

cars {datasets}
R Documentation

Speed and Stopping Distances of Cars

Description

The data give the speed of cars and the distances taken to stop. Note that the data were recorded in the 1920s.

Usage

```
cars
```

Format

A data frame with 50 observations on 2 variables.

[,1]

speed

numeric

Speed (mph)

[,2]

dist

numeric

Stopping distance (ft)

Source

Ezekiel, M. (1930) *Methods of Correlation Analysis*. Wiley.

References

McNeil, D. R. (1977) *Interactive Data Analysis*. Wiley.

Examples

```
require(stats)
```

```

plot(cars, xlab = "Speed (mph)", ylab = "Stopping
distance (ft)",
     las = 1)
lines(lowess(cars$speed, cars$dist, f = 2/3, iter = 3),
      col = "red")
title(main = "cars data")
plot(cars, xlab = "Speed (mph)", ylab = "Stopping
distance (ft)",
     las = 1, log = "xy")
title(main = "cars data (logarithmic scales)")
lines(lowess(cars$speed, cars$dist, f = 2/3, iter = 3),
      col = "red")
summary(fm1 <- lm(log(dist) ~ log(speed), data = cars))
opar <- par(mfrow = c(2, 2), oma = c(0, 0, 1.1, 0),
           mar = c(4.1, 4.1, 2.1, 1.1))
plot(fm1)
par(opar)

## An example of polynomial regression
plot(cars, xlab = "Speed (mph)", ylab = "Stopping
distance (ft)",
     las = 1, xlim = c(0, 25))
d <- seq(0, 25, len = 200)
for(degree in 1:4) {
  fm <- lm(dist ~ poly(speed, degree), data = cars)
  assign(paste("cars", degree, sep="."), fm)
  lines(d, predict(fm, data.frame(speed=d)), col =
degree)
}
anova(cars.1, cars.2, cars.3, cars.4)

```

[Package *datasets* version 2.0.1 [Index](#)]