

Crafting with Data

Reality, Illusions, Truth & the Future

Instructor: Rob Faludi

Plan for Today

- Lady Tasting Tea
- Monty Hall
- Exercise: **R**
- Readings & Assignments

R



<http://www.r-project.org/>



The Predictive Analytics Company sas



Free Statistics
www.freeststatistics.info



R



<http://www.r-project.org/>



R Facts



- Interpreted
 - interactive!
 - can be slower for large data sets
- Dynamically typed
- Free version of S
- Extensible

Downloading R

- <http://cran.r-project.org/mirrors.html>
 - Slovenia? New Zealand? Brazil?



Install and Launch R

- For your platform



R Help

- `help()`
- `help.start()`
- `help(t.test)`
- `?t.test`
- `help("stem")`



R Variables

- `x <- 3` #comments go after the pound sign
- `x <- 'foop'`
- `x <- 1:20`
- `x * 50`
- `x[4]`
- `x <- c(27, 23, 31, 42, 15, 28)`



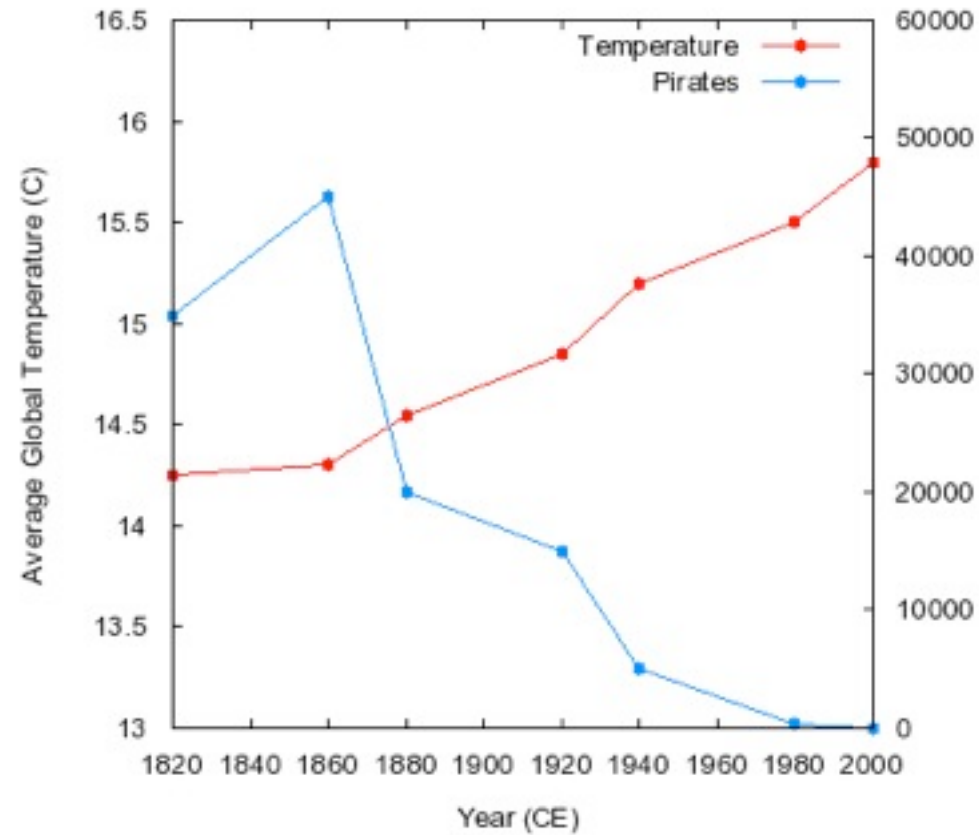
R Descriptives

- `mean(x)`
- `median(x)`
- `mode(x) #explain`
- `table(x)`
- `var(x)`
- `sd(x)`



R Graphs

- `y <- rnorm(100)`
- `hist(y)`
- `z <- runif(100)`
- `plot(y,z) #scatterplot`
- `barplot(y)`
- `plot(y, type='o', col='blue')`
- `pie(x)`
- `pie(x, main='Rob\'s Data', col=rainbow(length(x)))`
- `stem(y)`



R More

- `objects()` #what did we make?
- `rm(x)` # goodbye to x
- `x <- 'pirates are scary'` # strings
- command line:
 - R
 - `/Library/Frameworks/R.framework/Resources/R`
 - `q()` or Ctrl-D to exit!



R Statistics

- `binom.test(40,100,p=0.5)`
- `a <- c(14,23,50,20)`
- `b<- c(12,20,56,10)`
- `chisq.test(a, p = b, rescale.p= TRUE)`



R More Stats

- `women <- c(5.5,5.3,6.0,5.8,5.2,5.6)`
- `men <- c(6,5.9,6.1,5.5,6.2,5.9)`
- `t.test(men,women)`
- `boxplot(men,women)`



R Files

- <http://www.faludi.com/downloads/data.tab>
- `myData = read.table(file="~/Desktop/data.tab", header=TRUE)`
- `t.test(myData['Men'],myData['Women'])`
- `boxplot(myData)`

Men	Women
67.28	66.11
69.08	61.11
70.61	65.17
72.39	66.11
67.61	61.11
76.44	65.17



Readings and Assignments

- Readings
 - How to Lie with Maps, *selected chapters for Wednesday*



