```python
In [1]: import pandas as pd
        import matplotlib.pyplot as plt
```

```python
In [2]: df=pd.read_csv('g:/dataset/analysis/titanic.csv')
```

```python
In [3]: df
```

Out[3]:

|	PassengerId	Survived	Pclass	Name	gender	Age	SibSp	Parch	Ticket	Fare	Ca
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	
...	...	...	...	...	...	...	...	...	...	...	
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	

891 rows × 12 columns

```python
plt.hist(x=df.Age)
plt.show()
```
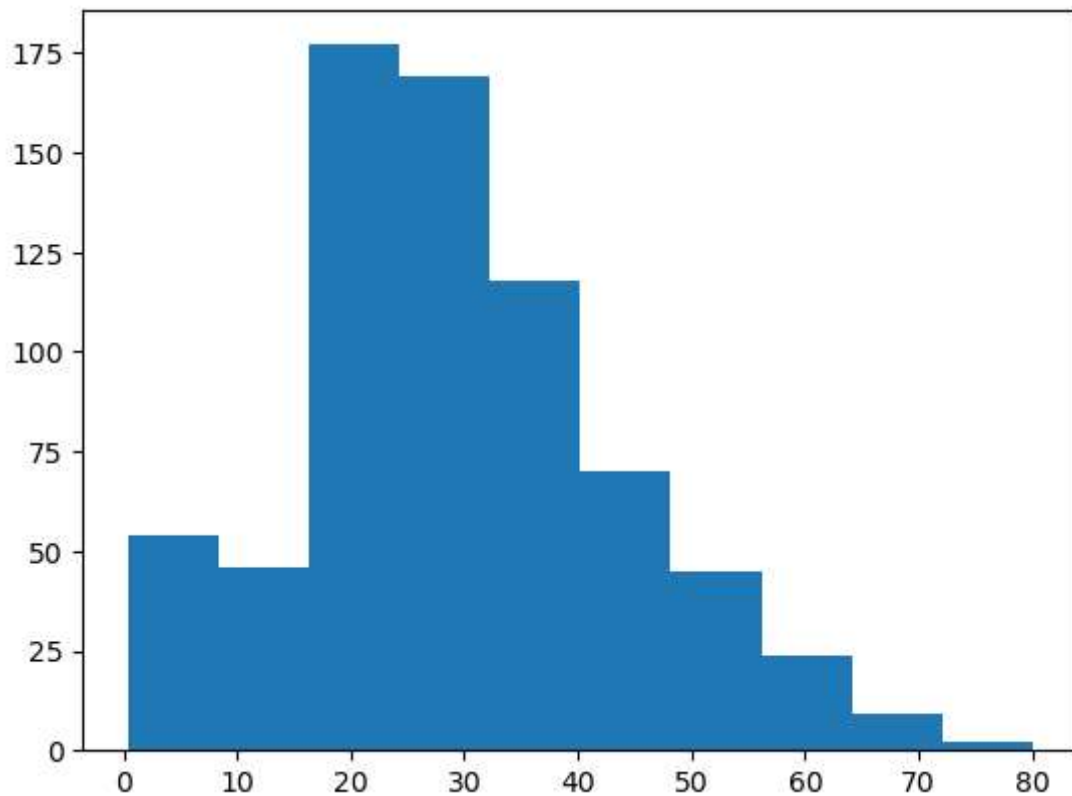
```python
plt.hist(x=df.Age,edgecolor='k')
plt.show()
```
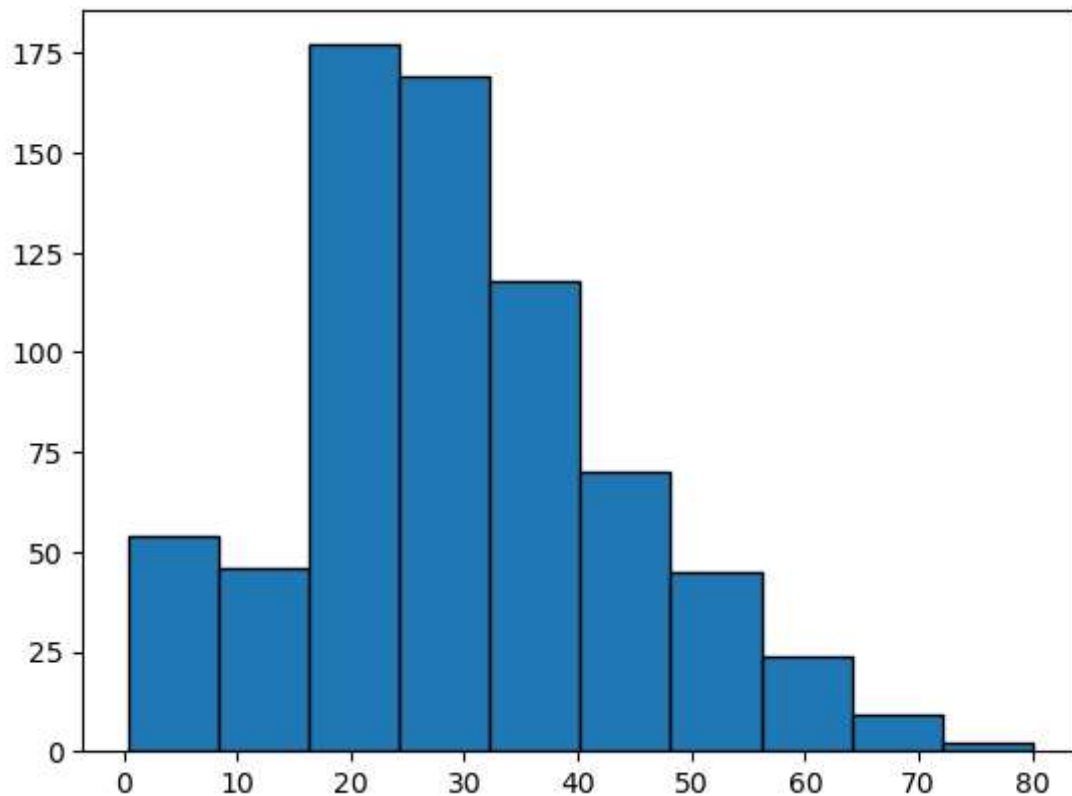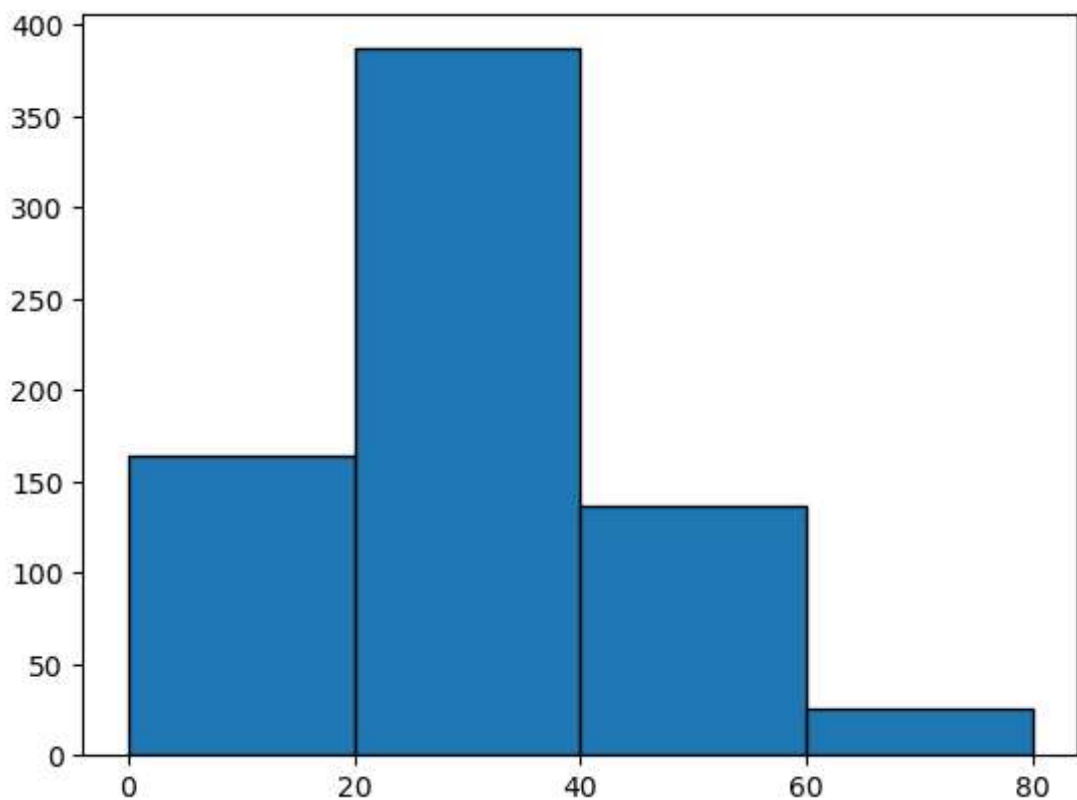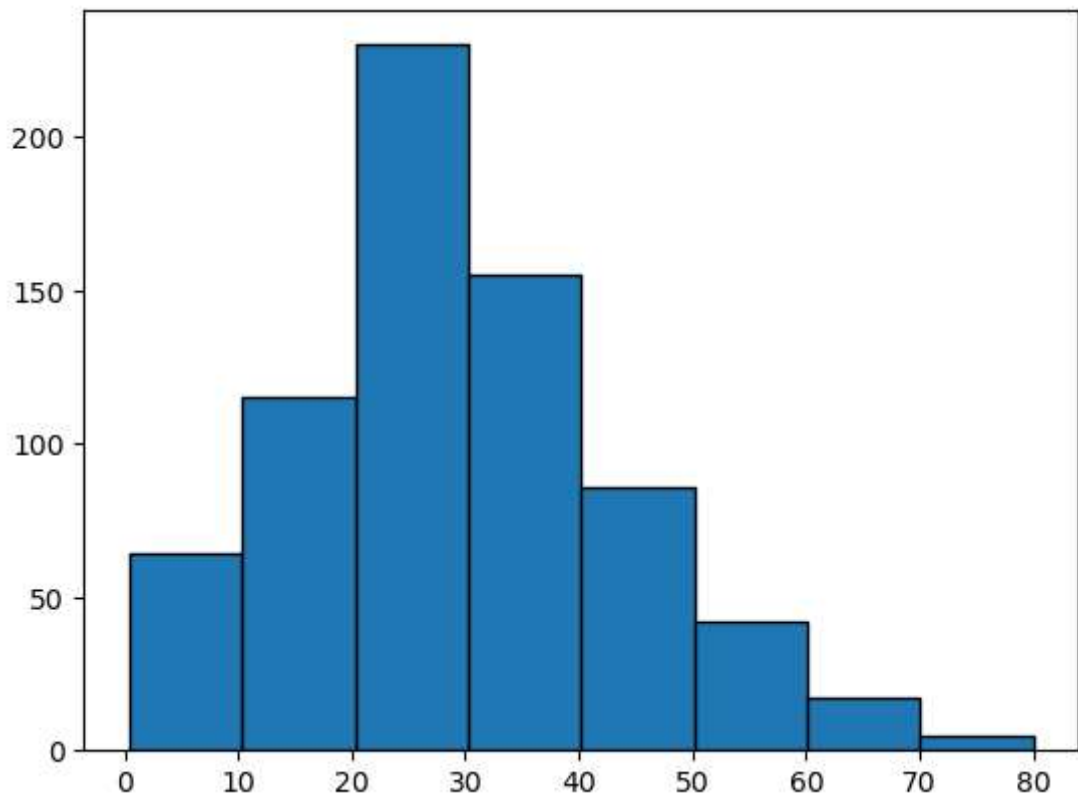
```python
plt.hist(x=df.Age,edgecolor='k')
plt.xticks(range(0,90,8))
plt.show()
```
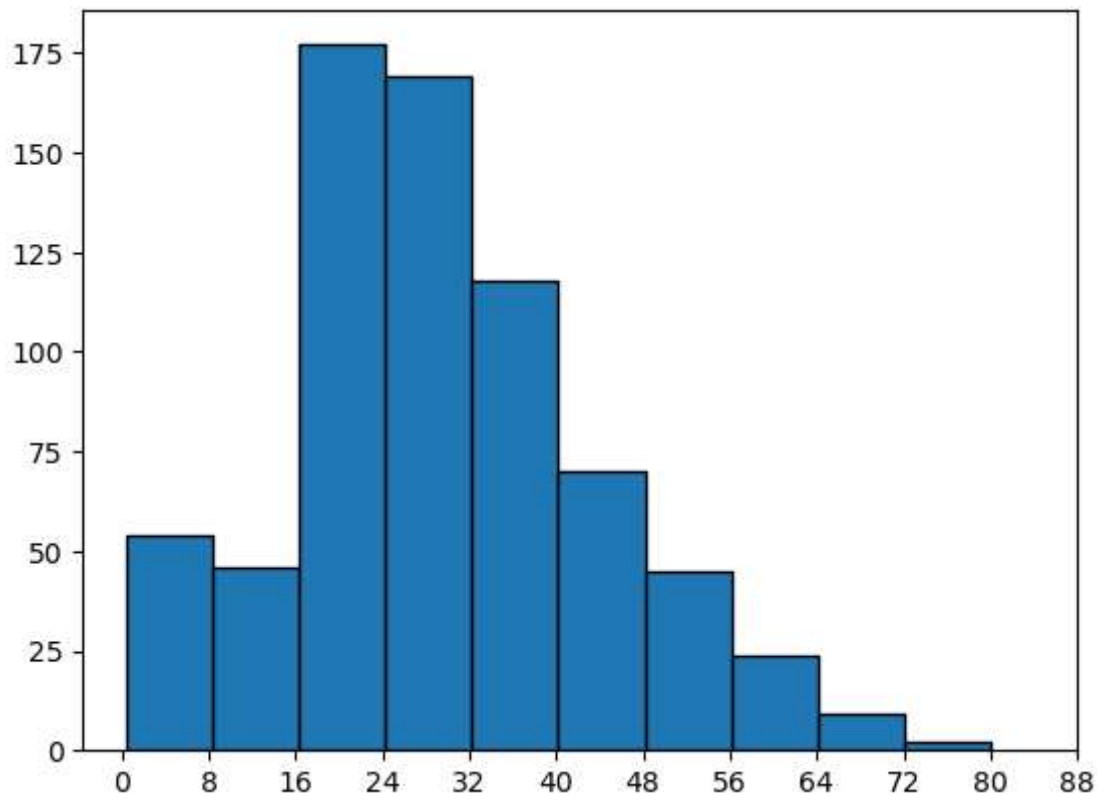
```
In [10]:  plt.hist(x=df.Age,edgecolor='k',bins=range(0,90,20))
          plt.xticks(range(0,90,20))
          plt.show()
```



```
In [8]:  plt.hist(x=df.Age,edgecolor='k',bins=8)
         plt.show()
```
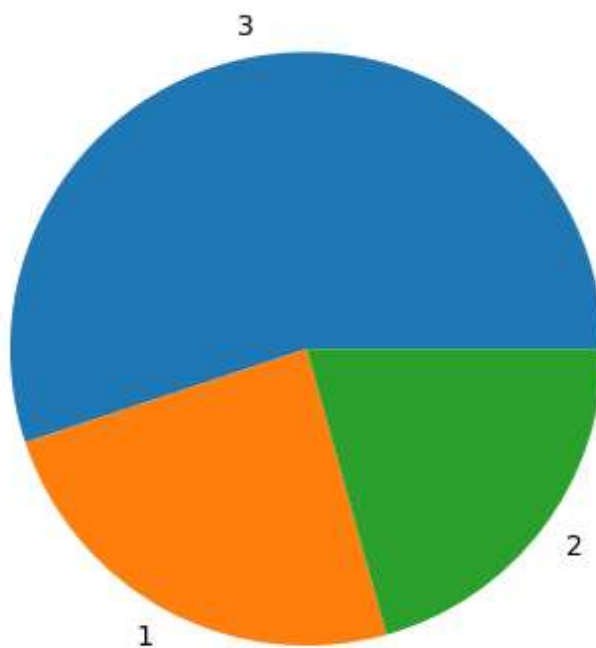
```
In [11]:  vc=df.Pclass.value_counts()
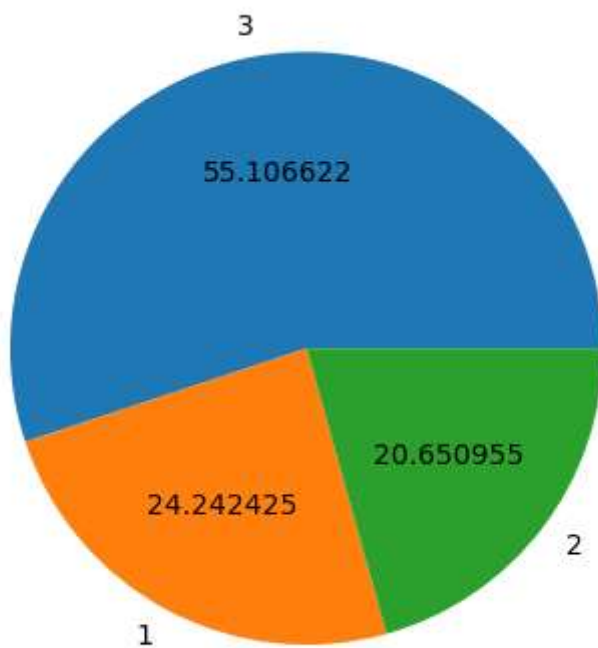```

```
In [12]:  vc
```

```
Out[12]:  3    491
          1    216
          2    184
          Name: Pclass, dtype: int64
```
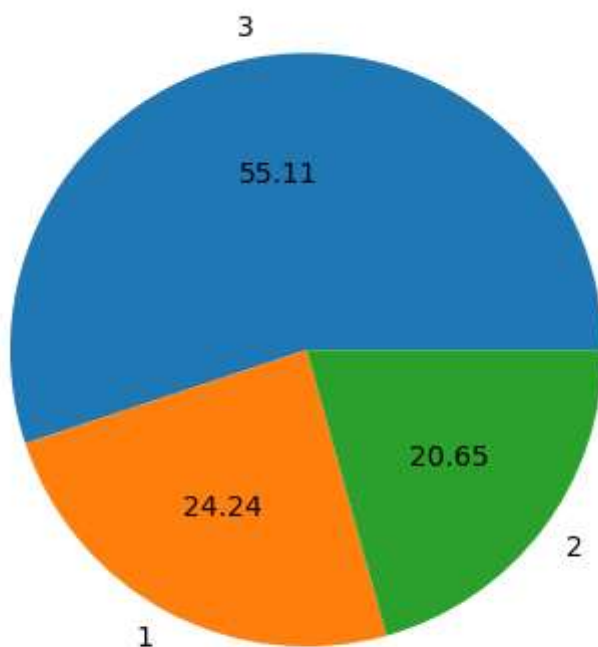
```
In [13]:  plt.pie(x=vc.values,labels=vc.index)
          plt.show()
```
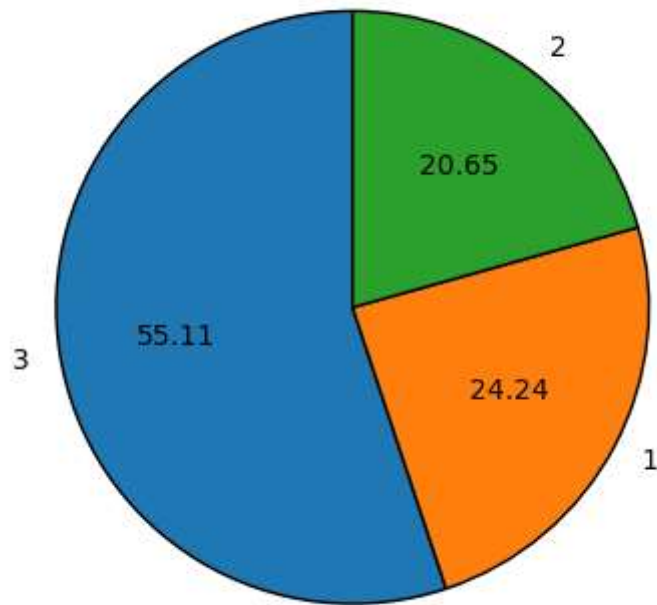
```
plt.pie(x=vc.values,labels=vc.index,autopct='%f')
plt.show()
```
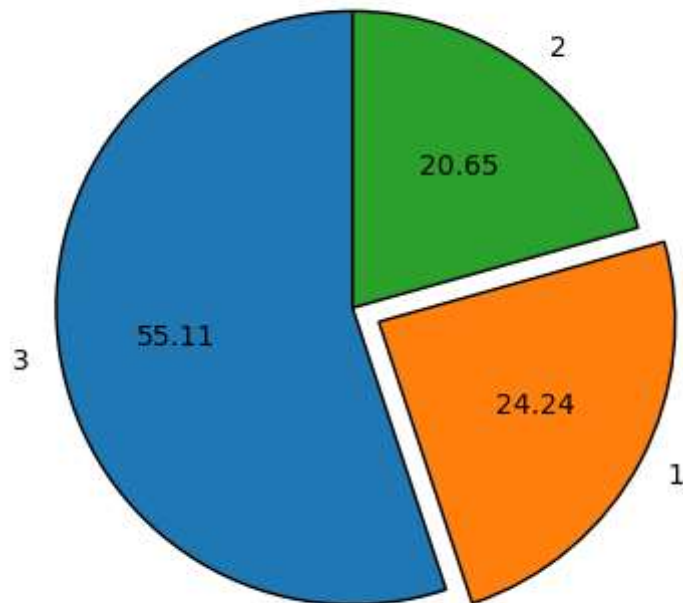
```
plt.pie(x=vc.values,labels=vc.index,autopct='%.2f')
plt.show()
```
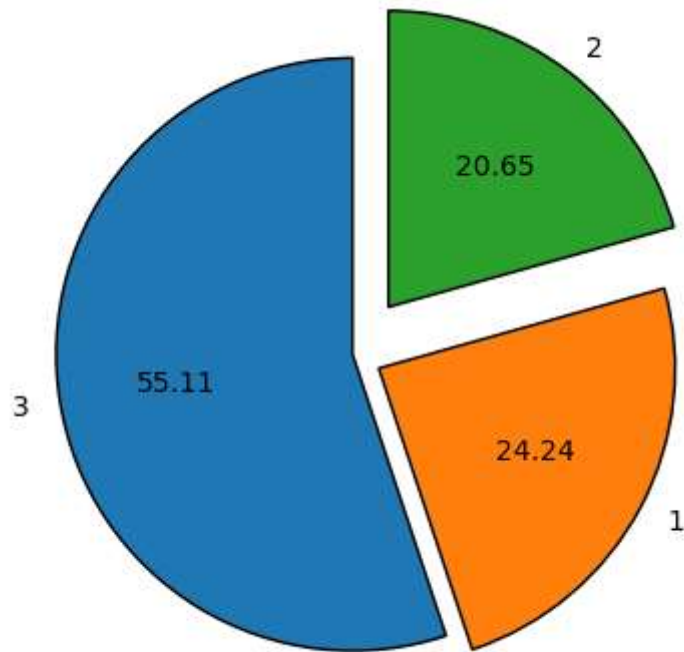
```
plt.pie(x=vc.values,labels=vc.index,autopct='%.2f',wedgeprops={'edgecolor':'k'},sta
plt.show()
```
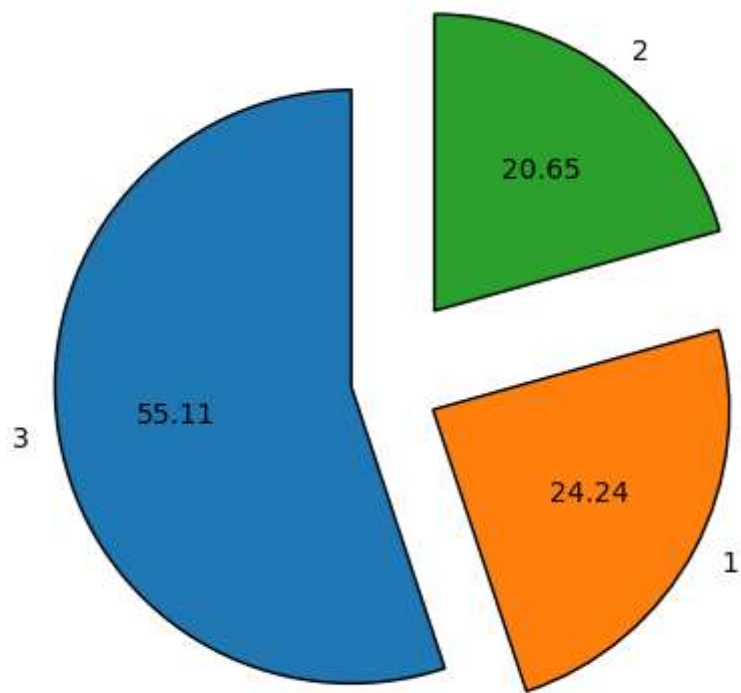
```
plt.pie(x=vc.values,labels=vc.index,autopct='%.2f',explode=(0,.1,0),wedgeprops={'ed
plt.show()
```

```
plt.pie(x=vc.values,labels=vc.index,autopct='%.2f',explode=(0,.1,.2),wedgeprops={'e
plt.show()
```

```
In [19]: plt.pie(x=vc.values,labels=vc.index,autopct='%.2f',explode=(.1,.2,.3),wedgeprops={
         plt.show()
```



```
In [24]: df=pd.read_csv('g:/dataset/analysis/restaurant.csv')
         df
```
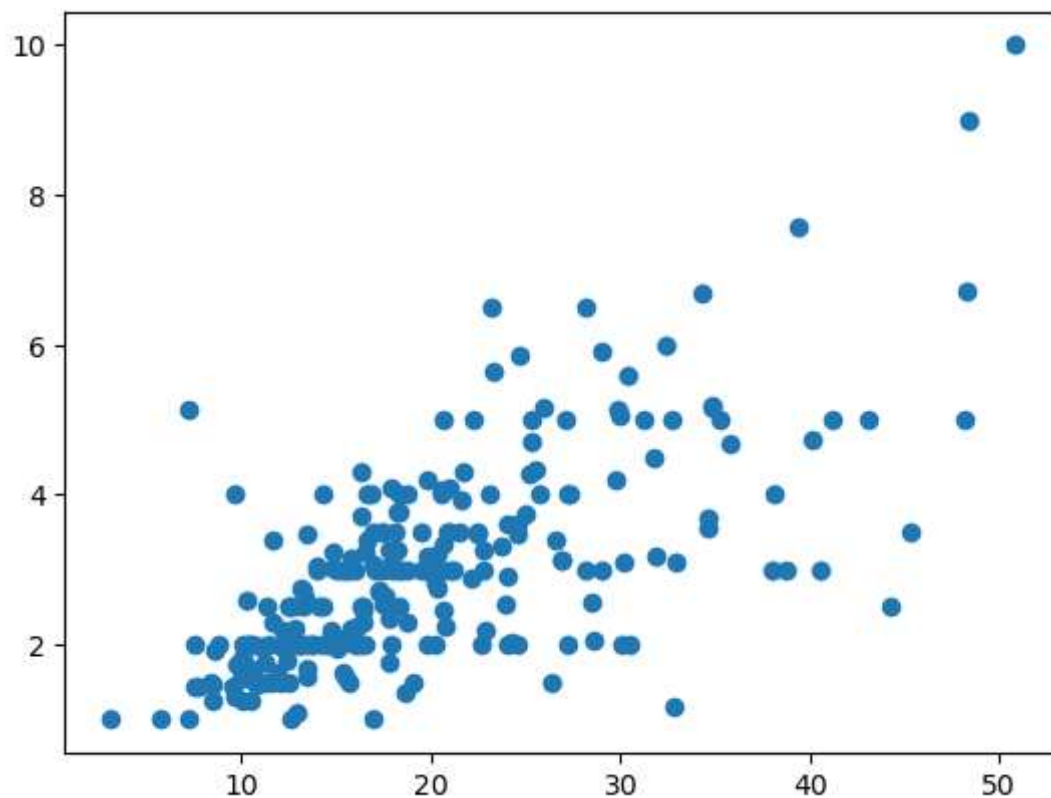
|	total_bill	tip	gender	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4
...	...	...	...	...	...	...	...
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	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 [25]:
```python
plt.scatter(x=df.total_bill,y=df.tip)
plt.show()
```


In [26]:
```python
plt.scatter(x=df.total_bill,y=df.tip)
plt.xlabel("Total Bill")
plt.ylabel('Tip')
plt.show()
```
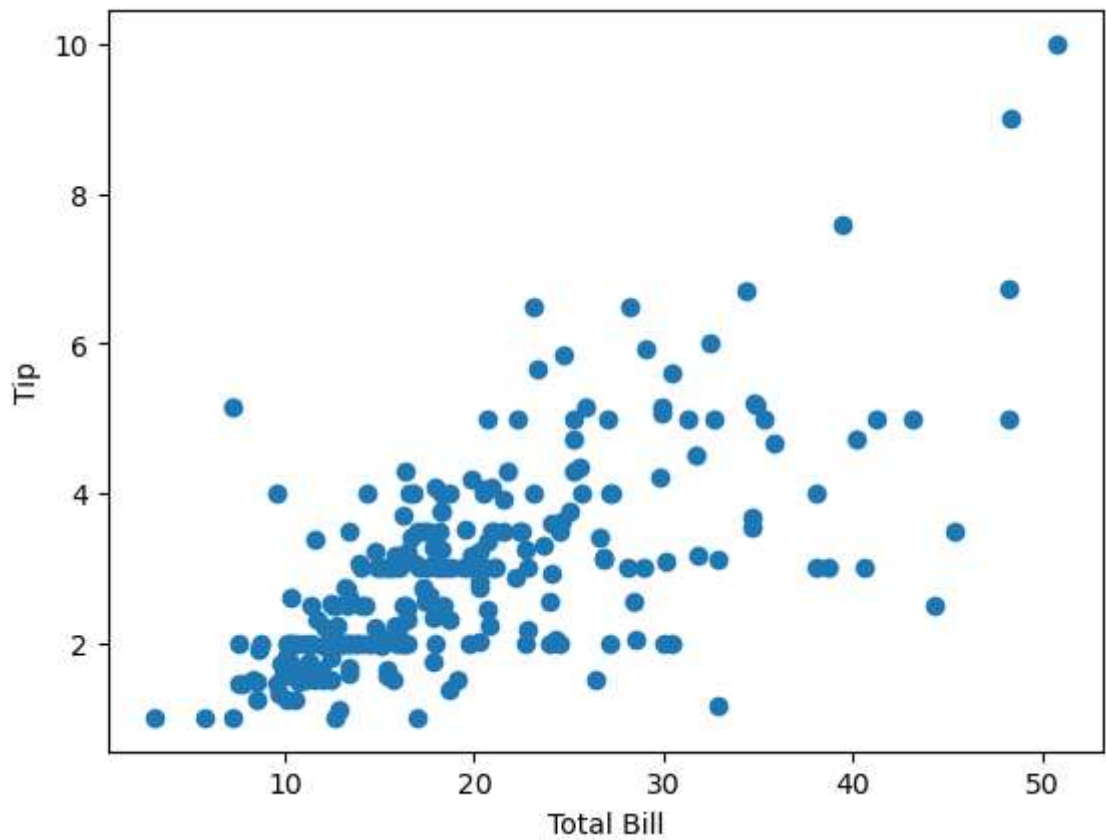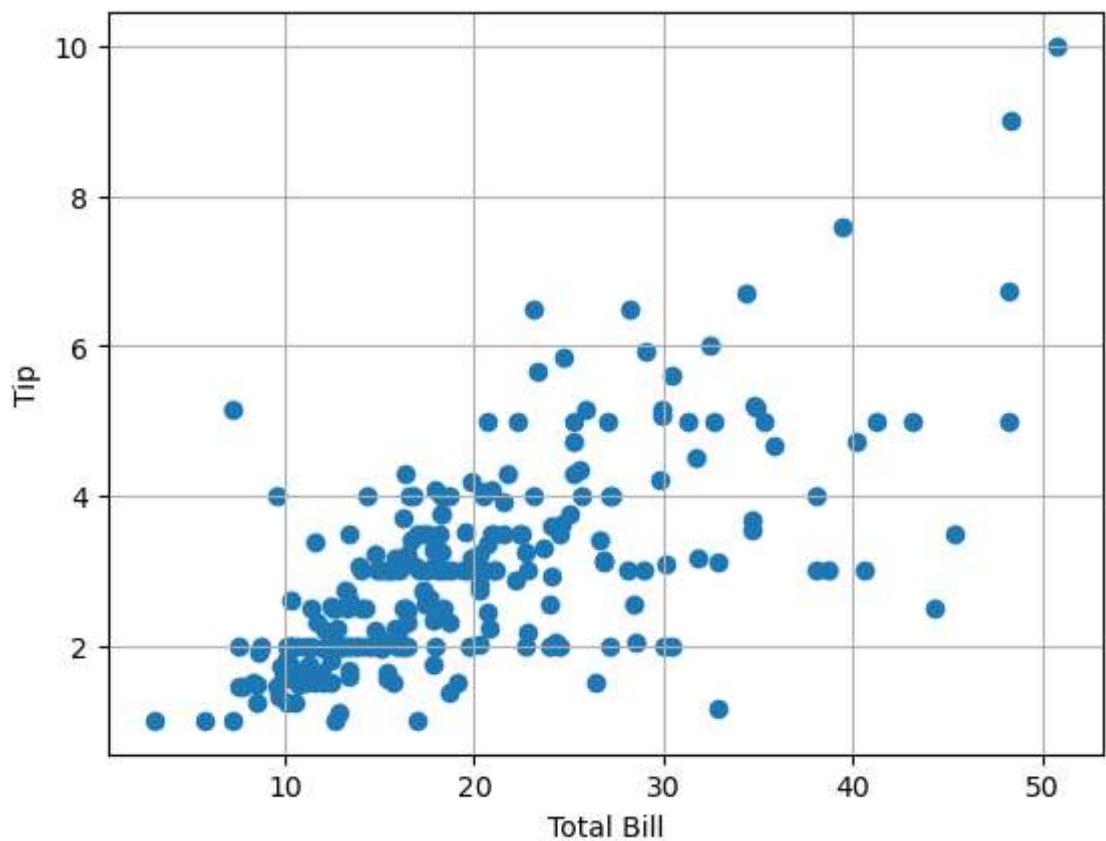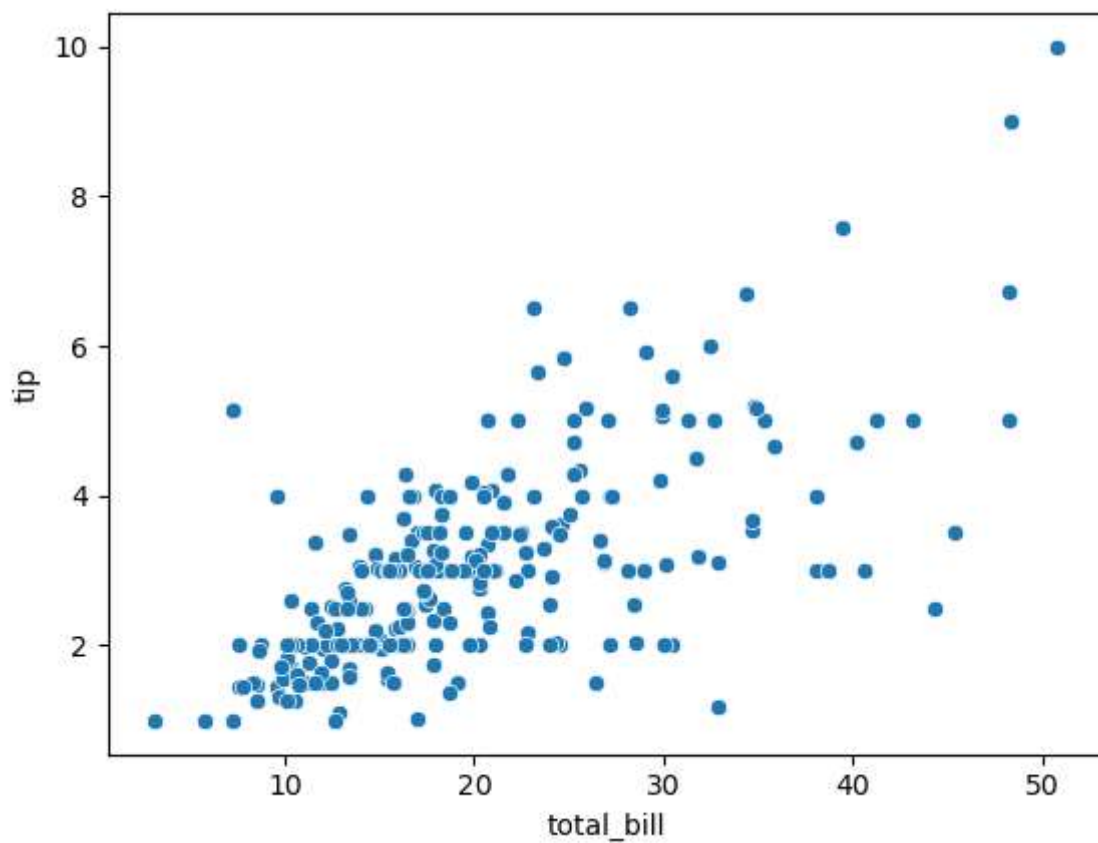
```
In [28]: plt.scatter(x=df.total_bill,y=df.tip)
         plt.xlabel("Total Bill")
         plt.ylabel('Tip')
         plt.grid()
         plt.show()
```
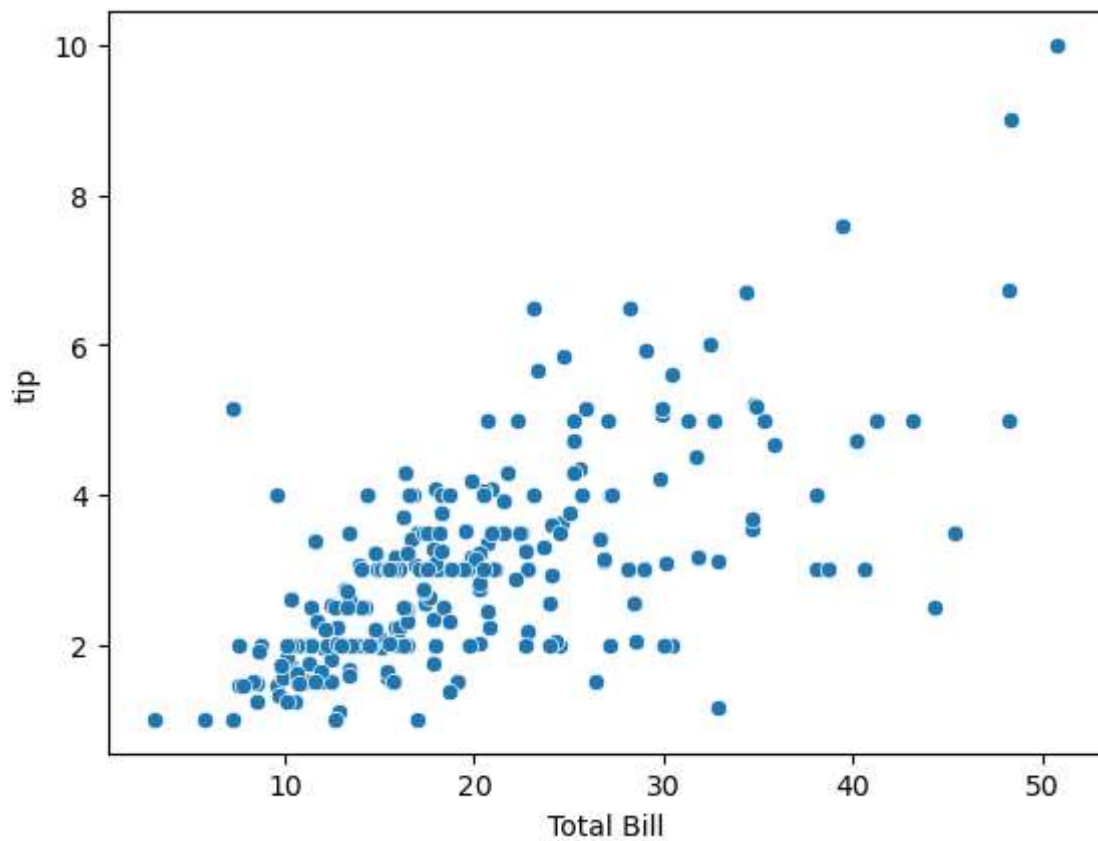


```
In [30]: import seaborn as sb
```
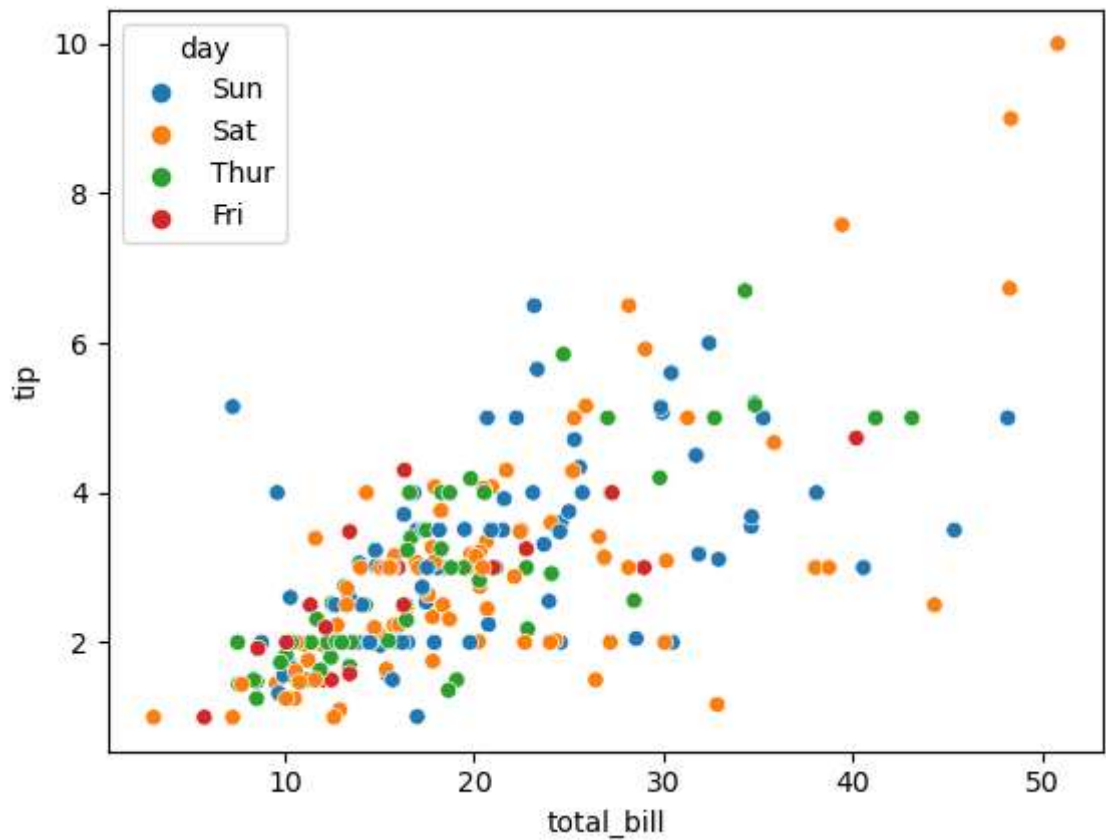
```
In [31]: sb.scatterplot(x=df.total_bill,y=df.tip)
         plt.show()
```
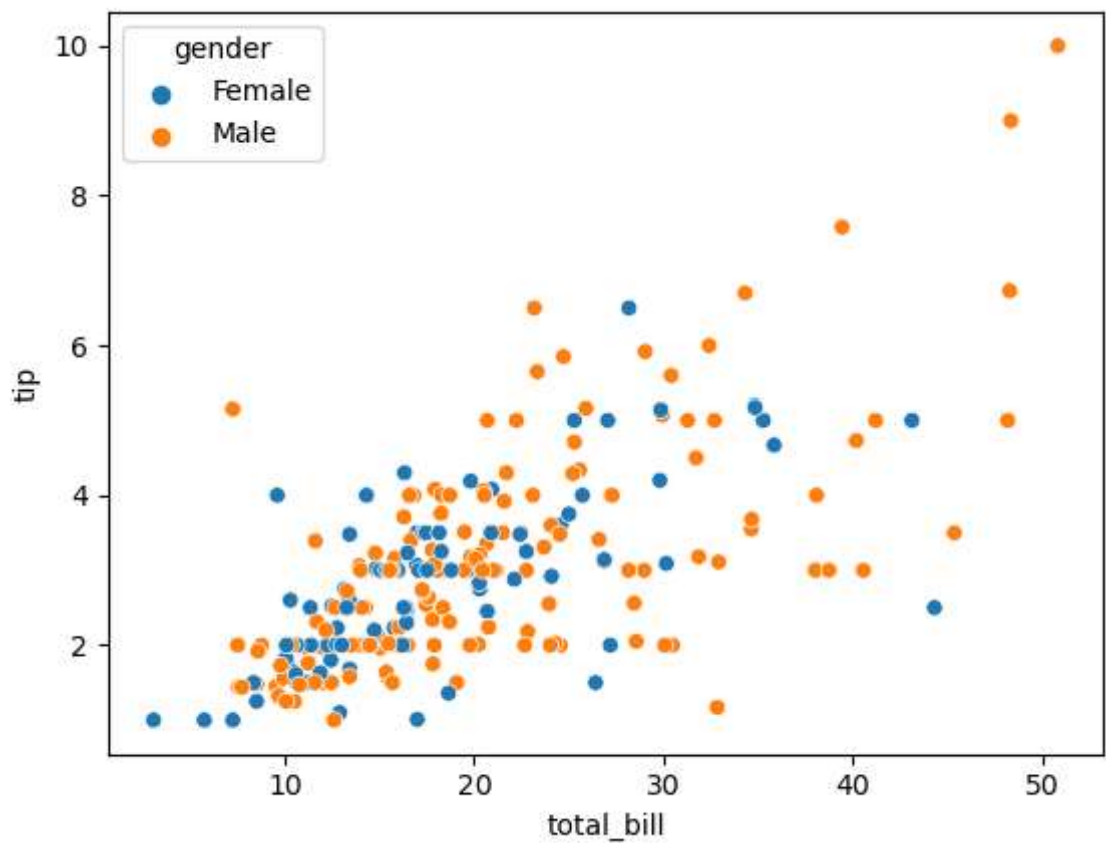


```
In [32]: sb.scatterplot(x=df.total_bill,y=df.tip)
         plt.xlabel("Total Bill")
         plt.show()
```

In [34]:
```python
sb.scatterplot(x=df.total_bill,y=df.tip,hue=df.day)
plt.show()
```


In [35]:
```python
sb.scatterplot(x=df.total_bill,y=df.tip,hue=df.gender)
plt.show()
```


In [36]:
```python
sb.scatterplot(x=df.total_bill,y=df.tip,style=df.gender)
plt.show()
```
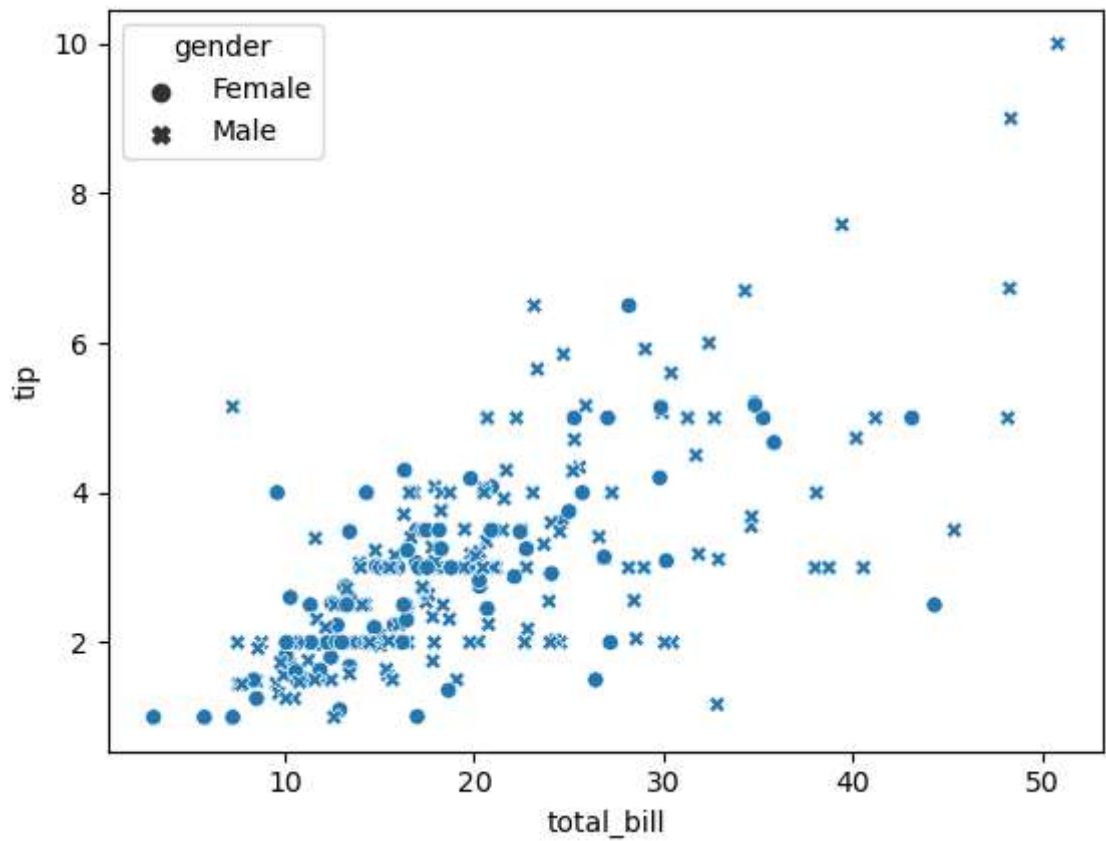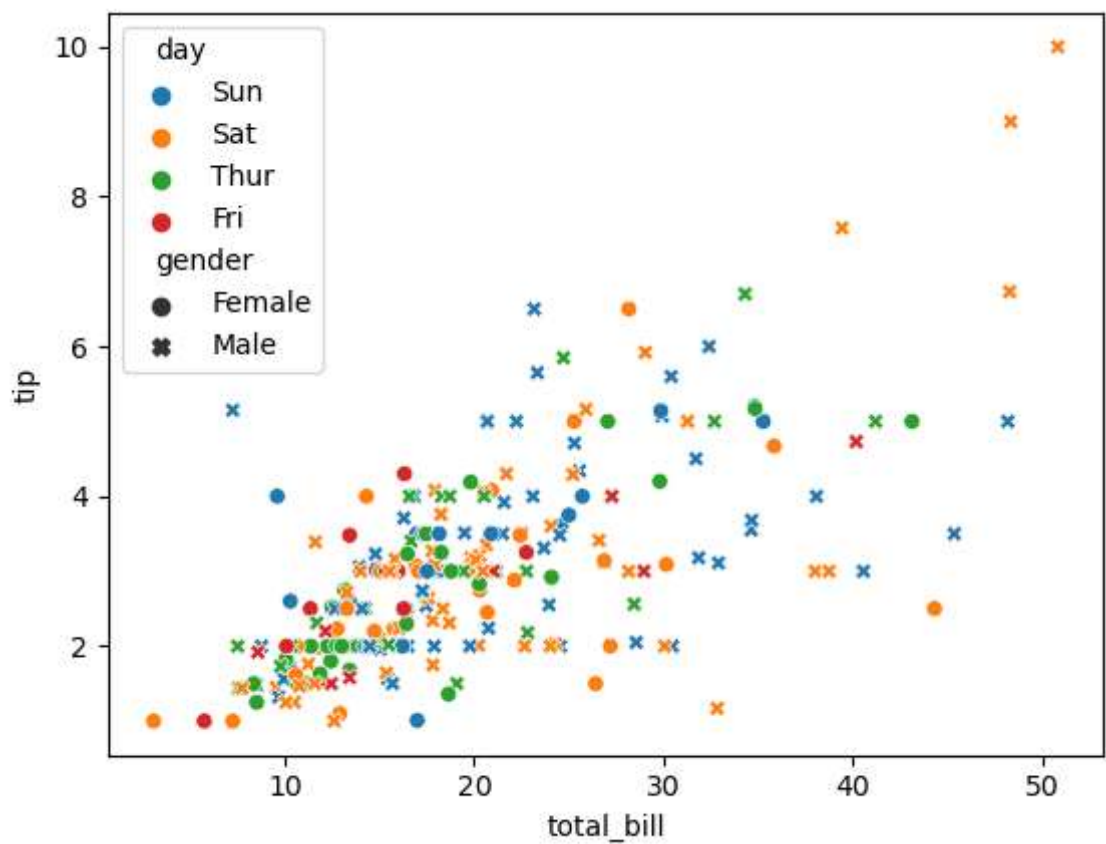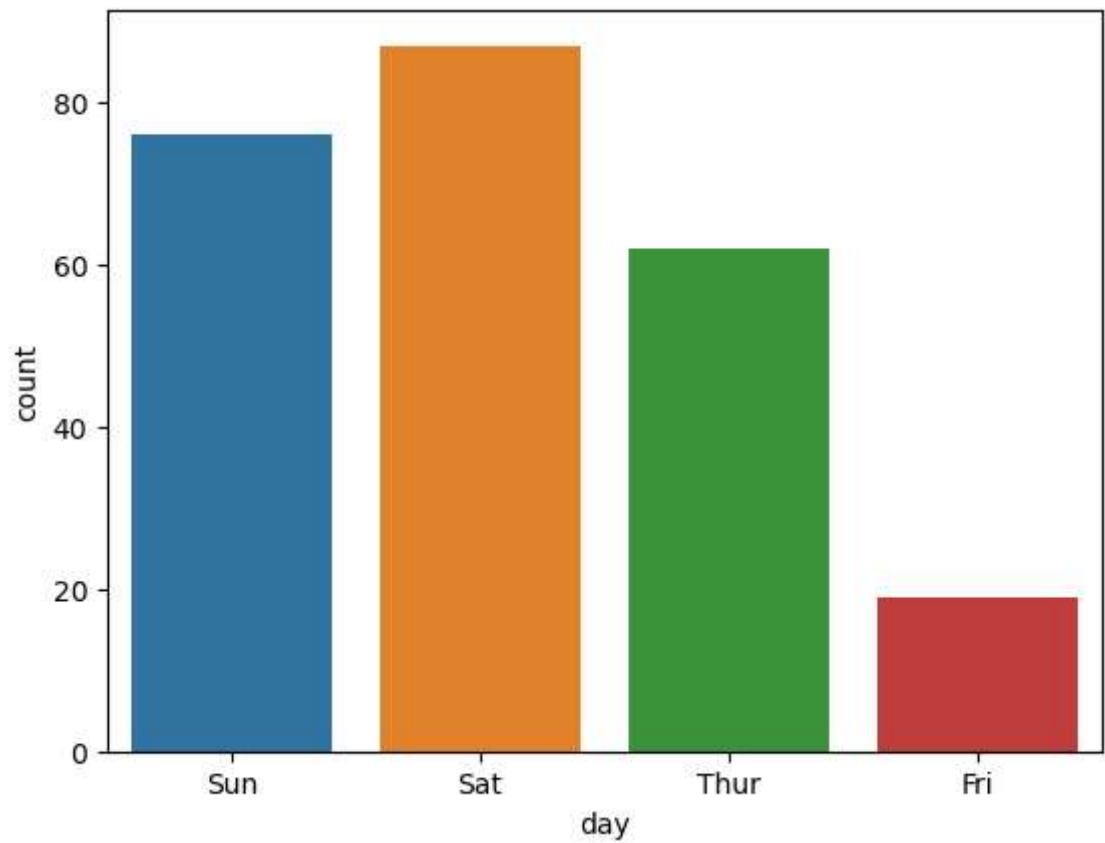
```
In [37]: sb.scatterplot(x=df.total_bill,y=df.tip,style=df.gender,hue=df.day)
         plt.show()
```
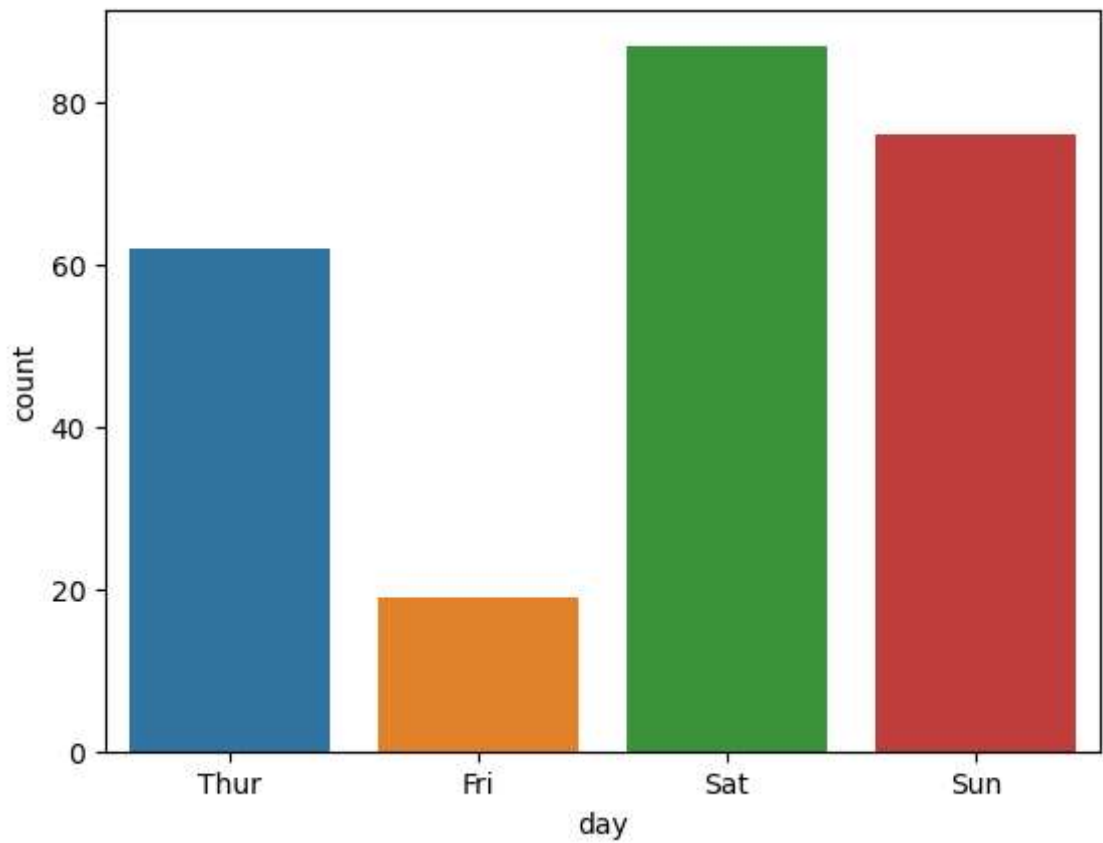


```
In [38]: sb.countplot(x=df.day)
         plt.show()
```
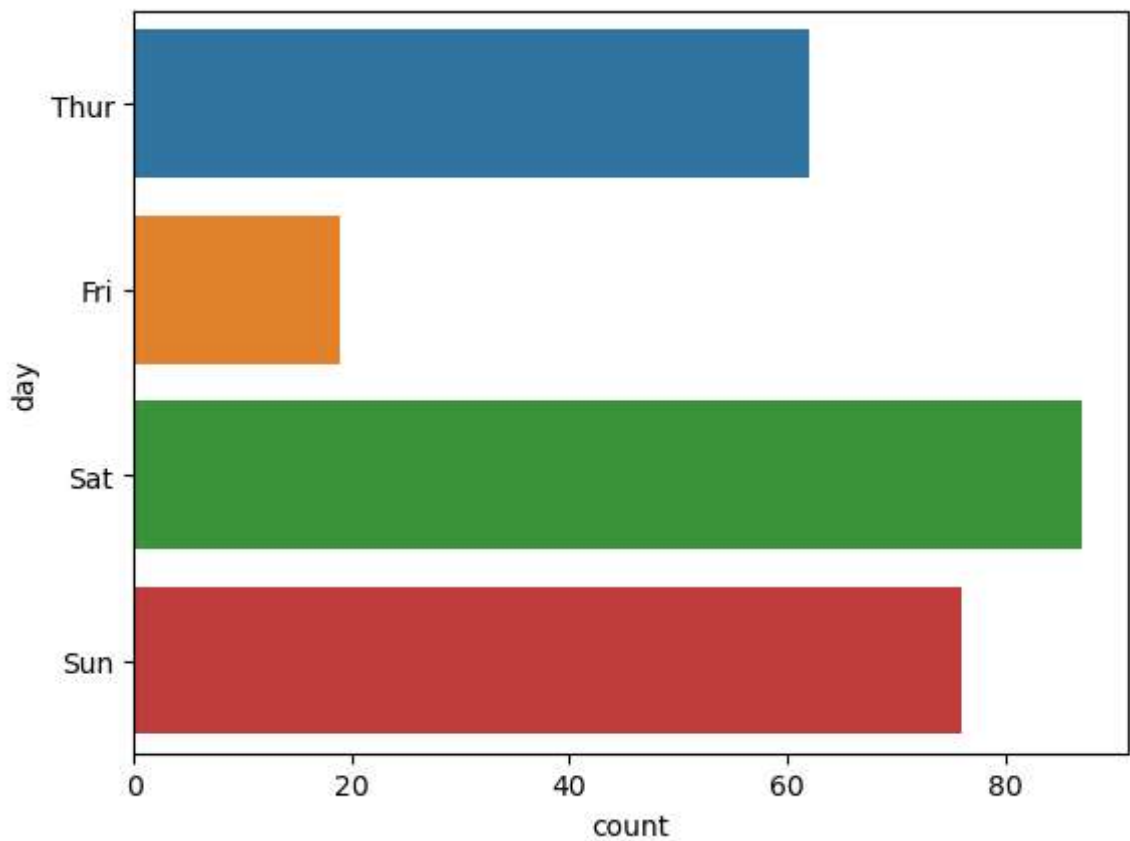
```
sb.countplot(x=df.day,hue=df.time)
plt.show()
```
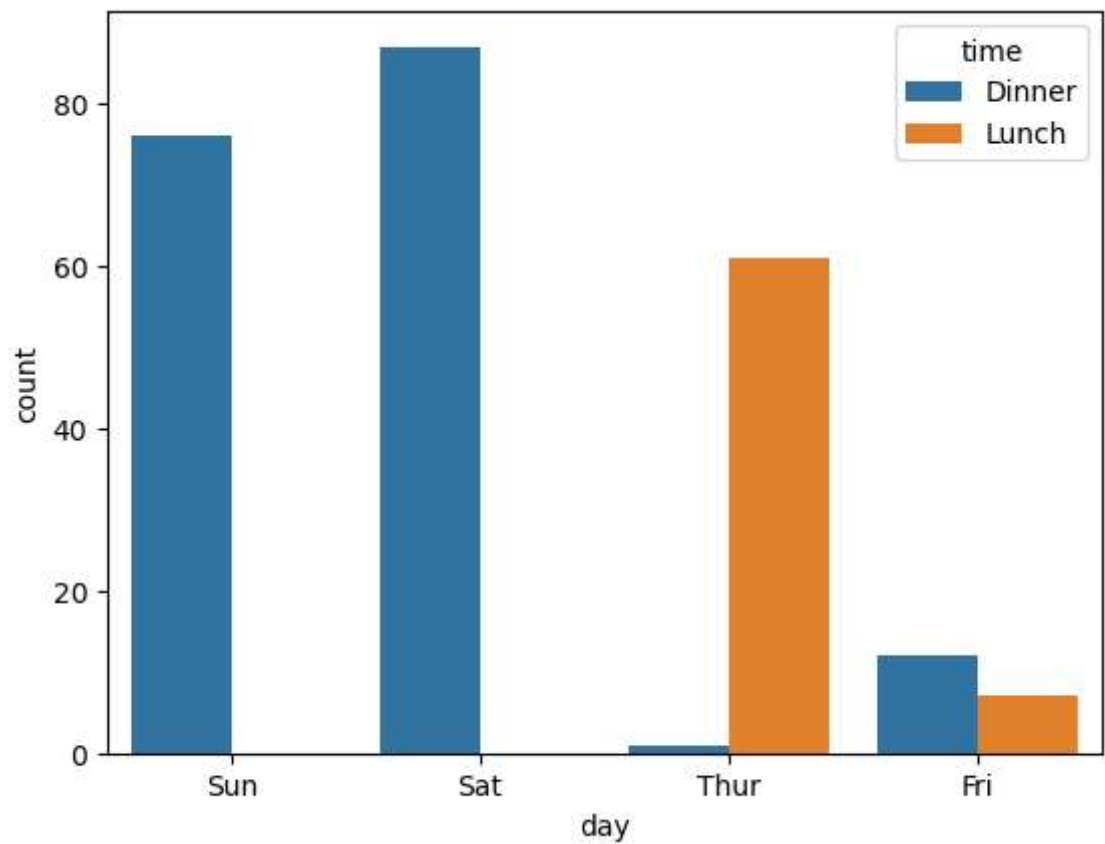
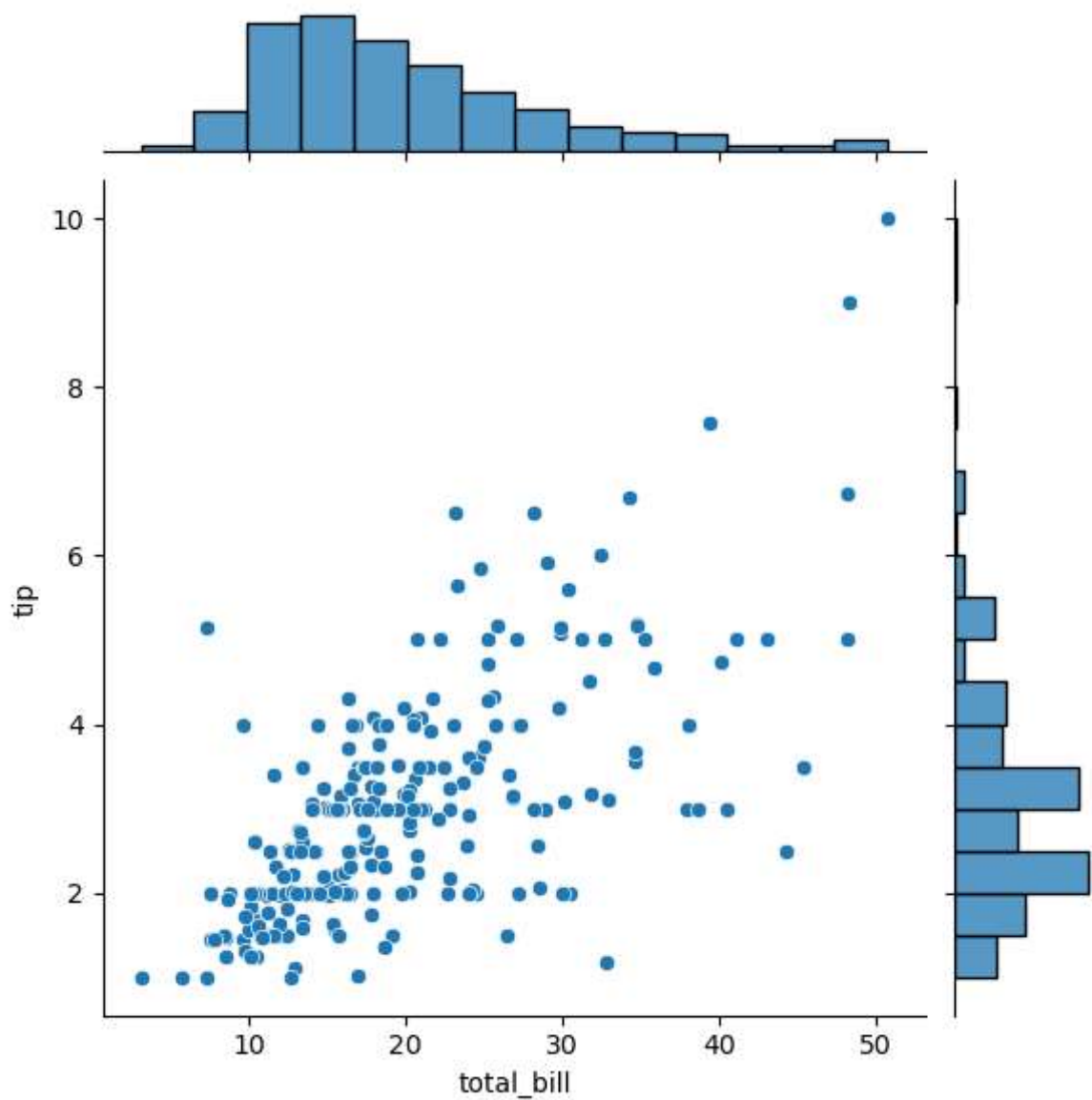```
sb.countplot(x=df.day,order=['Thur','Fri','Sat','Sun'])
plt.show()
```

```
In [42]: sb.countplot(y=df.day,order=['Thur','Fri','Sat','Sun'])
         plt.show()
```



```
In [44]: sb.jointplot(x=df.total_bill,y=df.tip)
         plt.show()
```

`df`

	total_bill	tip	gender	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

```
sb.pairplot(df)
plt.show()
```

```
x=[10,11,12,10.5,11.5,12.510,11,12,100,-100]
sb.boxplot(x)
plt.show()
```

In [53]:
```python
import numpy as np
x=np.random.randint(1,50,100)
y=np.random.randint(1,50,100)
x[10]=150
x[20]=155
x[30]=-50

sb.boxplot([x,y],orient='h')
plt.show()
```
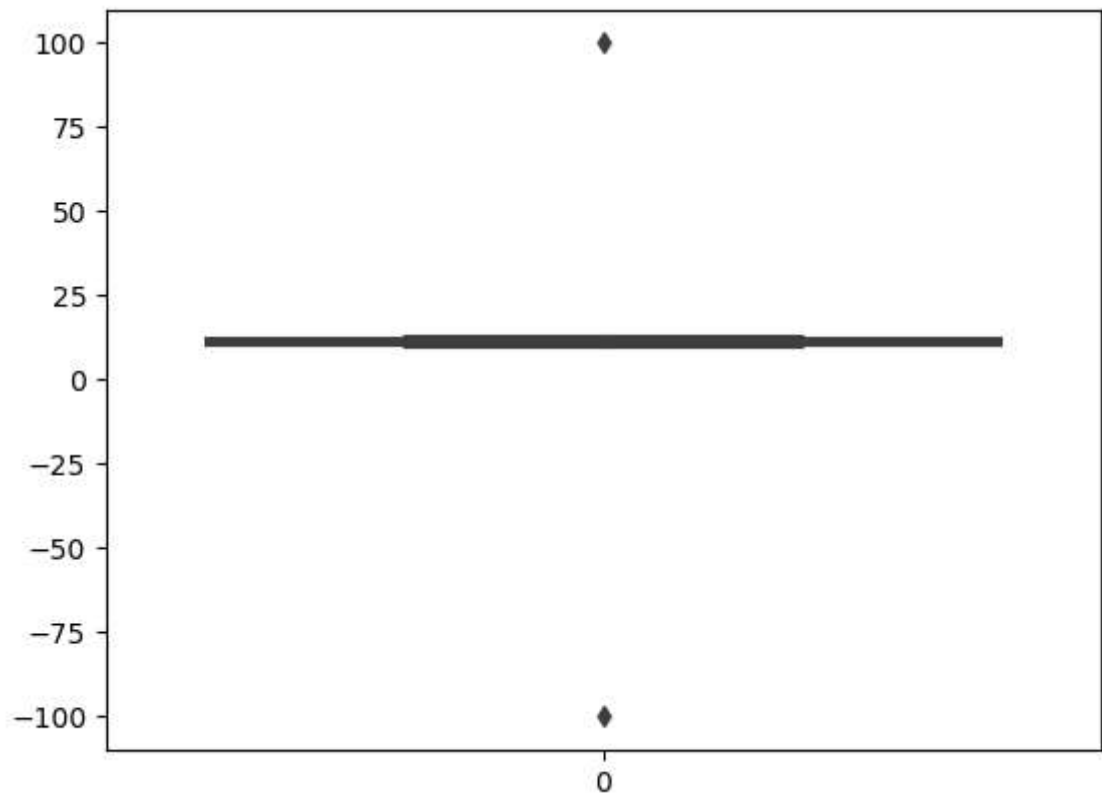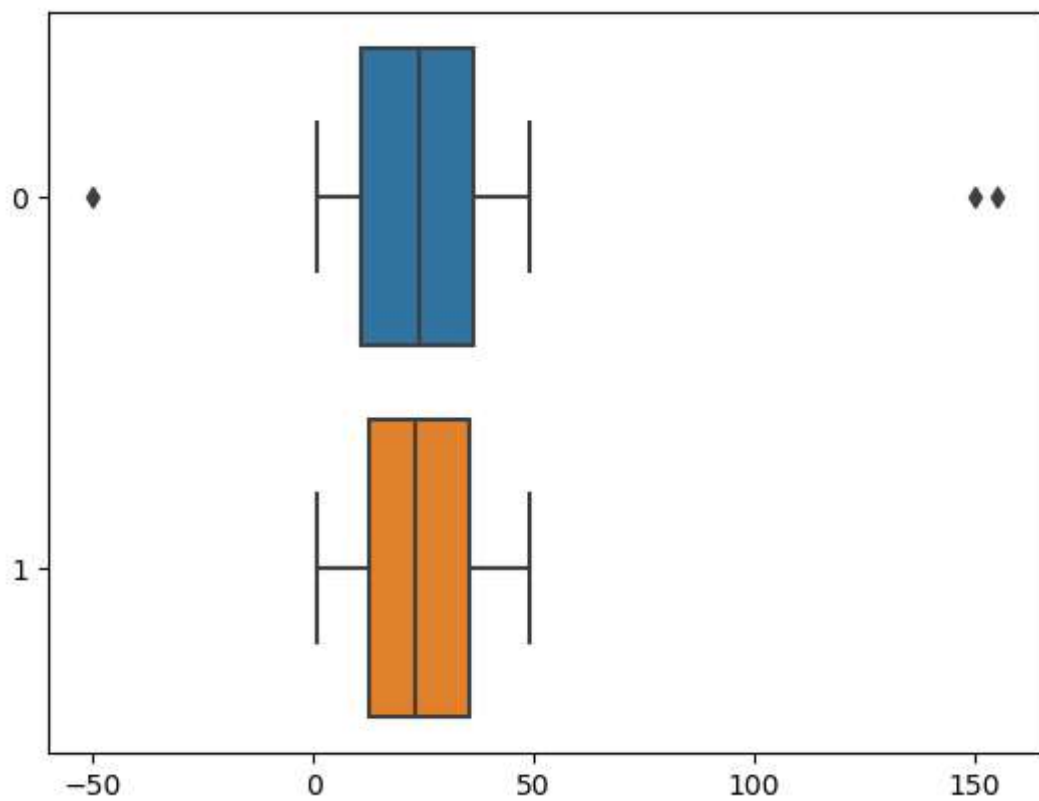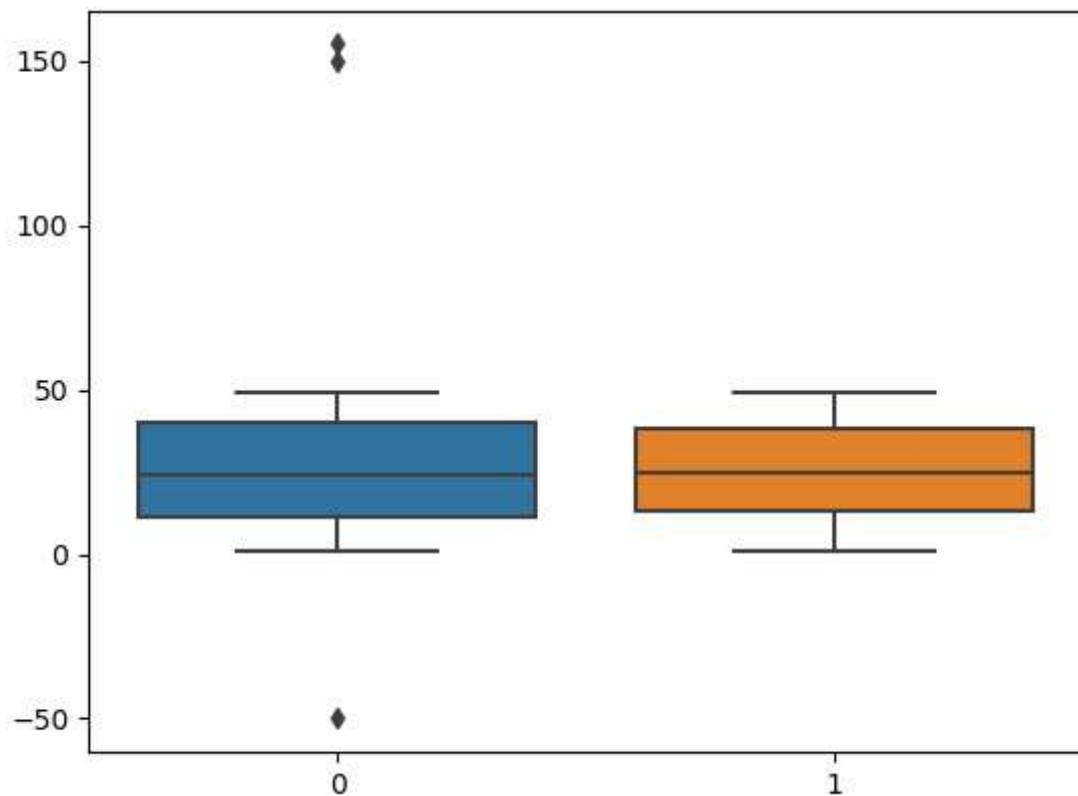
```
In [54]:  import numpy as np
          x=np.random.randint(1,50,100)
          y=np.random.randint(1,50,100)
          x[10]=150
          x[20]=155
          x[30]=-50

          sb.boxplot([x,y])
          plt.show()
```



```
In [56]:  matrix=np.random.randint(1,10,(10,10))
          matrix
```

```
Out[56]:  array([[6, 3, 6, 5, 8, 7, 1, 3, 9, 9],
                 [2, 2, 1, 1, 9, 2, 7, 7, 8, 5],
                 [7, 3, 9, 7, 8, 7, 9, 2, 2, 6],
                 [2, 8, 2, 4, 8, 8, 1, 6, 8, 5],
                 [7, 3, 2, 7, 3, 7, 8, 3, 9, 3],
                 [8, 7, 7, 9, 2, 7, 7, 4, 1, 8],
                 [9, 5, 8, 6, 5, 8, 3, 3, 2, 3],
                 [8, 5, 1, 7, 4, 6, 6, 4, 7, 3],
                 [7, 1, 9, 8, 4, 2, 9, 4, 4, 3],
                 [2, 9, 8, 1, 7, 8, 8, 1, 2, 9]])
```

```
In [57]:  sb.heatmap(matrix)
          plt.show()
```

`df`

	total_bill	tip	gender	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.corr()`

```
C:\Users\panka\AppData\Local\Temp\ipykernel_13952\1134722465.py:1: FutureWarning:
The default value of numeric_only in DataFrame.corr is deprecated. In a future ver
sion, it will default to False. Select only valid columns or specify the value of
numeric_only to silence this warning.
  df.corr()
```

Out[59]:

	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

In [60]:
```python
sb.heatmap(df.corr())
plt.show()
```

C:\Users\panka\AppData\Local\Temp\ipykernel_13952\2200381900.py:1: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.
  sb.heatmap(df.corr())
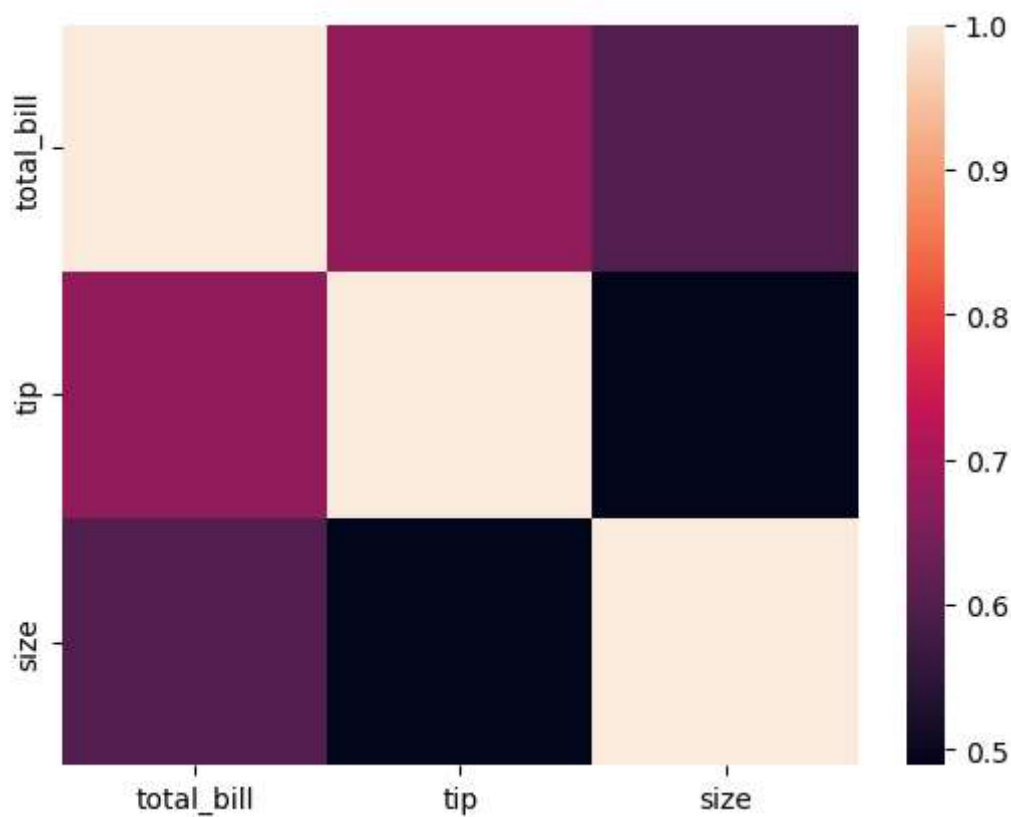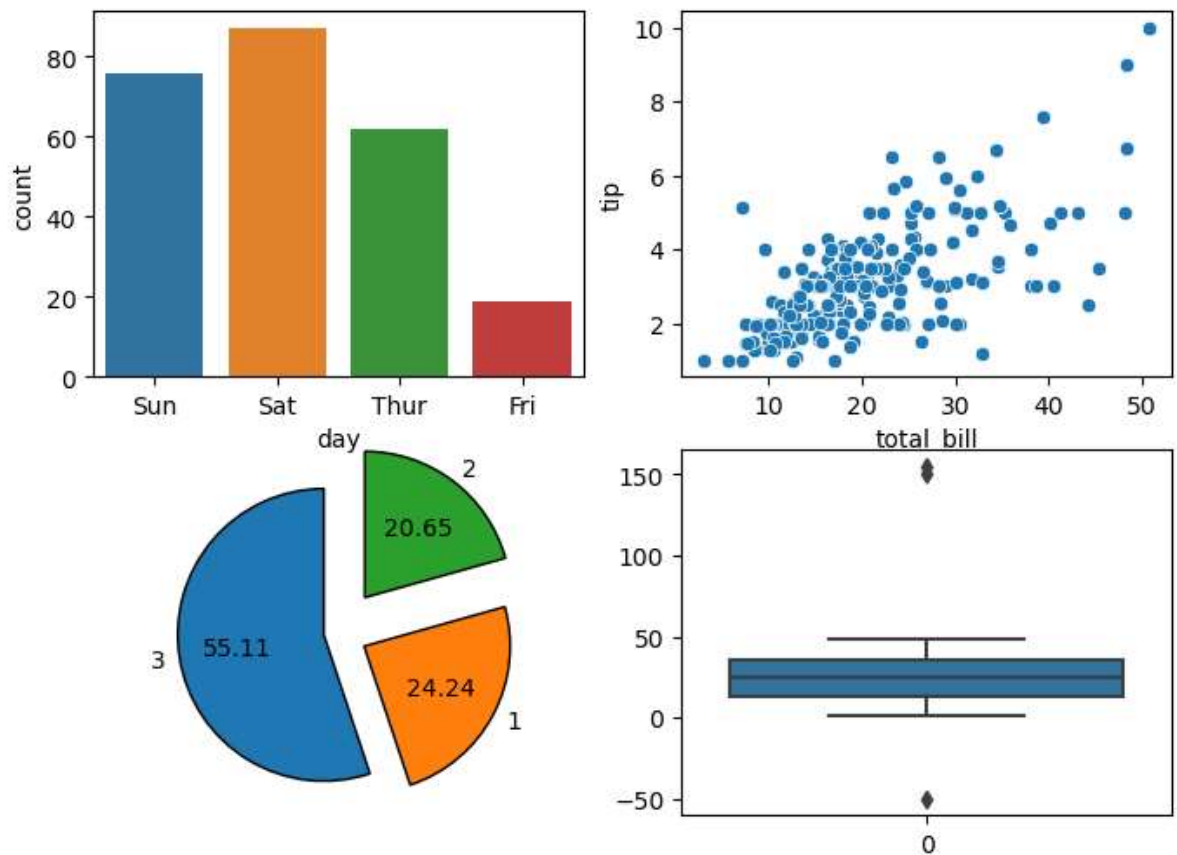

In [67]:
```python
plt.figure(figsize=(8,6))

plt.subplot(2,2,1)
sb.countplot(x=df.day)

plt.subplot(2,2,2)
sb.scatterplot(x=df.total_bill,y=df.tip)

plt.subplot(2,2,3)
plt.pie(x=vc.values,labels=vc.index,autopct='%.2f',explode=(.1,.2,.3),wedgeprops={

plt.subplot(2,2,4)
x=np.random.randint(1,50,100)
x[10]=150
x[20]=155
x[30]=-50
sb.boxplot(x)

plt.savefig('g:/Mix.png')
```
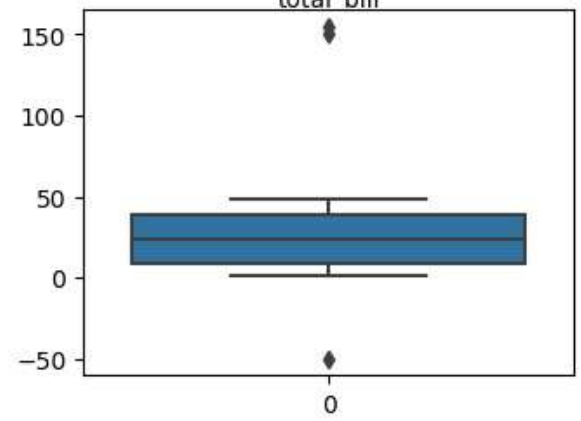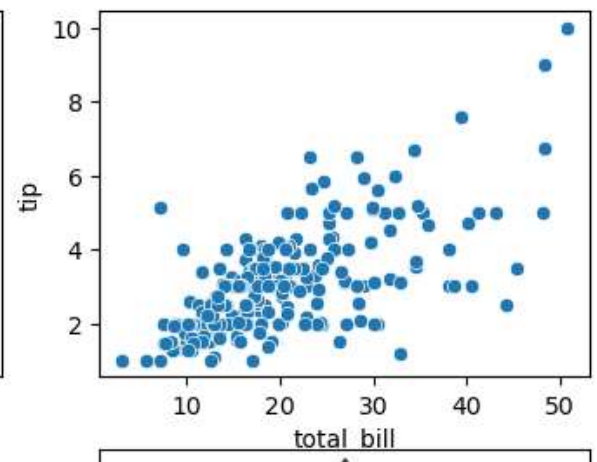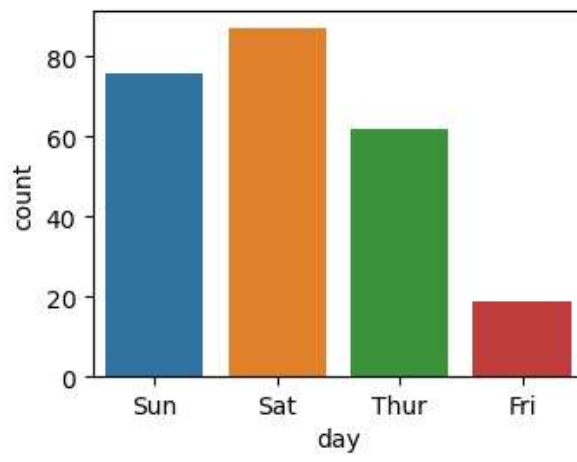
In [68]:
```python
plt.figure(figsize=(8,6))

plt.subplot(2,2,1)
sb.countplot(x=df.day)

plt.subplot(2,2,2)
sb.scatterplot(x=df.total_bill,y=df.tip)

plt.subplot(2,2,4)
x=np.random.randint(1,50,100)
x[10]=150
x[20]=155
x[30]=-50
sb.boxplot(x)

plt.savefig('g:/Mix1.png')
```

In [ ]: