Some more R, Git, and R Markdown and Quarto tips

MRC IEU Code Clinic
07/05/2025
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Overview

- Some more R Markdown and Quarto tips
  - Seven tips for making Quarto revealjs presentations
  - Creating R Markdown and Quarto tutorial documents
  - Creating multilanguage Quarto documents (i.e., R and Stata executed code in same doc)
- Some more R tips
  - Creating a reproducible environment in R without using renv - CRAN snapshot repositories for the win
- Some more Git, GitHub Desktop (and Lazygit), and GitHub tips
  - Making suggestions on a GitHub PR
  - Amending a previous commit message in GitHub Desktop
  - Amending a previous commit in GitHub Desktop
  - Amending previous commits and commits messages in Lazygit - interactive rebase made "easy"

Some more R Markdown and Quarto tips

Seven tips for making Quarto presentations

- Quarto revealjs docs https://quarto.org/docs/presentations/revealjs/
- https://remlapmot.github.io/post/2025/quarto-revealjs-tips/

Creating R Markdown and Quarto tutorial documents

- R Markdown:
- Quarto: https://remlapmot.github.io/post/2025/quarto-conditional-content/

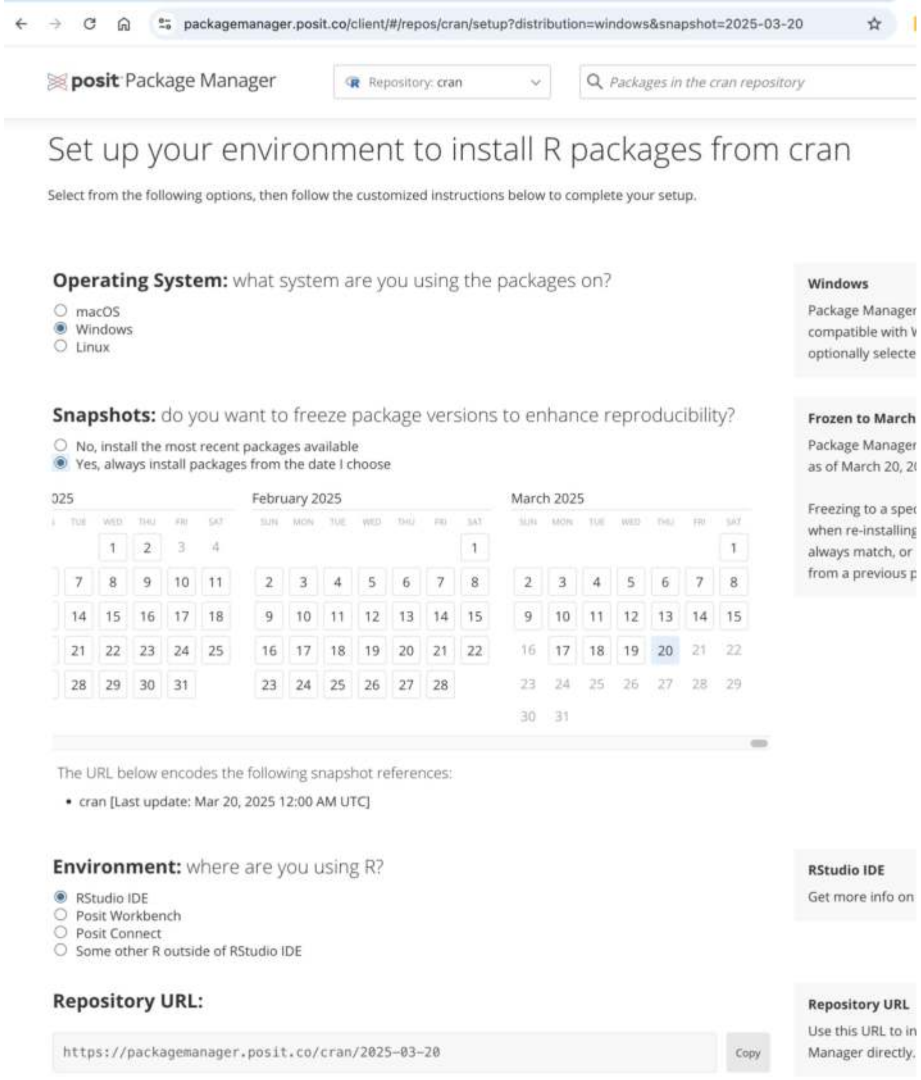
Creating multilanguage Quarto documents

- Technically Quarto documents may only have 1 engine
- Workaround: use {{< embed >}} shortcode to include chunks and output from documents using other engines
- https://remlapmot.github.io/post/2025/multi-engine-quarto/
- Setting up the nbstata Jupyter kernel in a uv venv
    - uv docs (including installation instructions) https://docs.astral.sh/uv/

Some more R tips

Reproducible R environments using CRAN snapshot repos without using renv/pak/pacman

- (Without using renv or similar)
- Simply note the date at the top of your script in a comment
- Then run update.packages()
- (Assume using current version of R)
- Then if you need to recreate this environment use a snapshot from https://packagemanager.posit.co/client/#/repos/cran/setup
- Nb. RSPM = PPPM = P3M



packagemanager.posit.co/client/#/repos/cran/setup?distribution=windows&snapshot=2025-03-20

posit Package Manager

Repository: cran

Packages in the cran repository

Set up your environment to install R packages from cran

Select from the following options, then follow the customized instructions below to complete your setup.

Operating System: what system are you using the packages on?

macOS
[✓ Windows]
Linux

Windows
Package Manager
compatible with V
optionally selecte

Snapshots: do you want to freeze package versions to enhance reproducibility?

No, install the most recent packages available
[✓ Yes, always install packages from the date I choose]

025

	TUE	WED	THU	FRI	SAT
		1	2	3	4
	7	8	9	10	11
	14	15	16	17	18
	21	22	23	24	25
	28	29	30	31	

February 2025

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

March 2025

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Frozen to March
Package Manager
as of March 20, 2(

Freezing to a spe(
when re-installing
always match, or
from a previous p

The URL below encodes the following snapshot references:

- cran [Last update: Mar 20, 2025 12:00 AM UTC]

Environment: where are you using R?

[✓ RStudio IDE]
Posit Workbench
Posit Connect
Some other R outside of RStudio IDE

RStudio IDE
Get more info on

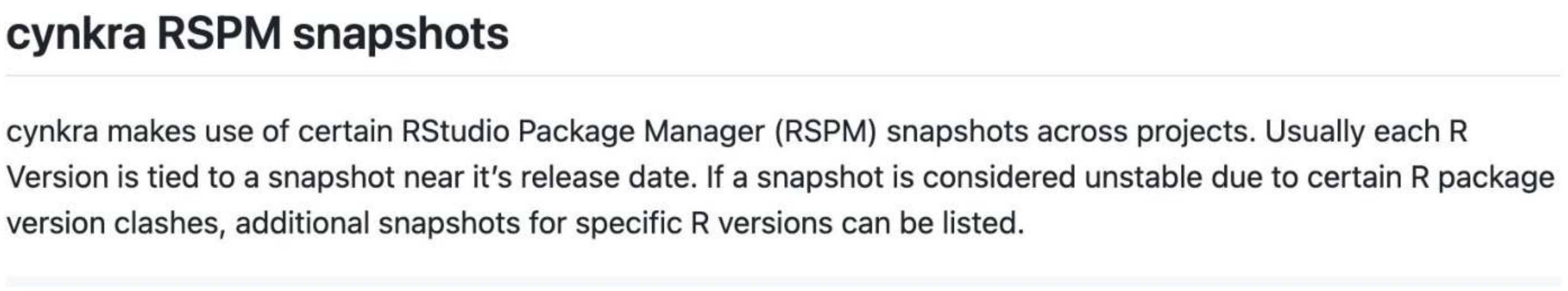
Repository URL:

```
https://packagemanager.posit.co/cran/2025-03-20
```

Copy

Repository URL
Use this URL to in
Manager directly.

- install.packages(c("package1", "package2"), repos = "https://packagemanager.posit.co/cran/2025-03-20")
- Snapshots created at midnight - so you might need tomorrow's date
- The Public Posit Package Manager now only CRAN snapshotting service (used to be MRAN as well)
- Many companies advocated this approach: RevolutionR, Cynkra (e.g., https://github.com/cynkra/cynkrathis)
- Can be used within renv



cynkra RSPM snapshots

cynkra makes use of certain RStudio Package Manager (RSPM) snapshots across projects. Usually each R Version is tied to a snapshot near it's release date. If a snapshot is considered unstable due to certain R package version clashes, additional snapshots for specific R versions can be listed.

Some more Git, GitHub Desktop (and Lazygit), and GitHub tips

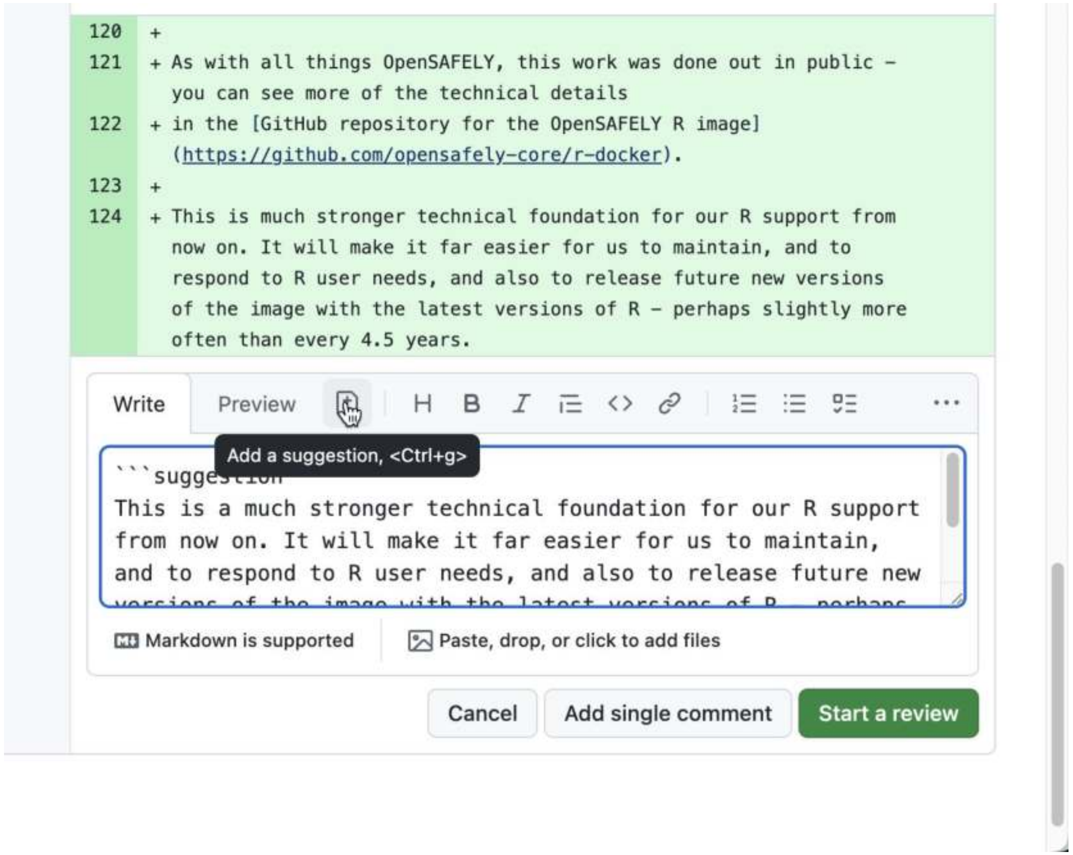
Making suggestions on a GitHub PR

Click + on LHS for a line (or Shift click for several lines)

Then button third right in popup is Add a suggestion; and has Markdown syntax

```suggestion

```



```
+
+ As with all things OpenSAFELY, this work was done out in public –
  you can see more of the technical details
+ in the [GitHub repository for the OpenSAFELY R image]
  (https://github.com/opensafely-core/r-docker).
+
+ This is much stronger technical foundation for our R support from
  now on. It will make it far easier for us to maintain, and to
  respond to R user needs, and also to release future new versions
  of the image with the latest versions of R – perhaps slightly more
  often than every 4.5 years.
```

~~~
```suggestion
This is a much stronger technical foundation for our R support
from now on. It will make it far easier for us to maintain,
and to respond to R user needs, and also to release future new
~~~

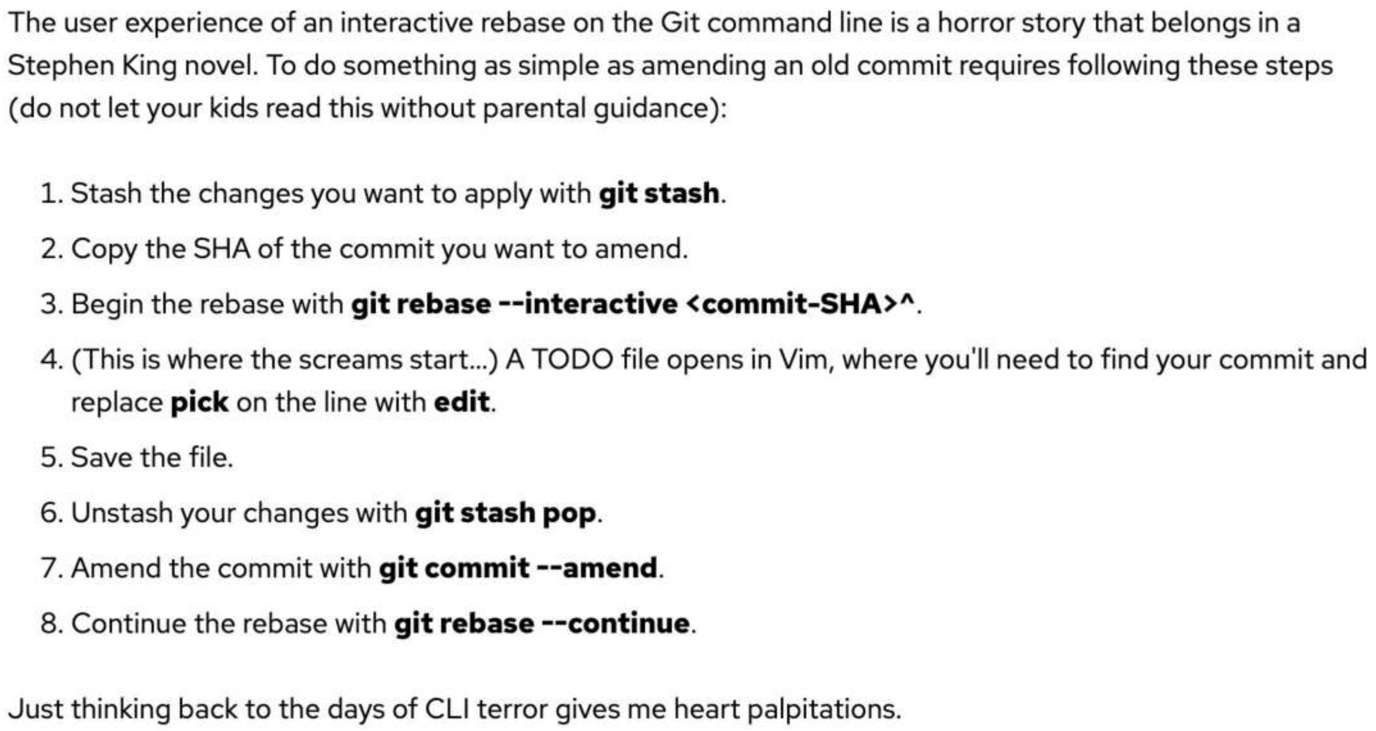
Amending previous commit message in GitHub Desktop

- https://remlapmot.github.io/post/2025/amend-commit-messages/

Interactive rebase made "easy" in Lazygit

- My Git levels of attainment
  - Beginner: branches, push and pull between local and GitHub, make PR
  - Medium: squash, reorder, resolve merge conflicts, stash, worktrees
  - Advanced: interactive rebase
- Interactive rebase at the command line is very very hard (see next slide) https://opensource.com/article/20/3/lazygit
- Lazygit installation instructions: https://github.com/jesseduffield/lazygit?tab=readme-ov-file#installation
- Launch by running lazygit in Terminal

Interactive rebase at the command line is hard (don't do it)

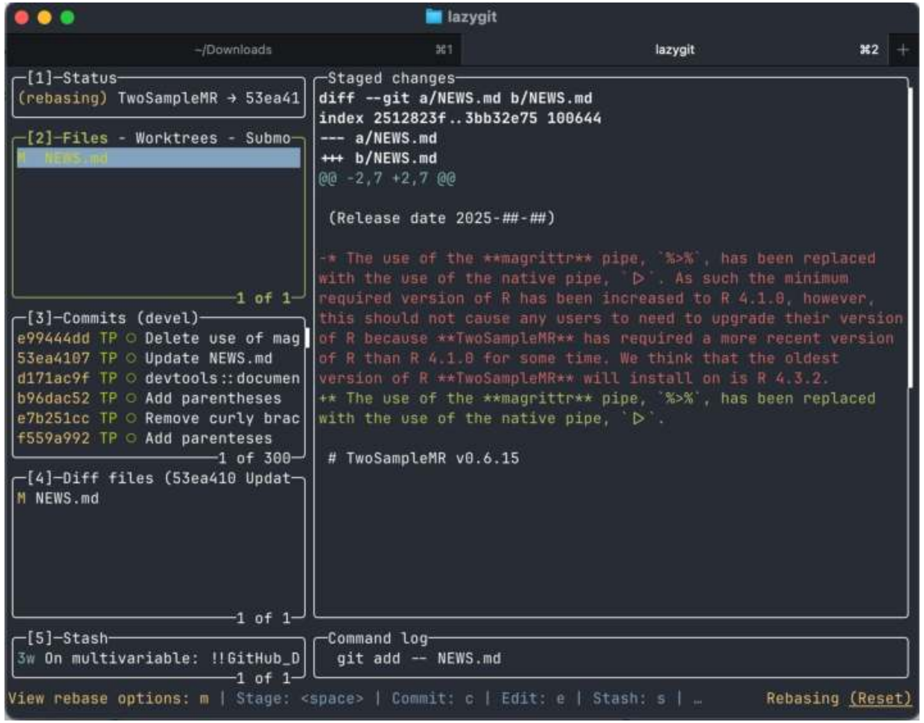


The user experience of an interactive rebase on the Git command line is a horror story that belongs in a Stephen King novel. To do something as simple as amending an old commit requires following these steps (do not let your kids read this without parental guidance):

1. Stash the changes you want to apply with **git stash**.
2. Copy the SHA of the commit you want to amend.
3. Begin the rebase with **git rebase --interactive <commit-SHA>^**.
4. (This is where the screams start...) A TODO file opens in Vim, where you'll need to find your commit and replace **pick** on the line with **edit**.
5. Save the file.
6. Unstash your changes with **git stash pop**.
7. Amend the commit with **git commit --amend**.
8. Continue the rebase with **git rebase --continue**.

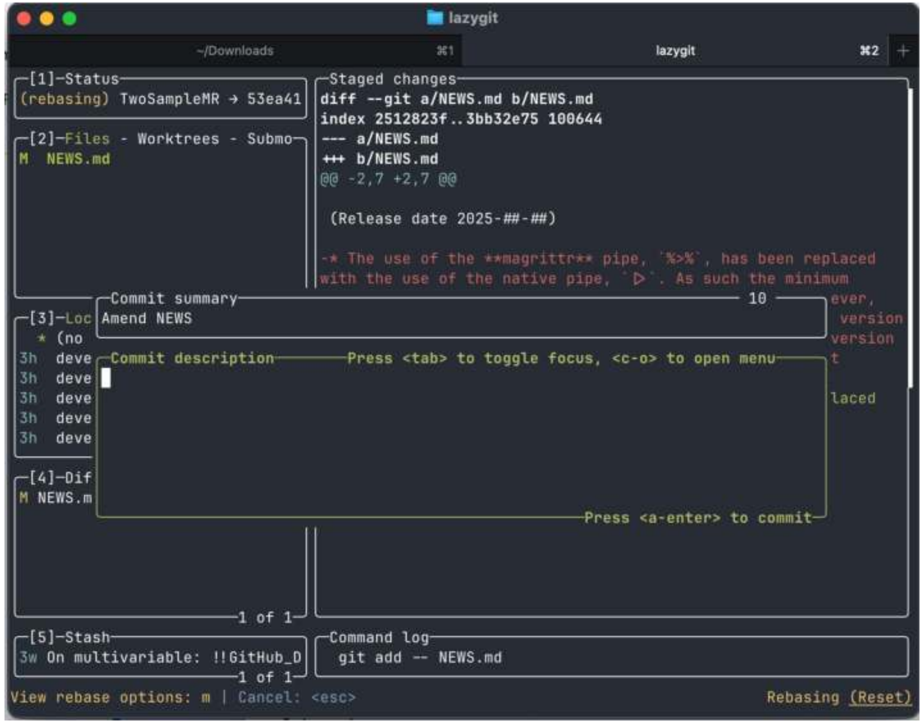
Just thinking back to the days of CLI terror gives me heart palpitations.

Lazygit in action



```
lazygit
~/Downloads  ⌘1    lazygit  ⌘2  +

┌[1]─Status──────────────────────┐ ┌Staged changes──────────────────────────────────────────────────────────
│(rebasing) TwoSampleMR → 53ea41 │ │diff --git a/NEWS.md b/NEWS.md
└────────────────────────────────┘ │index 2512823f..3bb32e75 100644
┌[2]─Files - Worktrees - Submo───┐ │--- a/NEWS.md
│M  NEWS.md                      │ │+++ b/NEWS.md
│                                │ │@@ -2,7 +2,7 @@
│                                │ │
│                                │ │ (Release date 2025-##-##)
│                                │ │
│                                │ │-* The use of the **magrittr** pipe, `%>%`, has been replaced
└─────────────────────────1 of 1─┘ │with the use of the native pipe, `▷`. As such the minimum
                                   │required version of R has been increased to R 4.1.0, however,
┌[3]─Commits (devel)─────────────┐ │this should not cause any users to need to upgrade their version
│e99444dd TP ○ Delete use of mag │ │of R because **TwoSampleMR** has required a more recent version
│53ea4107 TP ○ Update NEWS.md    │ │of R than R 4.1.0 for some time. We think that the oldest
│d171ac9f TP ○ devtools::documen │ │version of R **TwoSampleMR** will install on is R 4.3.2.
│b96dac52 TP ○ Add parentheses   │ │+* The use of the **magrittr** pipe, `%>%`, has been replaced
│e7b251cc TP ○ Remove curly brac │ │with the use of the native pipe, `▷`.
│f559a992 TP ○ Add parenteses    │ │
└───────────────────────1 of 300─┘ │ # TwoSampleMR v0.6.15
┌[4]─Diff files (53ea410 Updat───┐ │
│M NEWS.md                       │ │
│                                │ │
└─────────────────────────1 of 1─┘ └────────────────────────────────────────────────────────────────────────
┌[5]─Stash───────────────────────┐ ┌Command log─────────────────────────────────────────────────────────────
│3w On multivariable: !!GitHub_D │ │ git add -- NEWS.md
└─────────────────────────1 of 1─┘ └────────────────────────────────────────────────────────────────────────
View rebase options: m | Stage: <space> | Commit: c | Edit: e | Stash: s | …        Rebasing (Reset)
```



```
lazygit
~/Downloads  ⌘1    lazygit  ⌘2  +

┌[1]─Status──────────────────────┐ ┌Staged changes──────────────────────────────────────────────────────────
│(rebasing) TwoSampleMR → 53ea41 │ │diff --git a/NEWS.md b/NEWS.md
└────────────────────────────────┘ │index 2512823f..3bb32e75 100644
┌[2]─Files - Worktrees - Submo───┐ │--- a/NEWS.md
│M  NEWS.md                      │ │+++ b/NEWS.md
│                                │ │@@ -2,7 +2,7 @@
│                                │ │
│                                │ │ (Release date 2025-##-##)
│                                │ │
│                                │ │-* The use of the **magrittr** pipe, `%>%`, has been replaced
│                                │ │with the use of the native pipe, `▷`. As such the minimum
└─────────┌Commit summary──────────────────────────────────────────────── 10 ─┐ever,
┌[3]─Loc  │Amend NEWS                                                        │ version
│  * (no  └──────────────────────────────────────────────────────────────────┘version
│3h  deve ┌Commit description──────Press <tab> to toggle focus, <c-o> to open menu─┐t
│3h  deve │█                                                                 │
│3h  deve │                                                                  │laced
│3h  deve │                                                                  │
│3h  deve │                                                                  │
└─────────│                                                                  │
┌[4]─Dif  │                                                                  │
│M NEWS.m │                                                                  │
│         └──────────────────────────────────────Press <a-enter> to commit─┘
│                                │ │
└─────────────────────────1 of 1─┘ └────────────────────────────────────────────────────────────────────────
┌[5]─Stash───────────────────────┐ ┌Command log─────────────────────────────────────────────────────────────
│3w On multivariable: !!GitHub_D │ │ git add -- NEWS.md
└─────────────────────────1 of 1─┘ └────────────────────────────────────────────────────────────────────────
View rebase options: m | Cancel: <esc>                                              Rebasing (Reset)
```

Rewording and editing commits in Lazygit

- To edit previous commit messages in Lazygit
  - Navigate to Reflog
  - r - Reword - to edit previous commit message
  - Move to message box (<Tab>), alt + <Enter> to commit
- To edit previous commits in Lazygit
  - Move to Reflog [4]
  - Move to commit want to edit
  - e - Edit - to edit previous commit
  - Press <Enter> on commit want to edit
  - e - Edit
  - Pops you into vim - make edits - then save and quit :wq
  - Move back to top left Files pane
  - Space - stage changed file/s
  - Now continue rebase - m - rebase options - <Enter> or c - continue
  - Move to Commit pane - Escape - and should see edited commit
  - Now probably want to edit commit message of edited commit - Move to Reflog - r - Reword commit message of squashed commit

Summary

- Slightly random collection of R, Quarto, and Git tips
- I hope something was interesting/useful