Python code:

"""

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Ex No.: 3

Program: Multiple Linear Regression

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"""

import numpy as nm

import matplotlib.pyplot as mtp

import pandas as pd

from sklearn import datasets,linear\_model,metrics

data=pd.read\_csv('bmi.csv')

x=data.iloc[:,:-1].values

#print(x)

y=data.iloc[:,2].values

#print(y)

#Training data set

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

xtr,xte,ytr,yte=train\_test\_split(x,y,test\_size=1/3,random\_state=0)

print("xtr : ",xtr)

print("ytr : ",ytr)

print("xte : ",xte)

print("yte : ",yte)

#fitting the training data

from sklearn.linear\_model import LinearRegression

regressor=LinearRegression()

regressor.fit(xtr,ytr)

#Prediction of Test and Training set result

yp=regressor.predict(xte)

xp=regressor.predict(xtr)

print(yp)

print(xp)

print("MAE",metrics.mean\_absolute\_error(yte,yp))

print("MSE",metrics.mean\_squared\_error(yte,yp))

print("RMSE",nm.sqrt(metrics.mean\_squared\_error(yte,yp)))

#mtp.scatter(xtr,ytr,color="green")

mtp.plot(xtr,xp,color="red")

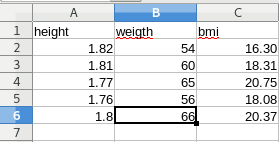
mtp.title("BMI calculator (Training Dataset)")

mtp.xlabel("Height and Weight")

mtp.ylabel("BMI")

mtp.show()

csv file



Output:

xtr : [[ 1.81 60. ]

[ 1.76 56. ]

[ 1.8 66. ]]

ytr : [18.31 18.08 20.37]

xte : [[ 1.77 65. ]

[ 1.82 54. ]]

yte : [20.75 16.3 ]

[20.66558824 16.25 ]

[18.31 18.08 20.37]

MAE 0.06720588235293334

MSE 0.00481267301037952

RMSE 0.06937343158860977

figure

