

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	2.9813	1.8428	1.62	0.1080
Bwt	2.6364	0.7759	3.40	0.0009
SexM	-4.1654	2.0618	-2.02	0.0453
Bwt:SexM	1.6763	0.8373	2.00	0.0472

Table 1: Linear regression model for cats data.

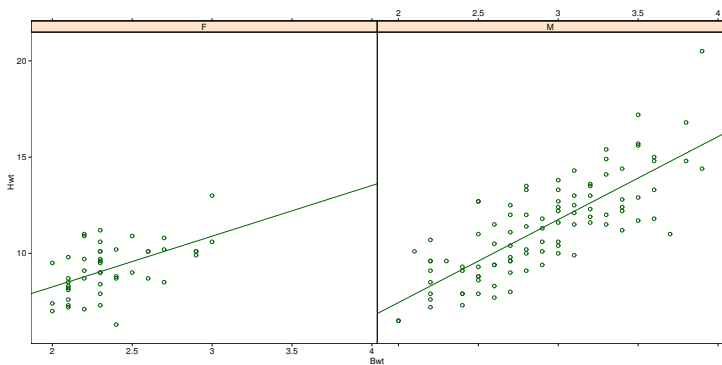


Figure 1: The cats data from package MASS.

The Cats Data

Consider the `cats` regression example from Venables & Ripley (1997). The data frame contains measurements of heart and body weight of 144 cats (47 female, 97 male).

A linear regression model of heart weight by sex and gender can be fitted in R using the command

```
> lm1 = lm(Hwt ~ Bwt * Sex, data = cats)
> lm1
```

```
Call:
lm(formula = Hwt ~ Bwt * Sex, data = cats)
```

Coefficients:

(Intercept)	Bwt	SexM	Bwt:SexM
2.981	2.636	-4.165	1.676

Tests for significance of the coefficients are shown in Table 1, a scatter plot including the regression lines is shown in Figure 1.