Linear Regression

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```
#predict(fit, new, interval="prediction")
```

How good is the regression equation at predicting?

Linear Regression Model

$$y = \beta_0 + \beta_1 x$$

Constant Model

$$y(x) = y$$

ANOVA comes into play at some point.

Proportionate Reduction in Error:

$$SS(Total) - SS(Error)/SSTotal$$

The PRE is closely related to the correlation coefficient.

Be able to use the linear regression summary

$r^2 = R^2 =$ coefficient of determination.

Beware of negative slopes.

Final:

- interpret R output. No R commands.

- Critical values may be given as multiple choice based on the tail of the test.