UiO : PROMENTA
Det samfunnsvitenskapelige fakultet

R as a Language

with applications for quantitative research

E. F. Haghish

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Learning a new language

- Vocabulary
- Grammer
- Read, write, communicate
- Enables:
  - Logical statements
  - Repetitive actions
  - Describe an event, action
  - Reason about an event
  - Make a plan (series of procedures and actions)

Human language vs. computer languaghe

- Which one is simpler?
  - How do we measure language complexity?
  - How do we define language fluency?
  - How much **R** should you know to say *“I can work with R”*

R proficiency

- Be able to use **R** independently
  - Understand the problem you are facing
  - Be problem-solving oriented
  - Learn not to panic!
  - Seek help online **efficiently**
  - Come up with some guesses and reasons about the problem
  - **Break a big problem into smaller problems**
  - Solve the problem
  - Beware that there might be multiple solutions to the problem!
  - These skills have nothing to do with **R**!

The purpose of this course

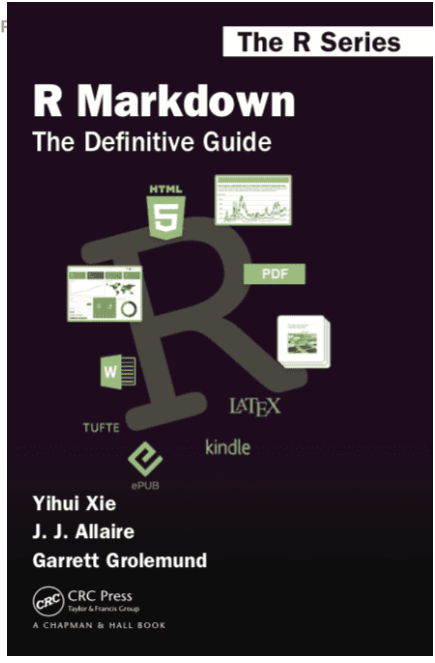
- NOT TEACHING YOU **R**
  - (And nobody else can teach you **R** either. . .)
- Discussing how to teach yourself **R** as a language
- Practice
  - Problem solving efficiently
  - Developing skills to find solutions effectively
  - Learn R as a language, not a computer program
  - Speak R to one another!

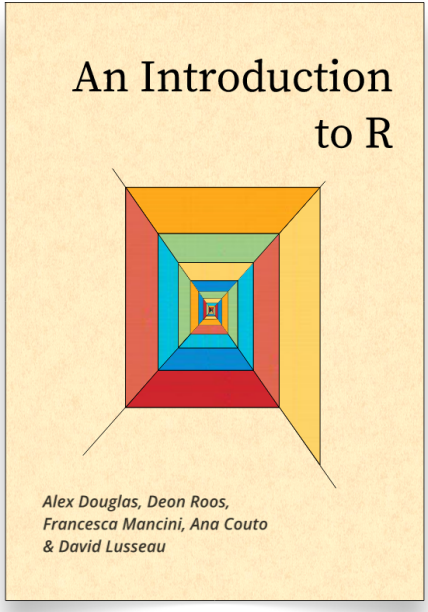
For example . . .

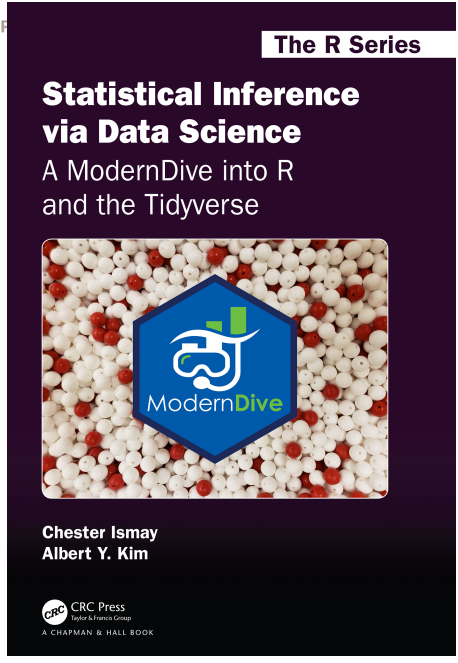
- **while**
- **if**, **else if**, **else**
- **for**
- . . .

Course materials

- **R Markdown** https://bookdown.org/yihui/rmarkdown/ (free online)
- **Introduction to R** https://intro2r.com/ (free online)
- **GGPLOT2** https://ggplot2-book.org/ (free online)
- **Statistical Inference via Data Science: A ModernDive into R and the Tidyverse** https://moderndive.com/ (free online)


The R Series
R Markdown
The Definitive Guide
HTML
PDF
W
TUFTE
LATEX
kindle
ePUB
Yihui Xie
J. J. Allaire
Garrett Grolemund
CRC Press
Taylor & Francis Group
A CHAPMAN & HALL BOOK


An Introduction
to R
Alex Douglas, Deon Roos,
Francesca Mancini, Ana Couto
& David Lusseau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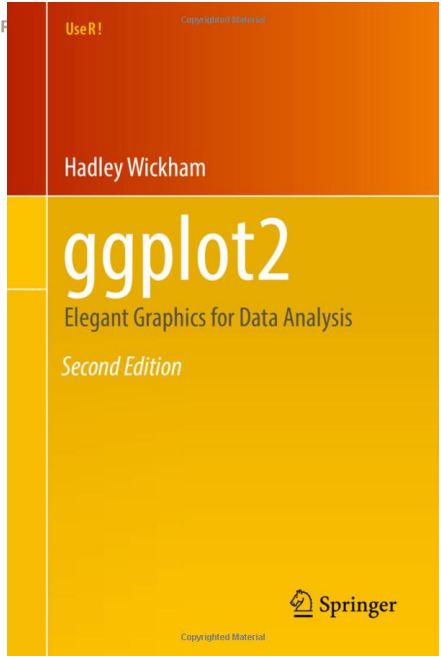
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Hadley Wickham
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Elegant Graphics for Data Analysis
Second Edition
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- Before approaching `tidyverse` universe, you need to get familiar with R
- The course assignment is based on `tidyverse`
- You need to demonstrate that you have obtained the **VERY BASIC** required skills to work with R independently