## Topic 6.1: Introduction to the Lesson

In the R tutorial of module 5, you explored multiple variables that are likely to influence the gas mileage of a car, and you used MLR to examine the effect of multiple variables simultaneously. Many of these variables, such as engine displacement, horsepower, torque, and compression ratio are quantitative predictors. But what if you want to also consider how a categorical predictor, such as transmission type, affects the fuel efficiency of vehicles? You would need to build a linear model that includes a categorical predictor. Categorical variables (also known as qualitative variables) are variables that classify observations into groups. The type of transmission is a categorical variable since there are two types of transmissions: manual and automatic.

In this module, you will learn how to use and interpret the MLR model when categorical predictors are present.

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