**Multiple Regression without SCALING**

import pandas

from sklearn import linear\_model

df = pandas.read\_csv('E:/20126/data.csv')

X = df[['Weight', 'Volume']]

y = df['CO2']

regr = linear\_model.LinearRegression()

regr.fit(X, y)

print(regr.coef\_)

#predict the CO2 emission of a car where the weight is 2300kg, and the volume is 1300cm3:

predictedCO2 = regr.predict([[2300, 1300]])

print(predictedCO2)

**Result:**

[0.00755095 0.00780526]

[107.2087328]

**With,**  predictedCO2 = regr.predict([[3300, 1300]])

=[114.75968007]

**Multiple Regression with SCALING**

import pandas

from sklearn import linear\_model

from sklearn.preprocessing import StandardScaler

scale = StandardScaler()

df = pandas.read\_csv("E:/20126/data.csv")

X = df[['Weight', 'Volume']]

y = df['CO2']

scaledX = scale.fit\_transform(X)

print(scaledX)

regr = linear\_model.LinearRegression()

regr.fit(scaledX, y)

scaled = scale.transform([[2300, 1300]])

predictedCO2 = regr.predict([scaled[0]])

print(predictedCO2)

**Result:**

[[-2.10389253 -1.59336644]

[-0.55407235 -1.07190106]

[-1.52166278 -1.59336644]

[-1.78973979 -1.85409913]

[-0.63784641 -0.28970299]

[-1.52166278 -1.59336644]

[-0.76769621 -0.55043568]

[ 0.3046118 -0.28970299]

[-0.7551301 -0.28970299]

[-0.59595938 -0.0289703 ]

[-1.30803892 -1.33263375]

[-1.26615189 -0.81116837]

[-0.7551301 -1.59336644]

[-0.16871166 -0.0289703 ]

[ 0.14125238 -0.0289703 ]

[ 0.15800719 -0.0289703 ]

[ 0.3046118 -0.0289703 ]

[-0.05142797 1.53542584]

[-0.72580918 -0.0289703 ]

[ 0.14962979 1.01396046]

[ 1.2219378 -0.0289703 ]

[ 0.5685001 1.01396046]

[ 0.3046118 1.27469315]

[ 0.51404696 -0.0289703 ]

[ 0.51404696 1.01396046]

[ 0.72348212 -0.28970299]

[ 0.8281997 1.01396046]

[ 1.81254495 1.01396046]

[ 0.96642691 -0.0289703 ]

[ 1.72877089 1.01396046]

[ 1.30990057 1.27469315]

[ 1.90050772 1.01396046]

[-0.23991961 -0.0289703 ]

[ 0.40932938 -0.0289703 ]

[ 0.47215993 -0.0289703 ]

[ 0.4302729 2.31762392]]

[107.2087328]

**With,** scaled = scale.transform([[3300, 1300]])

predictedCO2 = [114.75968007]