Introduction to R

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MINERVA
STATISTICAL CONSULTING

Who Am I?

Researcher, Educator, Data Scientist

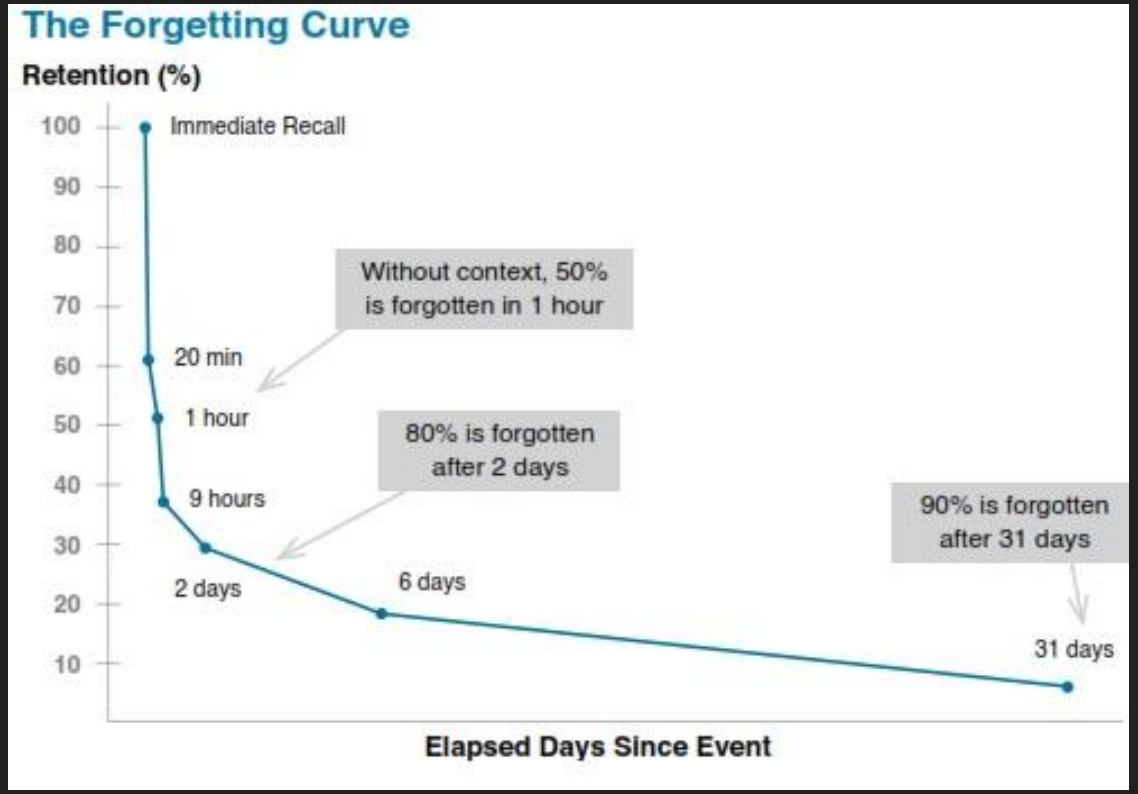
Course Objectives

Objectives/Syllabus

I. Understand Basics of R/RStudio Environment and Basic Good Code Practice
II. Be able to run basic commands using base R
    A. Understand basic data types
    B. Learn how to index data in R
    C. Able to import and export data from R
III. Be able to do simple data manipulations using the tidyverse
    A. Be able to explain what is tidy data
    B. Be able to explain the main five tidyverse verbs
    C. Perform basic exploratory data analysis using the tidyverse
IV. Modeling
    A. Understand the basics of plotting with ggplot2 for data visualization
    B. Understand the basics of running models and simple statistical tests in R

Important teaching caveats

- This is not an exhaustive summary of basics in R
  - (see Advanced R http://adv-r.had.co.nz/)
- This IS meant to be hands on learning
- This course assumes ZERO prior programming experience and some familiarity with basic statistical concepts (mean, standard deviations, prediction, basic probability)
- This course assumes SOME familiarity with data and spreadsheets
  - (Google Sheets, LibreOffice Calc, Microsoft Excel)
- In order to be successful, just ask ask that you ask as many questions as possible and learn to love the process



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https://elearningbrothers.com/blog/how-to-make-sticky-elearning-content/

Peer Introductions

Quiz

What is the difference between R and RStudio?

What is the difference between packages and a library?

How does the philosophy of R and packages differ from that of SPSS, Excel, and other software for data analysis?

Quiz II

Explain to your neighbor what each of the four panes in RStudio generally do

Why would you want to write an R script instead of just doing an analysis using a GUI (graphical user interface) like Excel or Sheets?