

Session 1 - R Basics

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2/3/2022

Agenda

- ▶ 9am - 12pm : Session 1: R Basics
- ▶ 12pm - 1pm : Lunch
- ▶ 1pm - 3pm : Session 2: Practical Application

Session 1 Agenda (1/3)

- ▶ What is R? R Studio? R Markdown?
- ▶ Tidyverse
- ▶ Basic R Syntax *BREAK*

Session 1 Agenda (2/3)

- ▶ R Datatypes
- ▶ R Functions *BREAK*

Session 1 Agenda (3/3)

- ▶ R for data analysis
- ▶ Data visualization *LUNCH*

What is R?

R is an integrated suite of software facilities for data manipulation, calculation and graphical display. It includes

- ▶ an effective data handling and storage facility,
- ▶ a suite of operators for calculations on arrays, in particular matrices,
- ▶ a large, coherent, integrated collection of intermediate tools for data analysis,
- ▶ graphical facilities for data analysis and display either on-screen or on hardcopy, and
- ▶ a well-developed, simple and effective programming language which includes conditionals, loops, user-defined recursive functions and input and output facilities.

Source: <https://www.r-project.org/about.html>

What is R? (continued)

- ▶ Free as in beer
- ▶ Free as in speech
- ▶ An interpreted language
- ▶ Extendable with packages (<https://cran.r-project.org/>)

What is RStudio?

- ▶ An R IDE
- ▶ Free as in beer
- ▶ Free(ish) as in speech
- ▶ A company that maintains & promotes major R packages

What is R Markdown?

- ▶ Necessary for Fallaw's elective
- ▶ Jupyter Notebooks for R
- ▶ A way to narrate an analytics process
- ▶ Capable of producing slide decks

Tidyverse Overview