The multiple regression equation for miles per gallon (mpg) as the response variable with weight (wt) and horsepower (hp) as predictor variables can be represented as:

mpg = 37.5353 - 4.0024 \* wt - 0.0308 \* hp

The car rental company can use this model to predict a car's fuel efficiency (miles per gallon) based on its weight and horsepower. By inputting the weight and horsepower of a vehicle into this equation, the company can estimate its miles per gallon, which can help the company make informed decisions about the types of cars to purchase or rent out to customers.

The coefficients of correlation between miles per gallon and horsepower are -0.775170, and between miles per gallon and the car's weight are -0.877516. Both coefficients are negative, indicating a strong negative correlation between miles per gallon and weight and horsepower. This suggests that as weight and horsepower increase, miles per gallon decrease. The coefficients of correlation indicate a strong correlation between these variables.

Table

Description automatically generated

mpg wt hp

mpg 1.000000 -0.877516 -0.775170

wt -0.877516 1.000000 0.668304

hp -0.775170 0.668304 1.000000

Chart, scatter chart

Description automatically generated

Chart, scatter chart

Description automatically generated

Table

Description automatically generated