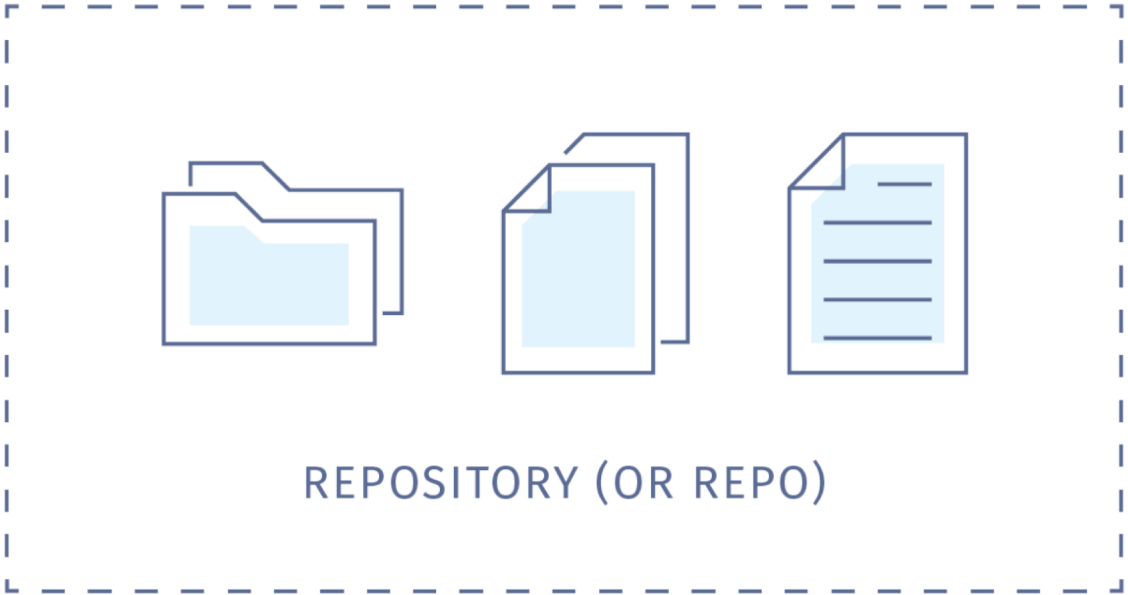
time travel with your code

Gracielle Higino (she/her)
Open Science consultant and mentor
@graciellehigino | graciellehigino@gmail.com



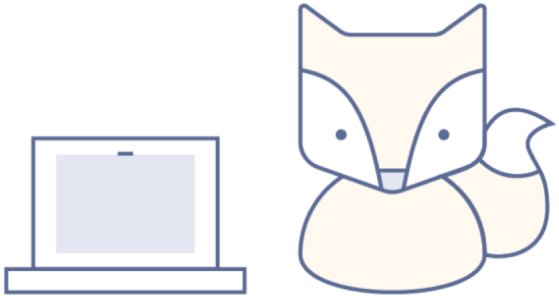


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

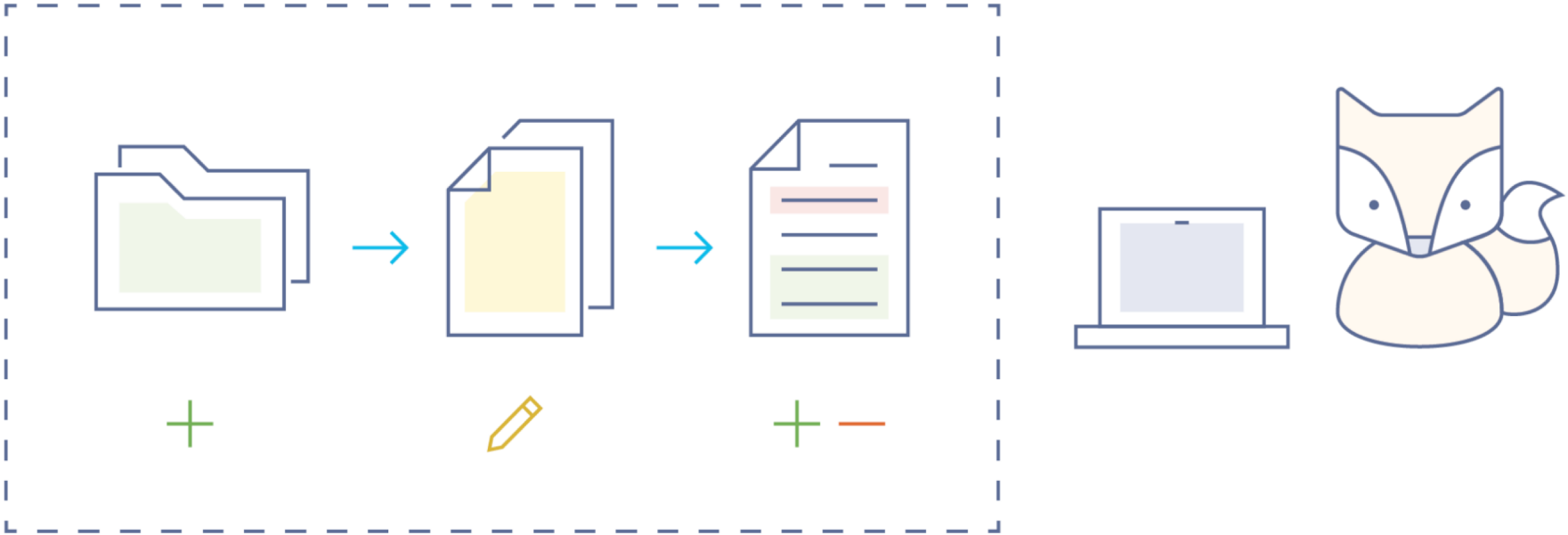


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

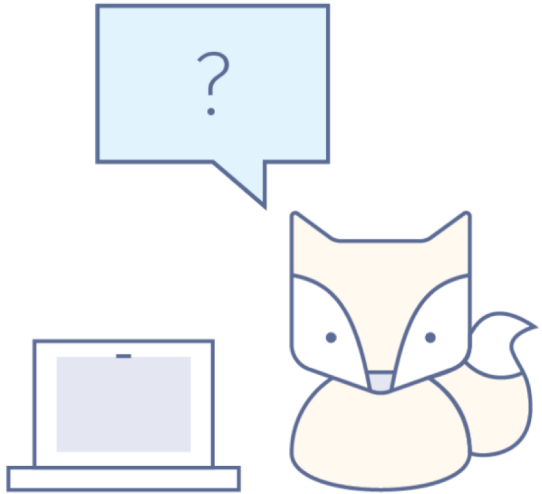


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

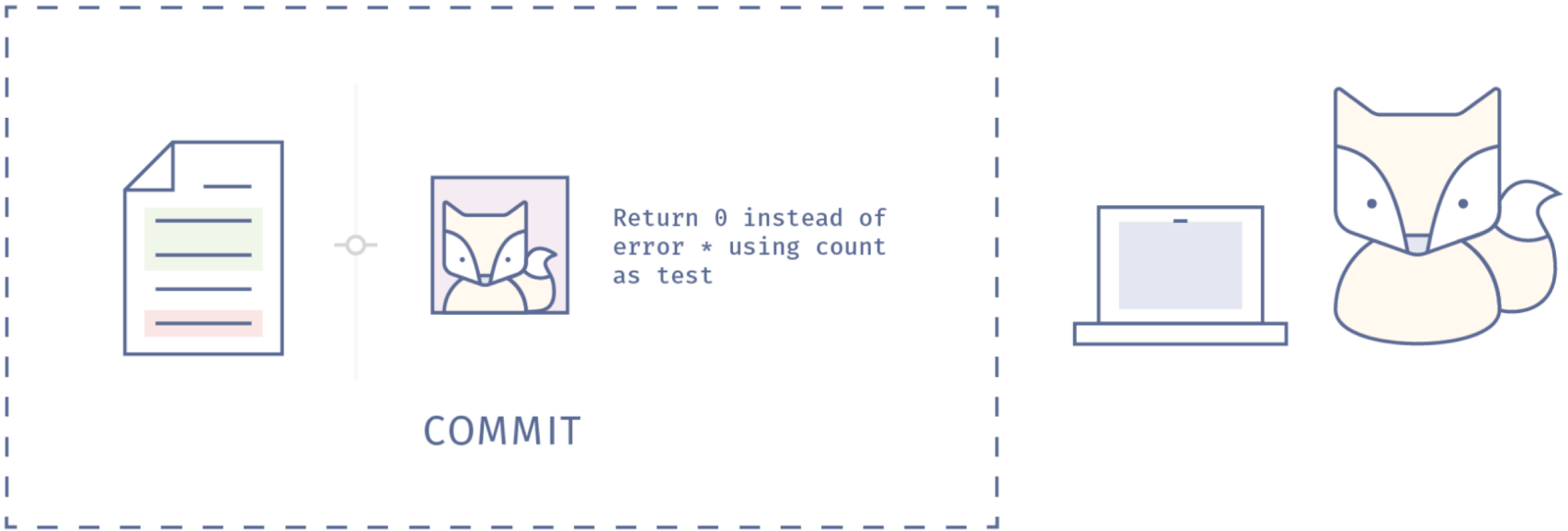


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

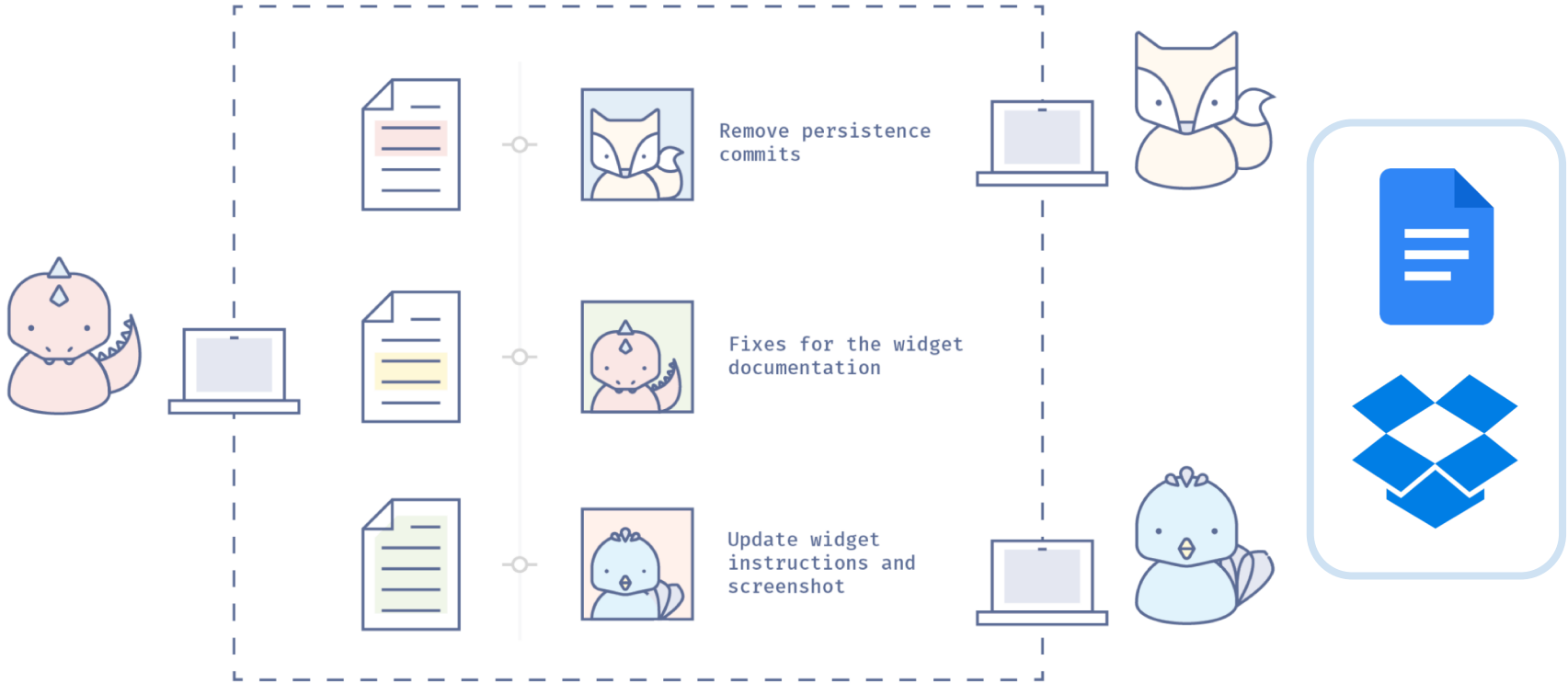


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

`git add <file>`

stage area

Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

`git reset HEAD <file>`

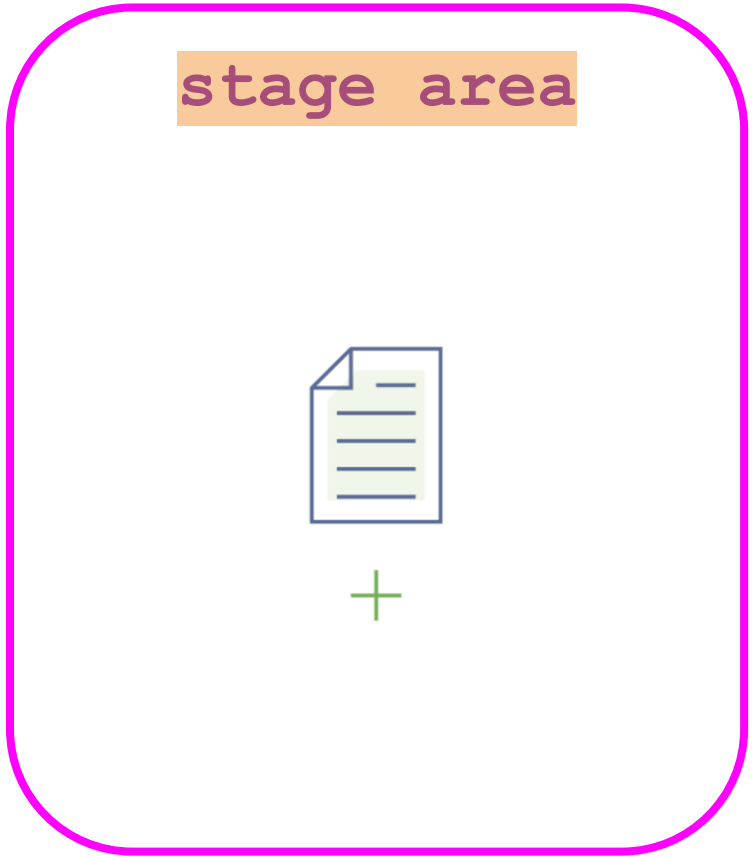


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

git commit -m <message>

stage area

a345fer

Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

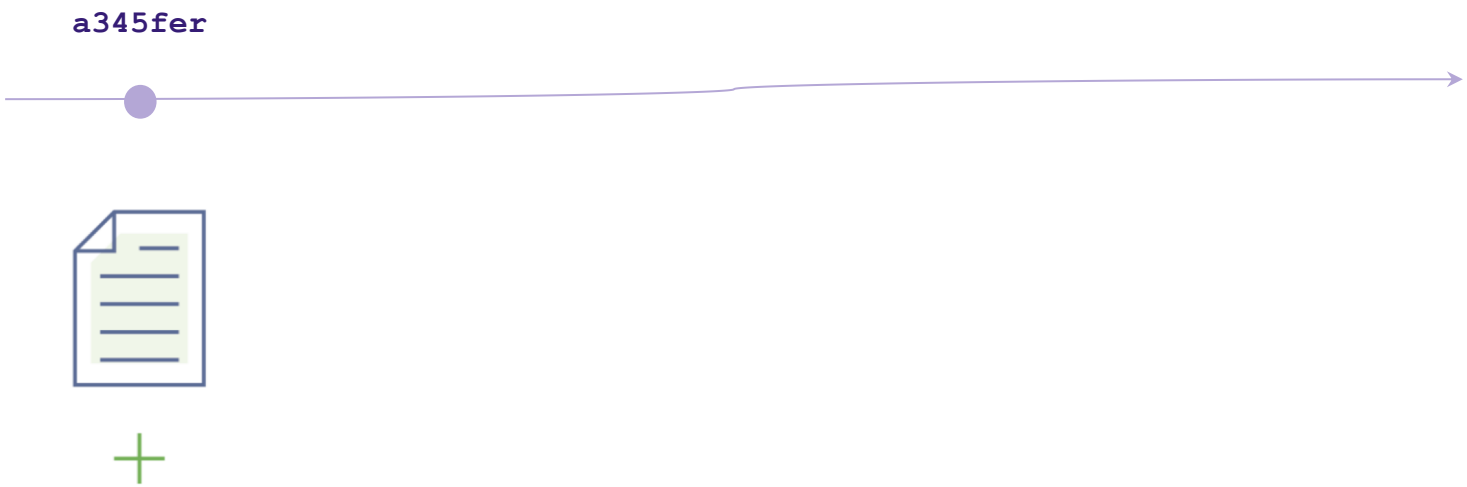


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

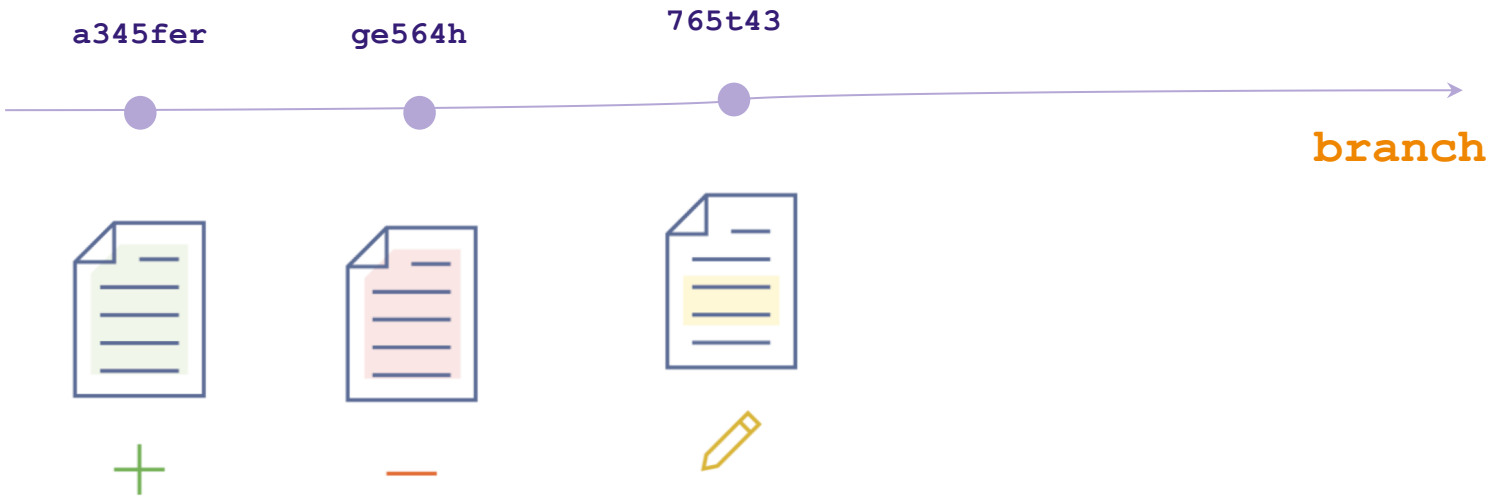


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

best practices
- committing -

- ✓ Write **short messages** with **action verbs** (e.g., “fix import data code”)
- ✓ Try to commit every saved change, or **group saved changes by theme** (e.g., when adding a reference to a manuscript, this change only makes sense when the citation is committed as well)
- ✓ Add emojis for fun and quick reference! <gitmoji.dev>
- ✓ Attention to **large files** ⚠️

Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

best practices
- push & pull -

- ✓ Always start your day with git pull!
- ✓ Always finish your day with git push!
- ✓ Don’t wait until the end of your day to push…
- ✓ **Push & pull as often as possible**

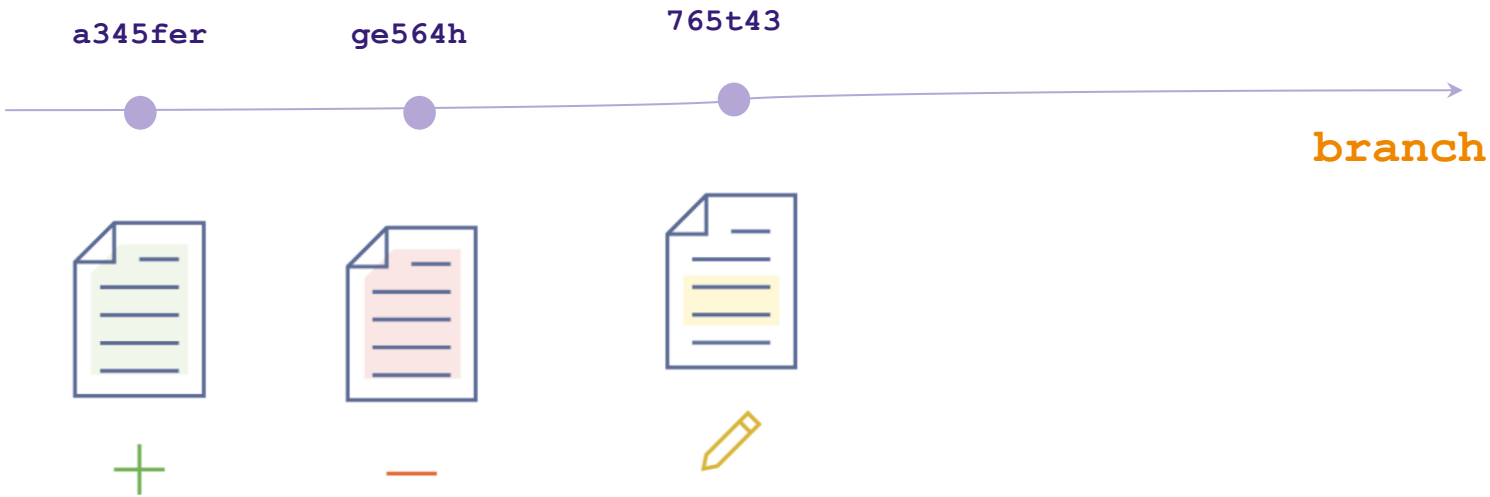


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

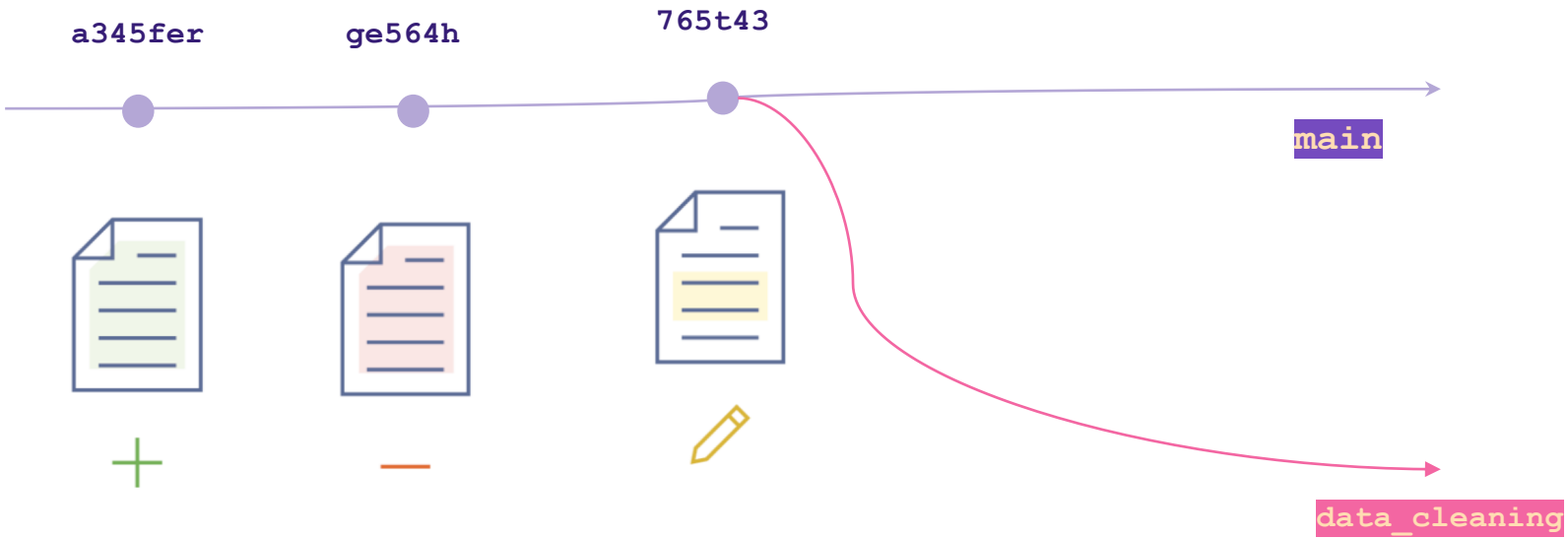


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

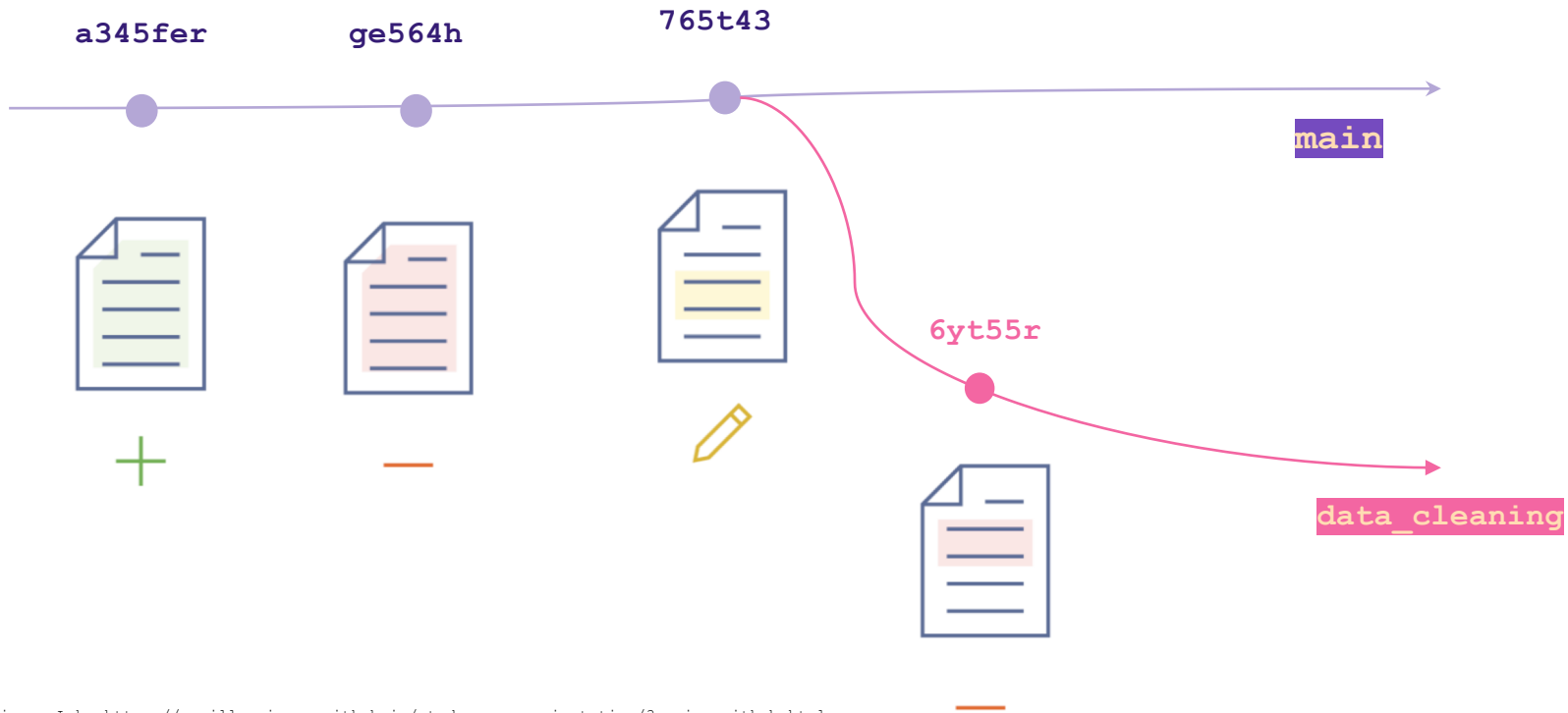


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

now we'll have real fun!

Situation 1

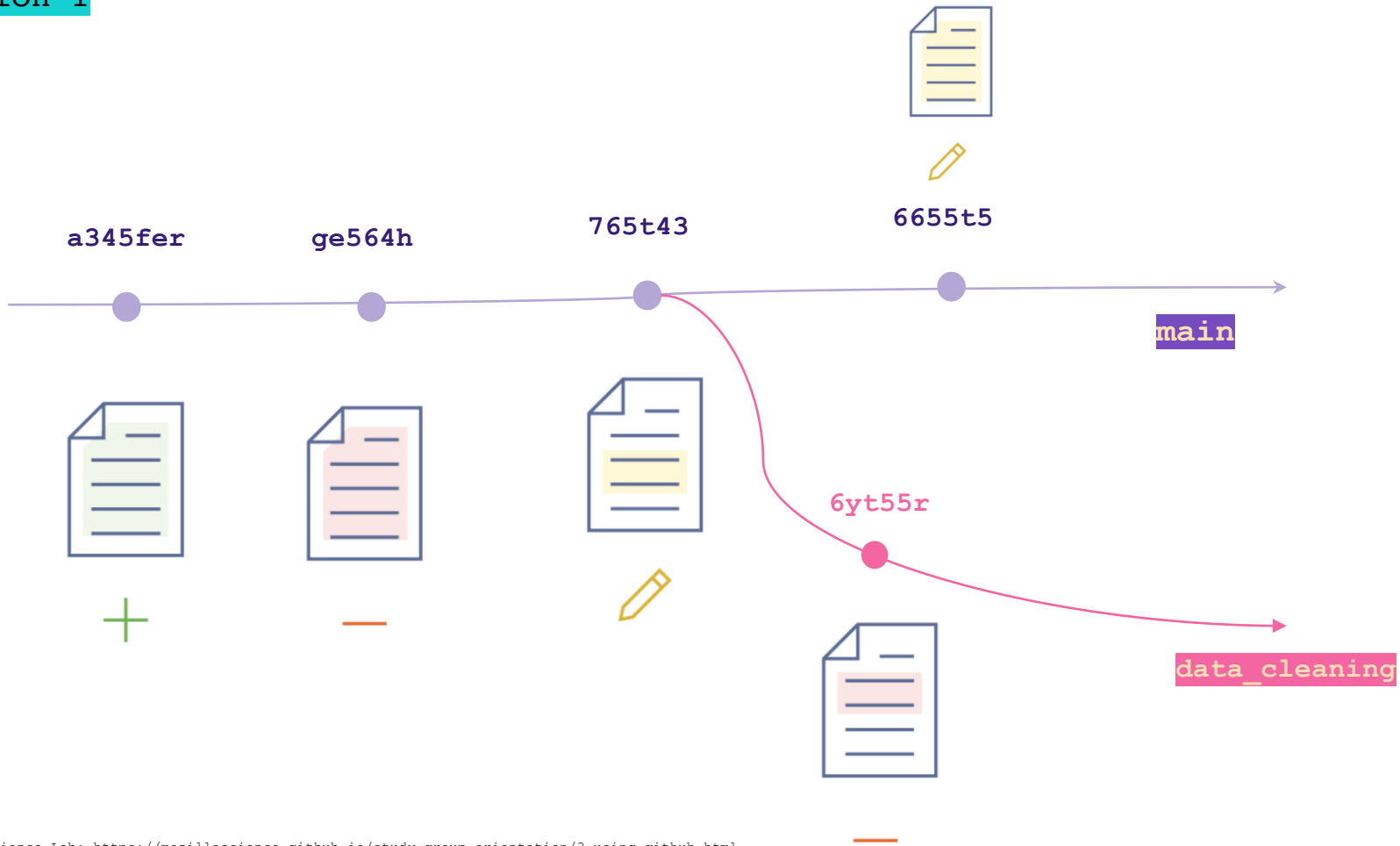


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Situation 1

git rebase ⚠

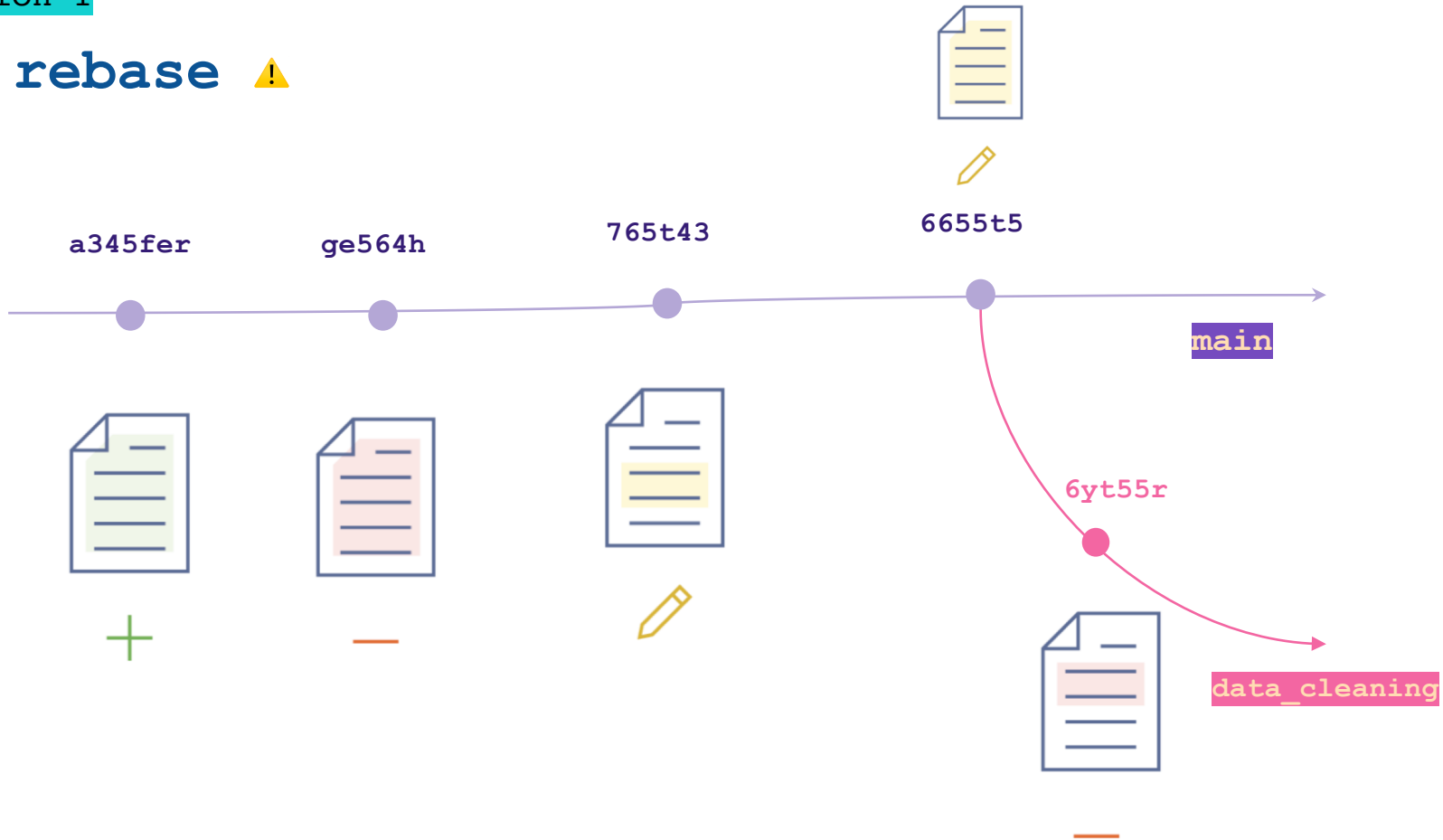


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Situation 2

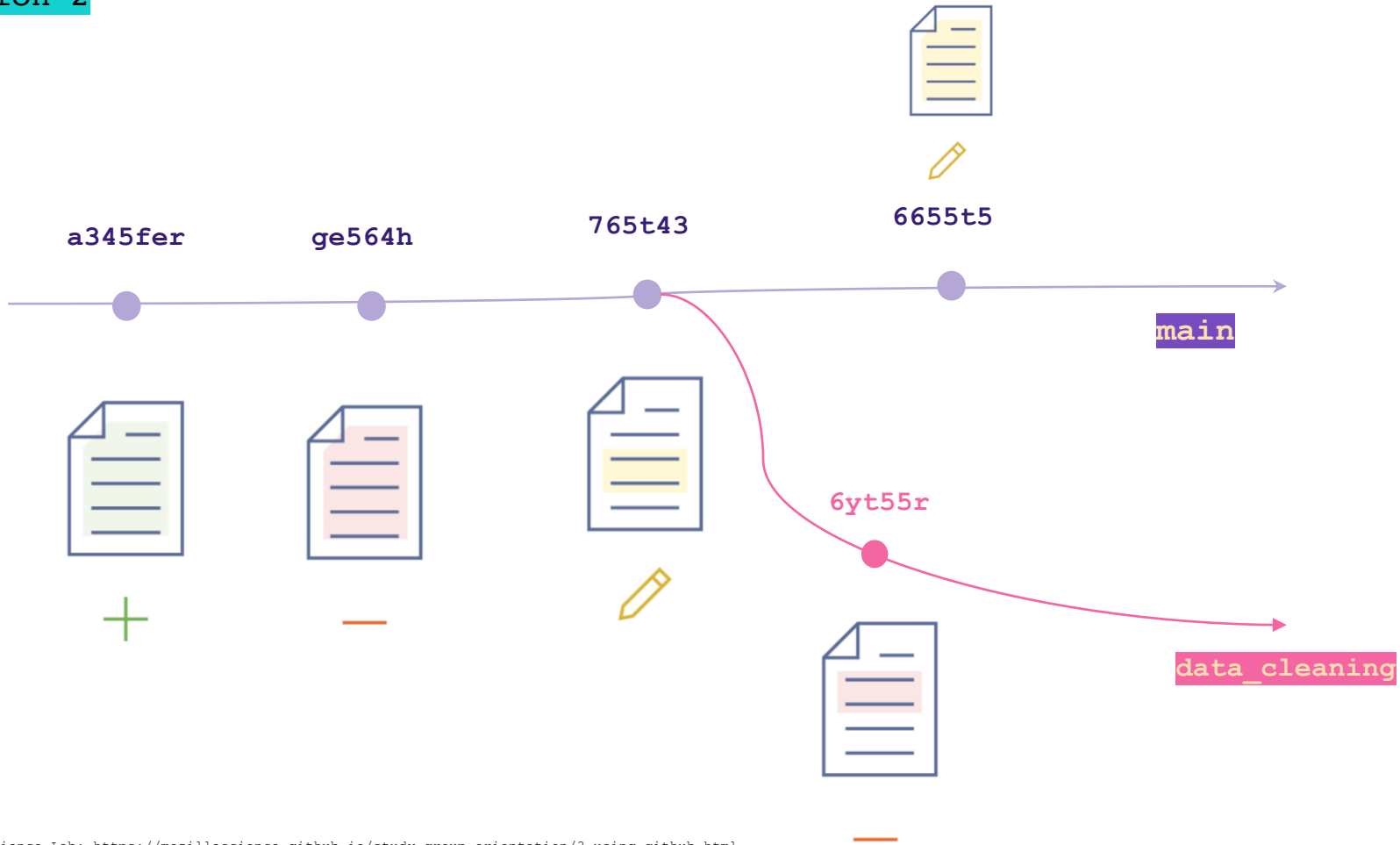


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Situation 2

git merge

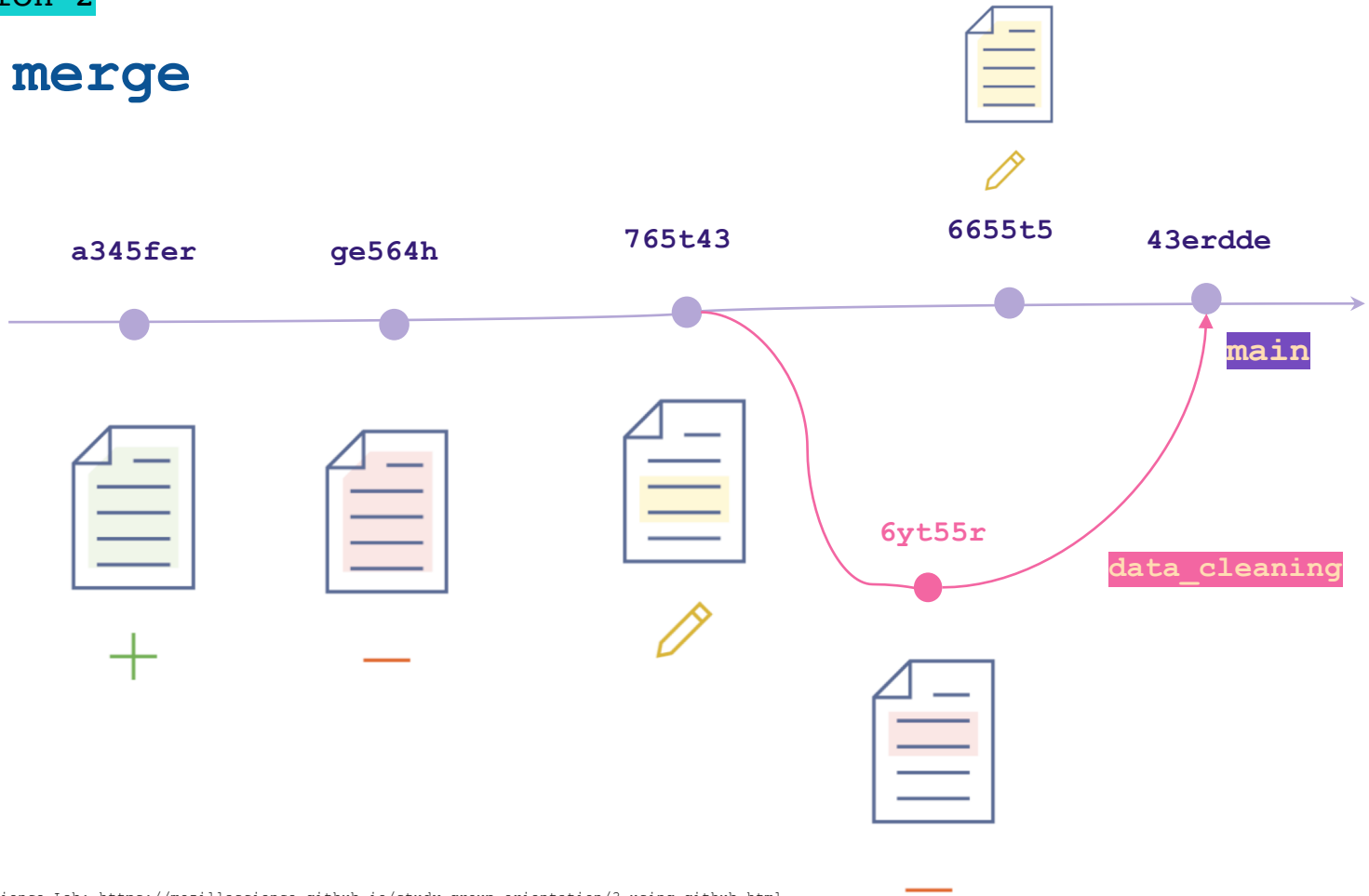


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Situation 3

pull request

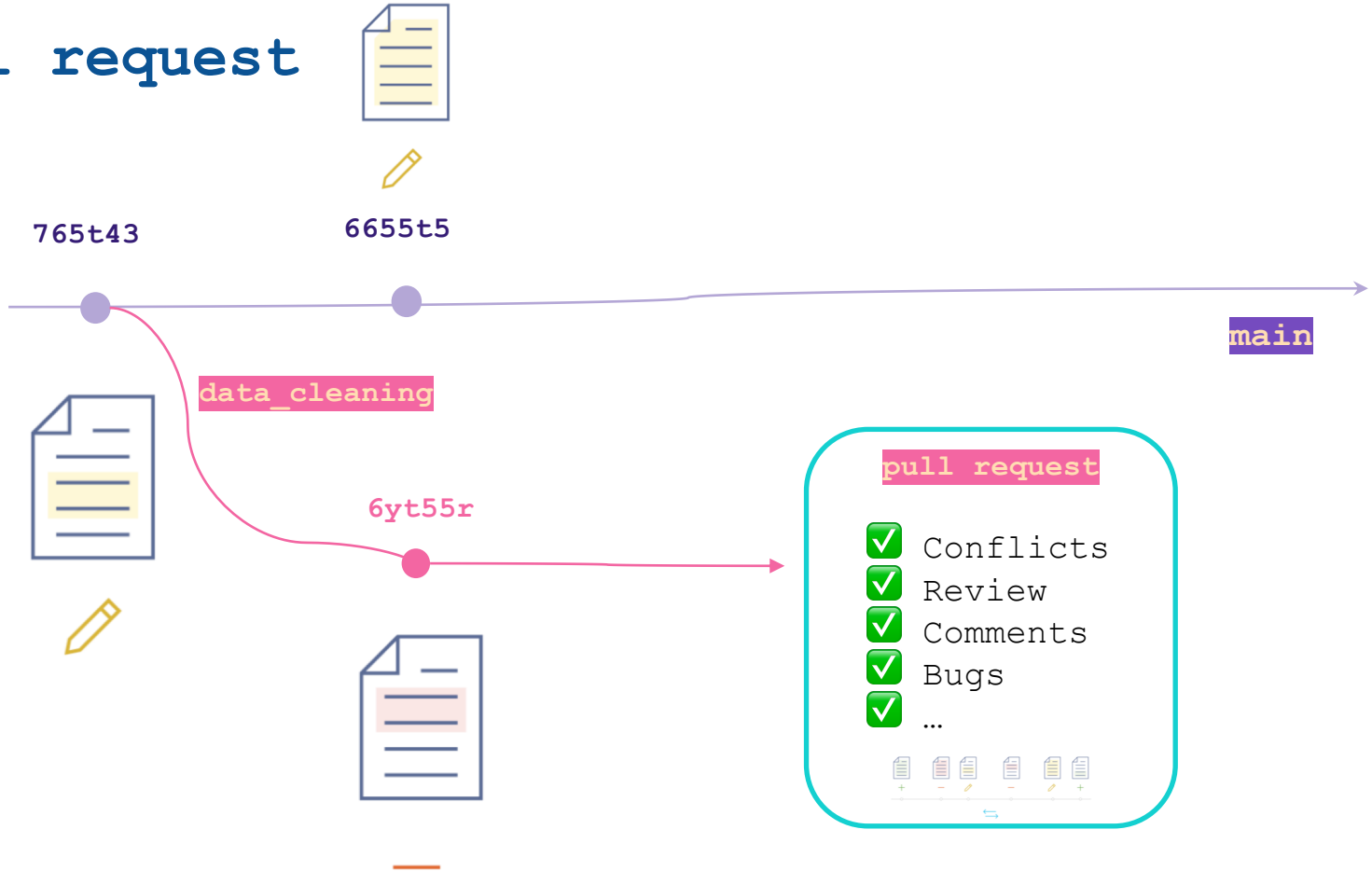


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Situation 3

pull request

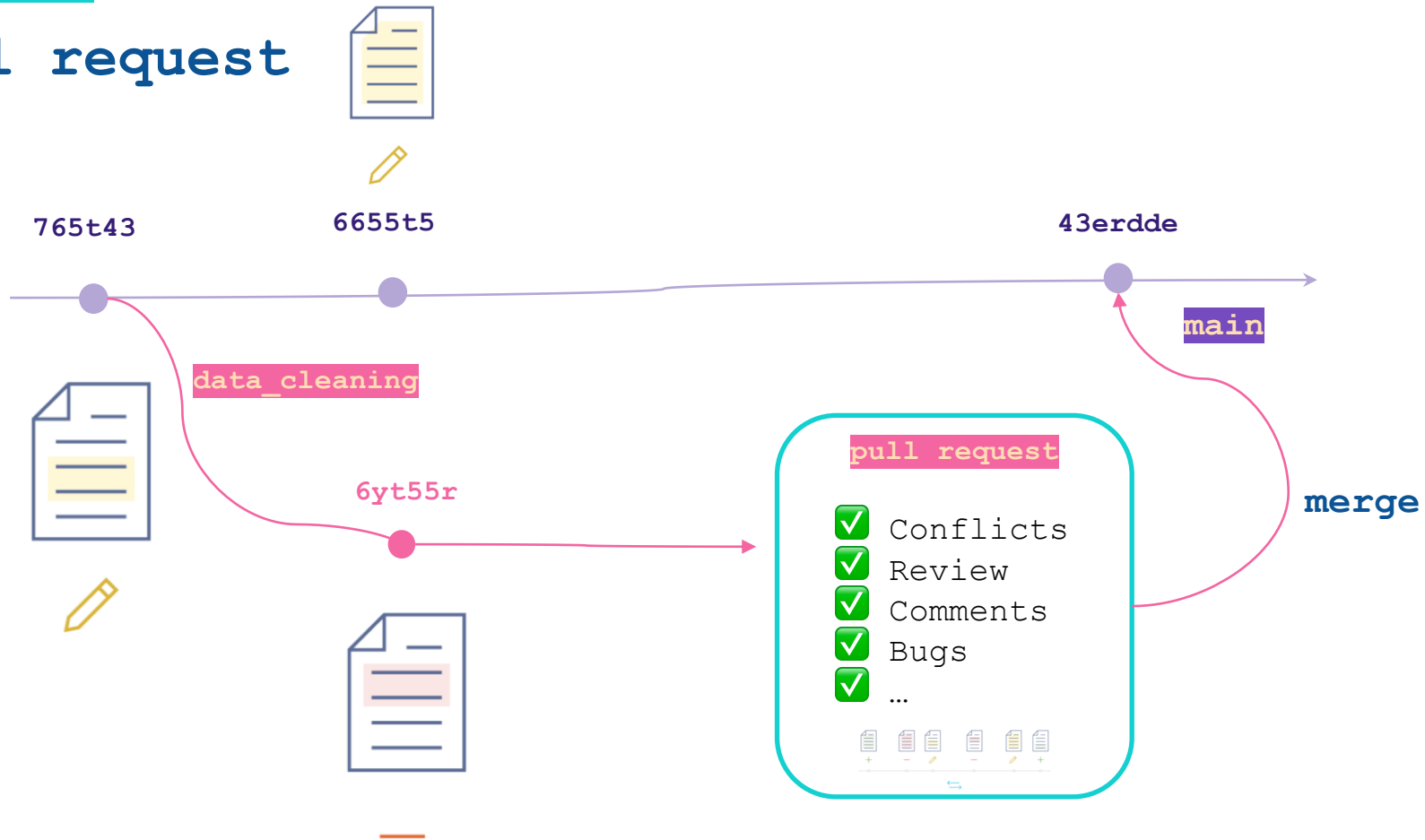


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

best practices
- branching -

- ✓ Use the **main** branch only for **fundamental changes**
- ✓ When working on teams, **have a convention** for naming the branches (you can "nest" branches using / - e.g.: INTRO/ecological_niche)
- ✓ **Pull requests are safer**! Only merge final changes.
- ✓ **Always branch to test new things** - never do it on the main

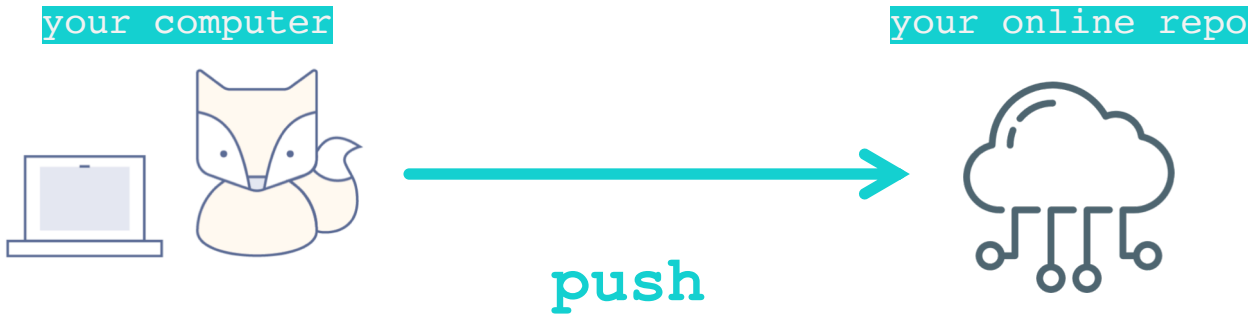


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

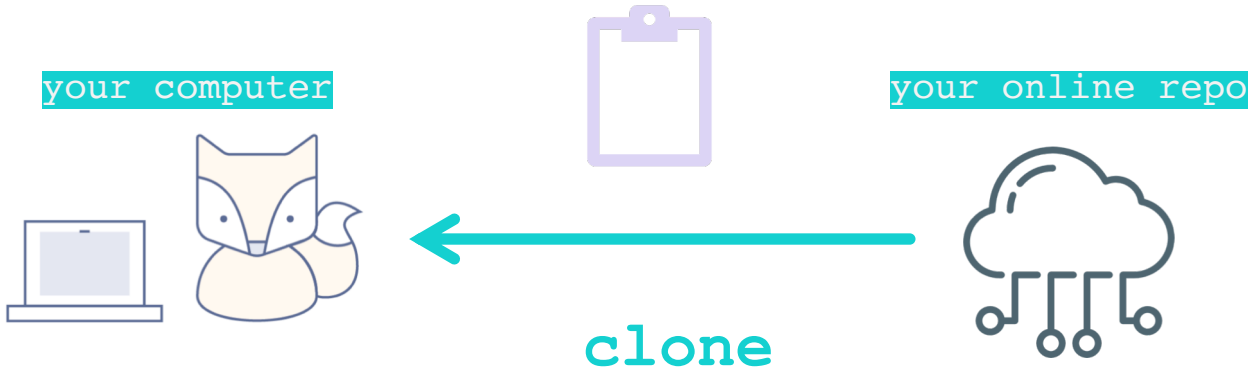


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

other people's online repo

fork

your online repo

other people's online repo

your online repo

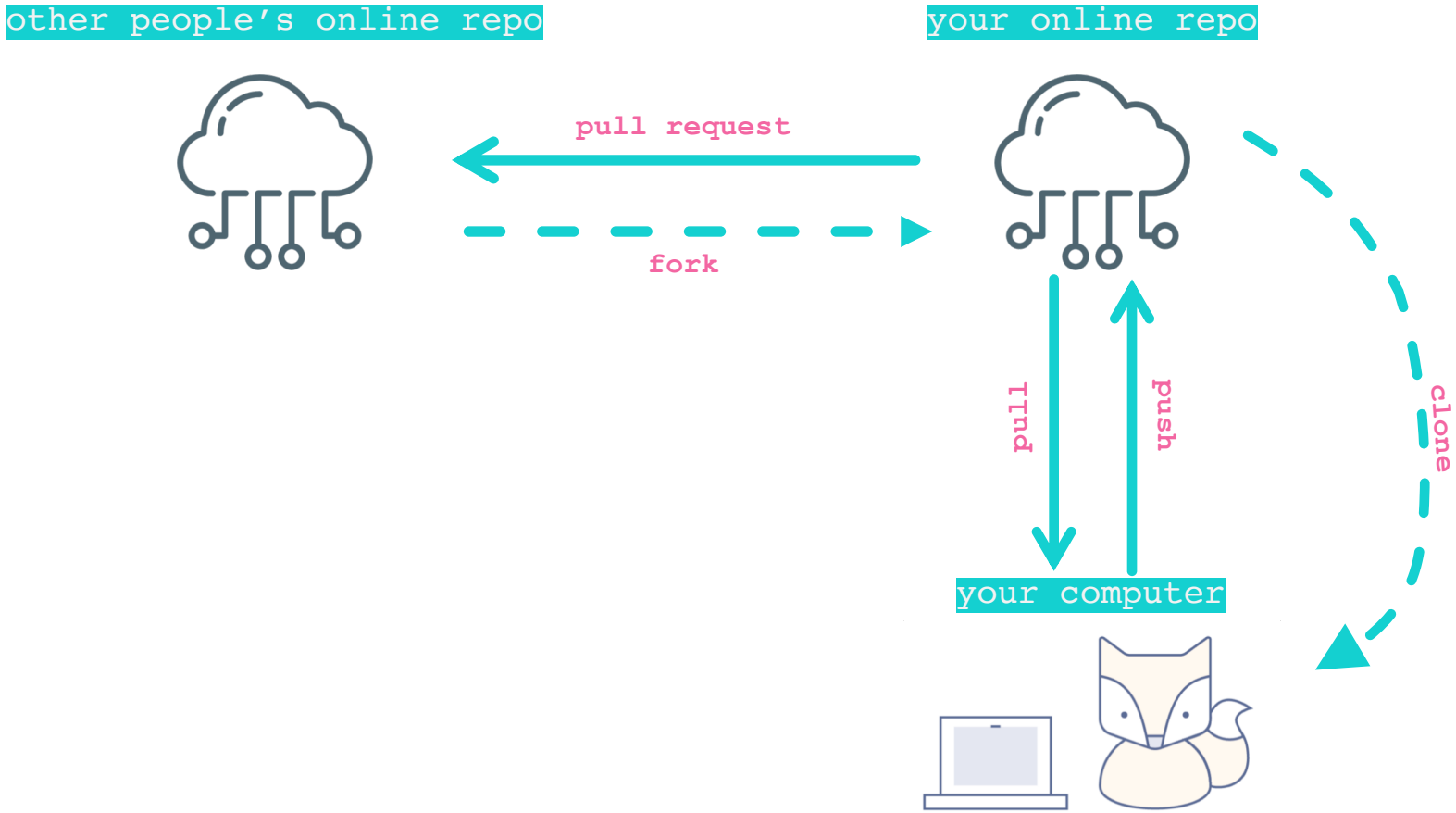


Image from Mozilla Science Lab: https://mozillascience.github.io/study-group-orientation/3-using-github.html

Git + R(Studio)

GitHub tour