INTRODUCTION TO VERSION CONTROL

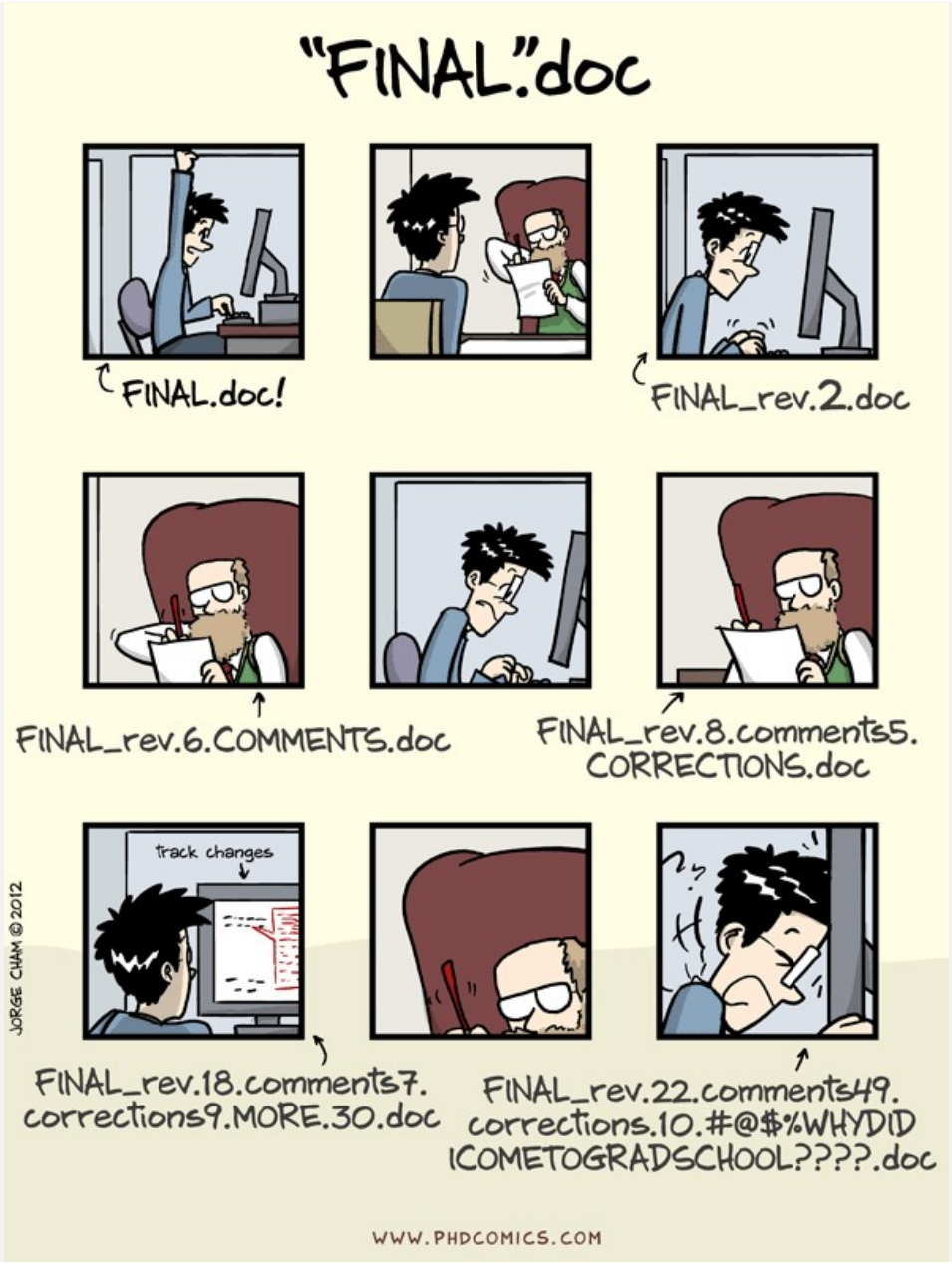
University of Leicester

RESOURCES AND SETUP

https://uniofleicester.github.io/git-novice/

Log in to the available Research Computing facility:

```
[ma1017@alice-login02 ~]$ cd ~
[ma1017@alice-login02 ~]$ mkdir git-novice
[ma1017@alice-login02 ~]$ cd git-novice
[ma1017@alice-login02 git-novice]$ which git
/usr/bin/git
[ma1017@alice-login02 git-novice]$ git -v
git version 2.39.3
```



"Piled Higher and Deeper" by Jorge Cham, http://www.phdcomics.com

WHY VERSION CONTROL?

My script used to work; I changed it, and now it's broken.

I wrote a good paragraph, decided to reword it, and now I want to go back.

I want to re-run an analysis from 6 months ago – which script version did I use?

I want to share code with my colleagues.

I don't want to lose all my work if my laptop dies…

HOW DOES IT WORK?

MAKE DIFFERENT CHANGES

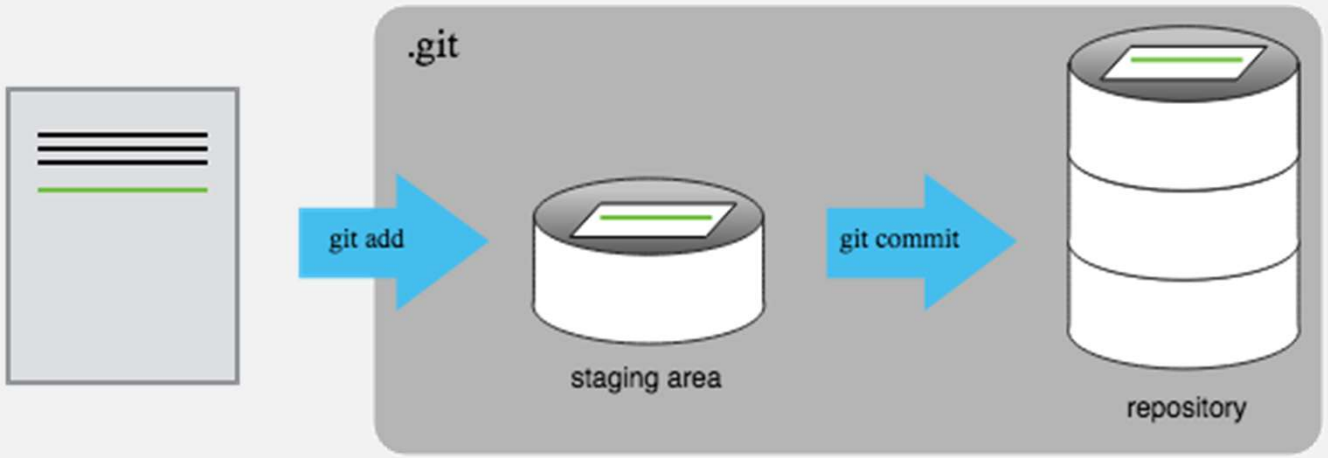
WHY GIT?

- There are many version control systems – Git, Mercurial, Subversion, etc.
  - Git is just the most popular.
- Almost everything we discuss today is relevant to all the other systems
  - It's just a different syntax.

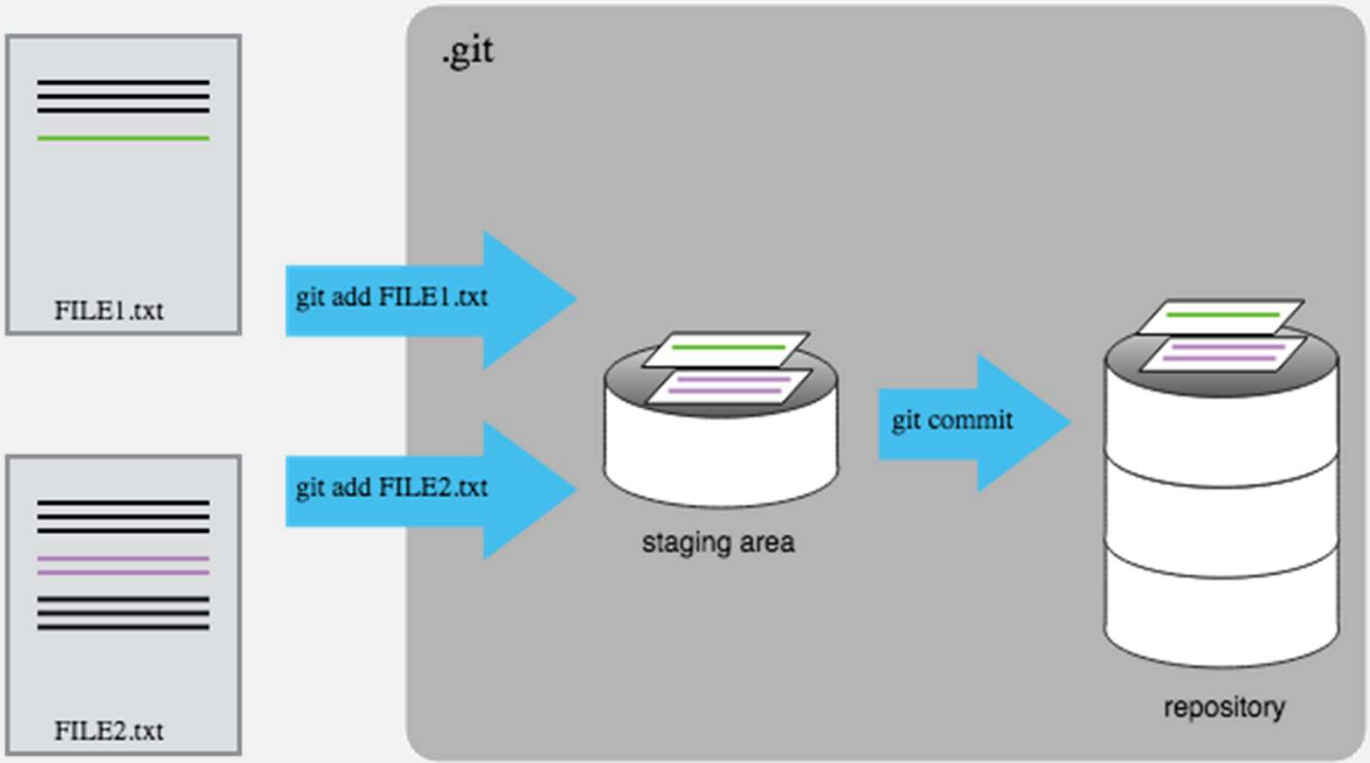
SETTING UP GIT

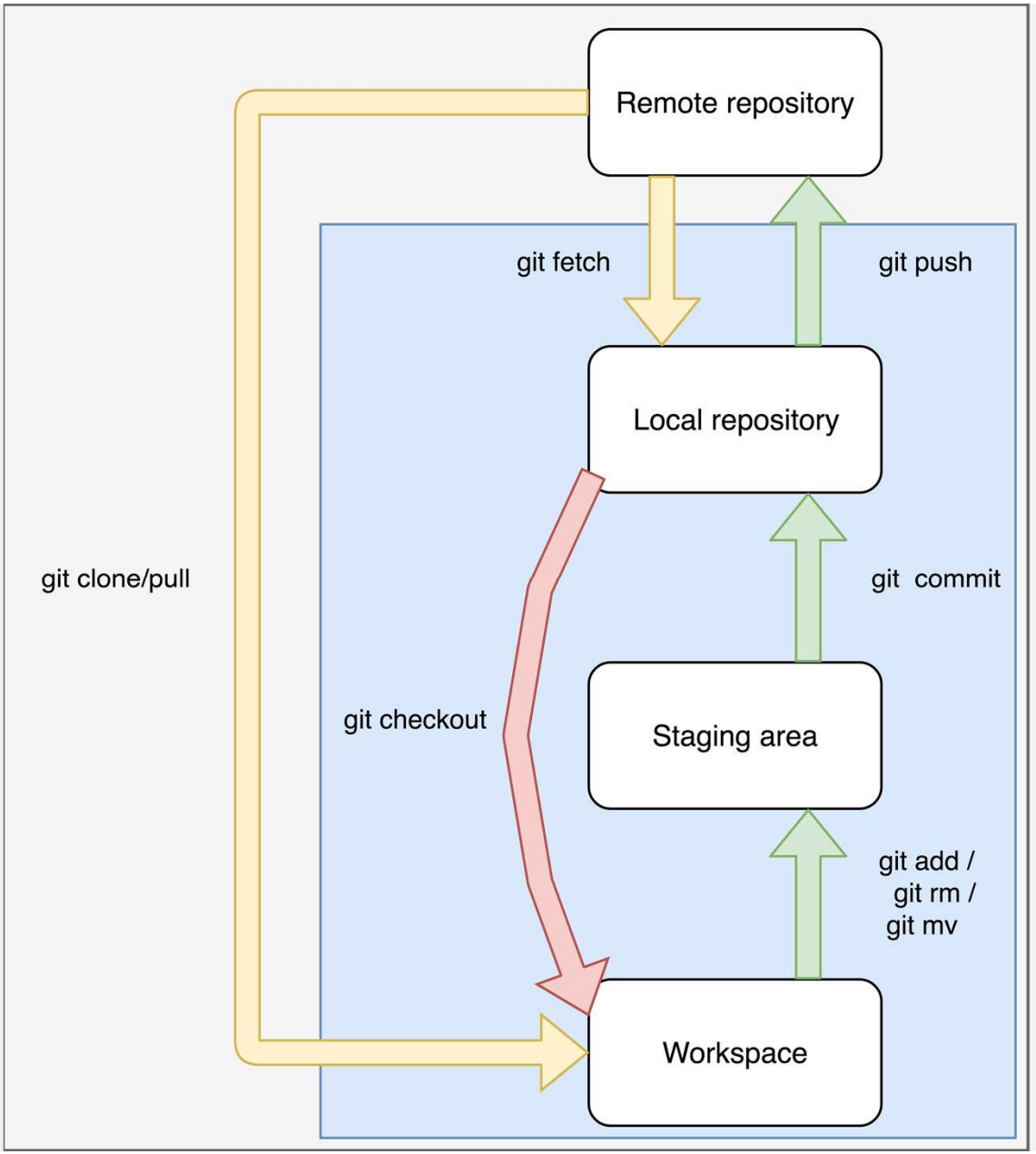
https://uniofleicester.github.io/git-novice/

TRACKING CHANGES



TRACKING CHANGES

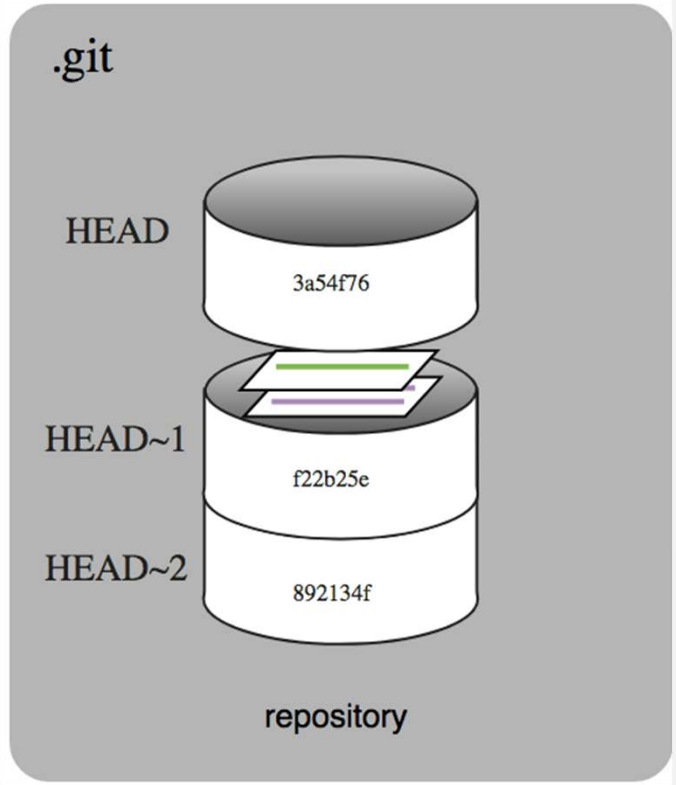



Remote repository
git fetch
git push
Local repository
git clone/pull
git commit
git checkout
Staging area
git add /
git rm /
git mv
Workspace

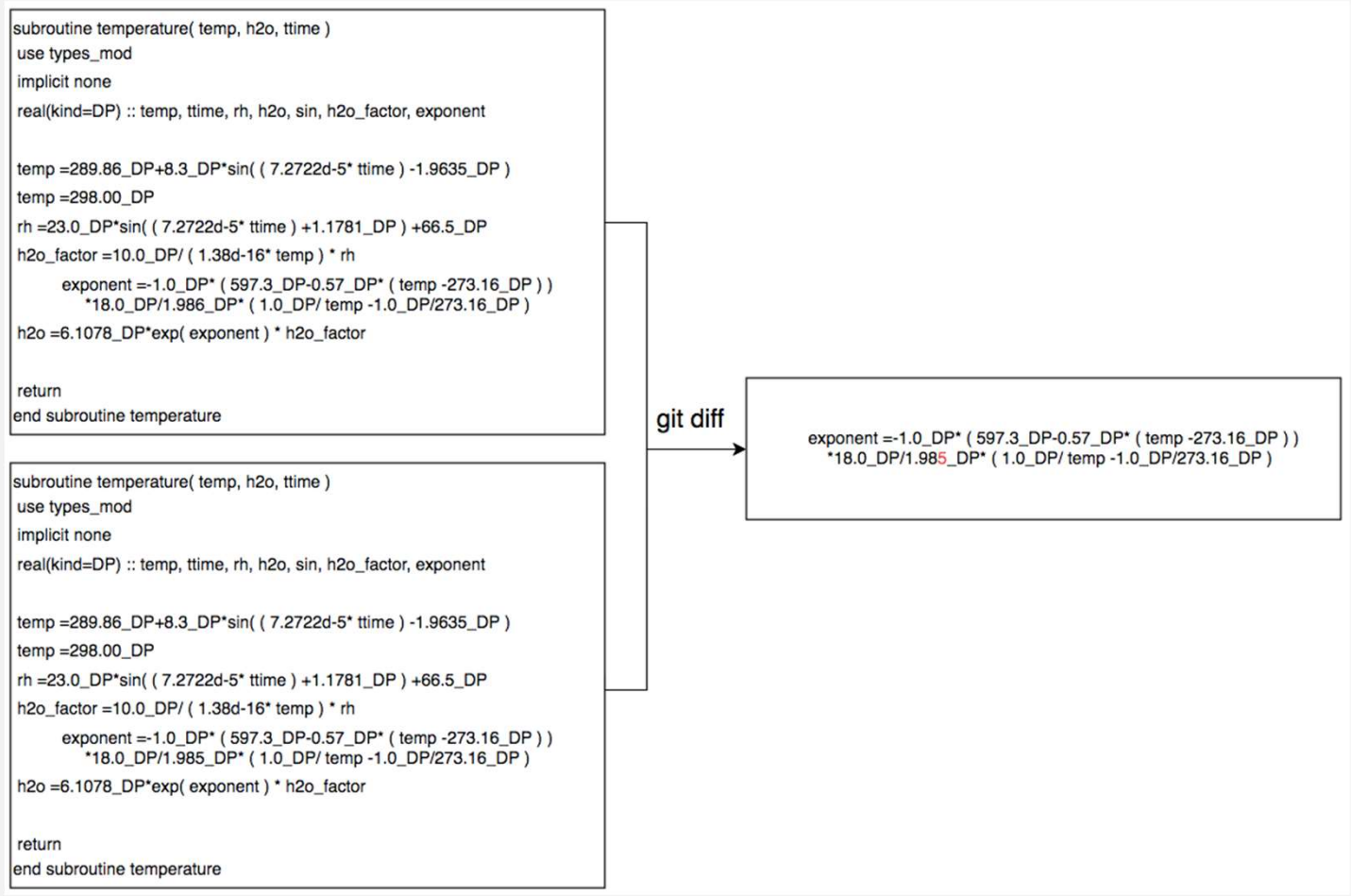
YOUR TURN!

https://uniofleicester.github.io/git-novice/04-changes/

EXPLORING HISTORY



COMPARING ACROSS HISTORY



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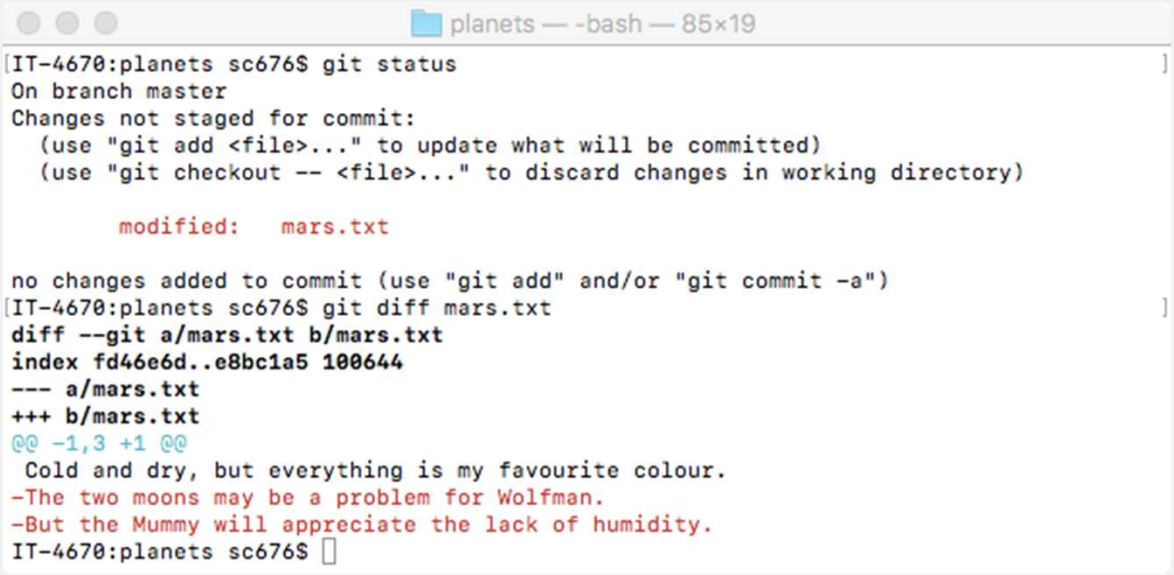

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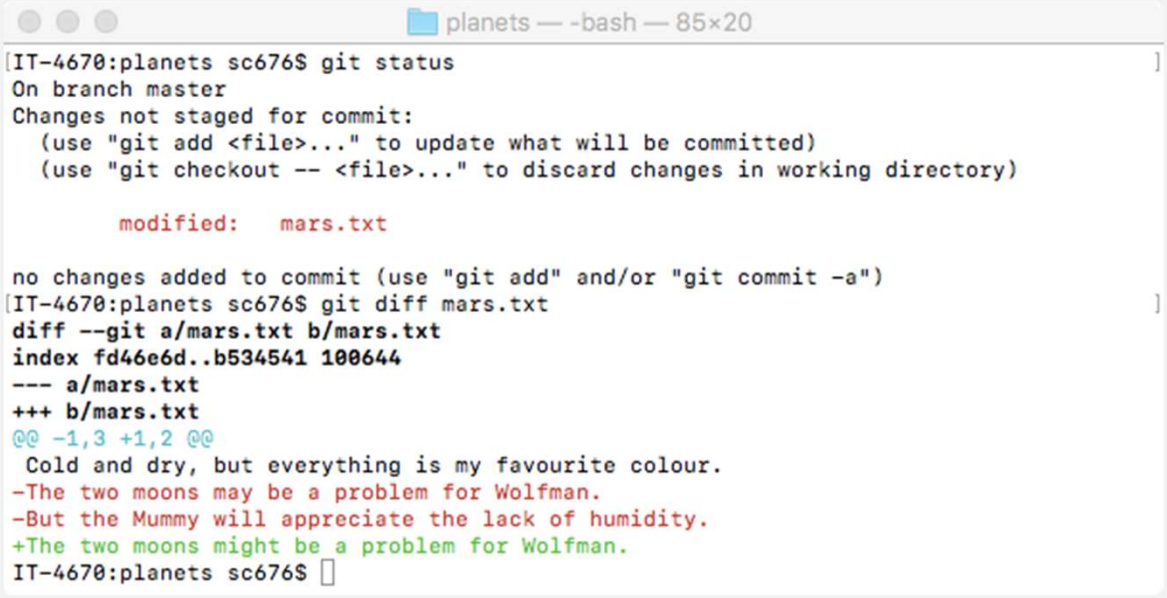

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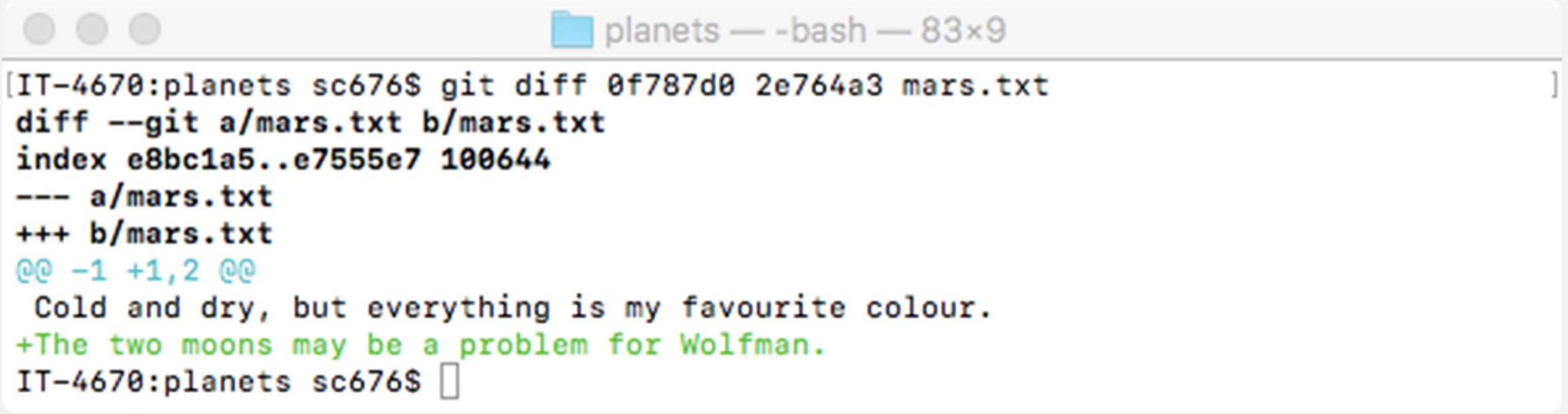
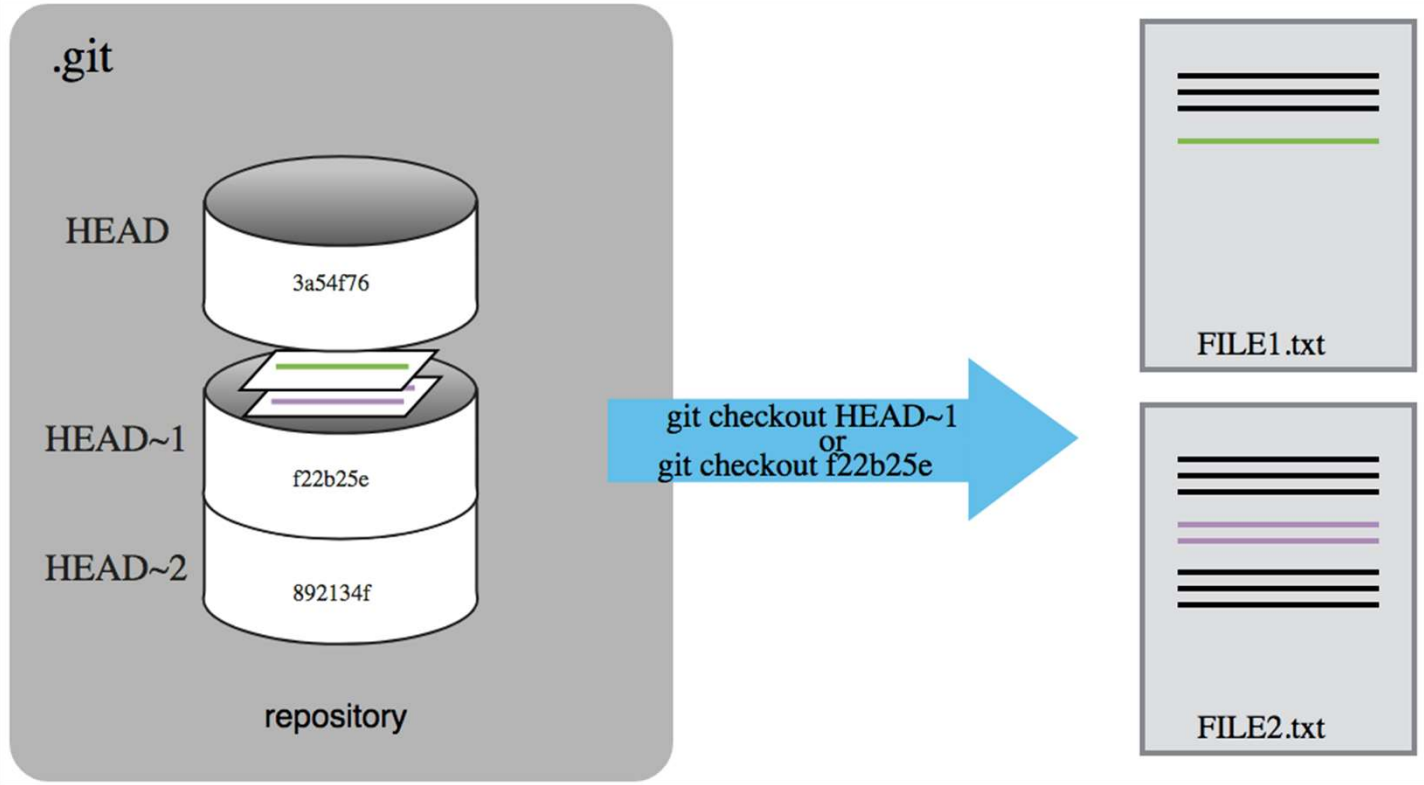


YOUR TURN!

https://uniofleicester.github.io/git-novice/05-history/

NAVIGATING THROUGH HISTORY

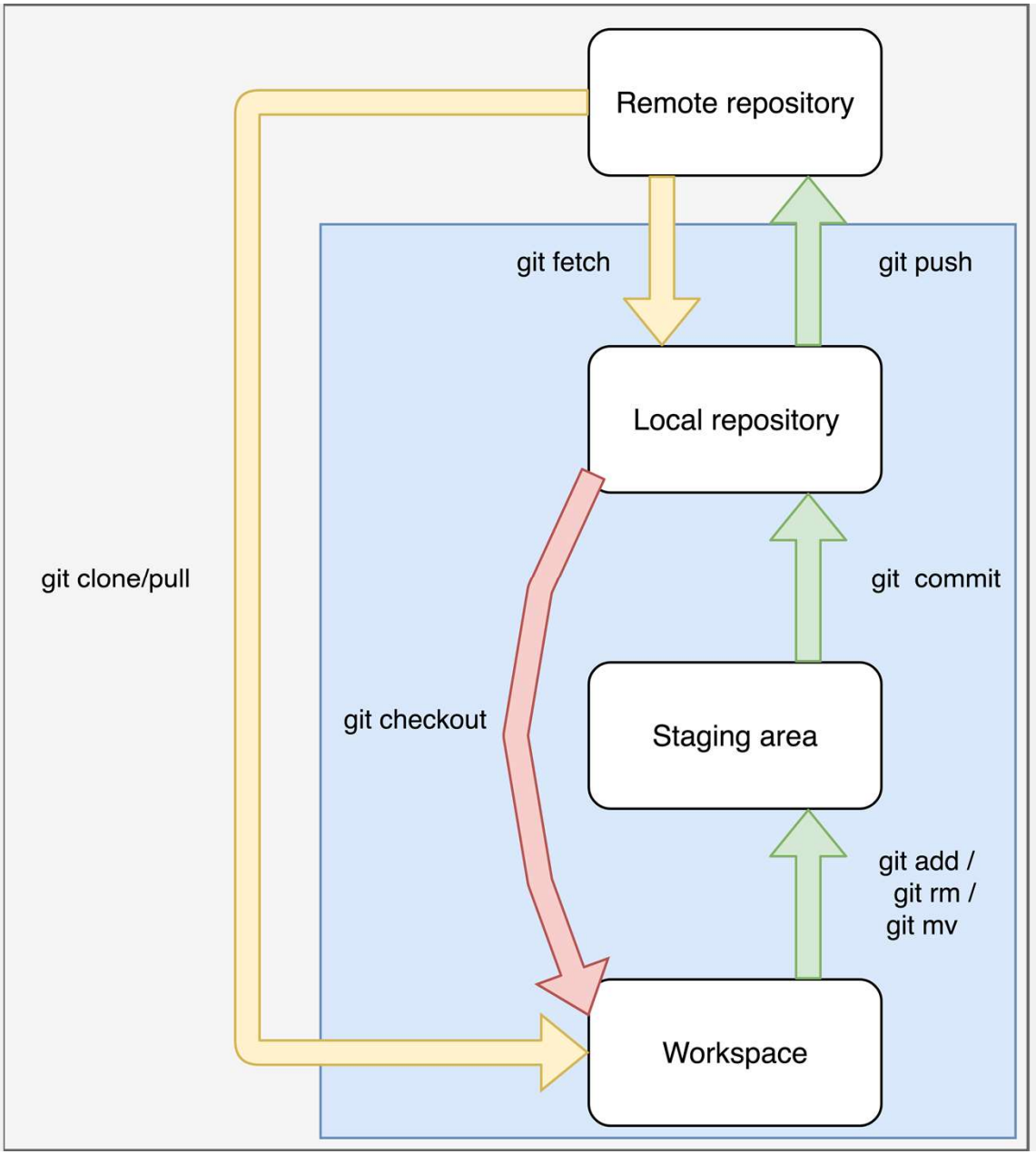


YOUR TURN!

https://uniofleicester.github.io/git-novice/06-ignore/

REGISTER FOR GITHUB

- https://github.com/
  - Sign up for GitHub
  - Verify account via email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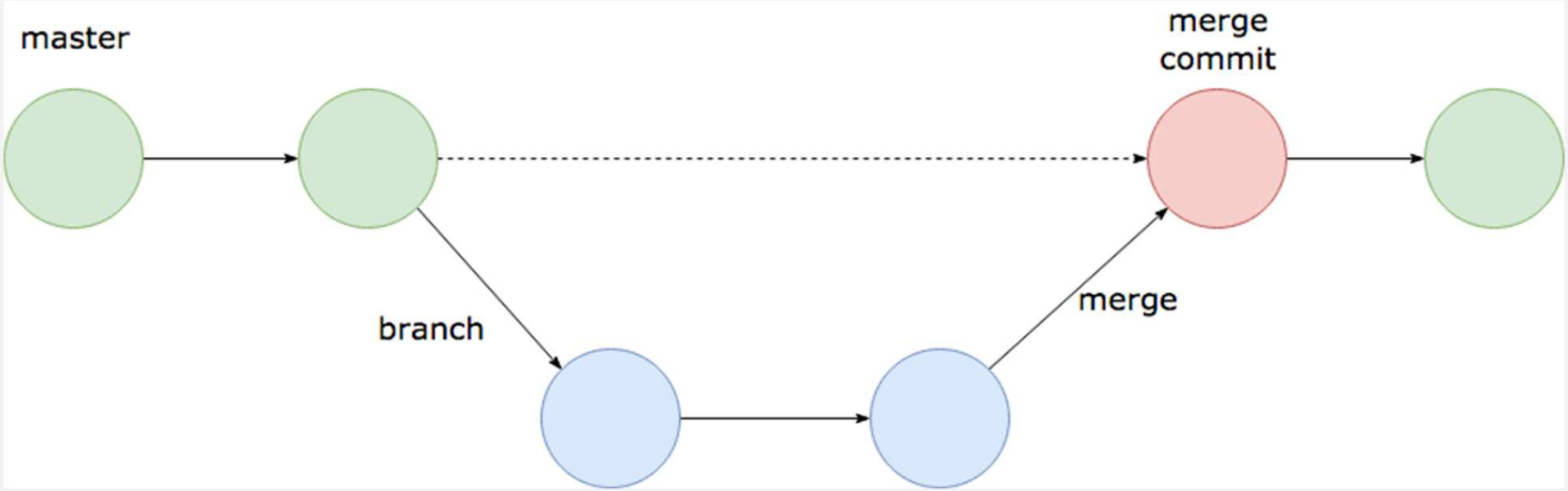
BRANCHING



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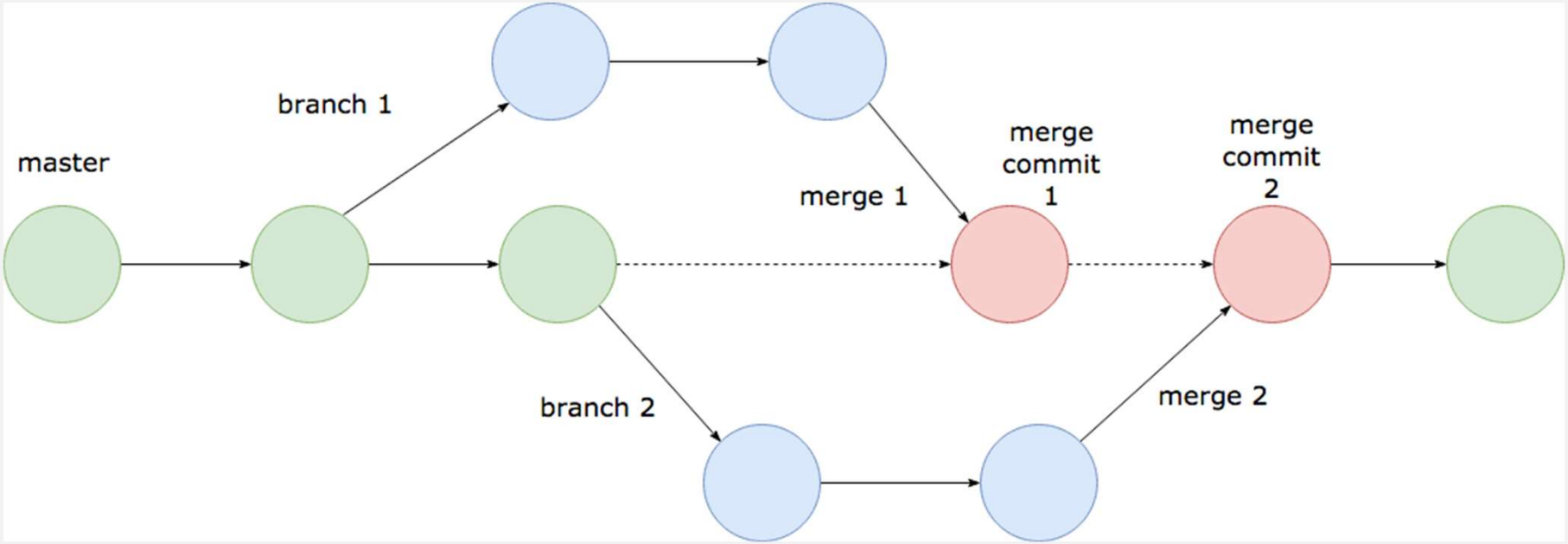
master
branch 1
merge 1
merge commit 1
merge commit 2
branch 2
merge 2

FEEDBACK

https://app.onlinesurveys.jisc.ac.uk/s/leicester/introduction-to-version-control

or

https://bit.ly/uolrcsivc