import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

data=pd.read\_csv('Downloads/headbrain.csv')

a=data.shape

print(a)

X=data['Head Size(cm^3)'].values #single quote

Y=data['Brain Weight(grams)'].values

c=np.mean(X) #np.mean not mean

d=np.mean(Y)

print(c,d)

e=len(X)

numer=0

denom=0

for i in range(e):

numer+=(X[i]-c)\*(Y[i]-d)

denom+=(X[i]-c)\*\*2

m=numer/denom

print(m)

C=d-m\*c

print(C)

xmax=np.max(X)+100

xmin=np.min(X)-100

x=np.linspace(xmax,xmin,1000)

y=m\*x+C

plt.plot(x, y,label='Legend plot',color='red')

plt.scatter(X,Y,label='Scatter Plot') #The array X and Y not the small calculated x and y also everything related to scatter in one block

plt.xlabel('Head weight')

plt.ylabel('Brain Mass')

plt.legend()

plt.show()

tss=0

rss=0

for i in range(e):

ypred=m\*X[i]+C

tss+=(Y[i]-d)\*\*2

rss+=(Y[i]-ypred)\*\*2

ans=1-(rss/tss)

print(ans)