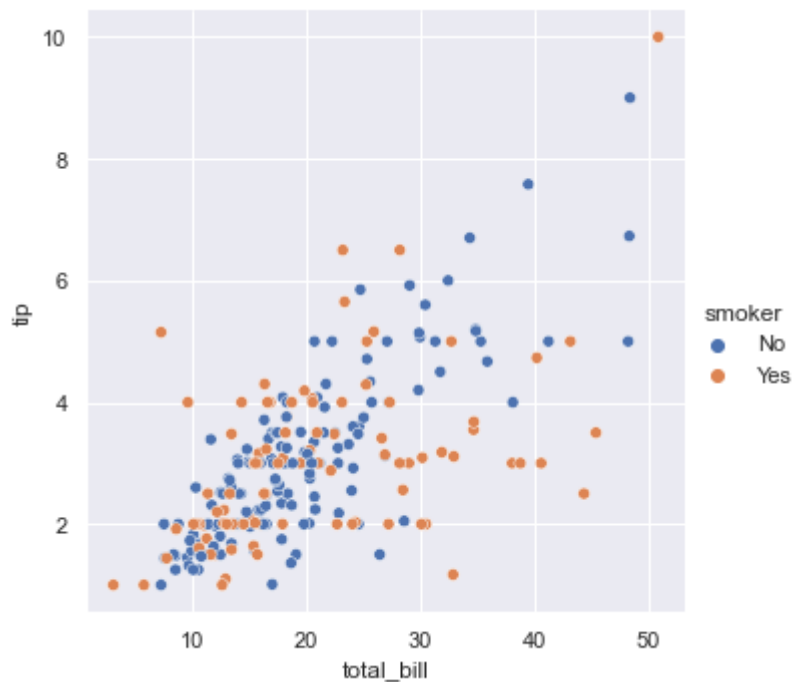
In [28]:

```python
sns.relplot(x="total_bill",y="tip",hue="smoker",data=df)
```

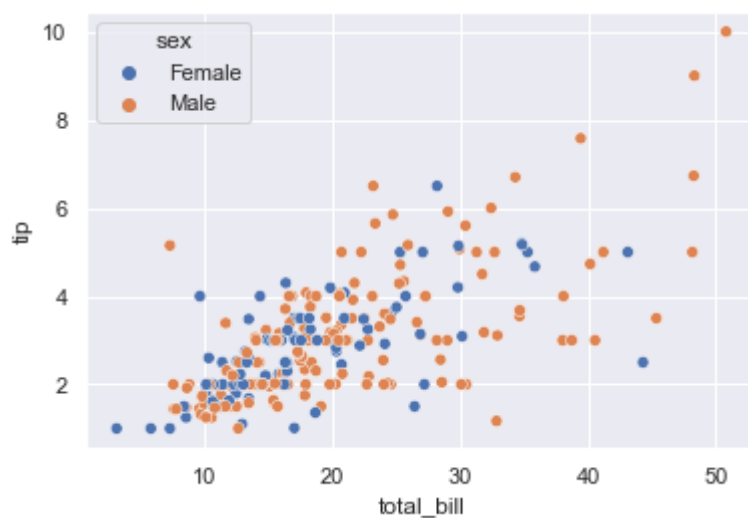Out[28]:

```
<seaborn.axisgrid.FacetGrid at 0x257af7076a0>
```


Scatterplot

In [29]:

```python
sns.scatterplot(x="total_bill",y="tip",hue="sex",data=df)
```

Out[29]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```
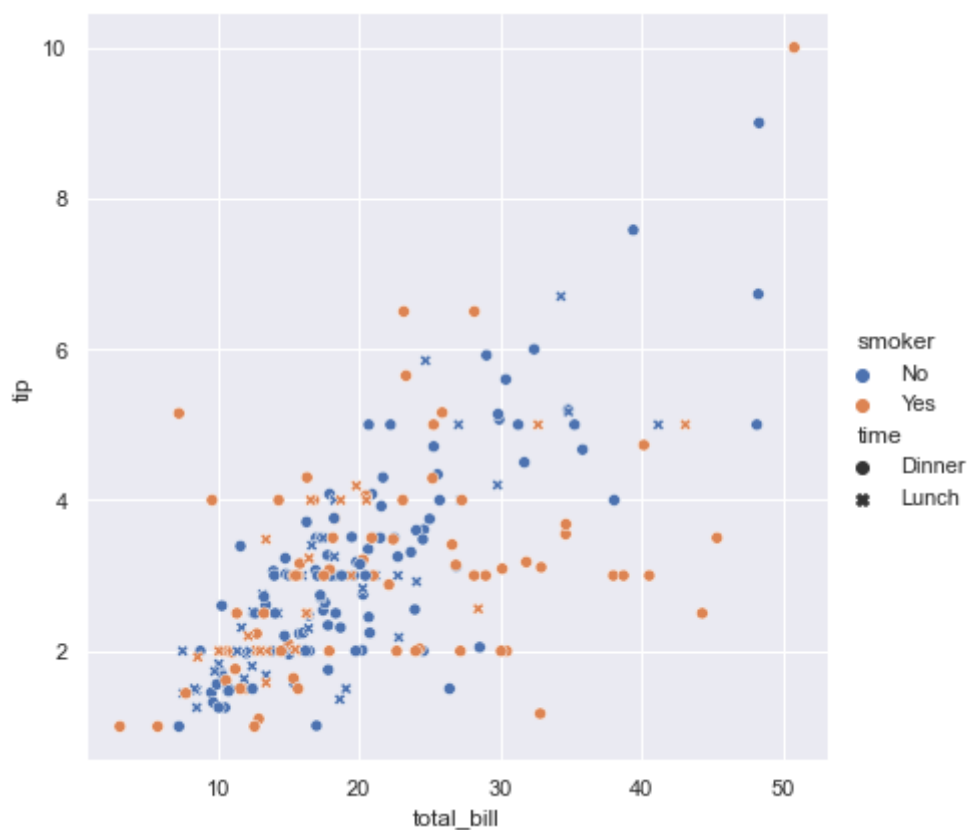
In [32]:

```
sns.relplot(x="total_bill",y="tip",hue="smoker",style="time",height=6,data=df)
```
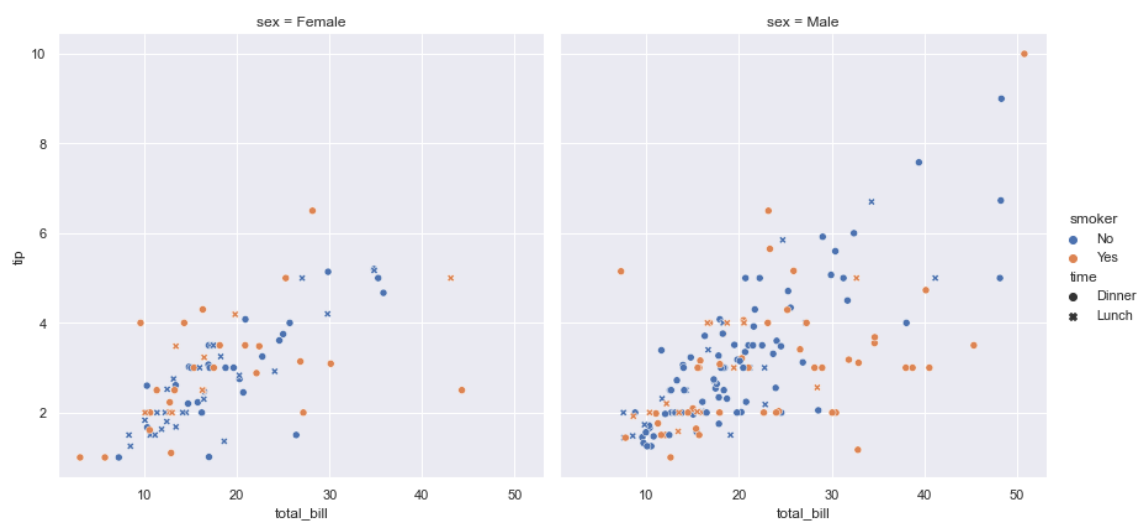
Out[32]:

```
<seaborn.axisgrid.FacetGrid at 0x257aed8f8e0>
```


In [33]:

```
sns.relplot(x="total_bill",y="tip",hue="smoker",style="time",height=6,col="sex",data=df)
```

Out[33]:

```
<seaborn.axisgrid.FacetGrid at 0x257aeecfe80>
```
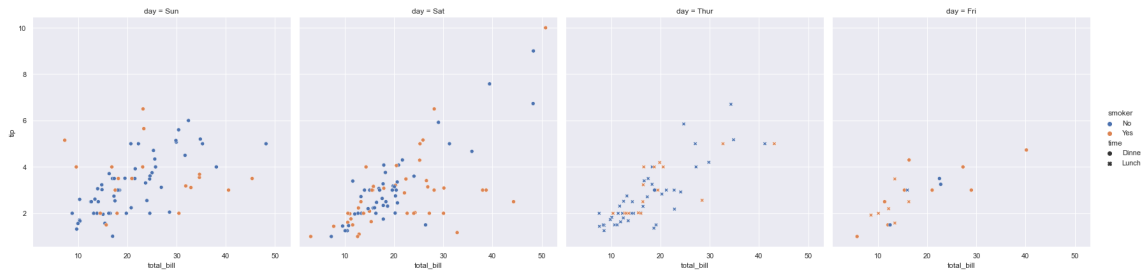
In [34]:

```python
# this is categorical encoding  means divinding in columns
sns.relplot(x="total_bill",y="tip",hue="smoker",style="time",height=6,col="day",data=df)
```
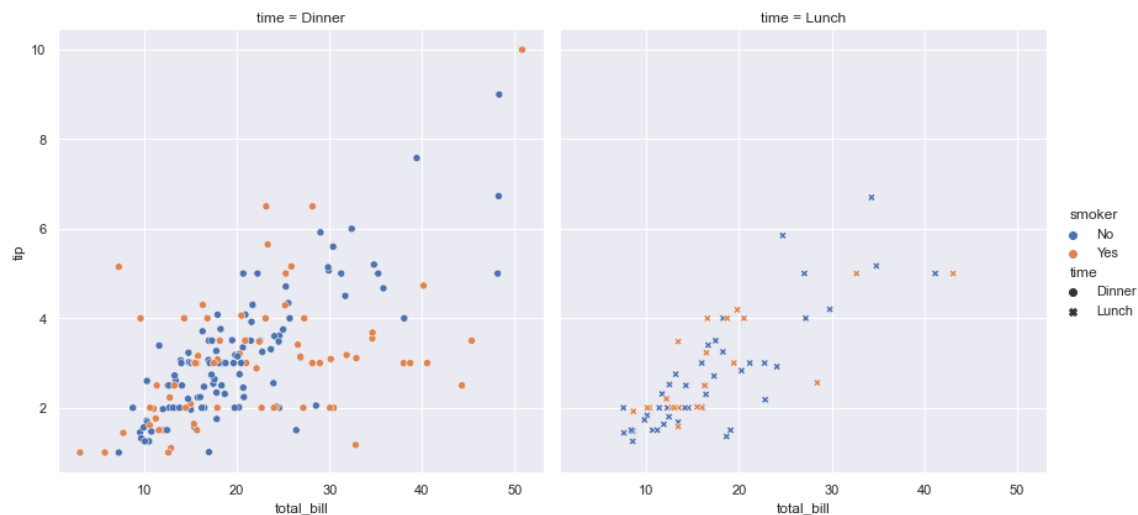
Out[34]:

```
<seaborn.axisgrid.FacetGrid at 0x257af549a30>
```


In [35]:

```python
# this is categorical encoding  means divinding in columns
sns.relplot(x="total_bill",y="tip",hue="smoker",style="time",height=6,col="time",data=df
```
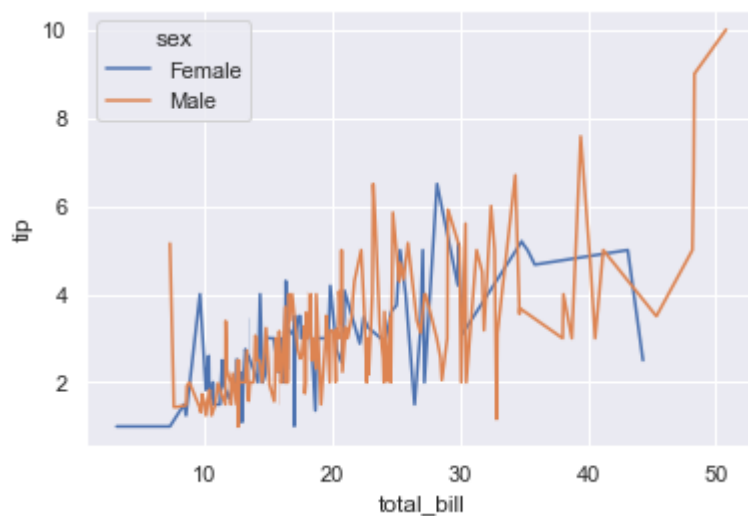
Out[35]:

```
<seaborn.axisgrid.FacetGrid at 0x257af8d4cd0>
```


Lineplot

In [36]:

```python
sns.lineplot(x="total_bill",y="tip",hue="sex",data=df)
```

Out[36]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```


In [37]:

```python
sns.lineplot(x="total_bill",y="tip",data=df)
```
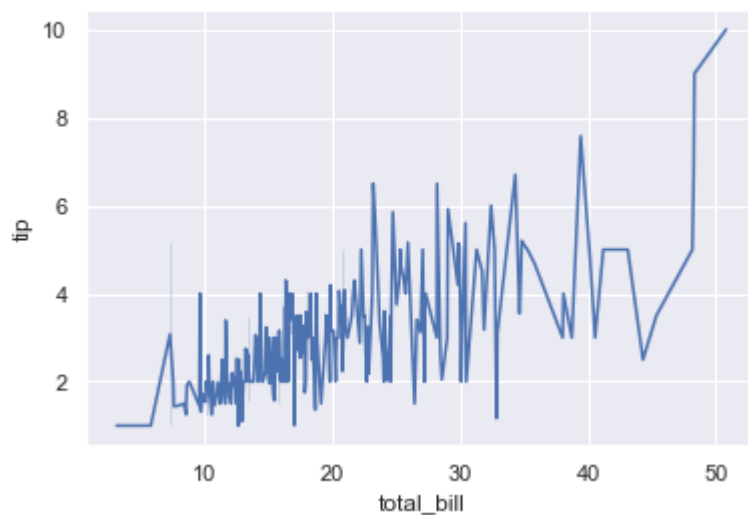
Out[37]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```
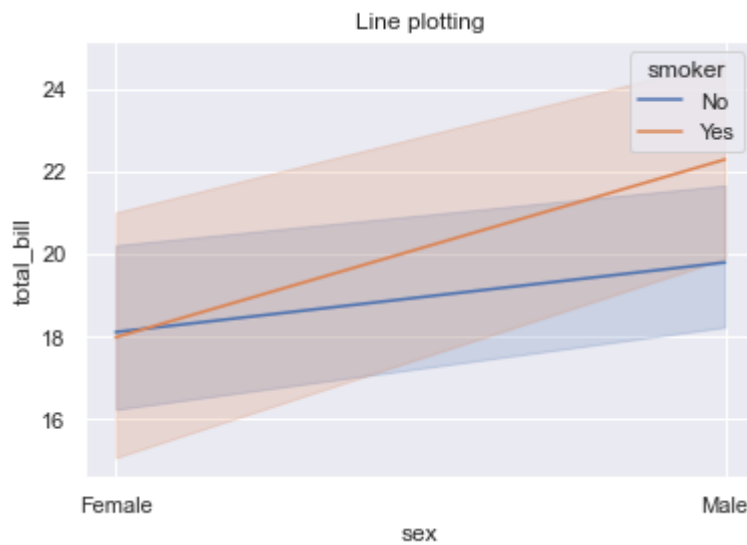
In [42]:

```python
sns.lineplot(x="sex",y="total_bill",hue="smoker",data=df)
plt.title("Line plotting")
plt.show()
```
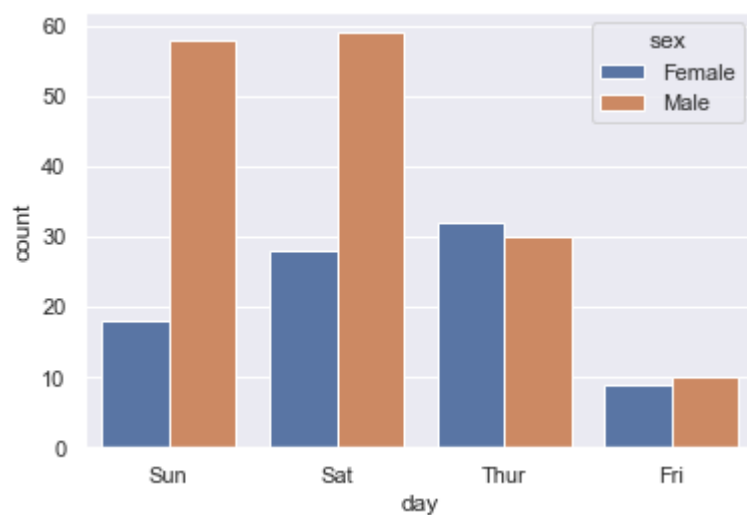

CountPlot

In [44]:

```python
sns.countplot(x="day",hue="sex",data=df)
```
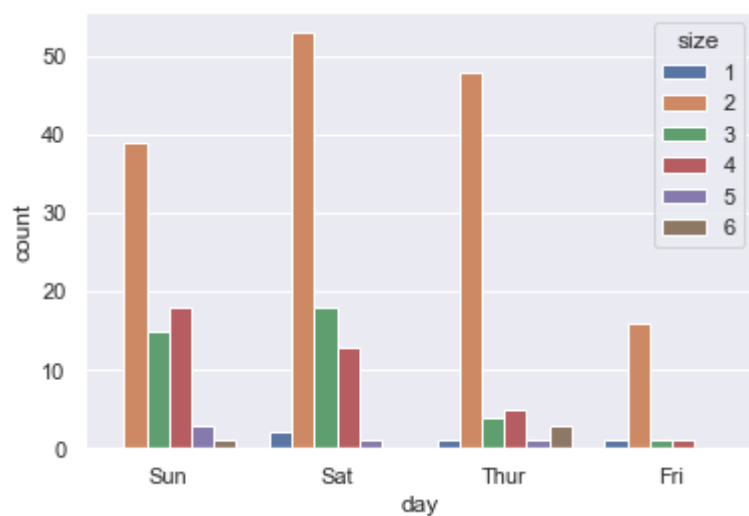
Out[44]:

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

In [45]:

```python
sns.countplot(x="day",hue="size",data=df)
```

Out[45]:

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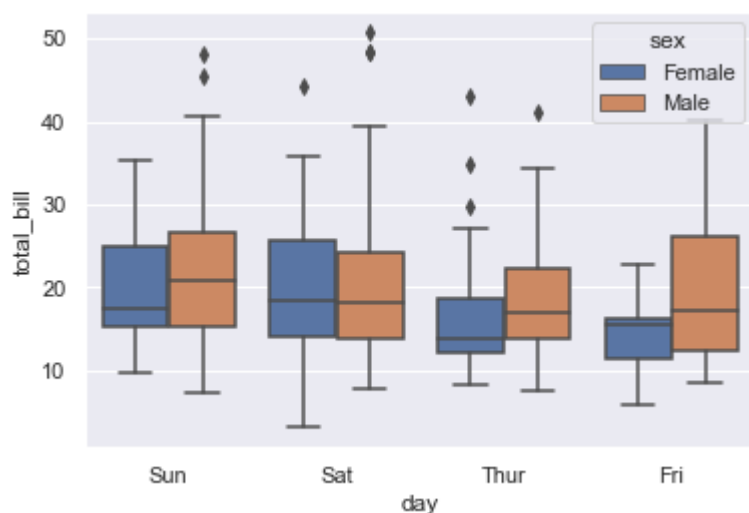

BoxPlot

In [46]:

```python
sns.boxplot(x="day",y="total_bill",hue="sex",data=df)
```

Out[46]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```


In [47]:

```python
#to find the data present in or not in dataset
df["weekend"]=df["day"].isin(['sat'])
```
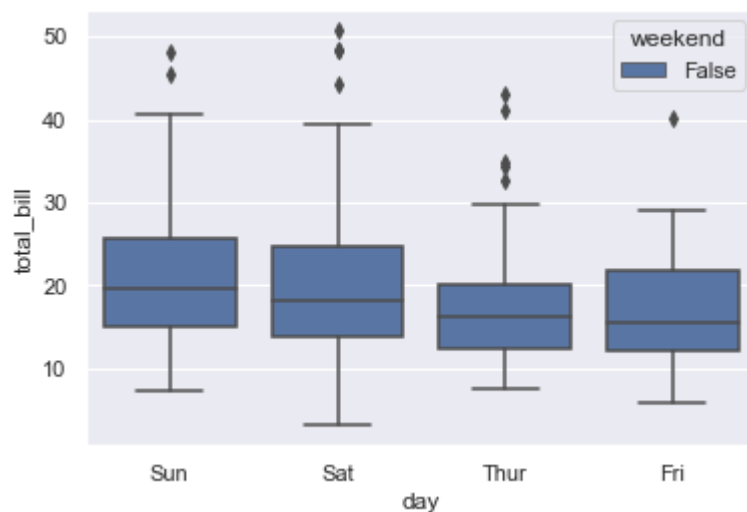
In [48]:

```python
df.sample(5)
```

Out[48]:

	total_bill	tip	sex	smoker	day	time	size	weekend
92	5.75	1.00	Female	Yes	Fri	Dinner	2	False
149	7.51	2.00	Male	No	Thur	Lunch	2	False
102	44.30	2.50	Female	Yes	Sat	Dinner	3	False
49	18.04	3.00	Male	No	Sun	Dinner	2	False
43	9.68	1.32	Male	No	Sun	Dinner	2	False

In [51]:

```python
sns.boxplot(x="day",y="total_bill",hue="weekend",data=df)
```

Out[51]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```
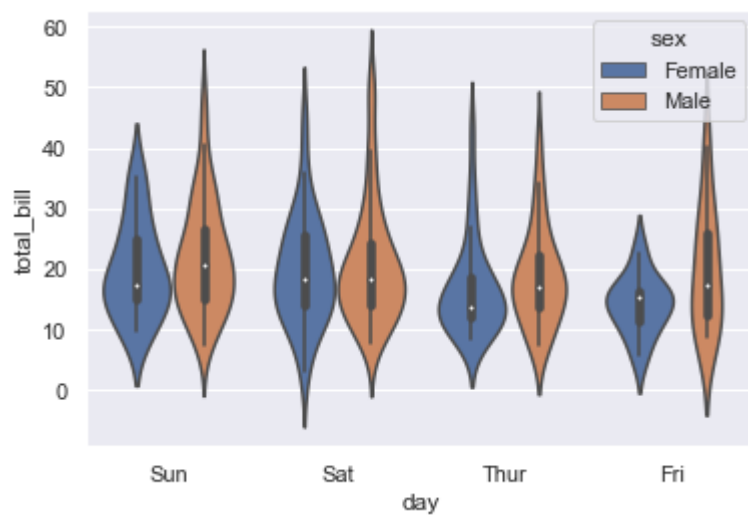

Violin Plot

In [53]:

```python
sns.violinplot(x="day",y="total_bill",hue="sex",data=df)
```

Out[53]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```


In [55]:

```python
sns.violinplot(x="day",y="total_bill",inner=None,data=df)
#used for kernel density estimation
```
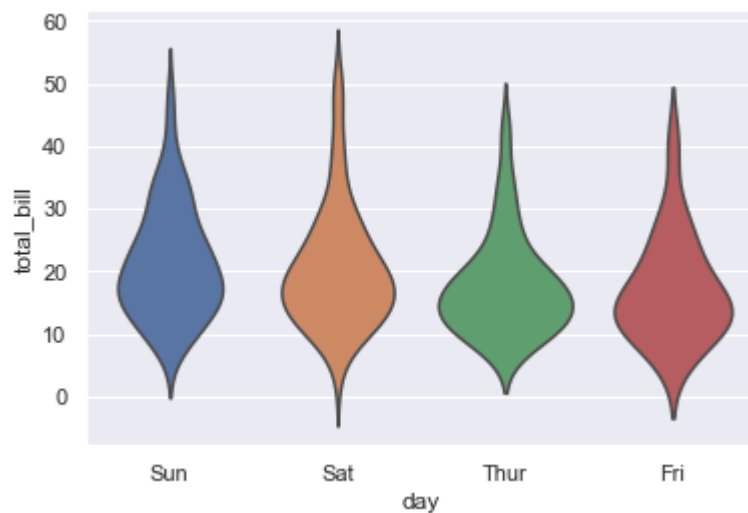
Out[55]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```
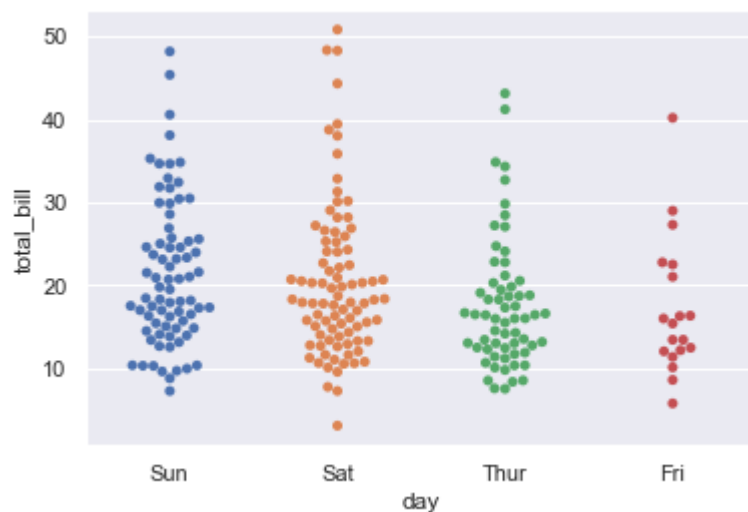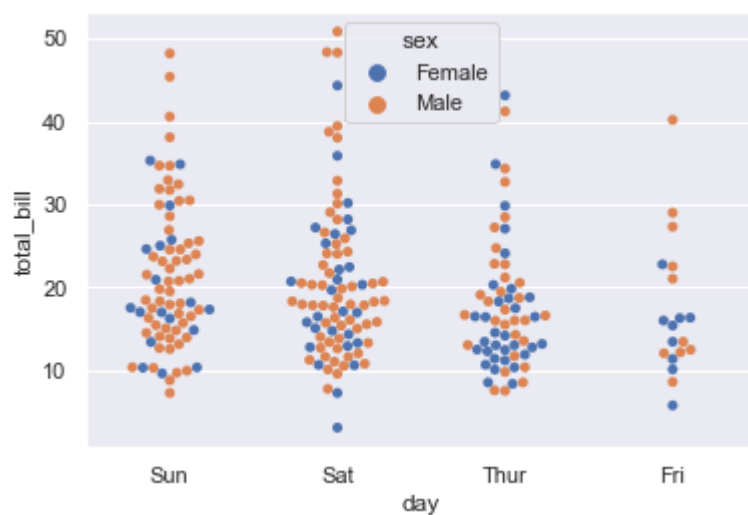
In [56]:

```python
sns.swarmplot(x = "day", y = "total_bill", data = df);
```


In [59]:

```python
sns.swarmplot(x = "day", y = "total_bill",hue="sex", data = df);
```


In [ ]: