A whirlwind tour of Rstudio, R, and Rmarkdown Magic for behavioral and brain data science

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The big outline

- Part 0: Background and Community

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- Part 1: Rstudio

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- Part 5: Advanced R and beyond

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- Part 6: A few of our favorite things

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- The "tidyverse"
  - Learn it. But don't learn *only* the tidyverse; you'll be lost in base R

R Background

- Created in 1992 by Gentleman & Ihaka

[we] considered the problem of obtaining decent statistical software for our undergraduate Macintosh lab. After considering the options, we decided that the most satisfactory alternative was to write our own. [. . .] Finally we added some syntactic sugar to make it look somewhat like S. We call the result "R".

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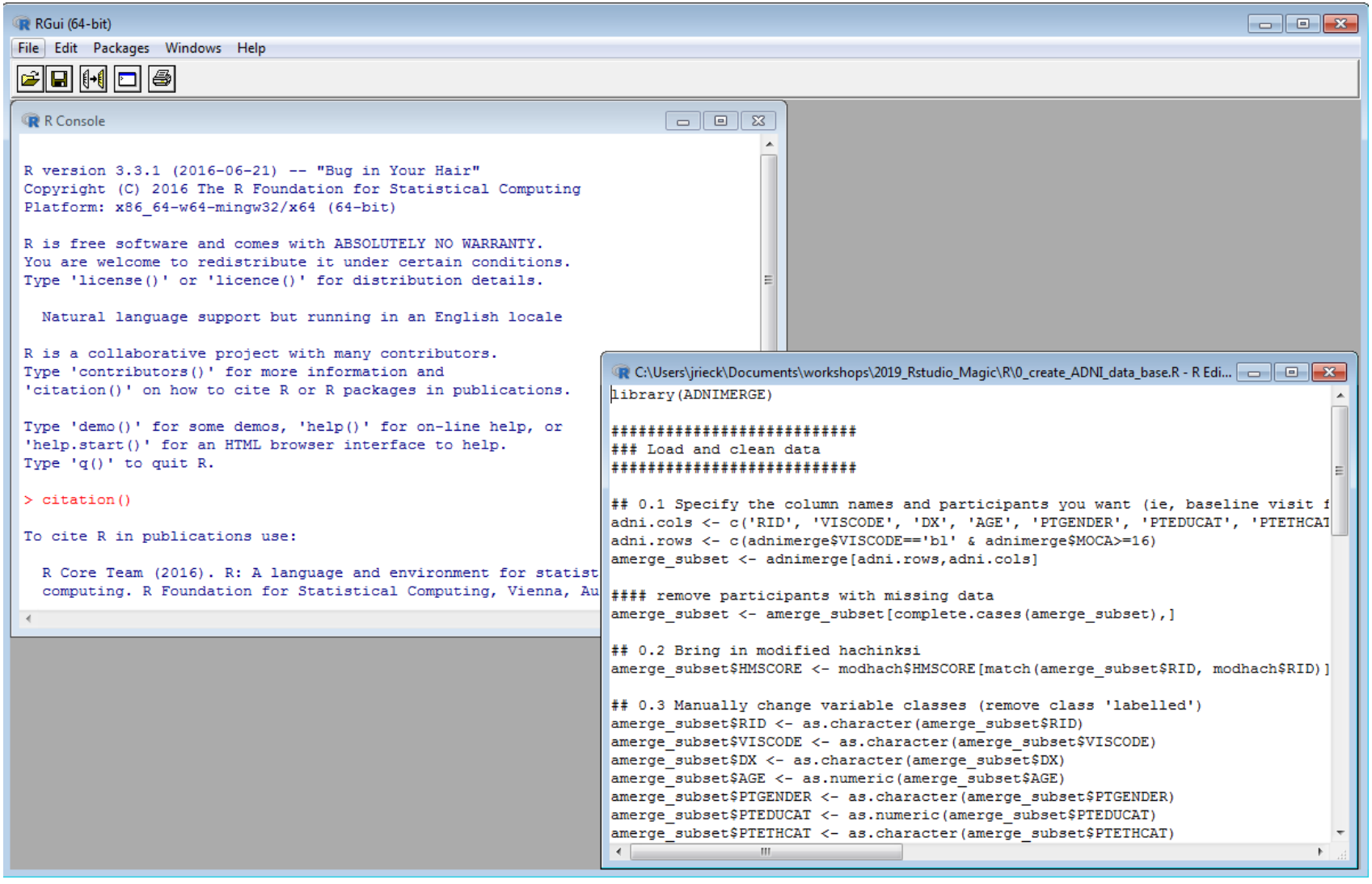
R is a bit ugly



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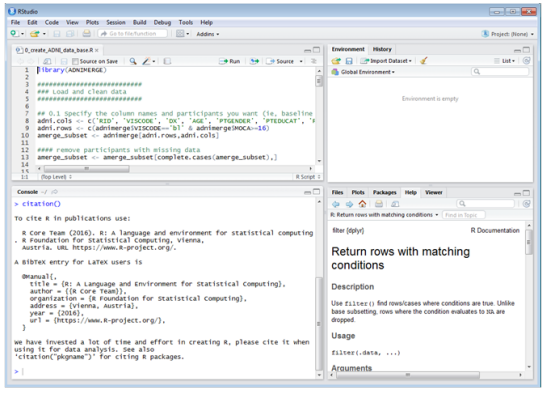
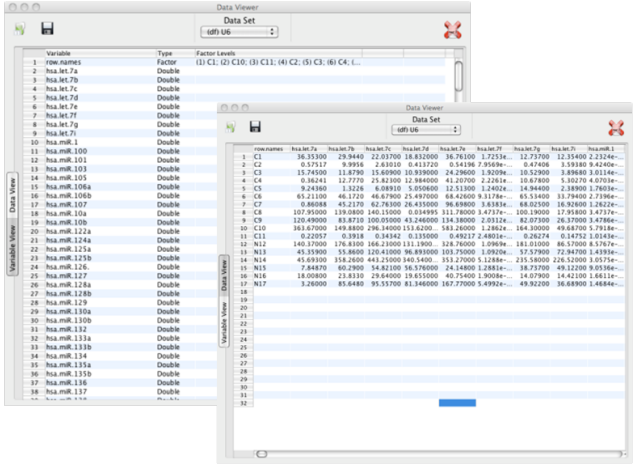
- But see also Deducer, RCommander (SPSS-like)

RStudio



RCommander

Deducer



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- Package development and distribution

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  - step-by-step instruction guides for packages

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  - But also github, r-forge

Tidyverse

- something here about tidy

Part 1: RStudio

- Settings, a quit tour through stuff, features

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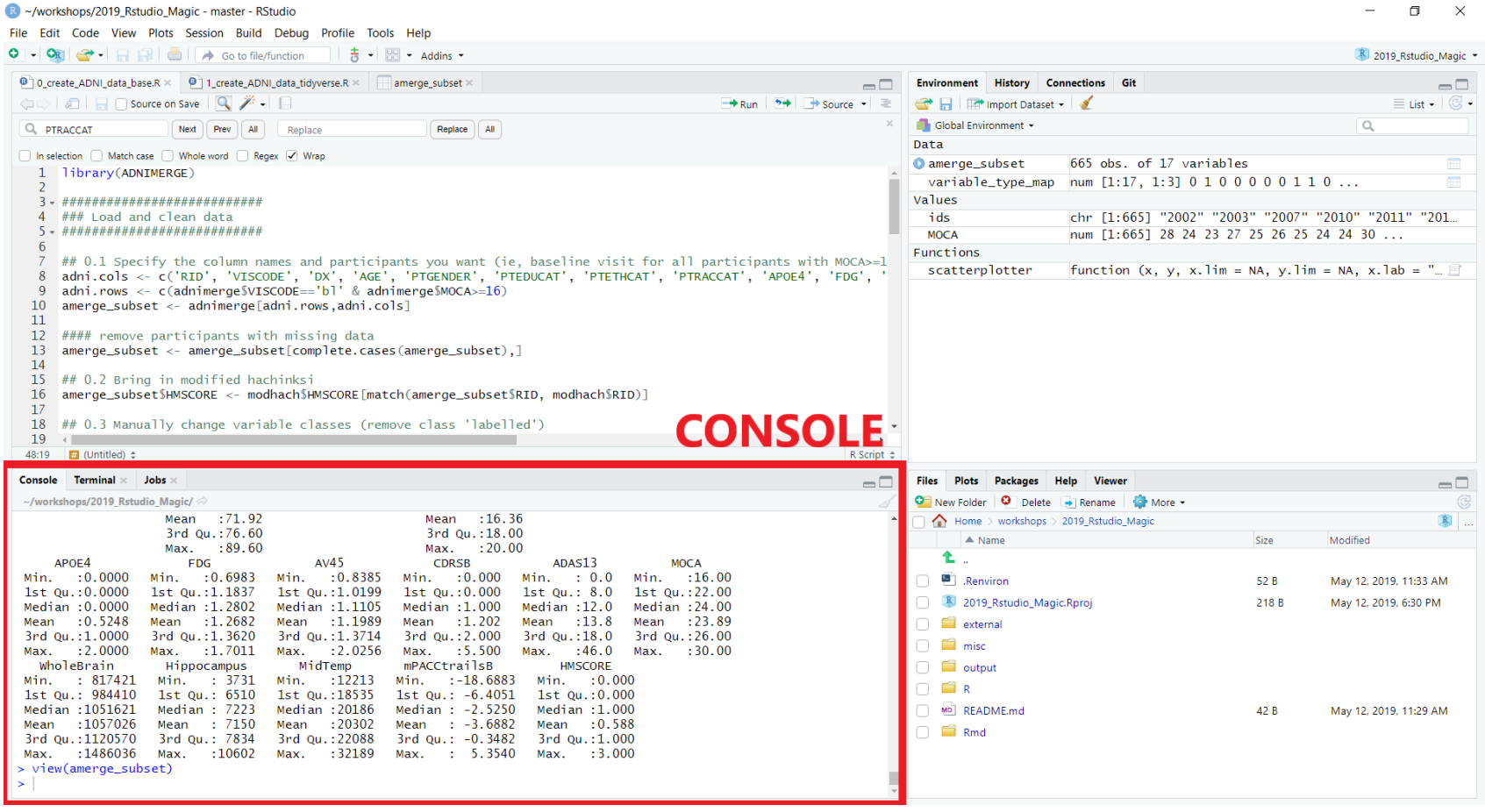
- Examples on getting setup

RStudio Environment



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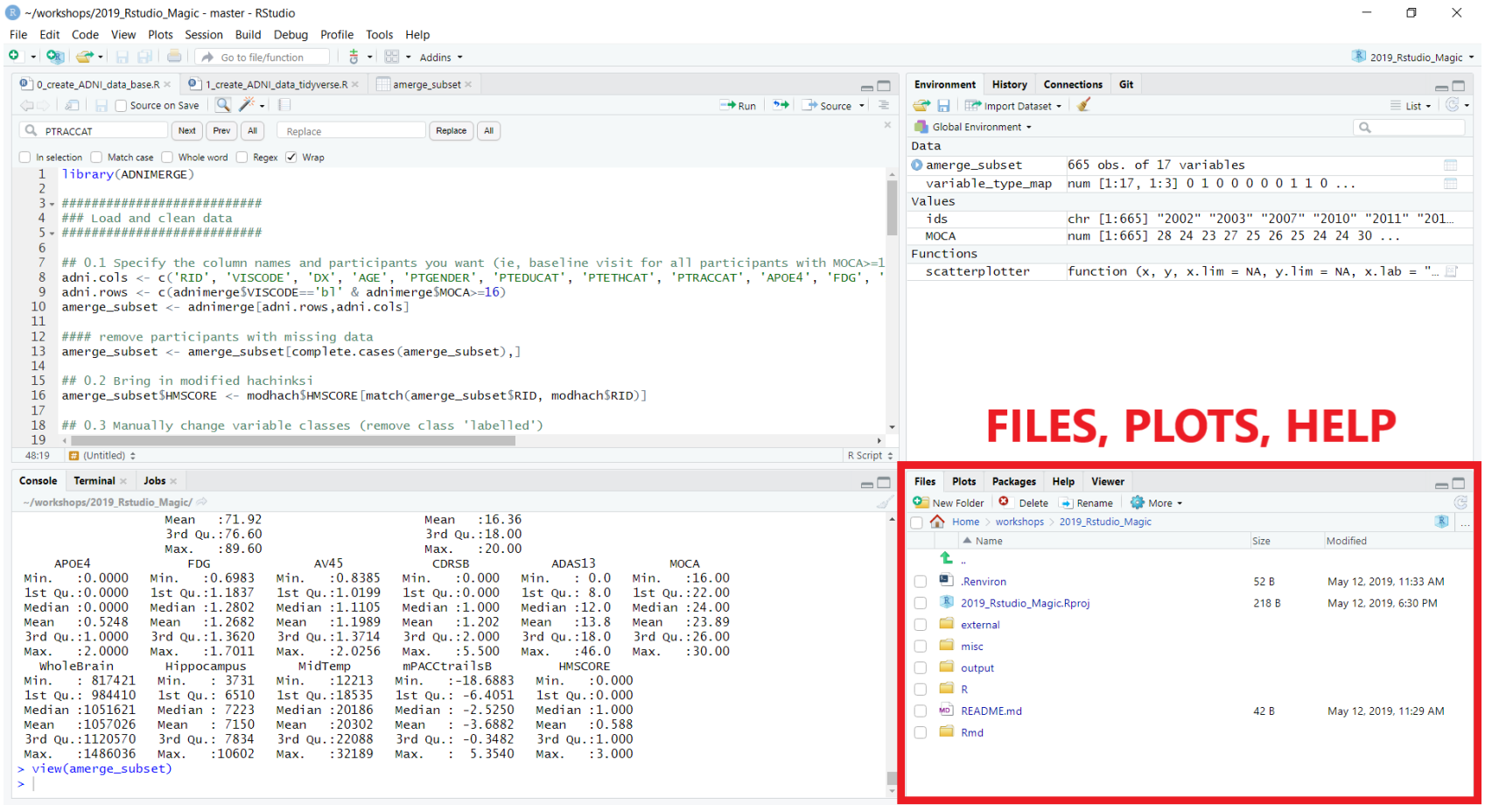

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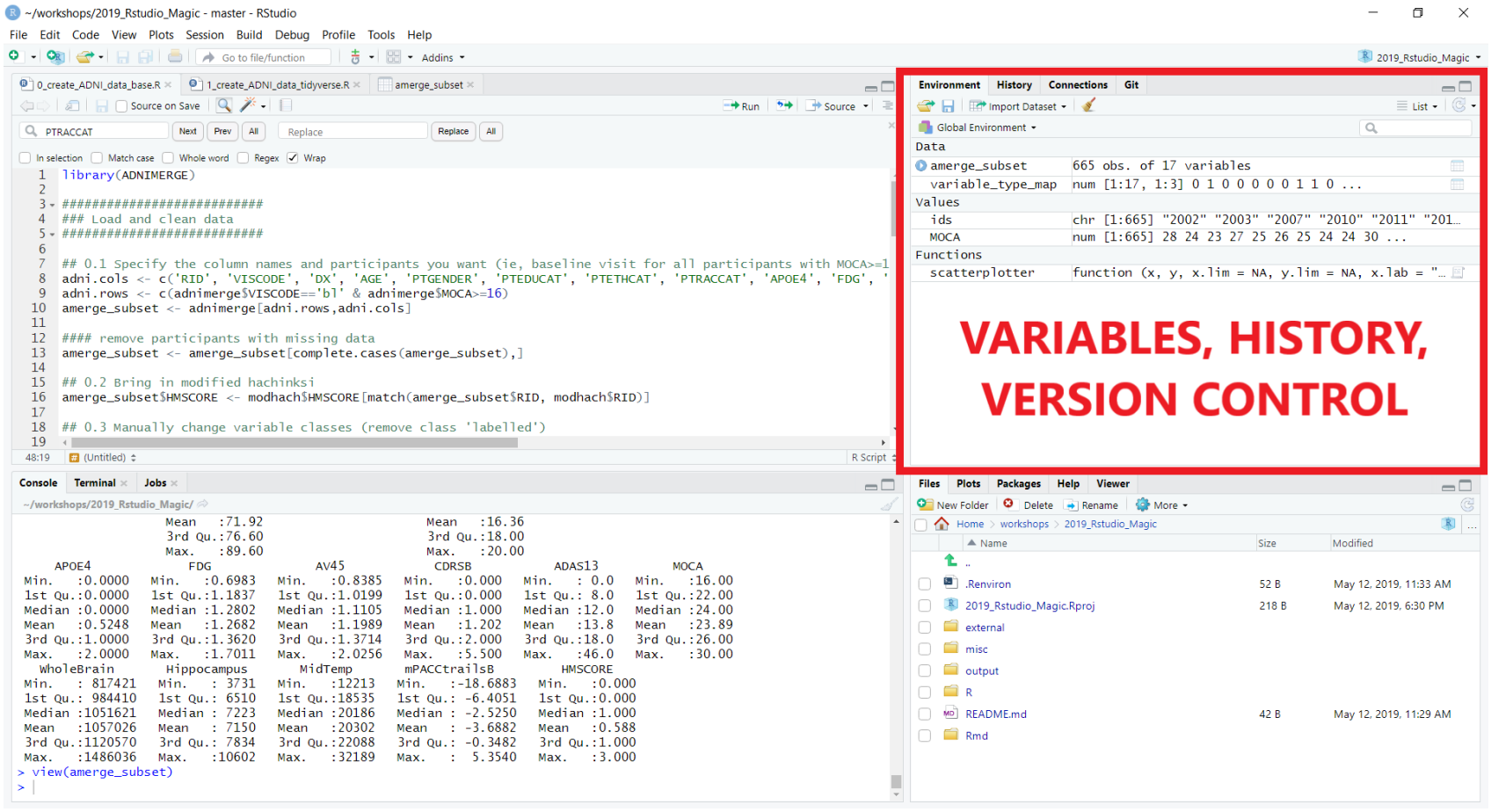

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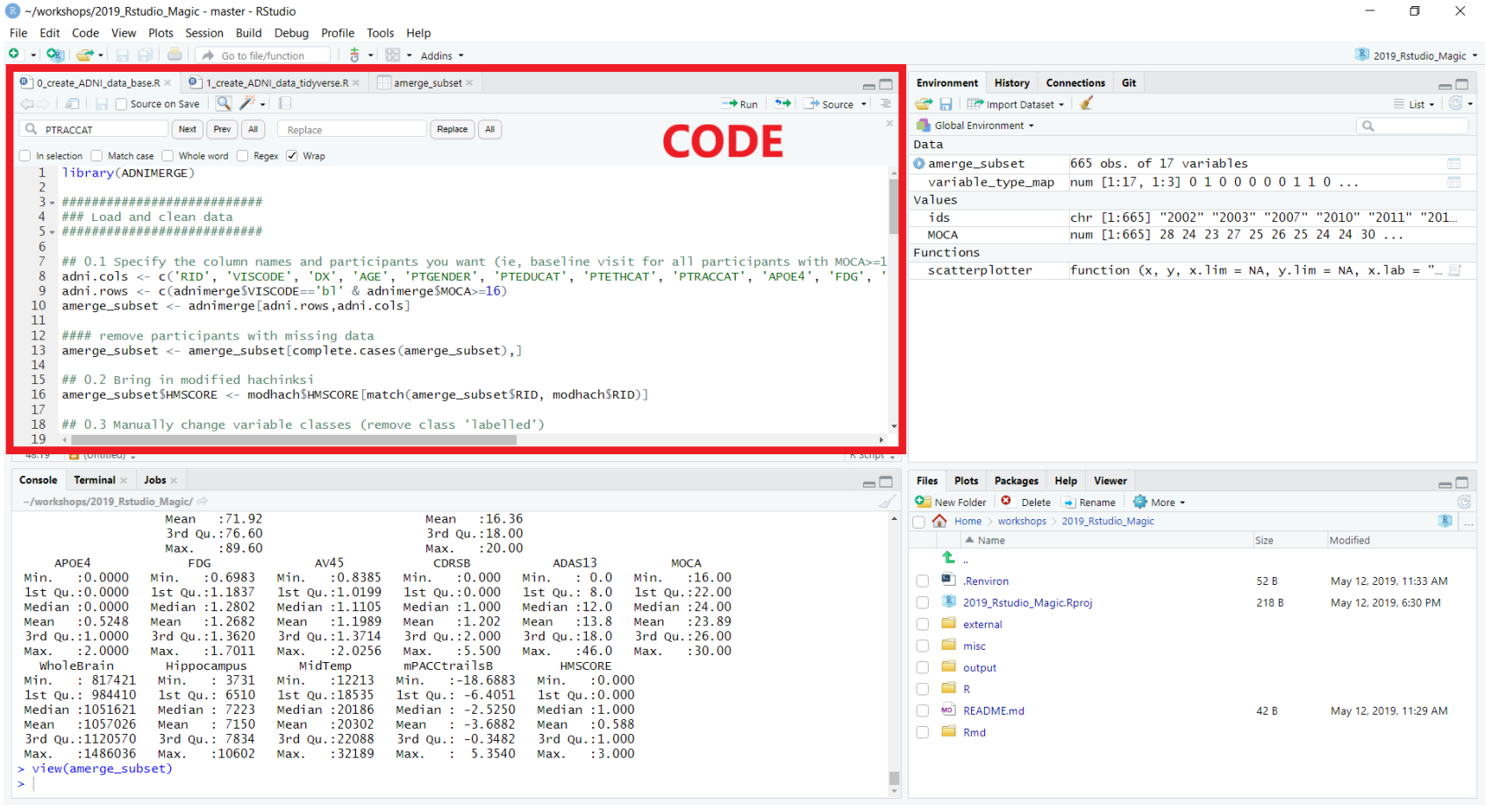

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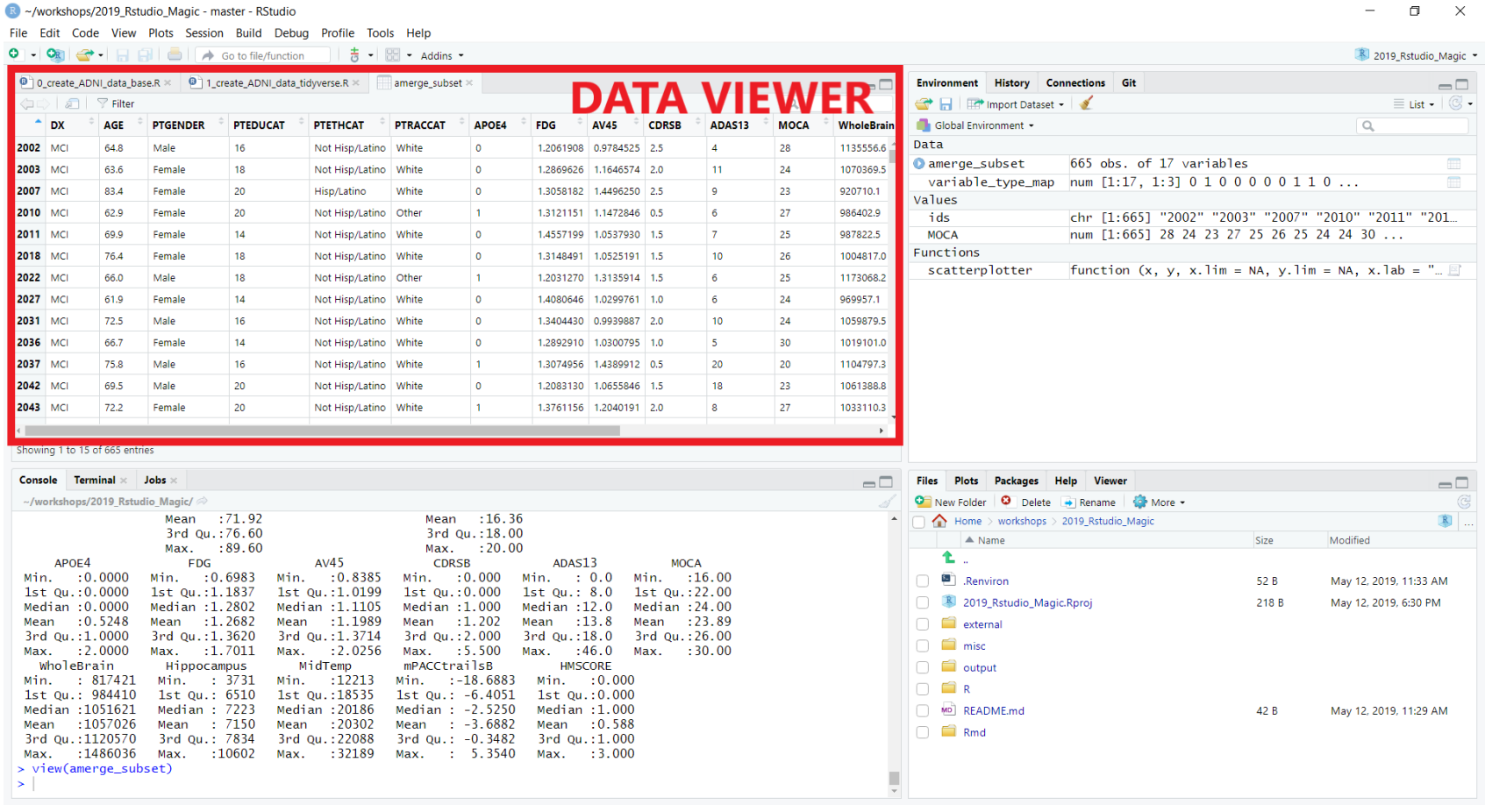

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  - R Markdown documents
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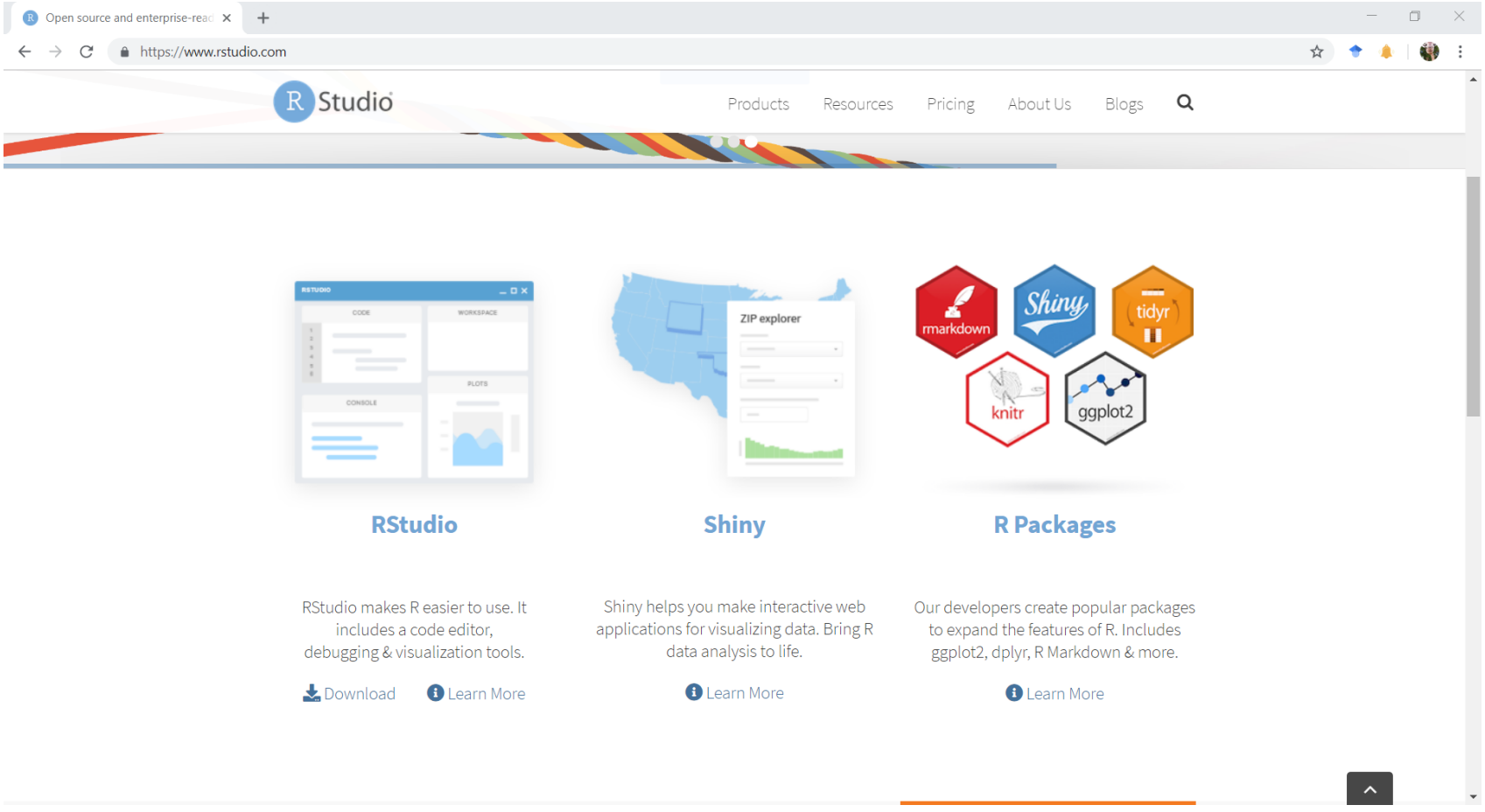
  - Create presentations (like this one!)
  - Even write papers

RStudio Resources



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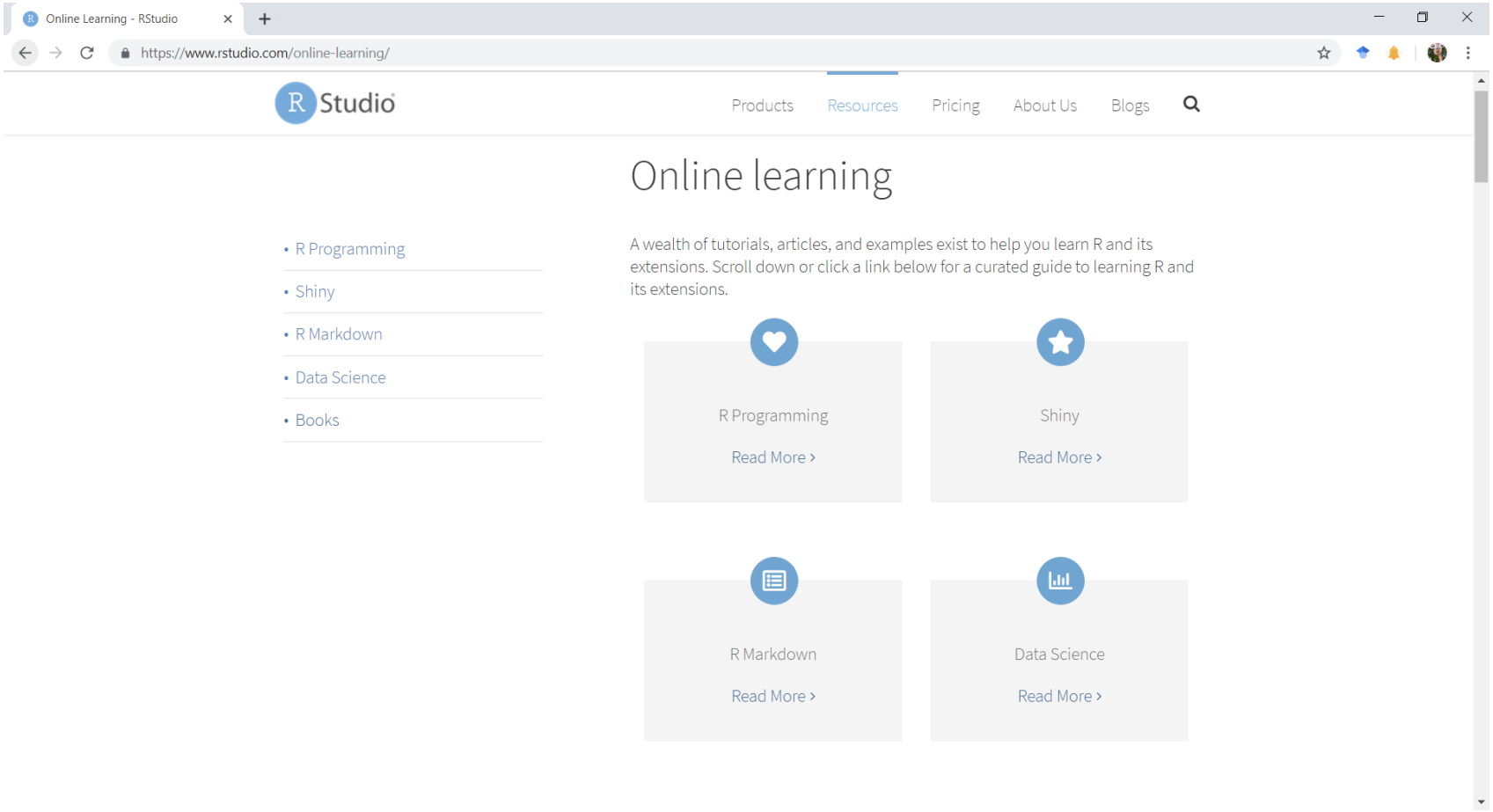

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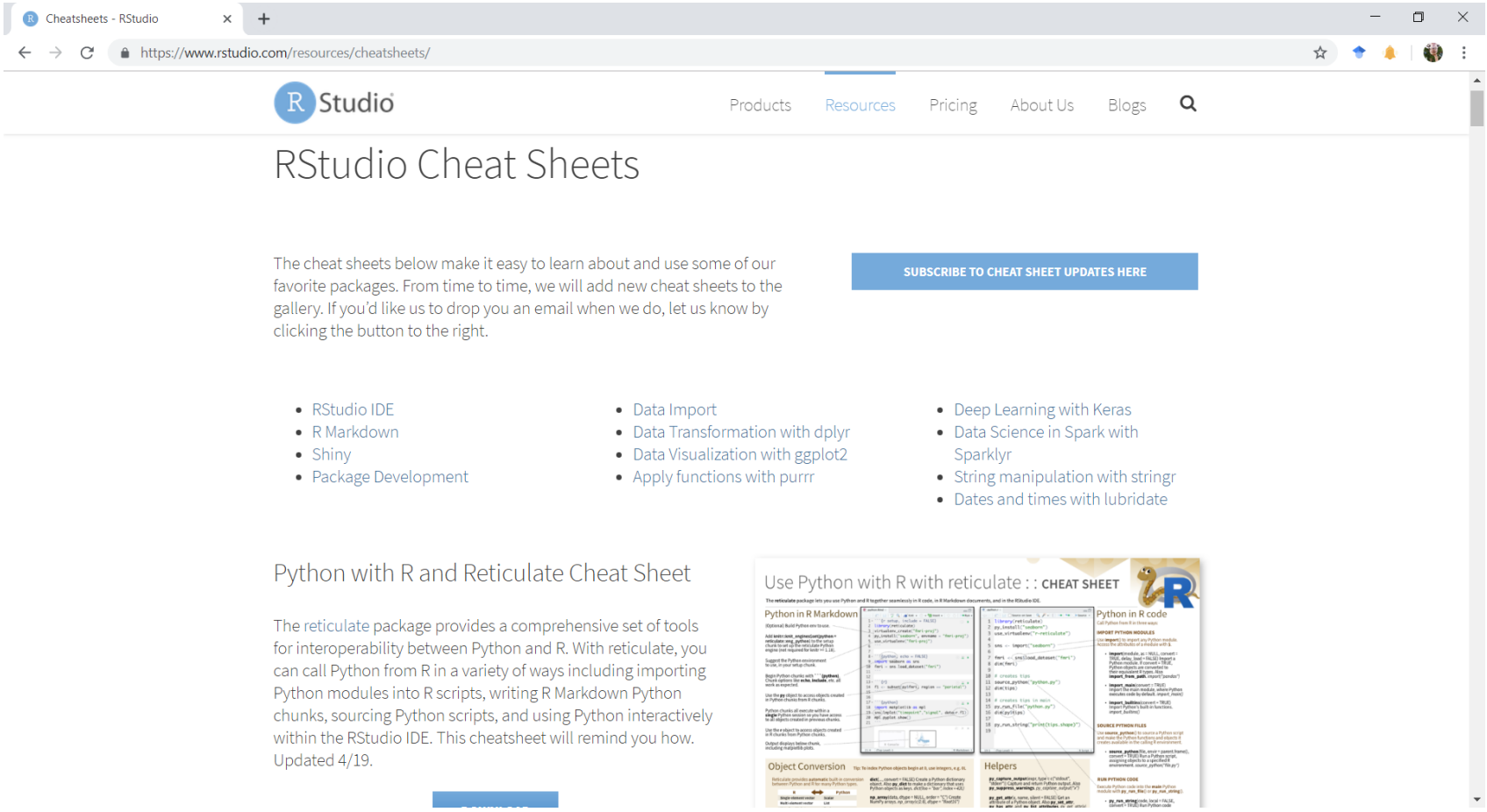

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- Discuss the helpful packages above

RStudio Setup

- Download R and Rstudio

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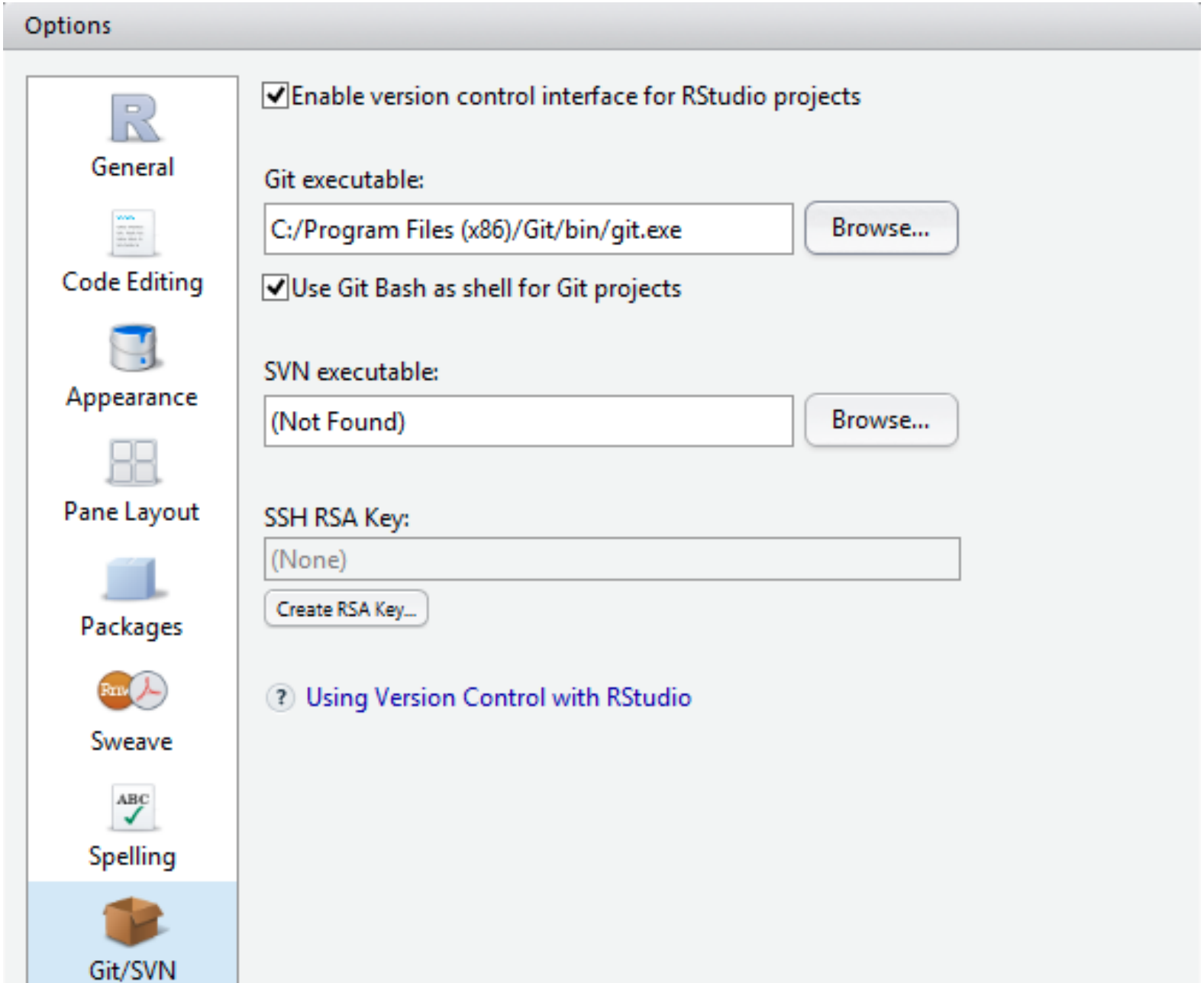
- See https://jennybc.github.io/2014-05-12-ubc/r-setup for a detailed guide

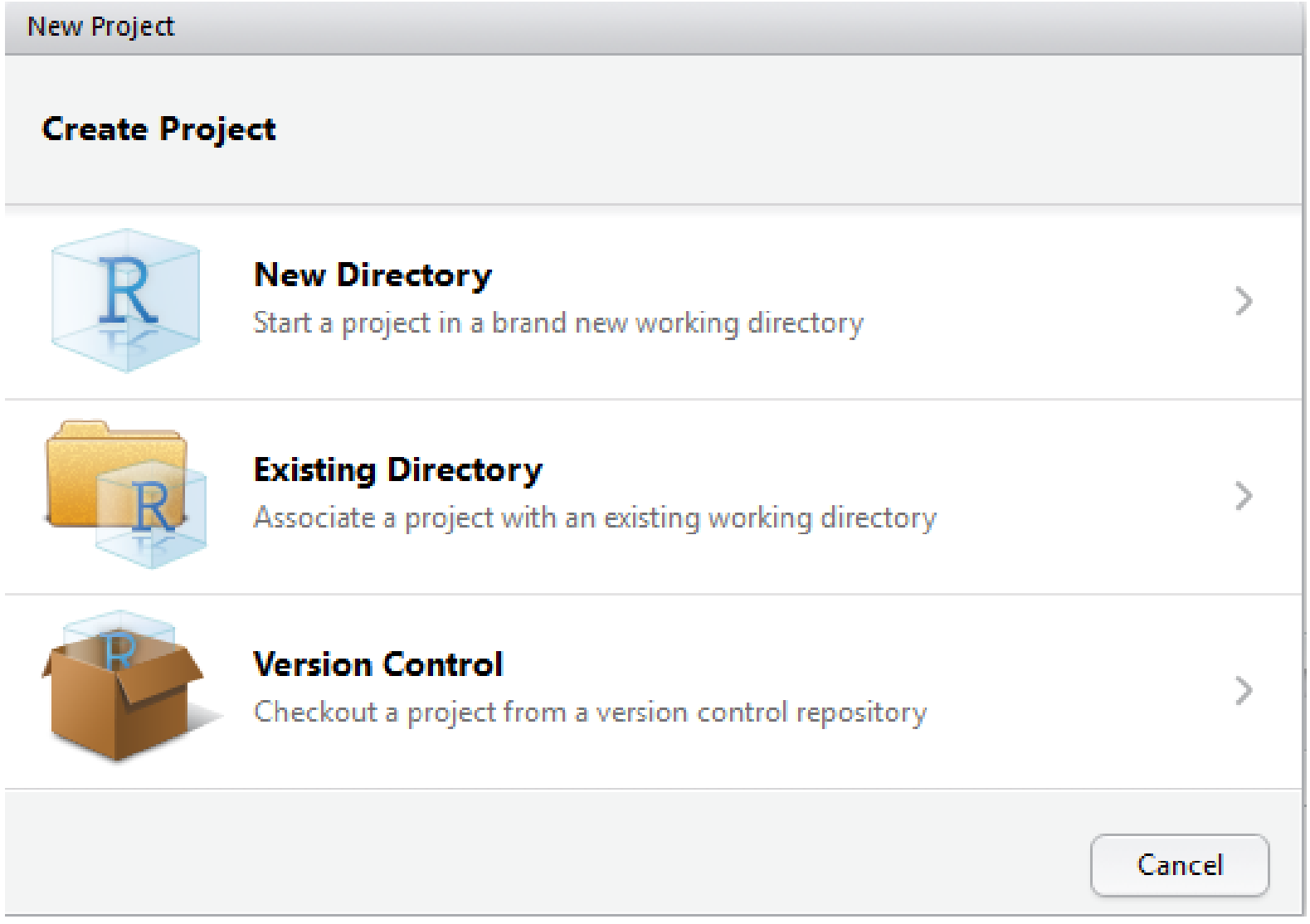
Rstudio Setup: Projects & Git

- Download git and link to RStudio



Rstudio Setup: Projects & Git

- Create a new project File



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  - `**` before each extentions will match directories anywhere in the repo

Format environmental variables

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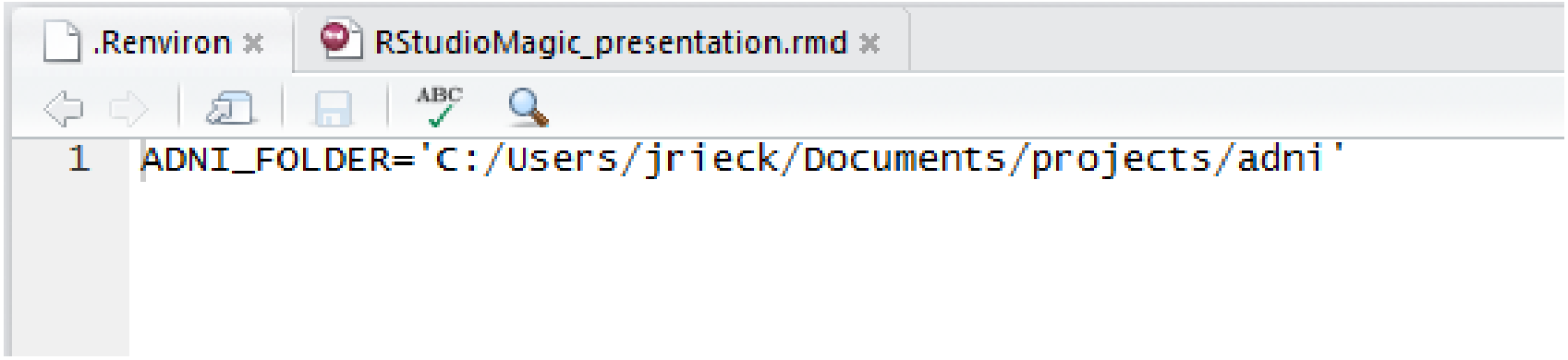

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  - In your project folder create a `.Renviron` file and define variables