

**Program no: 8**

Aim: Program to implement multiple regression techniques using any standard dataset available in the public domain and evaluate its performance

Program:

```
import pandas
df = pandas.read_csv("cars.csv")
X = df[['Weight','Volume']]
y = df['CO2']
from sklearn import linear_model
regr = linear_model.LinearRegression()
regr.fit(X, y)
predictedCO2 = regr.predict([[2300,1300]])
print(predictedCO2)
```

OUTPUT

```
[107.2087328]
```

```
Process finished with exit code 0
```

**Program no:9**

Aim :Variance and Coefficient

Program:

```
from sklearn import datasets, linear_model
# load boston dataset
boston = datasets.load_boston(return_X_y=False)
# defining features matrix(x) and response vector(y)
X = boston.data
```

```
y = boston.target
```

```
# spllitting X AND Y into training and testing sets
```

```
from sklearn.model_selection import train_test_split
```

```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4, random_state=1)
```

```
# create linear regression object
```

```
reg = linear_model.LinearRegression()
```

```
reg.fit(X_train, y_train)
```

```
print('Coefficient:', reg.coef_)
```

```
print('Variance score:{}'.format(reg.score(X_test, y_test)))
```

OUTPUT

```
Coefficient: [-8.95714048e-02  6.73132853e-02  5.04649248e-02  2.18579583e+00  
-1.72053975e+01  3.63606995e+00  2.05579939e-03 -1.36602886e+00  
 2.89576718e-01 -1.22700072e-02 -8.34881849e-01  9.40360790e-03  
-5.04008320e-01]
```

```
Variance score:0.7209056672661767
```

```
Process finished with exit code 0
```