



Hello Positron

Part of "Doing data science in Positron" workshop

Posit, PBC



pos.it/ron-uscots

Install Positron

- Latest released version: <https://positron.posit.co/download>
- Latest pre-release: <https://github.com/posit-dev/positron/releases>
 - For USCOTS, latest pre-release is 2025.07.0 (Universal) build **204**

Mine Çetinkaya-Rundel

Professor of the Practice

Department of Statistical Science

Duke University

 @mine-cetinkaya-rundel

 @minecr.bsky.social

 @minec

Developer Educator

Posit, PBC

Hadley Wickham

Chief Scientist

Posit, PBC

 @hadley

 @hadley.nz

 @hadleywickham

3m 00s

Your turn

Introduce yourself to your neighbor(s)

- Name
- What you use R for
- One word that describes how you are feeling about Positron

hello.qmd — positron-workshop

+ New | Open | Search | R 4.4.2 | positron-workshop

SESSION CONNECTIONS HELP VIEWER X

hello.qmd X

Preview Render on Save Source Visual Insert Code Cell ⌂ ⌄ ⌅ ...

hello.qmd > Meet the penguins

```
1 ---  
2 title: "Hello, Quarto"  
3 format: html  
4 editor: visual  
5 ---  
6  
7 `r`  
8 #| label: load-packages  
9 #| include: false  
10  
11 library(tidyverse)  
12 library(palmerpenguins)  
13  
14  
15 ## Meet Quarto  
16  
17 Quarto enables you to weave together content and executable code into a finished document.  
18 To learn more about Quarto see https://quarto.org.  
19  
20 ## Meet the penguins  
21  
22 {float:right;  
fig-alt="Illustration of three species of Palmer Archipelago penguins: Chinstrap, Gentoo, and Adelie. Artwork by @allison_horst." width="401"}  
23  
24 The `penguins` data from the palmerpenguins(https://allisonhorst.github.io/palmerpenguins R package) package contains size measurements for {r} nrow(penguins) penguins from three species observed on three islands in the Palmer Archipelago, Antarctica.  
25
```

CONSOLE TERMINAL PROBLEMS OUTPUT PORTS DEBUG CONSOLE + - ×

main ↵ 0↓ 1↑ ⌘ 0 ⌘ 0 Quarto: 1.7.31

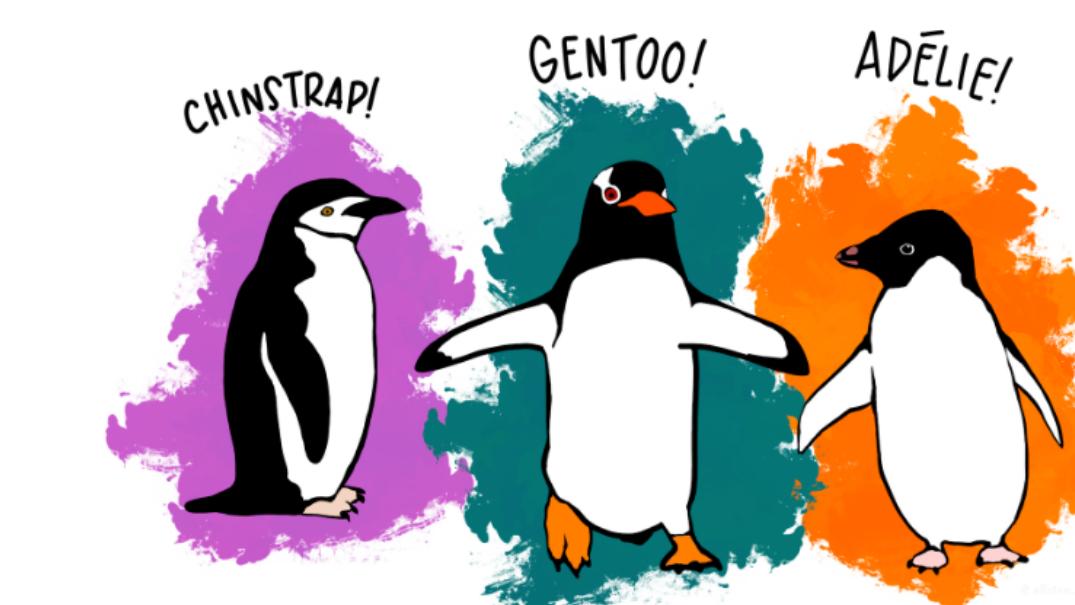
Ln 22, Col 238 Spaces: 2 UTF-8 LF {} Quarto ⌂ ⌃

Hello, Quarto

Meet Quarto

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see <https://quarto.org>.

Meet the penguins



The `penguins` data from the [palmerpenguins](#) package contains size measurements for 344 penguins from three species observed on three islands in the Palmer Archipelago, Antarctica.

The plot below shows the relationship between

Positron is ...

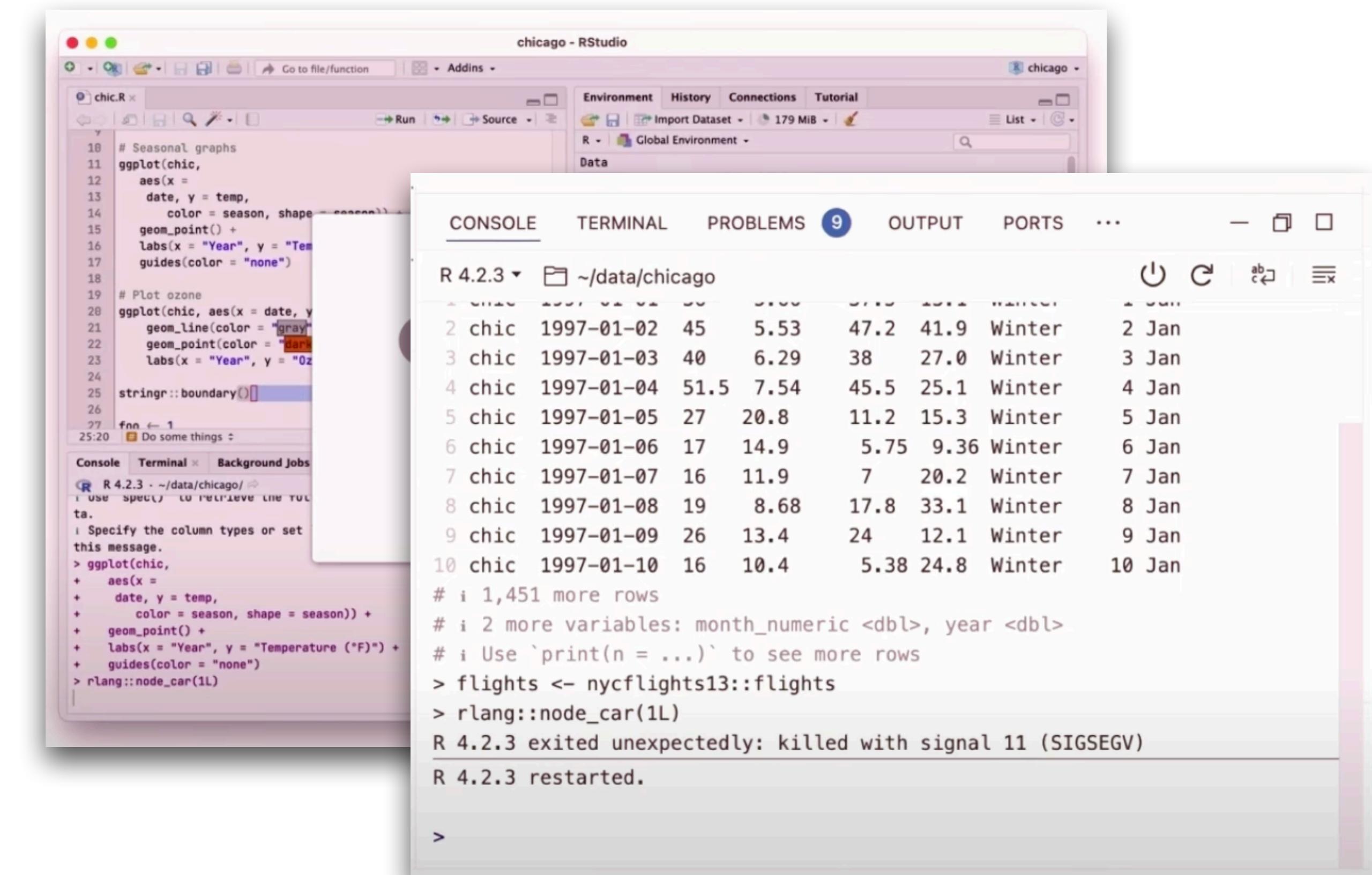
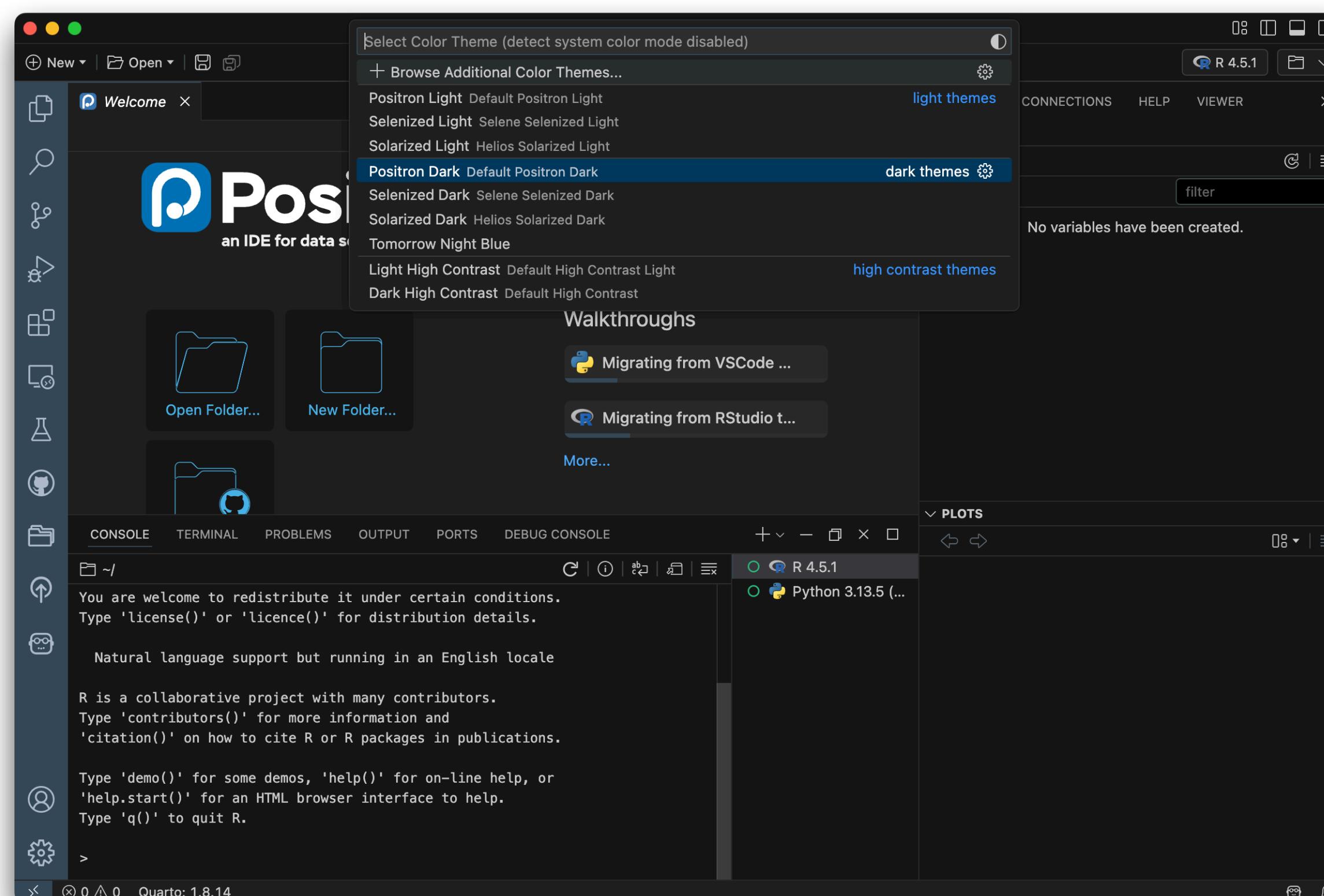
- A next-generation **data science** IDE
- A tool for writing code **and** exploring data
- Familiar (RStudio-ish) and extensible (soft fork of VS Code)
- Multilingual data science: R and Python (as of today)
- Plots, variables, console, help, viewer, data explorer

Should I switch from RStudio to Positron?

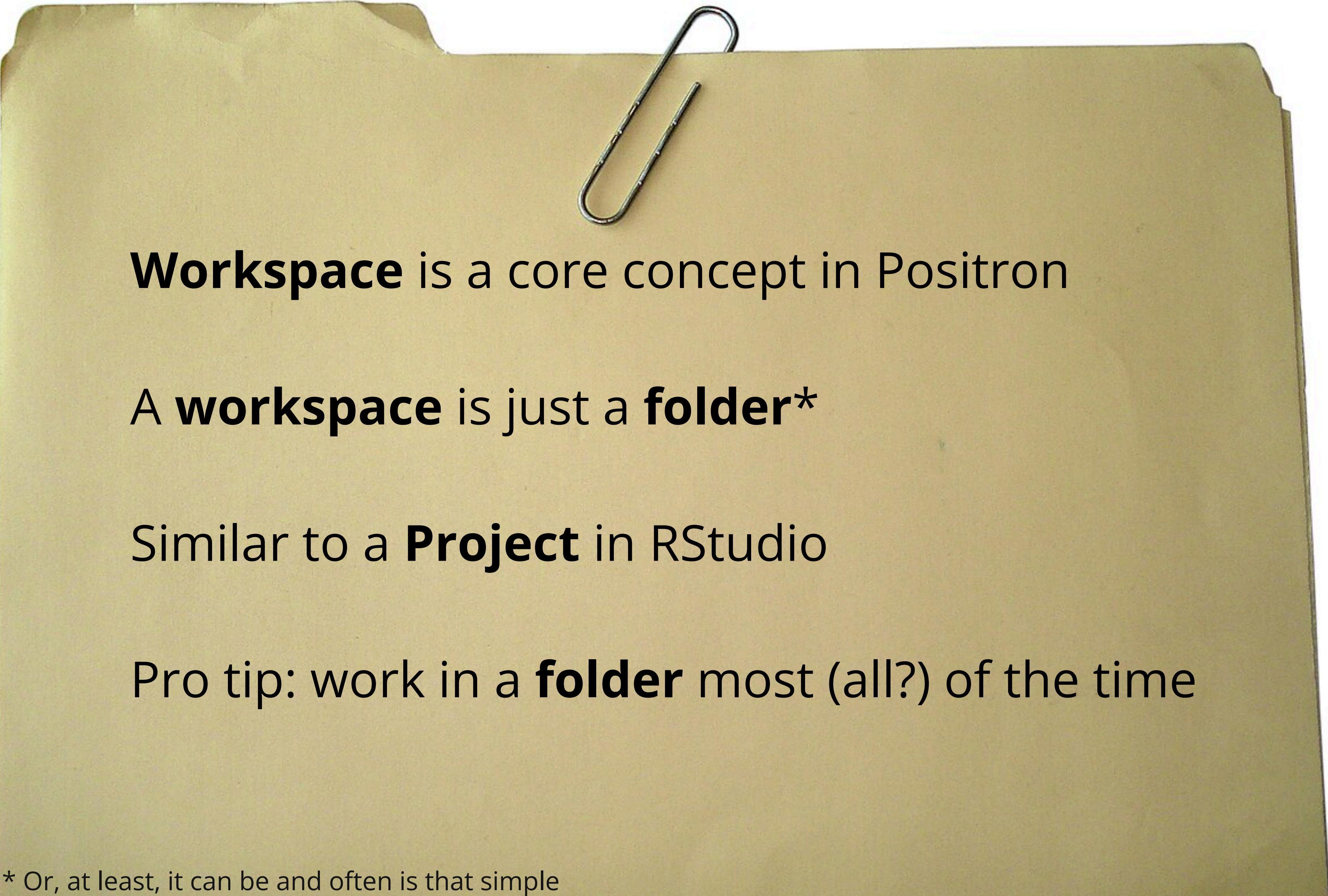
- It's still early days for Positron! Are you happy as an early adopter?
- RStudio is not going away. >10 years of engineering has gone into RStudio. It's very stable and completely built-out.
- If you work in both R and Python (or any other language), Positron is probably a good fit.
- If you like to customize your working environment, you'll appreciate the extension ecosystem and the possibility of creating your own.
- Positron is under much more active development.

Why didn't you just do {this other thing} ?

Why not build a polyglot IDE based on RStudio?



For more on this: Jonathan McPherson's posit::conf talk [How Positron Works](#)



Workspace is a core concept in Positron

A **workspace** is just a **folder***

Similar to a **Project** in RStudio

Pro tip: work in a **folder** most (all?) of the time

* Or, at least, it can be and often is that simple

Positron

New Open

EXPLORER

NO FOLDER OPENED

You have not yet opened a folder.

Open Folder

Opening a folder will close all currently open editors. To keep them open, [add a folder](#) instead.

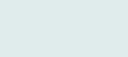
You can clone a repository locally.

Clone Repository

To learn more about how to use Git and source control in Positron, [read the VS Code docs](#).

Welcome

Positron

an IDE for data science from 

Walkthroughs

 Migrating from VSC...

 Migrating from RSt...

More...

Help

Positron Documentation

CONSOLE TERMINAL PROBLEMS OUTPUT PORTS DEBUG CONSOLE

~ /

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

SESSION

VARIABLES

R 4.5.1 filter

No variables have been created.

PLOTS

Plots

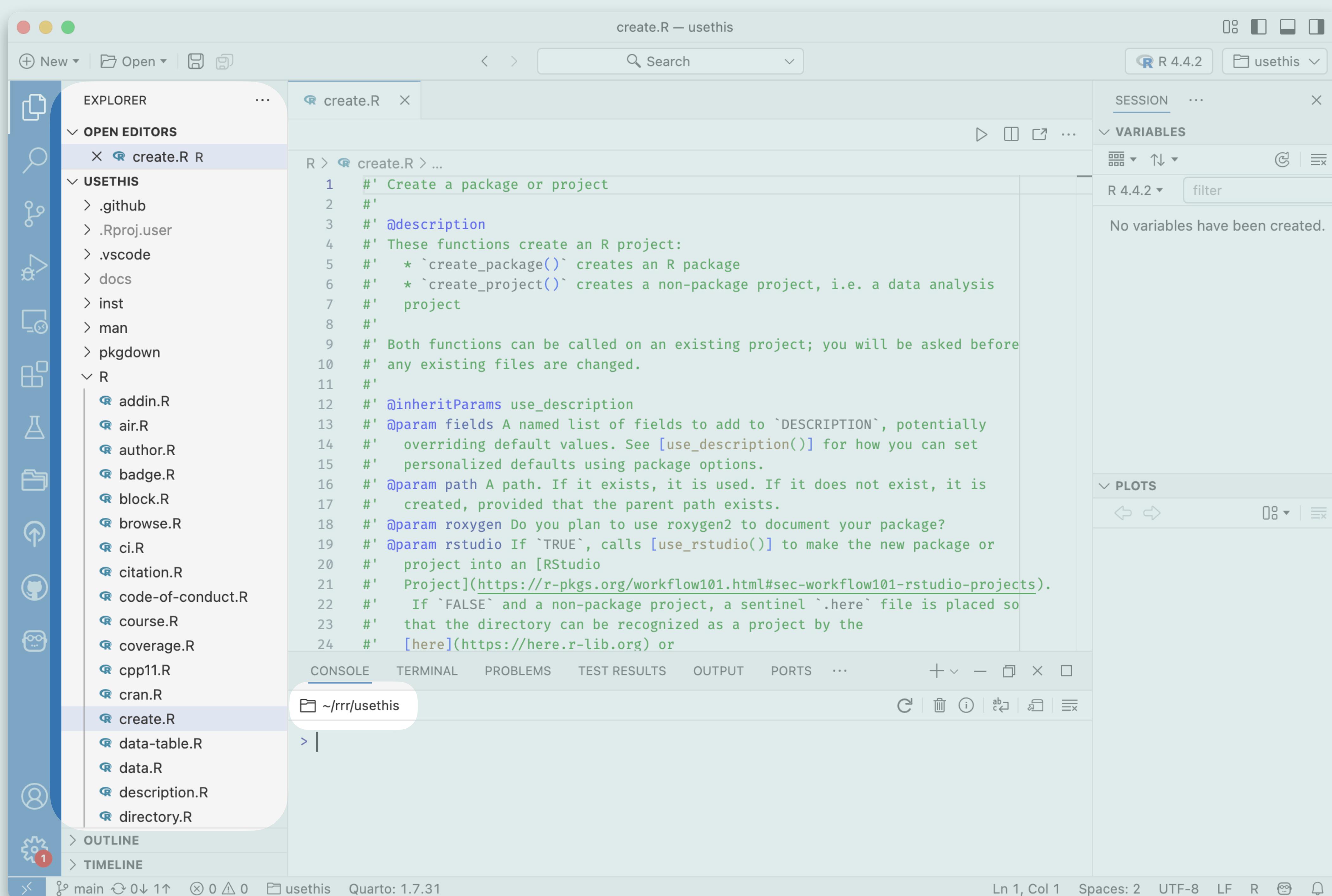
R 4.5.1 Python 3.13.5 (...)

OUTLINE

TIMELINE

QUARTO

0 0 Quarto: 1.8.14



R 4.3.3

R 4.4.3

R 4.5.0



Select Interpreter Session

R 4.4.2 Currently Selected
/Library/Frameworks/R.framework/Versions/4.4-arm64/Resources...

New Interpreter Session...

```
R > R create.R ...  
1 #' Create a package or project  
2 #'  
3 #' @description  
4 #' These functions create an R project:  
5 #' * `create_package()` creates an R package  
6 #' * `create_project()` creates a non-package project, i.e. a data analysis  
7 #' project  
8 #'  
9 #' Both functions can be called on an existing project; you will be asked before  
10 #' any existing files are changed.  
11 #'  
12 #' @inheritParams use_description  
13 #' @param fields A named list of fields to add to `DESCRIPTION`, potentially
```

CONSOLE TERMINAL PROBLEMS OUTPUT PORTS DEBUG CONSOLE + - X

~ /rrr/usethis

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

```
> devtools::load_all()  
i Loading usethis  
>
```

SESSION HELP ... X

R 4.4.2 usethis

Ln 1, Col 1 Spaces: 2 UTF-8 LF R 🐻

main* ↻ ⚠ 0 ⚠ 0 usethis Quarto: 1.7.31

Start New Interpreter Session

R > 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

CONSOLE TERMINAL PROBLEMS TEST RESULTS OUTPUT PORTS ...

FILE ~/rrr/usethis

Ln 1, Col 1 Spaces: 2 UTF-8 LF R TIMELINE

SESSION ... X

VARIABLES

R 4.4.2 filter

No variables have been created.

PLOTS

Pyenv Python 3.11.11 (Pyenv) ~/pyenv/versions/3.11.11/bin/python

Pyenv Python 3.10.16 (Pyenv) ~/pyenv/versions/3.10.16/bin/python

Global Python 3.13.3 (Global) /opt/homebrew/bin/python3

Global Python 3.9.6 (Global) /usr/bin/python3

System R 4.4.2 /Library/Frameworks/R.framework/Versions/4.4-arm64/Resources/bin/R

System R 4.5.0 /Library/Frameworks/R.framework/Versions/4.5-arm64/Resources/bin/R

System R 4.3.3 /Library/Frameworks/R.framework/Versions/4.3-arm64/Resources/bin/R

#' overriding default values. See `use_description()` for how you can set
#' personalized defaults using package options.
#' @param path A path. If it exists, it is used. If it does not exist, it is
#' created, provided that the parent path exists.
#' @param roxygen Do you plan to use roxygen2 to document your package?
#' @param rstudio If `TRUE`, calls `use_rstudio()` to make the new package or
#' project into an [RStudio
#' Project](<https://r-pkgs.org/workflow101.html#sec-workflow101-rstudio-projects>).
#' If `FALSE` and a non-package project, a sentinel `.here` file is placed so
#' that the directory can be recognized as a project by the
#' [here](<https://here.r-lib.org>) or

create.R — usethis

R 4.4.2 usethis

EXPLORER OPEN EDITORS create.R R USETHIS .github .Rproj.user .vscode docs inst man pkgdown R addin.R air.R author.R badge.R block.R browse.R ci.R citation.R code-of-conduct.R course.R coverage.R cpp11.R cran.R create.R data-table.R data.R description.R directory.R OUTLINE TIMELINE

SESSION ... X

VARIABLES R 4.4.2 filter No variables have been created.

PLOTS

CONSOLE TERMINAL PROBLEMS TEST RESULTS OUTPUT PORTS ...

~ /rrr/usethis

R 4.4.2 R 4.5.0 R 4.5.0 R 4.3.3

Ln 1, Col 1 Spaces: 2 UTF-8 LF R Timeline

main 0 11 0 0 0 0 usethis Quarto: 1.7.31

Search

+

create.R > ...

```
1 #' Create a package or project
2 #
3 #' @description
4 #' These functions create an R project:
5 #' * `create_package()` creates an R package
6 #' * `create_project()` creates a non-package project, i.e. a data analysis
7 #'   project
8 #
9 #' Both functions can be called on an existing project; you will be asked before
10 #' any existing files are changed.
11 #
12 #' @inheritParams use_description
13 #' @param fields A named list of fields to add to `DESCRIPTION`, potentially
14 #'   overriding default values. See [use_description()] for how you can set
15 #'   personalized defaults using package options.
16 #' @param path A path. If it exists, it is used. If it does not exist, it is
17 #'   created, provided that the parent path exists.
18 #' @param roxygen Do you plan to use roxygen2 to document your package?
19 #' @param rstudio If `TRUE`, calls [use_rstudio()] to make the new package or
20 #'   project into an [RStudio
21 #'   Project](https://r-pkgs.org/workflow101.html#sec-workflow101-rstudio-projects).
22 #'   If `FALSE` and a non-package project, a sentinel `here` file is placed so
23 #'   that the directory can be recognized as a project by the
24 #'   [here](https://here.r-lib.org) or
```



rig

Standalone tool to manage multiple R installations

Not part of Positron, but a great complement

Especially important for macOS users

<https://github.com/r-lib/rig>

Positron defaults to the "blank slate" lifestyle

R --no-save --no-restore-data

The screenshot shows the Quarto IDE interface with the following components:

- EXPLORER** panel on the left, showing a tree view of files and folders. The 'create.R' file is selected.
- OPEN EDITORS** panel showing the content of 'create.R'. The code is as follows:

```
R > create.R > ...
1  #' Create a package or project
2  #
3  #' @description
4  #' These functions create an R project:
5  #'   * `create_package()` creates an R package
6  #'   * `create_project()` creates a non-package project, i.e. a data analysis
7  #'     project
8  #
9  #' Both functions can be called on an existing project; you will be asked before
10 # any existing files are changed.
11 #
12 #' @inheritParams use_description
13 #' @param fields A named list of fields to add to `DESCRIPTION`, potentially
```

- CONSOLE** panel at the bottom showing the R startup message and the command `> devtools::load_all()`.
- VARIABLES** panel on the right showing the session configuration for R 4.4.2, with a message: "No variables have been created."
- SESSION** panel showing the R version selection dropdown set to R 4.4.2.
- PLOTS** panel on the far right showing no plots.

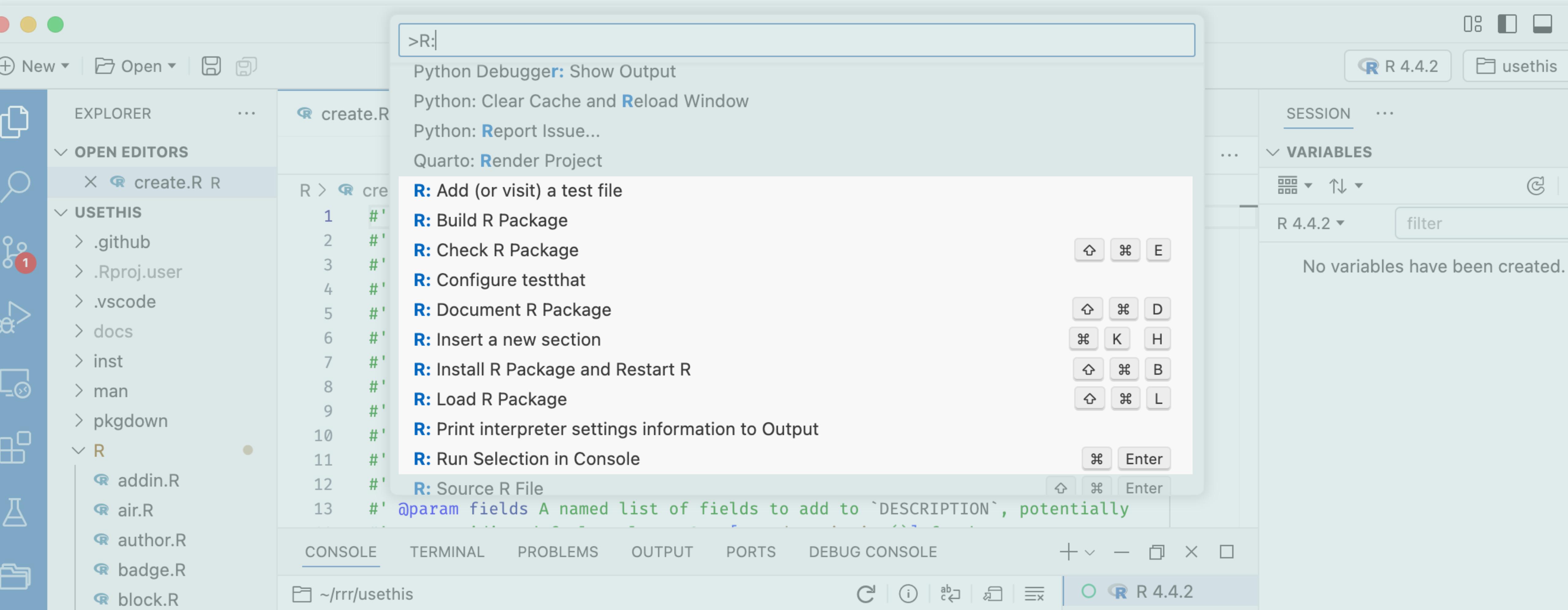
The status bar at the bottom indicates the file is main*, the editor is Quarto: 1.7.31, and the current position is Ln 1, Col 1.



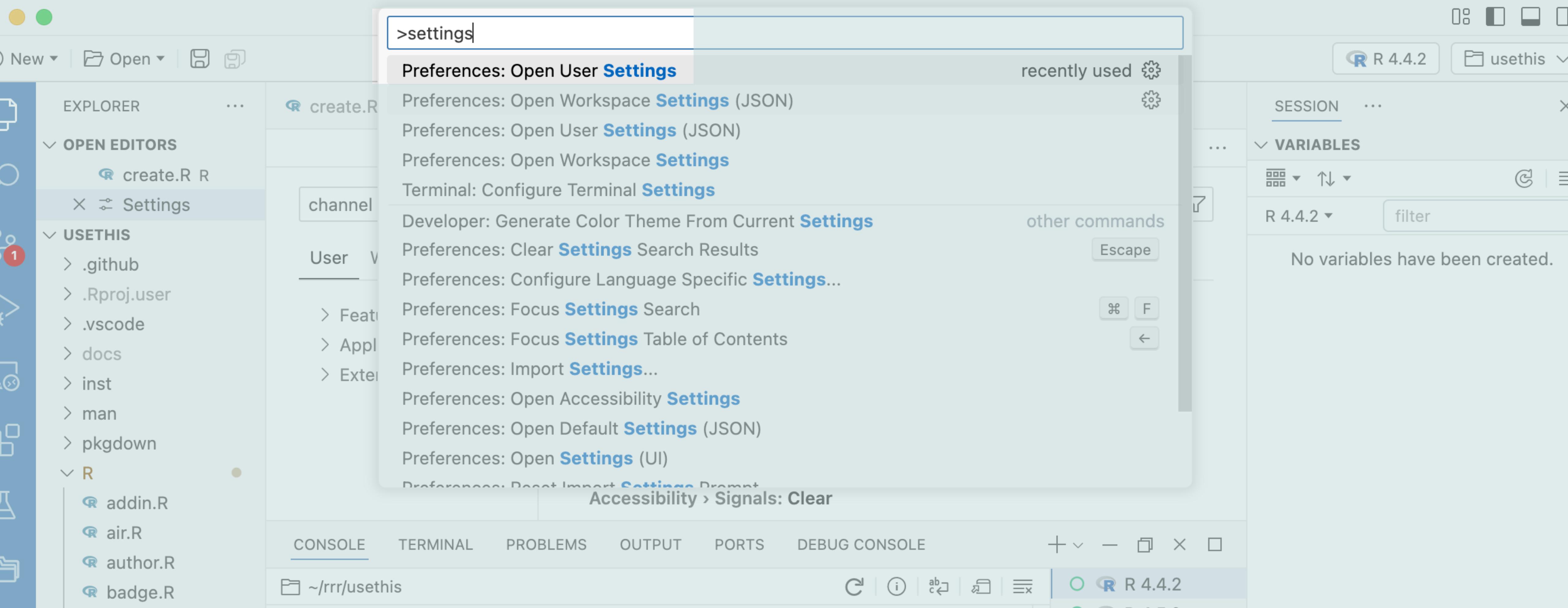
The
command palette
is a core concept in Positron

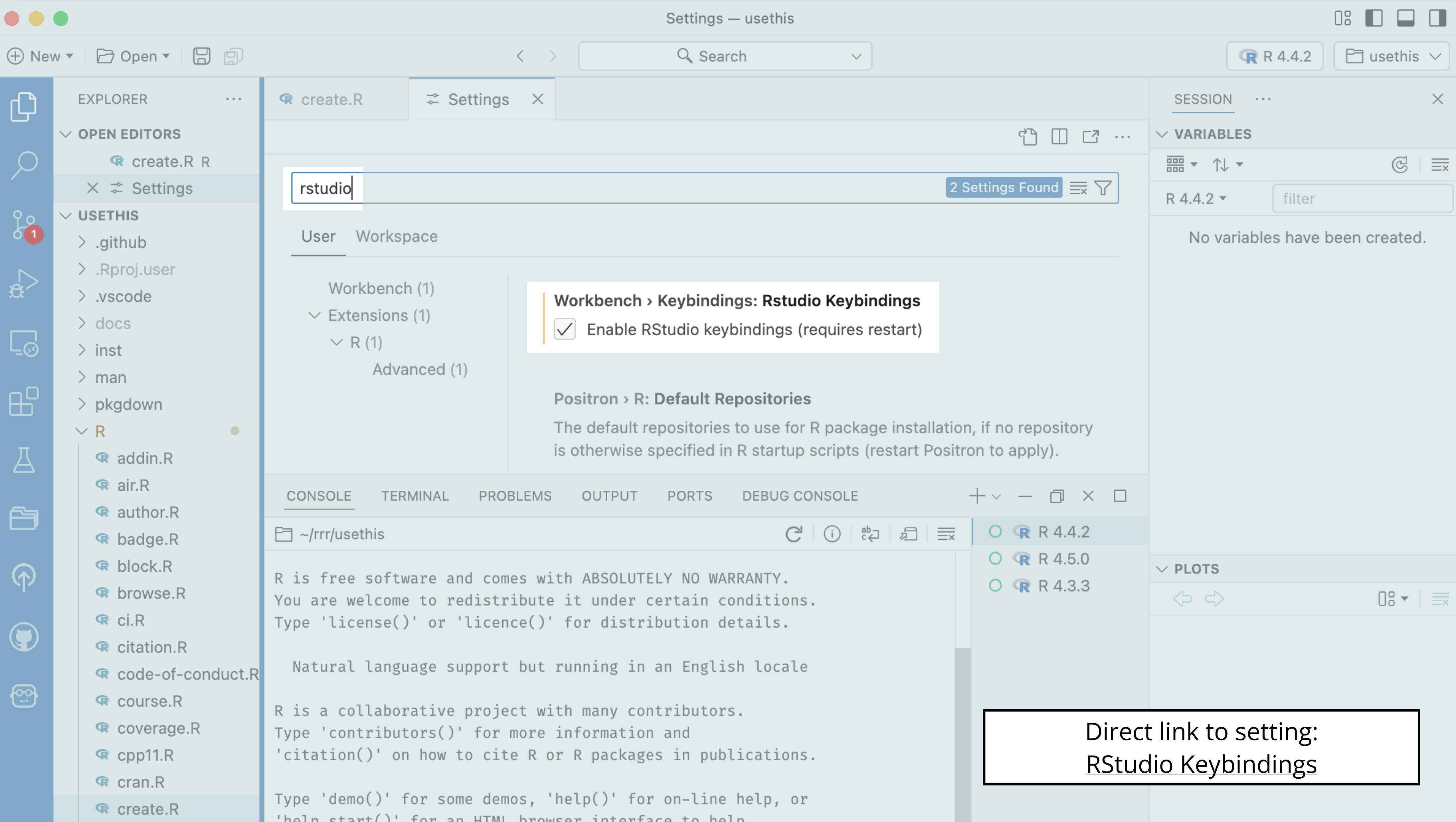
Ctrl/Cmd + Shift + P

Ctrl/Cmd + Shift + P

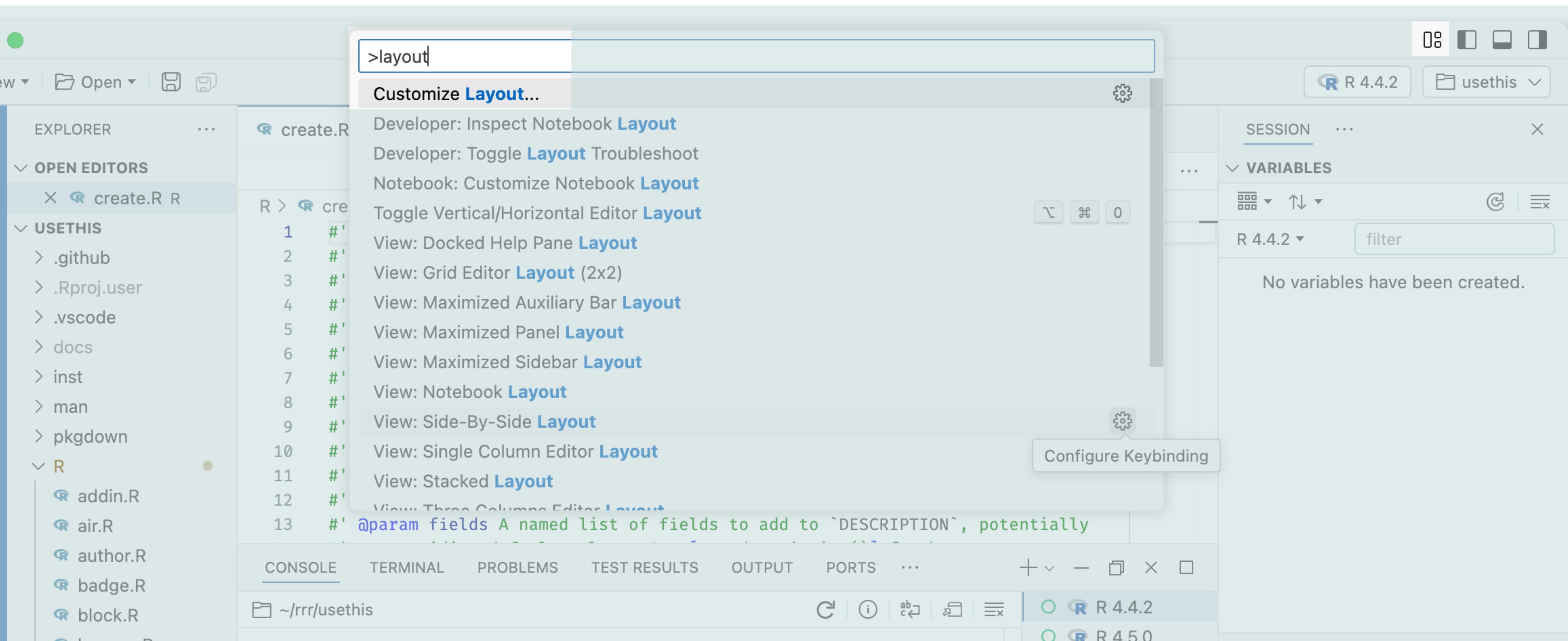


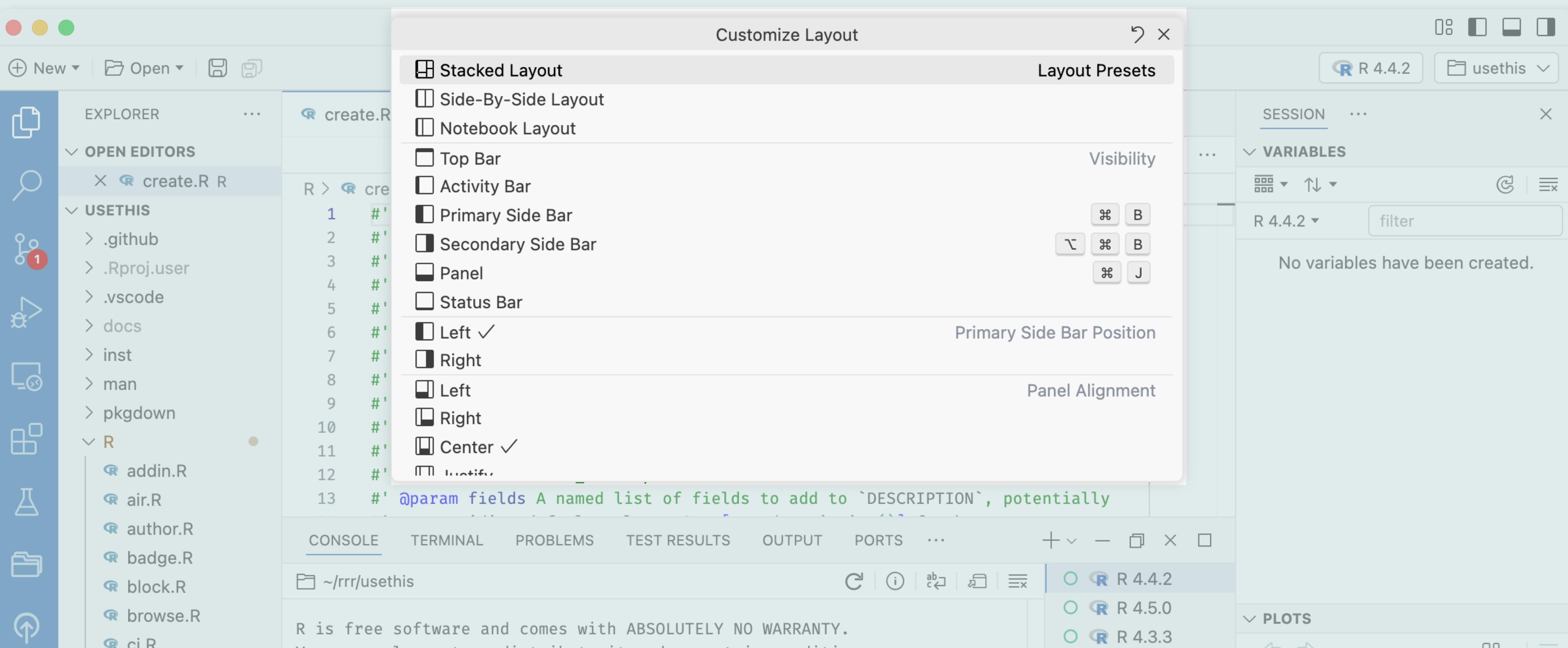
Ctrl/Cmd + Shift + P





Ctrl/Cmd + Shift + P





Install extensions from Open VSX

The screenshot shows the Visual Studio Code interface. On the left is the sidebar with various icons for file operations like New, Open, Save, Find, and others. The main area has a title bar with 'Extensions' and a search bar 'Search Extensions in Mar...'. Below is a list of installed extensions:

- Air - R Language ... by Posit Software, PBC (15)
- Black Formatter by ms-python
- Github Pull Request by GitHub
- indent-rainbow by oderwat
- Jupyter by ms-toolsai (4)
- Jupyter Cell Tags by ms-toolsai
- Jupyter Keymap by ms-toolsai
- Jupyter Notebook Renderers by ms-toolsai

The right side shows a code editor with a file named 'create.R'. The code is as follows:

```
R > create.R > ...
1 #' Create a package or project
2 #
3 #' @description
4 #' These functions create an R project:
5 #'   * `create_package()` creates an R package
6 #'   * `create_project()` creates a non-package project, i.e. a data
7 #'     project
8 #
9 #' Both functions can be called on an existing project; you will be a
10 #' any existing files are changed.
11 #
12 #' @inheritParams use_description
13 #' @param fields A named list of fields to add to `DESCRIPTION`, poten...
```

Below the code editor are tabs for CONSOLE, TERMINAL, PROBLEMS, TEST RESULTS, and OUTPUT. The CONSOLE tab is active, showing the path '~/.rrr/usethis'. To the right, there's a vertical toolbar with icons for R 4.4, R 4.5, and R 4.3. The bottom right corner shows some status text about R being free software.