A Short Introduction to Working With Data in R

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Prerequisites

- Access to a copy of the **R** software

  - ▶ i.e., a "binary executable"

  - ▶ Go to *www.r-project.org* to get a copy,
    or ask your system administrator.

- Tidyverse packages installed on the same system as `R`

  - ▶ Please run this command in `R` *before* the workshop:

    ```
    install.packages("tidyverse")
    ```

- Knowledge of common mathematical operations: arithmetic, logarithms, etc.

- Knowledge of basic `R` concepts, such as *variables*, *objects*, *operators*, *functions*, *packages*, etc.

  - ▶ This is covered in the first workshop: "A Gentle Introduction to R"

Learning Objectives

- Load tabular data into R
- Explore data to check that it was loaded correctly
- Export data from R to external files
- Data frames
- Clean data
  - Add & change columns
  - Edit values systematically
  - Change data types
- Tidy data
  - Change the *shape* of a data frame
- Re-use code, reproducible results, automated reports
  - Scripts
  - R Markdown, R Notebooks

Section 1

Welcome

Pop Quiz

We will review these *at the end*, so you can see how much you have learned.

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Answer in the chat:

What is your favourite emoji? Why do you like to use it so much?

Introductions

- Name
- Pronouns
- Job title, role
- *optional*: a favourite childhood treat or candy?

- What are you hoping to learn most in today's workshop?

Section 2

Loading data into R

Section 3

Exploring your data

Data frames

Section 4

Saving data outside R

Section 5

Re-using your code: scripts and other files

Section 6

The `tidyverse` collection of packages

Section 7

Clean data

Section 8

Tidy data

Section 9

Review

Exercise

Quiz Review

Section 10

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References