|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Car | Model | Volume | Weight | CO2 |
| Toyota | Aygo | 1000 | 790 | 99 |
| Mitsubishi | Space Star | 1200 | 1160 | 95 |
| Skoda | Citigo | 1000 | 929 | 95 |
| Fiat | 500 | 900 | 865 | 90 |
| Mini | Cooper | 1500 | 1140 | 105 |
| VW | Up! | 1000 | 929 | 105 |
| Skoda | Fabia | 1400 | 1109 | 90 |
| Mercedes | A-Class | 1500 | 1365 | 92 |
| Ford | Fiesta | 1500 | 1112 | 98 |
| Audi | A1 | 1600 | 1150 | 99 |
| Hyundai | I20 | 1100 | 980 | 99 |
| Suzuki | Swift | 1300 | 990 | 101 |
| Ford | Fiesta | 1000 | 1112 | 99 |
| Honda | Civic | 1600 | 1252 | 94 |
| Hundai | I30 | 1600 | 1326 | 97 |
| Opel | Astra | 1600 | 1330 | 97 |
| BMW | 1 | 1600 | 1365 | 99 |
| Mazda | 3 | 2200 | 1280 | 104 |
| Skoda | Rapid | 1600 | 1119 | 104 |
| Ford | Focus | 2000 | 1328 | 105 |
| Ford | Mondeo | 1600 | 1584 | 94 |
| Opel | Insignia | 2000 | 1428 | 99 |
| Mercedes | C-Class | 2100 | 1365 | 99 |
| Skoda | Octavia | 1600 | 1415 | 99 |
| Volvo | S60 | 2000 | 1415 | 99 |
| Mercedes | CLA | 1500 | 1465 | 102 |
| Audi | A4 | 2000 | 1490 | 104 |
| Audi | A6 | 2000 | 1725 | 114 |
| Volvo | V70 | 1600 | 1523 | 109 |
| BMW | 5 | 2000 | 1705 | 114 |
| Mercedes | E-Class | 2100 | 1605 | 115 |
| Volvo | XC70 | 2000 | 1746 | 117 |
| Ford | B-Max | 1600 | 1235 | 104 |
| BMW | 2 | 1600 | 1390 | 108 |
| Opel | Zafira | 1600 | 1405 | 109 |
| Mercedes | SLK | 2500 | 1395 | 120 |

We can predict the CO2 emission of a car based on the size of the engine, but with multiple regression we can throw in more variables, like the weight of the car, to make the prediction more accurate.

Learn about the Pandas module in our [Pandas Tutorial](https://www.w3schools.com/python/pandas_tutorial.asp).

import pandas  
from sklearn import linear\_model  
  
df = pandas.read\_csv("cars.csv")  
  
X = df[['Weight', 'Volume']]  
y = df['CO2']  
  
regr = linear\_model.LinearRegression()  
regr.fit(X, y)  
  
#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:

[107.2087328]

We have predicted that a car with 1.3 liter engine, and a weight of 2300 kg, will release approximately 107 grams of CO2 for every kilometer it drives.