R:
A Tool, Not A Chore

Brendan J. Herger
13Herger@gmail.com
MS Analytics Candidate, University of San Francisco

Overview

- Motivations
- Basic Terminology
- Case Study
- Wrap Up

Motivations

Why use R

- Compute mean by hand?
- Complex operations in excel?
- Calculations repeatable?
- Pretty graphs?

Basic Terminology

Go to file/function

Project: (None)

mean_auc.R* | get_wifi.R

Source on Save | Run | Source

```
1  # mean_auc.R
2  # (C) Brendan J. Herger
3  # Analytics Master's Candidate at University of San Francisco
4  # 13herger@gmail.com
5  #
6  # Available under MIT License
7  # http://opensource.org/licenses/MIT
8  #
9  #*********************************
10
11 print("hello world!")
12
13
14
15
16
17
18
19
20
21
22
```

Script (.R file)

11:20 (Top Level) R Script

Console ~/

```
Platform: x86_64-apple-darwin13.1.0 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project
Type 'contributors()' for mo
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

>
```

Interpreter

Environment | History

Import Dataset | Clear | List

Global Environment

Environment is empty

Variables

Files | Plots | Packages | Help | Viewer

New Folder | Delete | Rename | More

Home

Name	Size	Modified
.Rhistory	0 B	Sep 12, 2014, 8:35 AM
Applications		
Desktop		
Developer		
Documents		
Downloads		
Icon	0 B	Sep 6, 2014, 8:35 PM
Library		
Movies		
Music		
pge bill.indd	KB	Sep 2, 2014, 2:43 PM
Pictures		

Other Stuff

Convenient Functions

- typeof()
- print()
- ?function.name
- c(“one”, “two”)
- paste(“first”, “second”, sep = “”)
- for (i in campaigns) { … do something …}
- rbind()
- cbind()
- apply(), sapply(), lapply()
- read.csv()

Data types

- character
  - “hello world”
- factor
  - like character, restricted to set of options
    - ex: [“January”, “February” …]
- numeric
  - 12, 12.5, 123456.7890
- logical
  - TRUE, FALSE
  - Must be all caps

For Loop

- SEE: r_loop() in example.R
- for (item in list){
    - print(item)
- }

Function

- SEE: r_function() in example.R

Data Frame

- SEE: r_dataframe() in example.R

- Functions:

    - data.frame(), names, lapply, as.numeric, as.character

Case Study

Case Study

- I would like to:
    - Read in data
    - Look at data
    - Find some interesting trends
    - Make some interesting plots

Wrap Up

Moving Forward

- Hopefully now you know all the answers you will ever need
  - or at least how to Google them!
- R is an amazing tool. It can also be an amazing pain.
  - “Penny wise, Pound foolish” - if you take shortcuts, they will ruin you.