**Code 1 (Single)**

import warnings

warnings.filterwarnings('ignore')

#import the numpy and pandas package

import numpy as np

import pandas as pd

#data visualisation

import matplotlib.pyplot as plt

import seaborn as sns

path="/content/Advertising.csv"

df=pd.read\_csv(path)

df.head()

df

df.shape

df.info()

df.describe()

sns.pairplot(df,x\_vars=['TV'],y\_vars='Sales',height=4,aspect=1,kind='scatter')

plt.show()

x=df['TV']

y=df['Sales']

from sklearn.model\_selection import train\_test\_split

x\_train,x\_test,y\_train,y\_test=train\_test\_split(x,y,train\_size = 0.7,test\_size=0.3,random\_state=100)

x\_train

x\_test

y\_test

y\_train

import statsmodels.api as sm

x\_train\_sm=sm.add\_constant(x\_train)

lr=sm.OLS(y\_train,x\_train\_sm).fit()

lr.params

print(lr.summary())

plt.scatter(x\_train,y\_train,c='r')

plt.plot(x\_train,6.9897+0.0465\*x\_train,'y')

plt.show()