> anova(model2, test="F")

Analysis of Variance Table

Response: Length

Df Sum Sq Mean Sq F value Pr(>F)

Density 2 24.856 12.4280 123.2259 < 2.2e-16 \*\*\*

Sex 1 0.729 0.7294 7.2318 0.007334 \*\*

Block 3 2.495 0.8316 8.2450 2.139e-05 \*\*\*

Density:Block 6 1.394 0.2323 2.3028 0.032917 \*

Residuals 695 70.095 0.1009

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary (model2)

Call: lm(formula = Length ~ Density + Sex + Block + Block \* Density,

data = beetle)

Residuals:

Min 1Q Median 3Q Max

-1.48130 -0.13933 0.05449 0.20829 0.76674

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 3.56567 0.03952 90.219 < 2e-16 \*\*\*

DensityLow 0.25097 0.06029 4.163 3.54e-05 \*\*\*

DensityMed 0.27309 0.04773 5.722 1.56e-08 \*\*\*

SexM 0.05759 0.02409 2.391 0.01708 \*

BlockB -0.17725 0.05369 -3.301 0.00101 \*\*

BlockC -0.07477 0.05563 -1.344 0.17934

BlockD 0.02027 0.06156 0.329 0.74209

DensityLow:BlockB 0.22245 0.09550 2.329 0.02013 \*

DensityMed:BlockB 0.18520 0.06809 2.720 0.00670 \*\*

DensityLow:BlockC 0.23347 0.09187 2.541 0.01126 \*

DensityMed:BlockC 0.22730 0.07532 3.018 0.00264 \*\*

DensityLow:BlockD 0.16251 0.09790 1.660 0.09737 .

DensityMed:BlockD 0.13633 0.08382 1.627 0.10430

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.3176 on 695 degrees of freedom

(147 observations deleted due to missingness)

Multiple R-squared: 0.296, Adjusted R-squared: 0.2839

F-statistic: 24.35 on 12 and 695 DF, p-value: < 2.2e-16