

Motor Trend Assignment

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Assignment

You work for Motor Trend, a magazine about the automobile industry. Looking at a data set of a collection of cars, they are interested in exploring the relationship between a set of variables and miles per gallon (MPG) (outcome). They are particularly interested in the following two questions:

- “Is an automatic or manual transmission better for MPG”
- “Quantify the MPG difference between automatic and manual transmissions”

Data

The data source for this assignment comes from the **mtcars** dataset which is bundled with R.

The dataset can be loaded into R by typing `{r data(mtcars)}`. The effect of this command is to load into the environment **mtcars**.

The resulting dataset consists of `{r nrow(mtcars)}` rows, each row made up of `{r ncol(mtcars)}` columns.

The columns making up this dataset are:

- 1 mpg Miles/(US) gallon
- 2 cyl Number of cylinders
- 3 disp Displacement (cu.in.)
- 4 hp Gross horsepower
- 5 drat Rear axle ratio
- 6 wt Weight (lb/1000)
- 7 qsec 1/4 mile time
- 8 vs V/S
- 9 am Transmission (0 = automatic, 1 = manual)
- 10 gear Number of forward gears
- 11 carb Number of carburetors

The information provided here was sourced from the R documentation page. This can be called up by typing `?mtcars` at the prompt. A link to the online version of the page is available at (<https://stat.ethz.ch/R-manual/R-devel/library/datasets/html/mtcars.html>).