

Mtcars Lab

mtcars is a famous statistical dataset. The data comes from the 1974 Motor Trend US magazine, and contains fuel consumption and 10 aspects of automobile design and performance for 32 cars of the time.

The mtcars.xlsx Excel file contains two tabs: a mtcars tab contains the data and a Description tab explains the column names

The data looks like this (not all rows shown).

	A	B	C	D	E	F	G	H	I	J	K	L
1	model	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
2	Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
3	Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
4	Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
5	Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1

The column (variable) names and explanations are listed here for convenience.

<i>model</i>	<i>Model Name</i>
mpg	Miles/(US) gallon
cyl	Number of cylinders
disp	Displacement (cu.in.)
hp	Gross horsepower
drat	Rear axle ratio
wt	Weight (1000 lbs)
qsec	1/4 mile time
vs	Engine (0 = V-shaped, 1 = straight)
am	Transmission (0 = automatic, 1 = manual)
gear	Number of forward gears
carb	Number of carburetors

Create a few visualisations to tease out some relationships between these variables – for example is there a relationship between weight and fuel efficiency (mpg) and does this depend on the transmission?