STAT 118: Notes M

Simple Linear Regression

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```
#LOAD PACKAGES
library(tidyverse)
library(scales)

#LOAD DATA
housingdata <- read.csv("https://raw.githubusercontent.com/abhiram-ds/housing_price_adv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_readv_r
```

The data comes from Kaggle. It describing the sale of individual residential property in Ames, Iowa from 2006 to 2010.

Motivation

```
housingdata %>%
    ggplot(aes(x=GrLivArea, y=SalePrice)) +
    geom_point(pch=16) +
    geom_smooth(method=lm, se=FALSE) +
    scale_y_continuous(labels = dollar_format(prefix="$")) +
    labs(x = "Above Ground Living Area (sqft)", y = "Sale Price") +
    theme_minimal()

`geom_smooth()` using formula = 'y ~ x'
```