

# What are R and RStudio

## R

- R<sup>1</sup> is a programming language specifically designed to perform statistical work. It has been designed from the ground up with that goal in mind.
- It is freely available for use and has a strong community of developers supporting it.
- One of its most exciting facilities is R-Markdown documents<sup>2</sup> which allow you to combine the code for statistical computations together with your analysis into a single document, which leads to what is known as **reproducible research**.
- A lot of the power of R comes from the various add-on packages<sup>3</sup> that can be installed and enhance/-customize the language's capabilities. Whatever your particular data analysis needs are, chances are there's a package for you.

## RStudio

- RStudio<sup>4</sup> is a user-friendly environment for working with the R language. The RStudio team offers a number of packages and commercial versions, as well as a quite powerful free version.
- While you can install RStudio on your own local machine, we will be using an **RStudio Server** setup on the Hanover College servers, which allows us to manage the installation in one centralized location.
- Most importantly our RStudio server can be accessed through standard web browsers from anywhere in the world as long as you have valid Hanover College credentials.

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<sup>1</sup><https://www.r-project.org/>

<sup>2</sup>[whatAreRMarkdownDocuments.html](#)

<sup>3</sup>[packagesAsToolboxes.html](#)

<sup>4</sup><https://www.rstudio.com/>