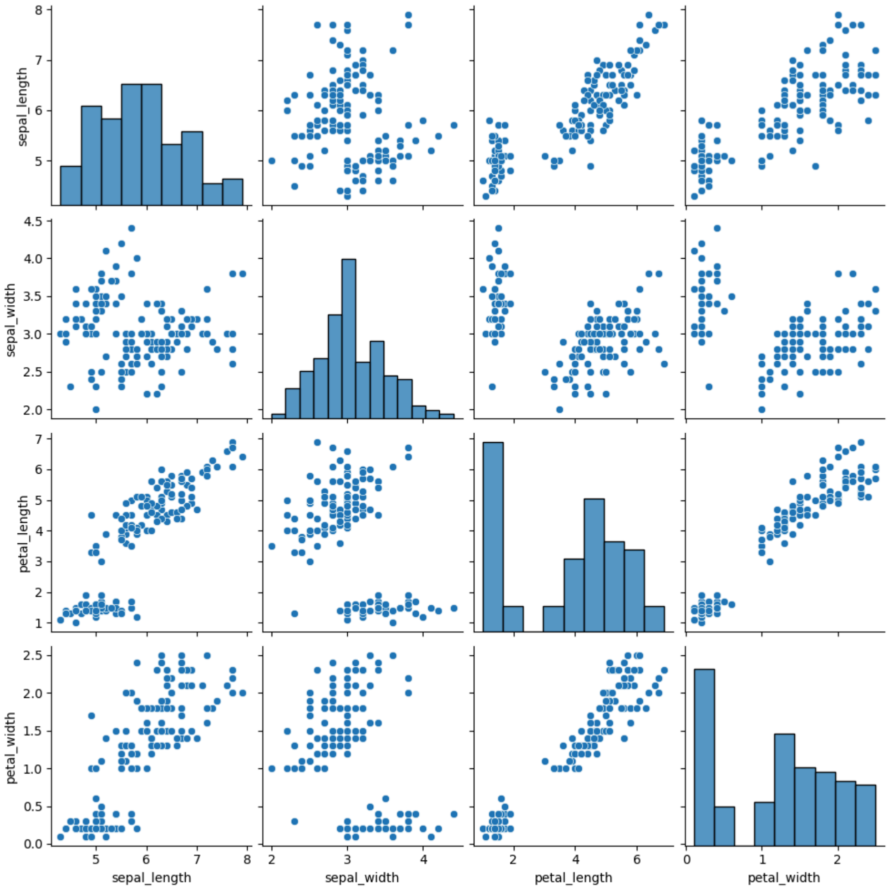
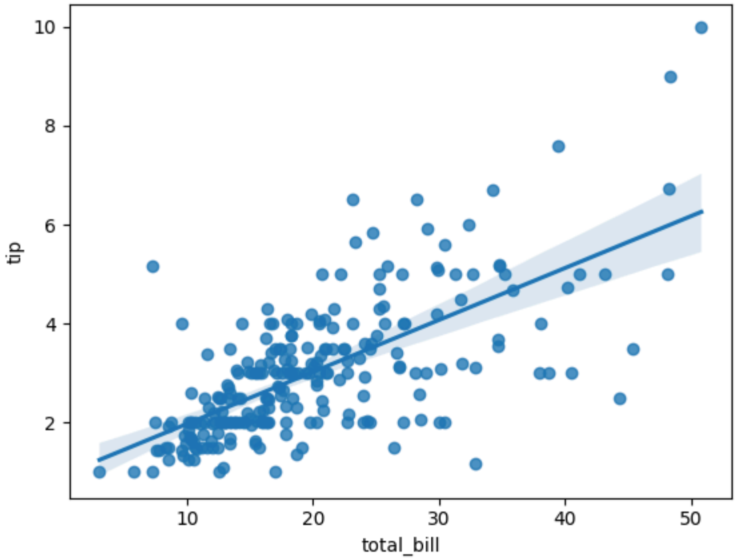
```
import matplotlib.pyplot as plt
import seaborn as sns
df=sns.load_dataset('iris')
sns.pairplot(df,kind="scatter")
plt.show()
```



```
import seaborn as sb
from matplotlib import pyplot as plt
df=sb.load_dataset('tips')
sb.regplot(x="total_bill",y="tip",data=df)
plt.show()
```



```
import matplotlib.pyplot as plt
from scipy import stats
```

```
x=[5,7,8,7,2,17,2,9,4,11,12,9,6]
y=[99,86,87,88,111,86,103,87,94,78,77,85,86]
```

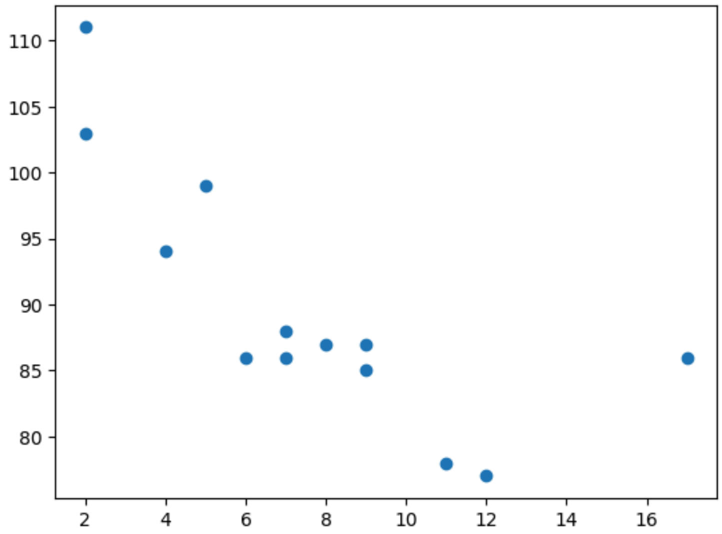
```
slope,intercept,r,p,std_err=stats.linregress(x,y)
```

```
def myfunc(x):
  return slope*x+intercept
```

```
mymodel=list(map(myfunc,x))
```

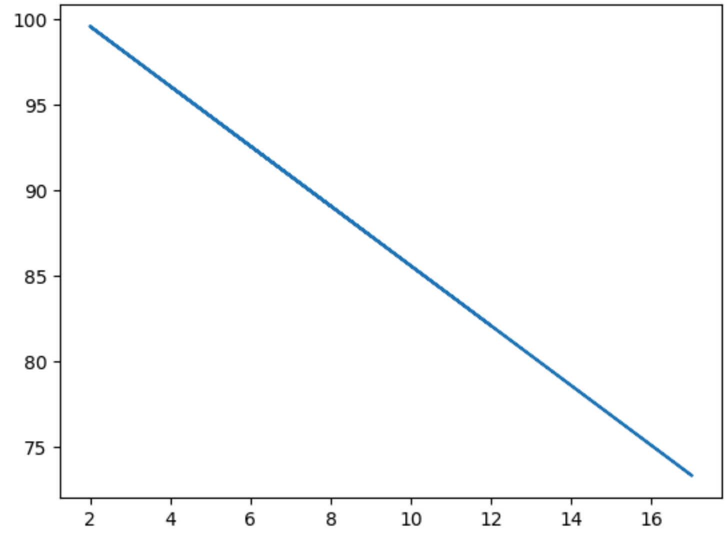
```
plt.scatter(x,y)
```

```
<matplotlib.collections.PathCollection at 0x7b608ab0aa40>
```



```
plt.plot(x,mymodel)
```

```
[<matplotlib.lines.Line2D at 0x7b6088d802e0>]
```



```
import numpy as nmp
import matplotlib.pyplot as mtplt


def estimate_coeff(p,q):
  #estimate total number of points or observation
  n1=nmp.size(p)
  #calc mean of a and b vector
  m_p=nmp.mean(p)
  m_q=nmp.mean(q)
  SS_pq=nmp.sum(q*p) - n1 * m_q * m_p
  SS_pp=nmp.sum(p*p) - n1 * m_p * m_p
  b_1=SS_pq/SS_pp
  b_0=m_q - b_1 * m_p
  return(b_0,b_1)


def plot_regression_line(p,q,b):
  mtplt.scatter(p,q,color="m",
              marker="o",s=30)
  q_pred=b[0]+b[1]*p
  mtplt.plot(p,q_pred,color="g")
  mtplt.xlabel('p')
  mtplt.ylabel('q')
  mtplt.show()
def main():
  p=nmp.array([10,11,12,13,14,15,16,17,18,19])
  q=nmp.array([11,13,12,15,17,18,18,19,20,22])
  b=estimate_coeff(p,q)
  print("Estimated coefficients are :\nb_0={} \ \nb_1={}".format(b[0],b[1]))

  plot_regression_line(p,q,b)

if __name__=="__main__":
  main()
```

```
Estimated coefficients are :
b_0=-0.4606060606060609 \
b_1=1.1696969696969697
```