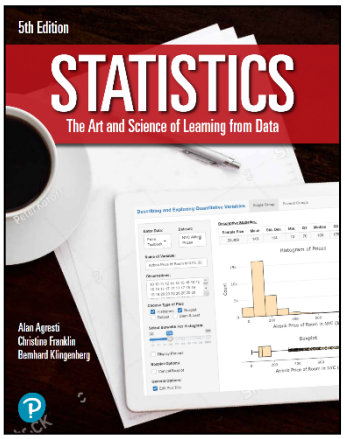


R Code for Examples in the book
"Statistics: The Art and Science of Learning from Data"
by Agresti, Franklin and Klingenberg, 5th edition

Chapter 3

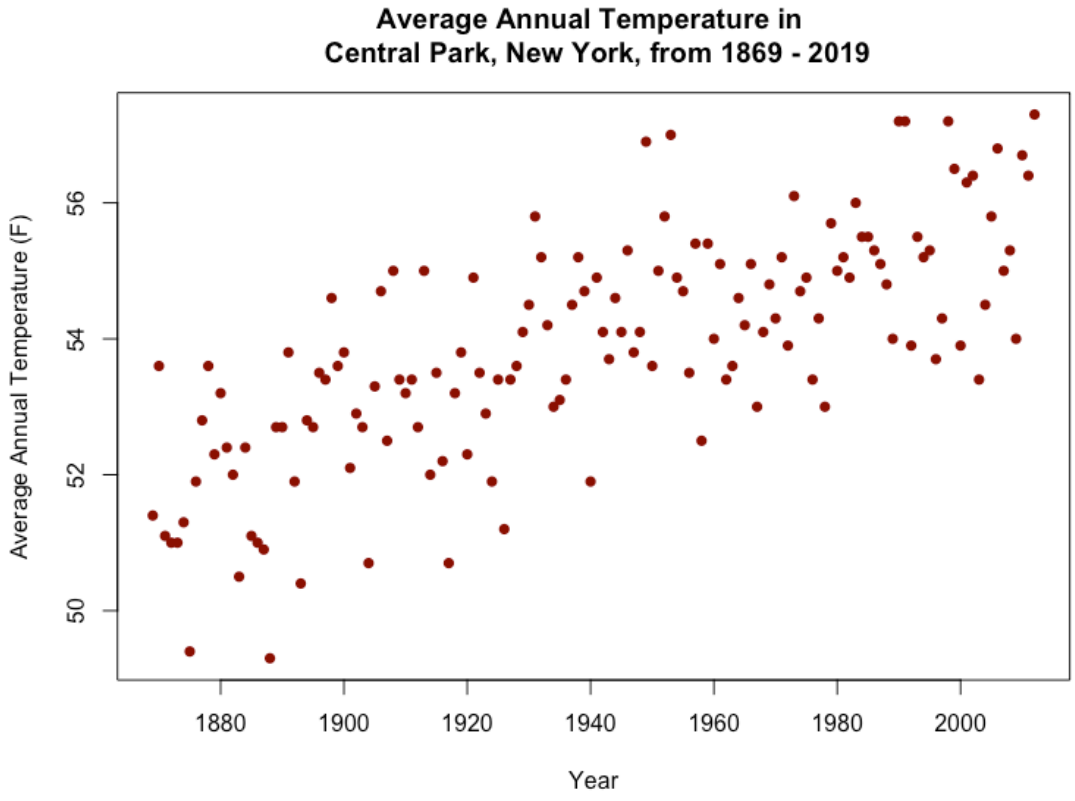
Example 13: Global Warming – Exploring Extrapolation

Reading in the data

```
temps <-
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapter3/central_park_yearly_temps.csv')
attach(temps) # so we can refer to variable names
```

Basic scatterplot

```
plot(x = YEAR, y = ANNUAL, pch = 16, col = 'darkred',
     xlab = 'Year', ylab = 'Average Annual Temperature (F)',
     main = 'Average Annual Temperature in \n Central Park, New York, from 1869 - 2019')
```



Fitting in regression model

```
linReg <- lm(ANNUAL ~ YEAR)
linReg
```

```
##
## Call:
## lm(formula = ANNUAL ~ YEAR)
##
## Coefficients:
## (Intercept)         YEAR
##    -2.68943      0.02915
```

Predicting annual average temp for years 2025 and 3000

```
new <- data.frame(YEAR = c(2025, 3000))
predict(linReg, newdata = new)
```

```
##        1        2
## 56.33523 84.75451
```