```
#Seaborn Graphical Visualization
#Load a inbuilt datasets from the seaborn library
import numpy as np
import pandas as pd
import seaborn as sns
df=sns.load_dataset('tips')
df
```

	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

```
df.isna().sum()
```

```
total_bill    0
tip           0
sex           0
smoker        0
day           0
time          0
size          0
dtype: int64
```

```
df.dtypes
```

```
total_bill     float64
tip            float64
sex           category
smoker        category
day           category
time          category
size             int64
dtype: object
```

```
#correlation
#total_bill,tip,size
#Higher value=1
#lower value=0
```

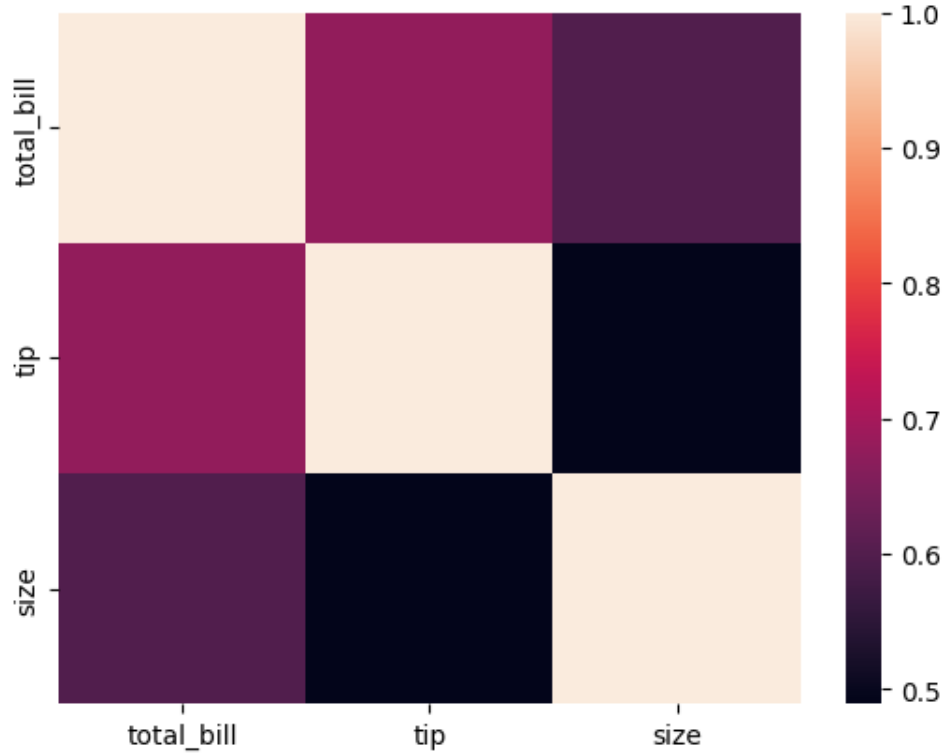
```
df.corr()
```

```
<ipython-input-43-793e04f84da7>:5: FutureWarning: The default value of numeric_only in Data
  df.corr()
```

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

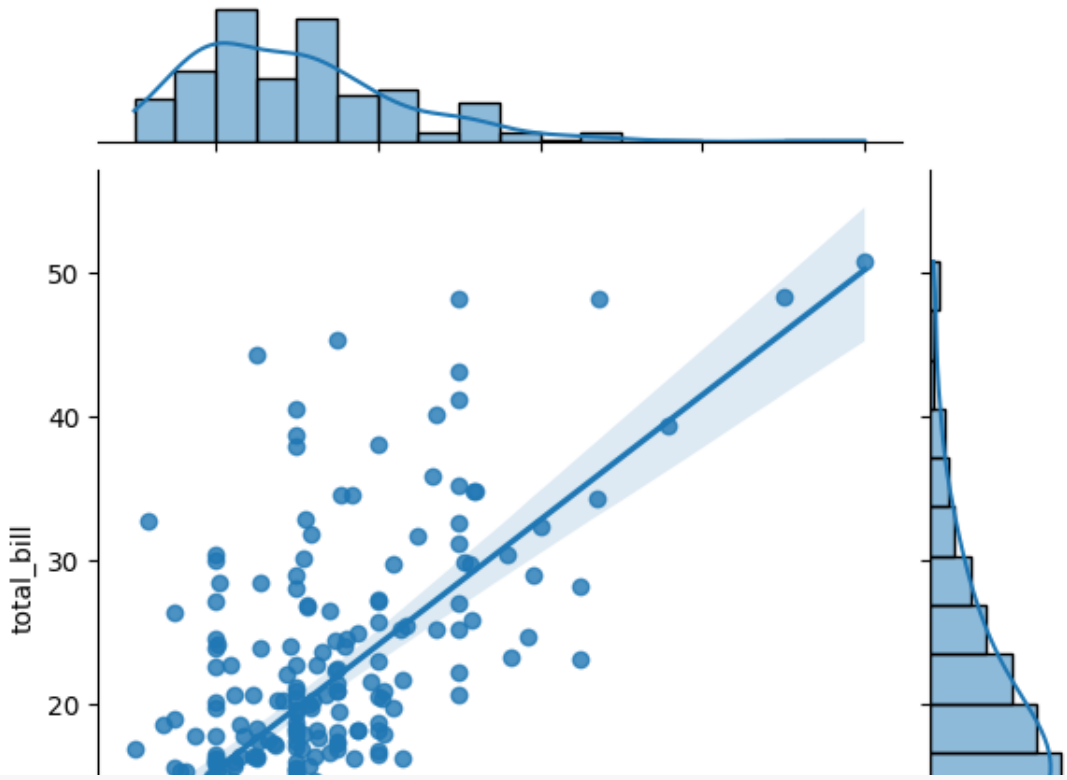
```
#Heat Map(to plot correlation)

sns.heatmap(df.corr())
```

```
<ipython-input-44-245289bdc7f5>:3: FutureWarning: The default value of numeric_only in Data
  sns.heatmap(df.corr())
<Axes: >
```



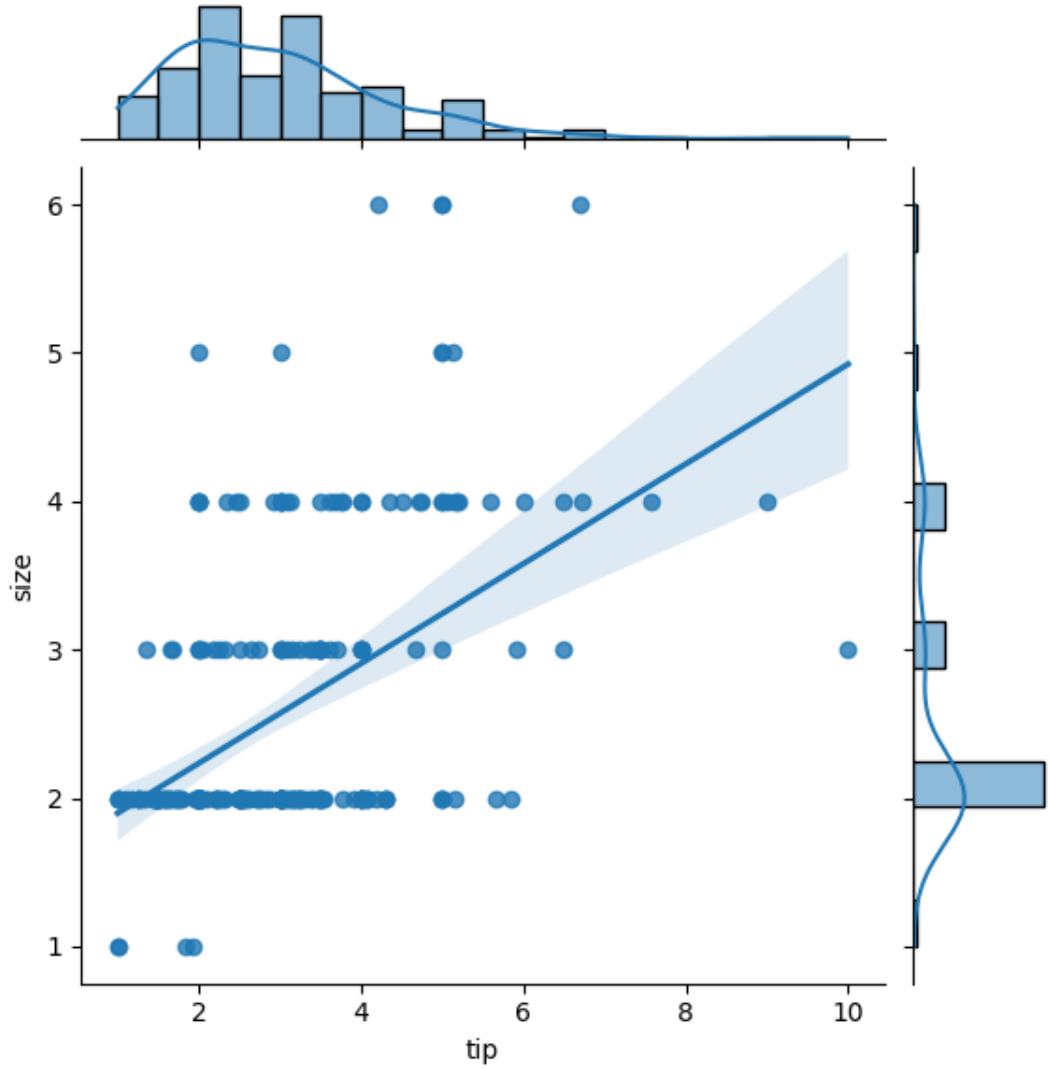

```
#Jointplot

sns.jointplot(x='tip',y='total_bill',data=df,kind='reg')
```

```
<seaborn.axisgrid.JointGrid at 0x78975ab0bbe0>
```



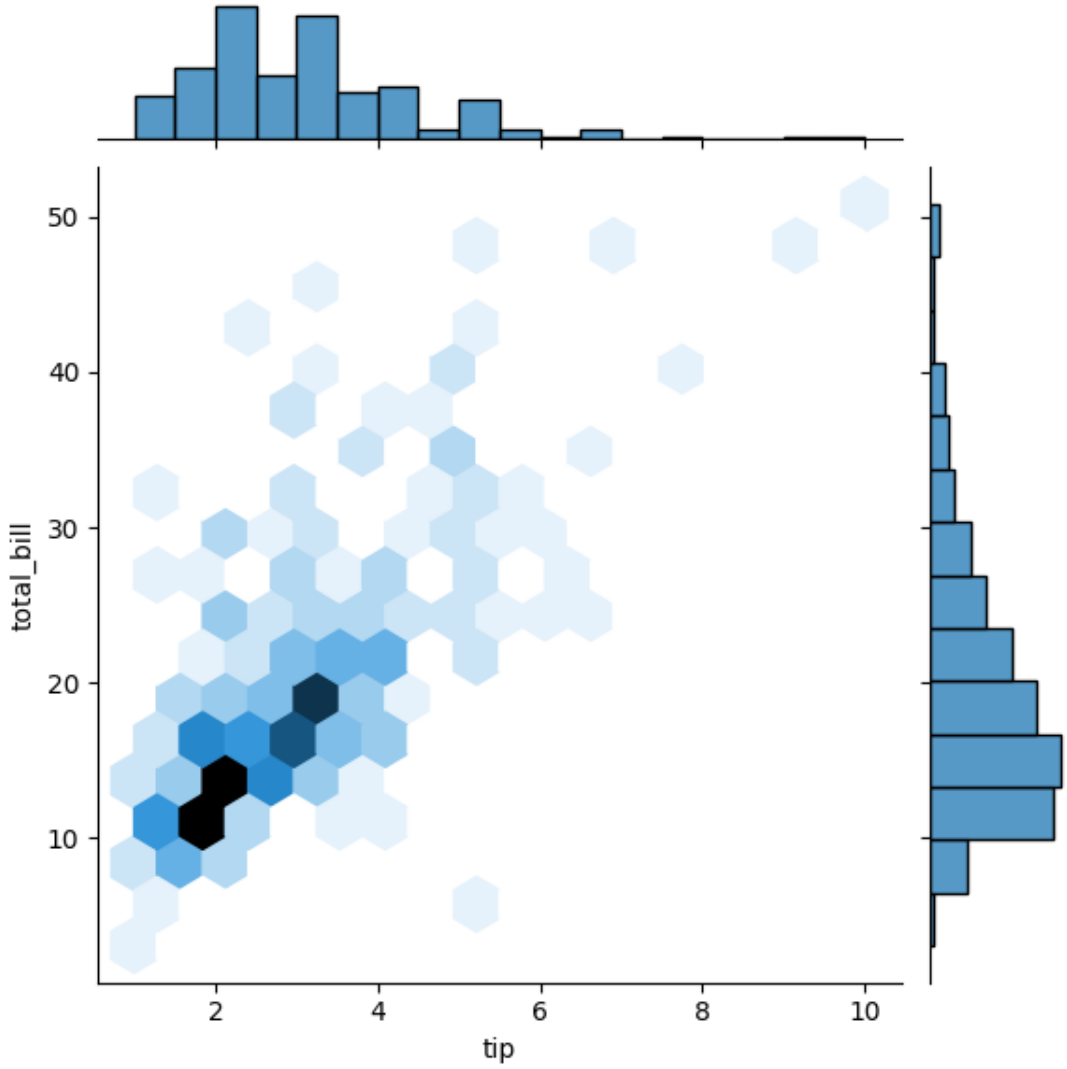

```
sns.jointplot(x='tip',y='size',data=df,kind='reg')
```

```
<seaborn.axisgrid.JointGrid at 0x78975aab0520>
```



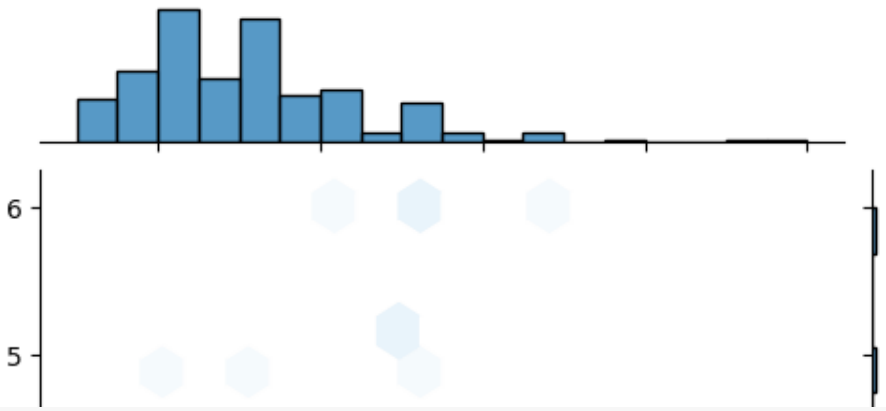
```
sns.jointplot(x='tip',y='total_bill',data=df,kind='hex')
```

```
<seaborn.axisgrid.JointGrid at 0x78975b912200>
```



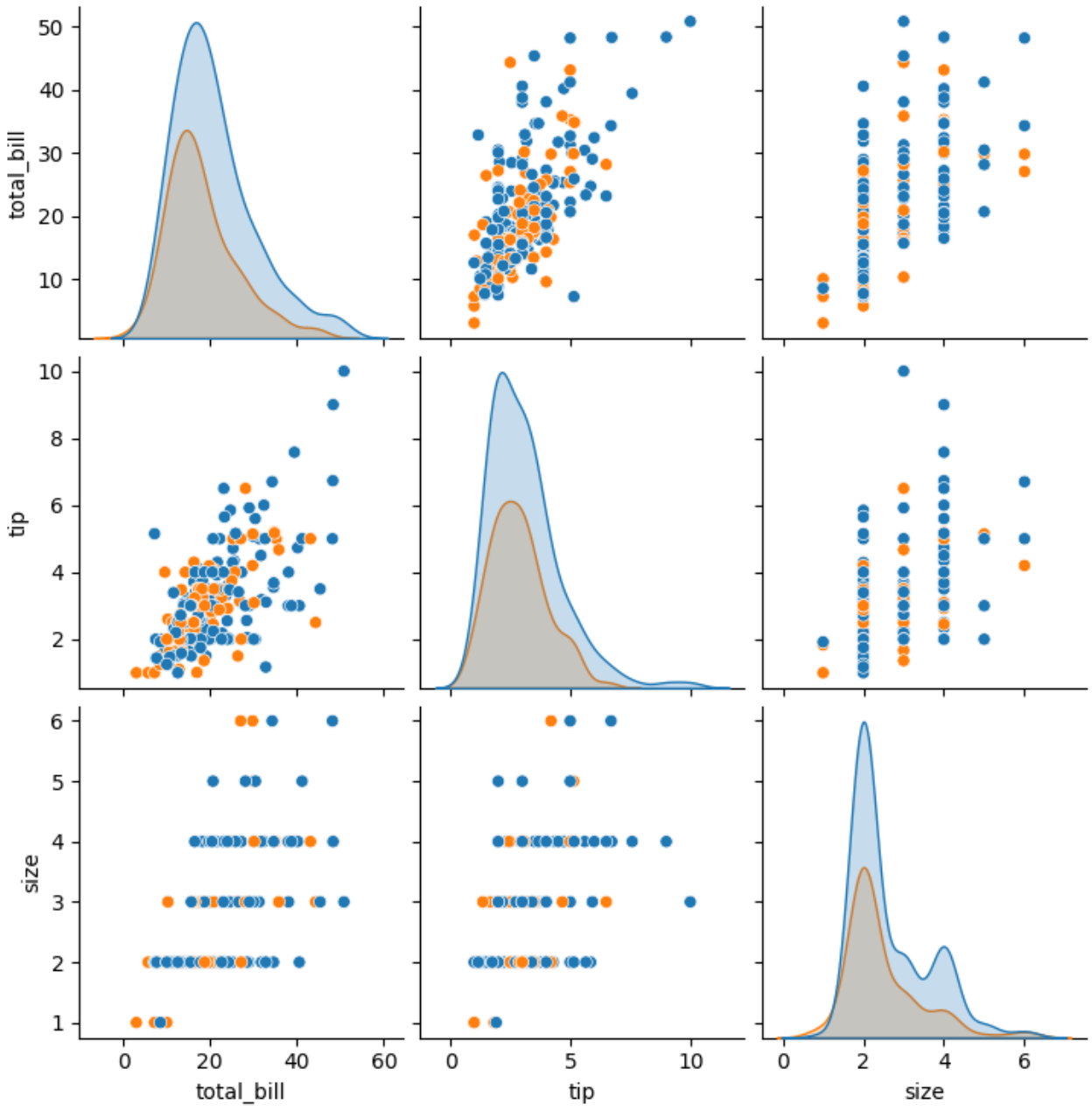

```
sns.jointplot(x='tip',y='size',data=df,kind='hex')
```

```
<seaborn.axisgrid.JointGrid at 0x78975c15f280>
```




```
#pairplot
sns.pairplot(df,hue='sex')
```

```
<seaborn.axisgrid.PairGrid at 0x78975a686cb0>
```



```
df['sex'].value_counts()
```

```
Male      157
Female     87
Name: sex, dtype: int64
```

```
df['smoker'].value_counts()
```

```
No     151
Yes     93
Name: smoker, dtype: int64
```

```
df['day'].value_counts()
```

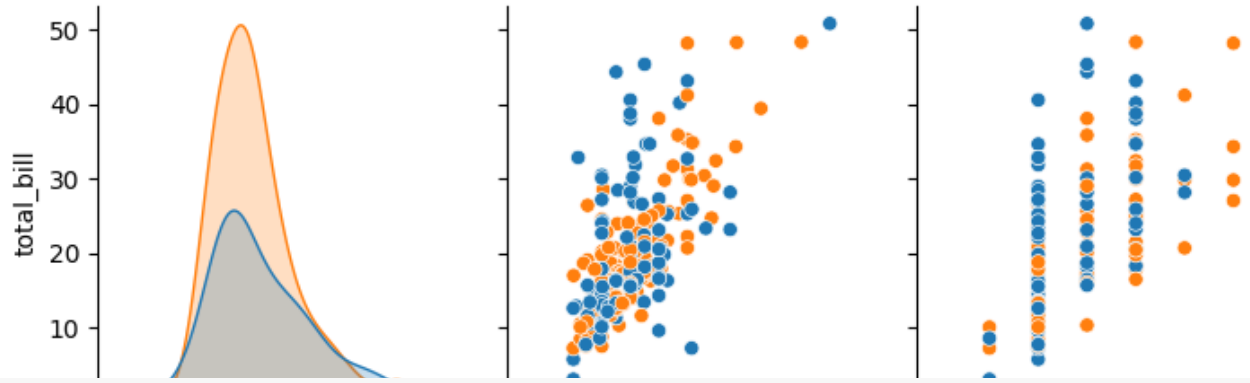
```
Sat     87
Sun     76
Thur    62
Fri     19
Name: day, dtype: int64
```

```
df['time'].value_counts()
```

```
Dinner    176
Lunch      68
Name: time, dtype: int64
```

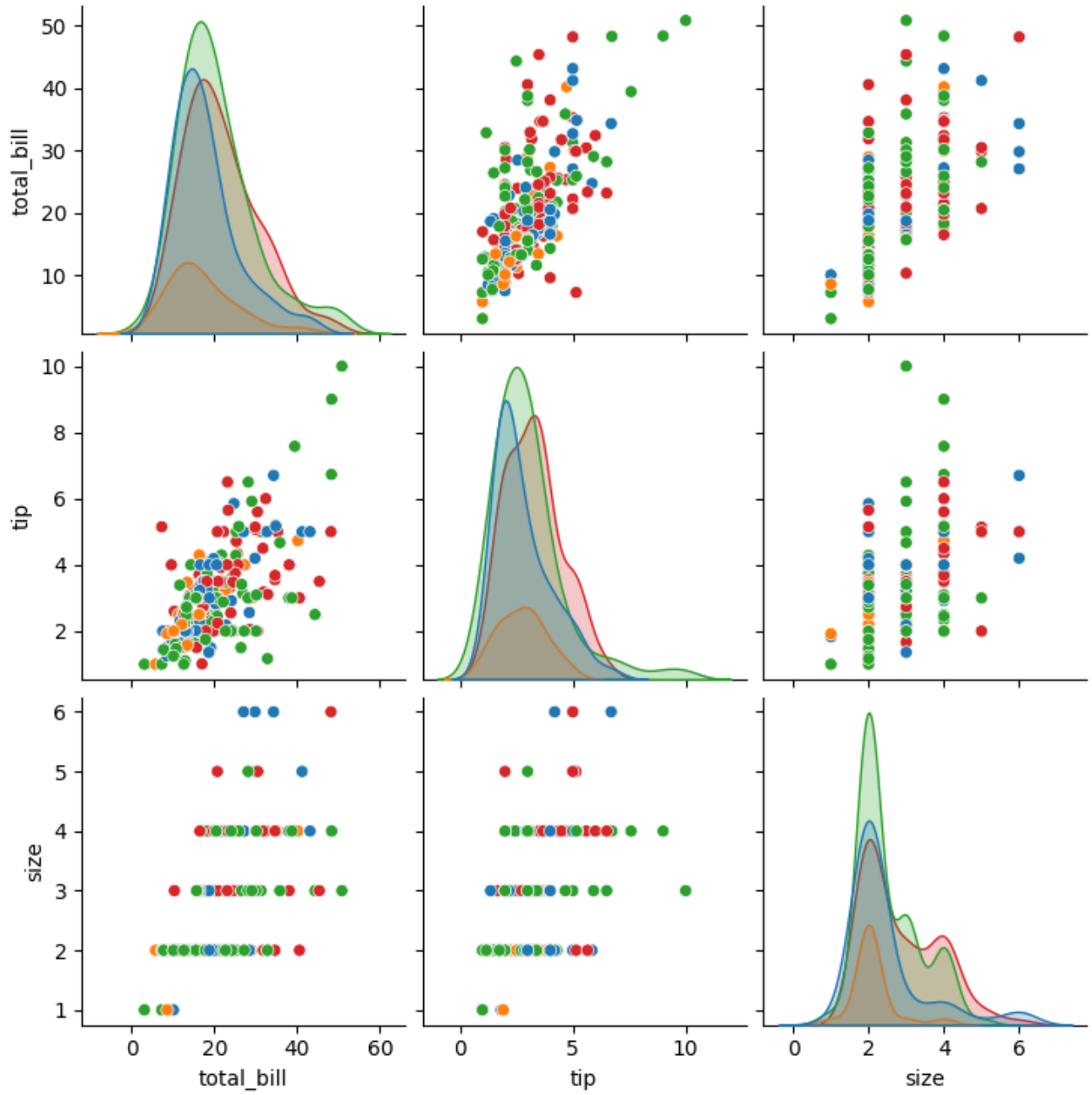
```
#pairplot
sns.pairplot(df,hue='smoker')
```

```
<seaborn.axisgrid.PairGrid at 0x78975a1ca560>
```



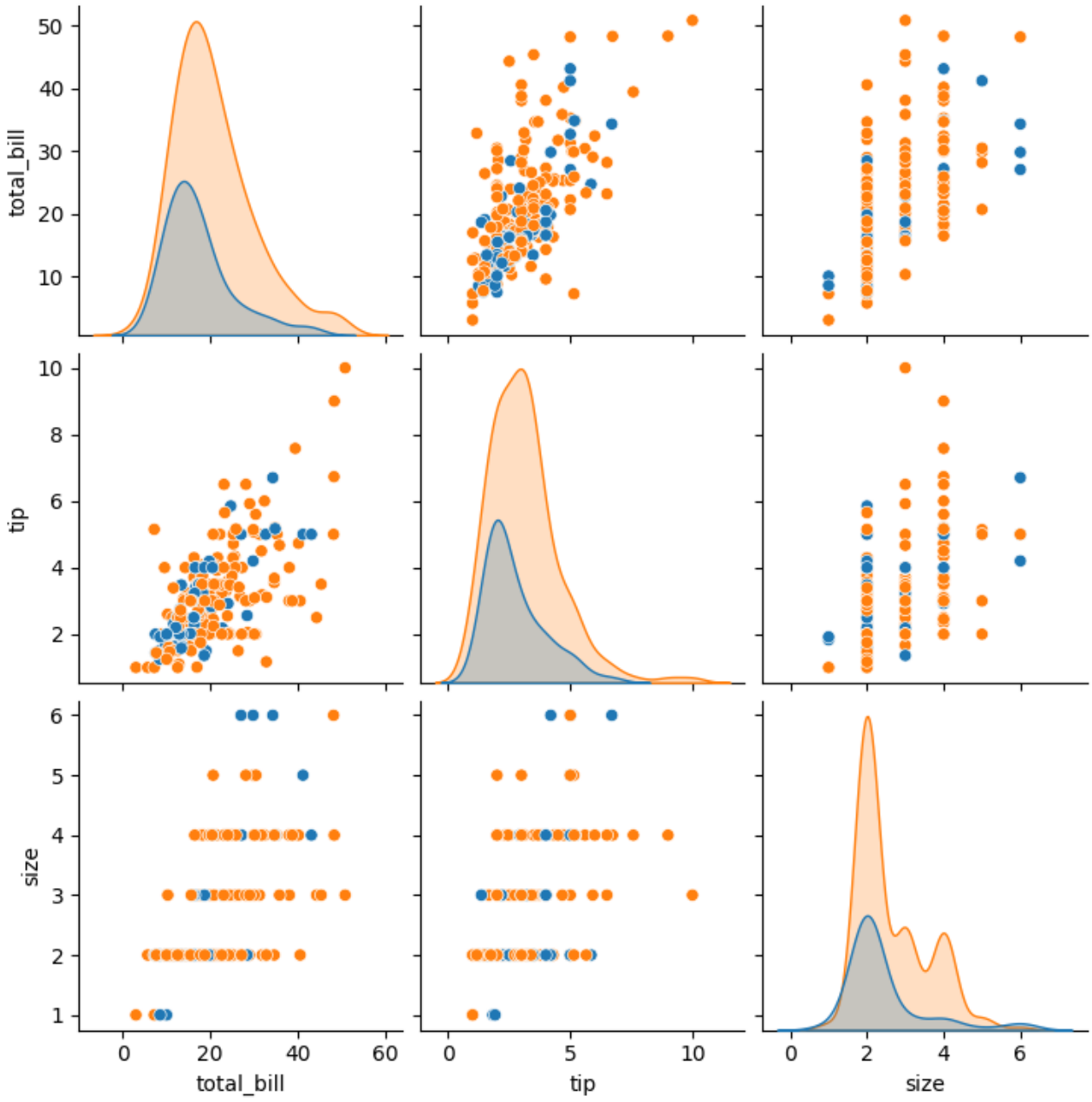

```
#pairplot
sns.pairplot(df,hue='day')
```

```
<seaborn.axisgrid.PairGrid at 0x78975a1ca2f0>
```



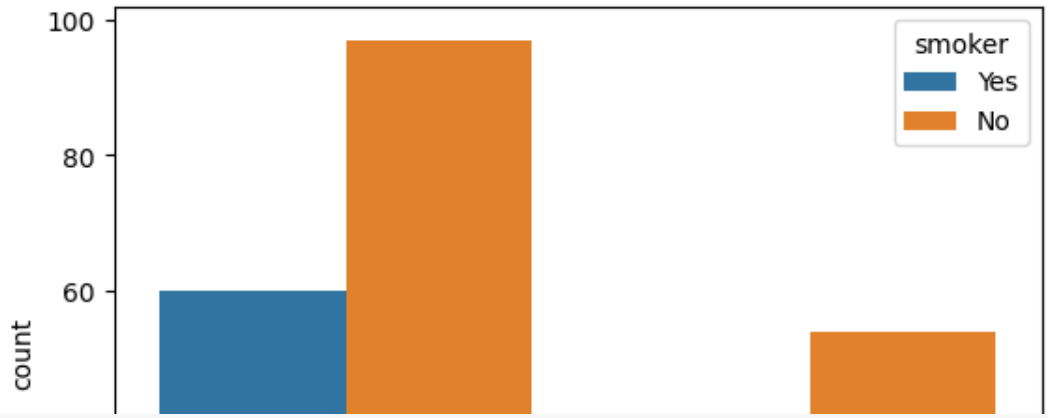
```
#pairplot
sns.pairplot(df,hue='time')
```

```
<seaborn.axisgrid.PairGrid at 0x78975a1ca350>
```



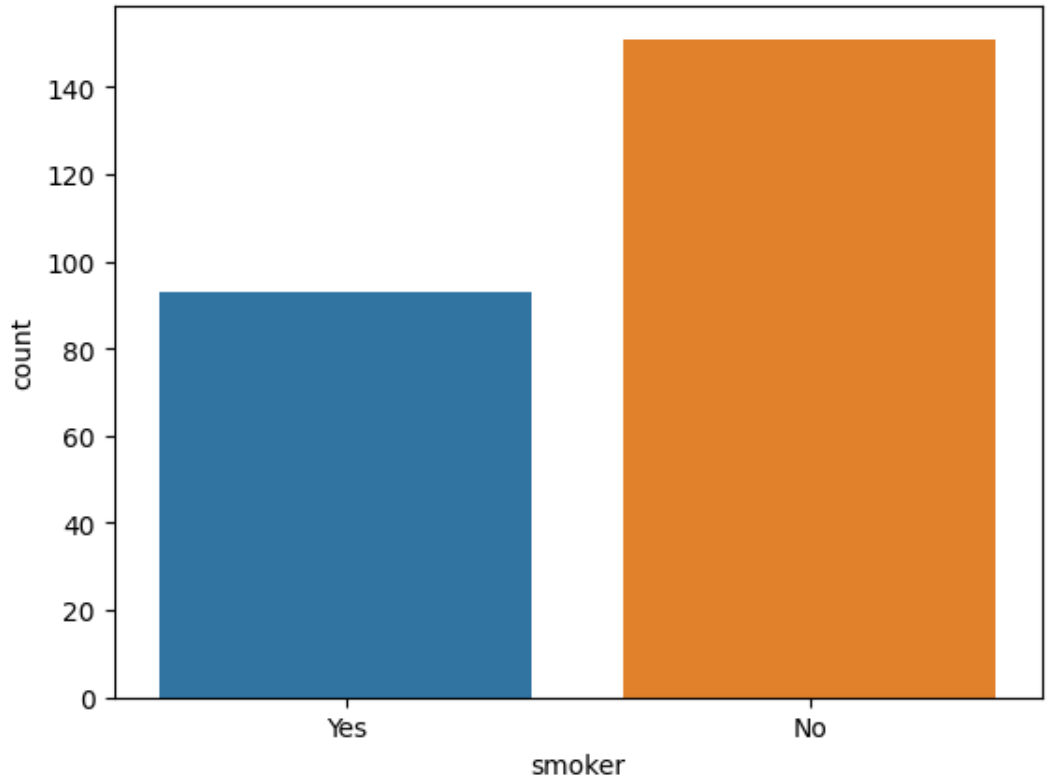

```
#count plot
sns.countplot(x='sex',hue='smoker',data=df)
```

```
<Axes: xlabel='sex', ylabel='count'>
```




```
sns.countplot(x='smoker',data=df)
```

```
<Axes: xlabel='smoker', ylabel='count'>
```

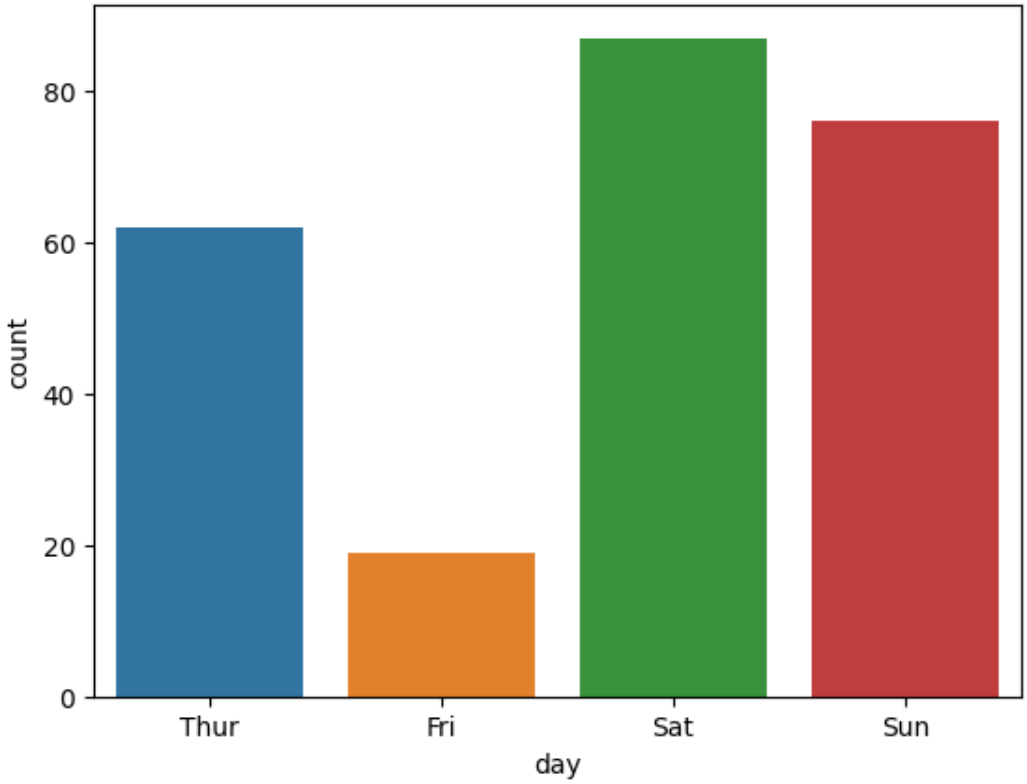



```
sns.countplot(x='sex',hue='day',data=df)
```

```
<Axes: xlabel='sex', ylabel='count'>
```


```
sns.countplot(x='day',data=df)
```

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

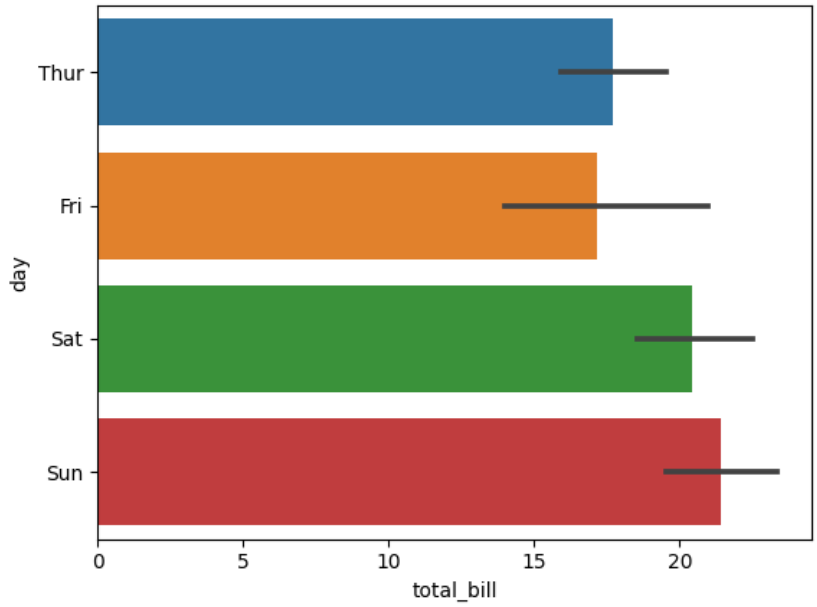



```
sns.countplot(x='time',data=df)
```

```
<Axes: xlabel='time', ylabel='count'>
```


```
#barplot
sns.barplot(x='total_bill',y='day',data=df)
```

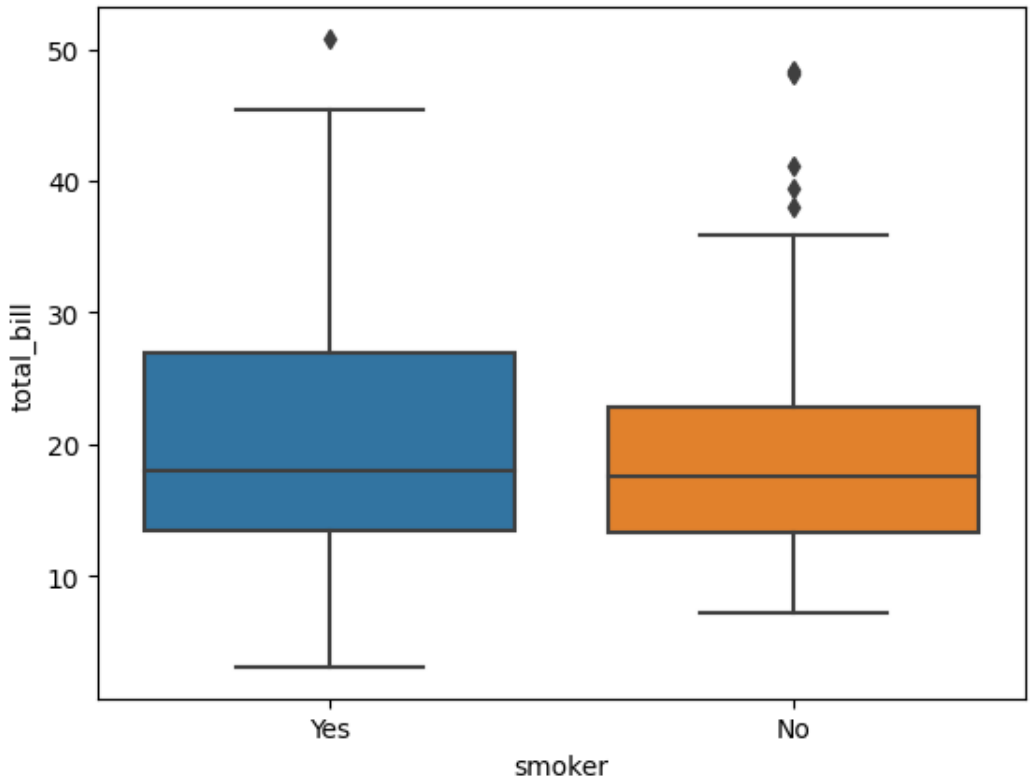
```
<Axes: xlabel='total_bill', ylabel='day'>
```




```
sns.barplot(x='total_bill',y='smoker',data=df)
```

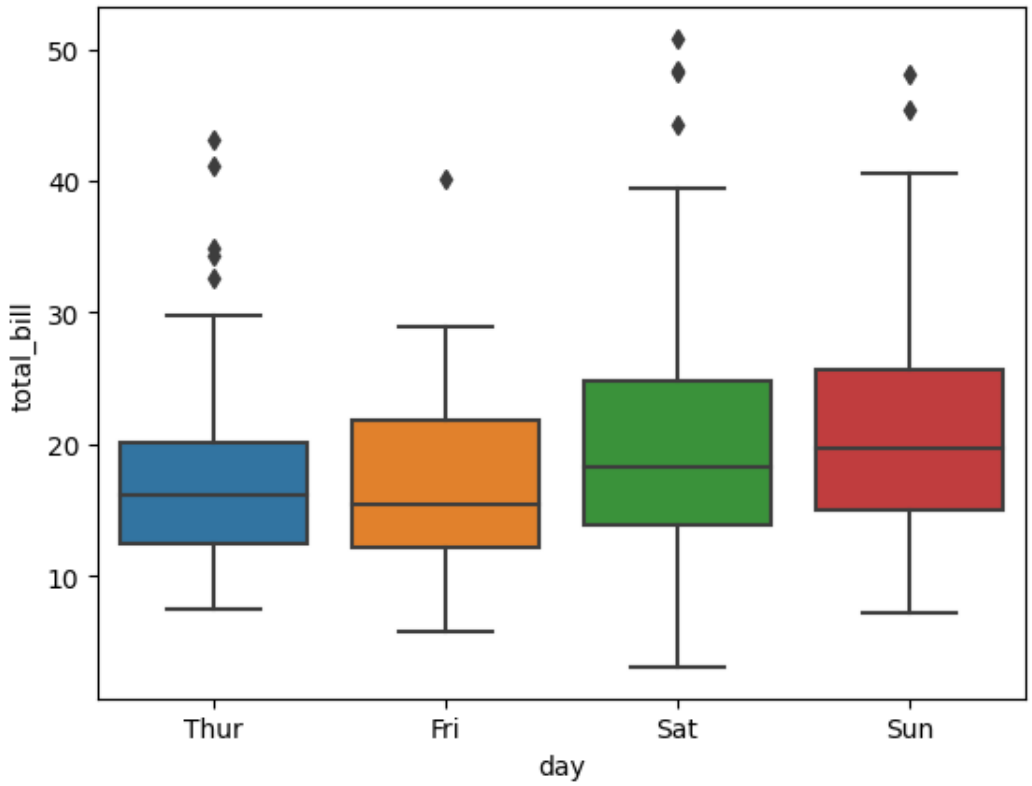
```
#Box plot

sns.boxplot(x='smoker',y='total_bill',data=df)
```

```
<Axes: xlabel='smoker', ylabel='total_bill'>
```




```
sns.boxplot(x='day',y='total_bill',data=df)
```

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



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