

Automobile Data from Consumer Reports

*The following information is copied from the Splus help page for the data on cars.
For Statistics 101-106, ignore everything except the descriptions of the variables.*

SUMMARY

Three data frames, cu.summary, cu.dimensions, and cu.specs, give information on makes of cars taken from the April, 1990 issue of Consumer Reports. Three further data frames, car.all, car.test.frame, and fuel.frame, combine information from the first three.

DATA DESCRIPTION

cu.summary

This data frame contains data on 5 variables (columns) for 117 cars (rows). It is a summary of the information on pages 235-255 of the magazine.

Price	numeric vector of list price with standard equipment, in dollars.
Country	a factor giving the country in which the car was manufactured. The levels are: Brazil, England, France, Germany, Japan, Japan/USA, Korea, Mexico, Sweden, USA.
Reliability	an ordered factor; ` Much worse < worse < average < better < Much better'; contains NAs.
Mileage	a numeric vector of gas mileage in miles/gallon as tested by CU; contains NAs.
Type	a factor giving the general type of car. The levels are: Small, Sporty, Compact, Medium, Large, Van.

cu.dimensions

This data frame contains numeric vectors with data for each of 11 variables (columns) for 111 cars. This is the table on pages 287-288 of Consumer Reports, April, 1990.

Length	overall length, in inches, as supplied by manufacturer.
Wheel.base	length of wheelbase, in inches, as supplied by manufacturer.
Width	width of car, in inches, as supplied by manufacturer.
Height	height of car, in inches, as supplied by manufacturer.
Front.Hd.	distance between the car's head-liner and the head of a 5 ft. 9 in. front seat passenger, in inches, as measured by CU.
Rear.Hd	distance between the car's head-liner and the head of a 5 ft 9 in. rear seat passenger, in inches, as measured by CU.
Frt.Leg.Room	maximum front leg room, in inches, as measured by CU.
Rear.Seating	rear fore-and-aft seating room, in inches, as measured by CU.
Frt.Shld	front shoulder room, in inches, as measured by CU.
RearShld	rear shoulder room, in inches, as measured by CU.
Luggage	

cu.specs

This data frame contains the data on 20 mechanical specifications for 137 cars. This is essentially the table on pages 281-285 of the magazine.

Weight	an order statistic giving the relative weights of the cars; 1 is the lightest and 111 is the heaviest.
Tires	factor giving tire size. Possible options are: 195/60 155/80 165/80 175/70 145 145/80 165/65 155/65 155 215/65 275/40 185/70 205/60 205/55 195/75 225/60 185/60 225/50 195/65 215/50 195/50 185/80 215/60 195/70 185/65 185/75 205/70 205/65 215/70 205/75 225/75 185.
Steering	factor giving the number of turns of the steering wheel required for a turn of 30 foot radius. All the cars for which this is given have manual steering. The range is 0.68 to 0.82.
Turning	a factor giving the radius of the turning circle in feet.
Disp.	a numeric vector giving the engine displacement in liters.
HP	a factor giving the net horsepower.
Trans1	a factor giving the type of transmission (man.= manual, P = power) and number of gears. The levels are man.5 man.4 and man.6.
Gear.Ratio	a numeric vector giving the overall gear ratio, high gear.
Eng.Rev	engine revolutions per mile, or engine speed at 60 mph.
Tank	fuel refill capacity in gallons.
Disp2	engine displacement in liters.
HP.revs	the red line---the maximum safe engine speed in rpm.

cars.all

This data frame contains data on all 36 variables from the three data frames above for the makes of cars which have data in all three data frames. The cars' names (row names) have been sorted and edited slightly.

car.test.frame

This data frame contains the variables Price, Country, Reliability, Mileage, Disp., and Type from `cu.summary, Weight, the weight of the car in pounds, and HP from cu.specs for the 60 cars which have data for Mileage.

fuel.frame

This data frame contains Weight, the weight of the car in pounds, the variables Disp. and Type from cu.summary, Mileage from cu.specs, and the added, calculated variable Fuel for the same 60 cars as car.test.frame.

SOURCE

Consumer Reports, April, 1990, pp. 235-288 quoted in John M. Chambers and Trevor J. Hastie, (eds.) Statistical Models in S, Wadsworth and Brooks, Pacific Grove, CA 1992, pp. 46--47.

EXAMPLES

```
# linear fit to data in fuel.frame
fuel.fit <- lm(Fuel ~ Weight + Disp., fuel.frame)
plot(fuel.fit)
```