



R FOR EXCEL USERS; HALF-DAY WORKSHOP

Lesson 1: R and Excel for data analytics

Lesson 2: From Excel calculations to R development

Lesson 3: From Excel cells to R vectors

Lesson 4: From Excel tables to R data frames

Lesson 5: From Excel lookups and PivotTables to dplyr manipulation

Lesson 6: From "That's hard in Excel" to "That's easy in R!"

Learning Objectives

- Student can distinguish between R and RStudio and their similarities and dissimilarities with Excel
- Student can navigate the RStudio integrated development environment
- Student can create, inspect and manipulate vectors
- Student can create, inspect and manipulate data frames
- Student can manipulate tabular data with common dplyr functions
- Student can build a data-cleaning pipeline

Lesson plan developed by George Mount. For more resources like this, visit stringfestanalytics.com

Lesson 1: R and Excel for data analytics

Objective: Student can distinguish between R and RStudio and their similarities and dissimilarities with Excel

Description:

- Welcome to the R Project
- What is R and when would you use it?
- CRAN Taskviews

Exercises: Drills

Assets needed: None

Time: 35 minutes

Lesson 2: From Excel calculations to R development

Objective: Student can navigate the RStudio integrated development environment

Description:

- Basic calculations in R
- Navigating and customizing RStudio

Exercises: Explore the RStudio environment

Assets needed: None

Time: 35 minutes

Lesson 3: From Excel cells to R vectors

Objective: Student can create, inspect and manipulate vectors

Description:

- Vectors and variable assignment
- Indexing, subsetting and vector arithmetic

Exercises: Drills

Assets needed: None

Time: 35 minutes

Lesson 4: From Excel tables to R data frames

Objective: Student can create, inspect and manipulate data frames

Description:

- Importing and inspecting a data frames
- Manipulating data frames
- Exporting results

Exercises: Drills

Assets needed: Baseball records

Time: 45 minutes

Lesson 5: From Excel lookups and PivotTables to dplyr manipulation

Objective: Student can manipulate tabular data with common dplyr functions

Description:

- The grammar of dplyr
- Sorting, filtering, renaming and summarizing a data frame
- Joining two data frames
- Chaining tasks together with the pipe operator

Exercises: Drills

Assets needed: Baseball records

Time: 45 minutes

Lesson 6: From "That's hard in Excel" to "That's easy in R"

Objective: Student can build a data-cleaning pipeline

Description:

- Append, transpose and summarize a set of csv files

Exercises: Drills

Assets needed: Retail sales dataset

Time: 20 minutes



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