

[320] Branching and Merging

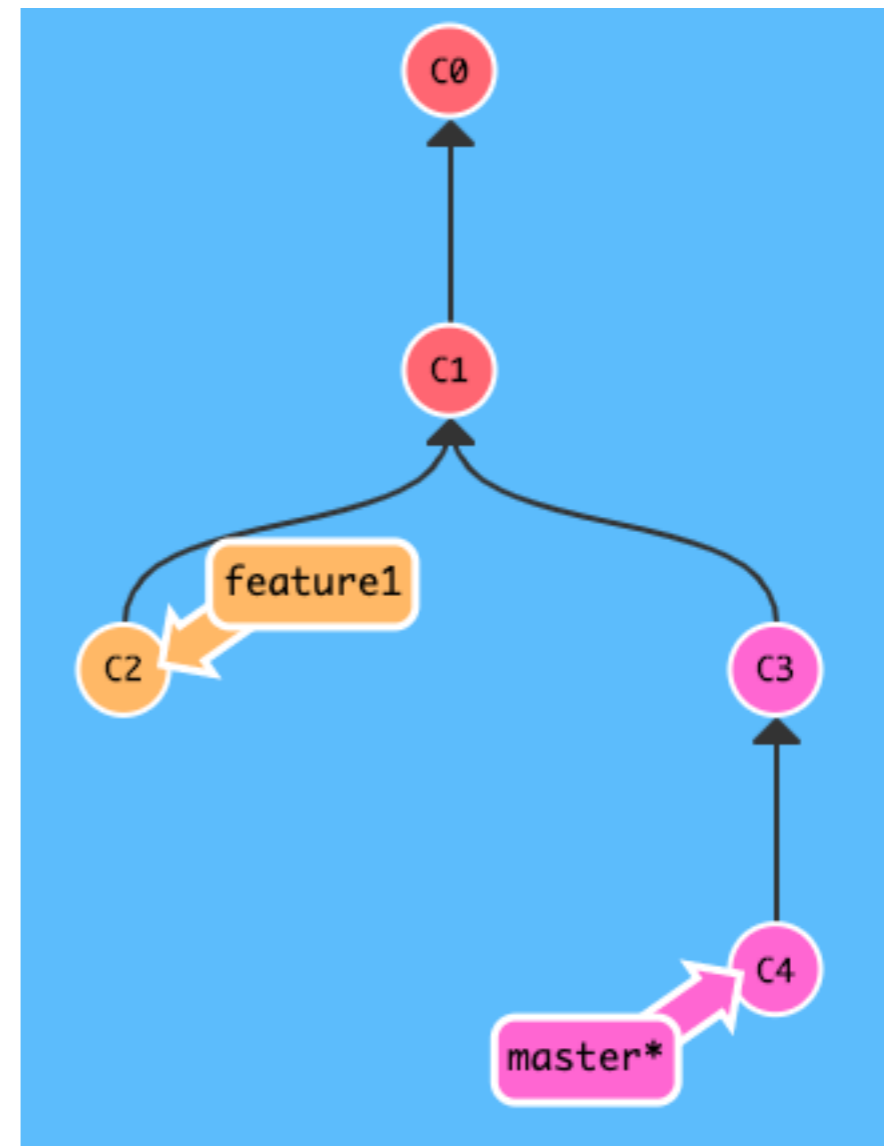
Tyler Caraza-Harter

Practice Branching

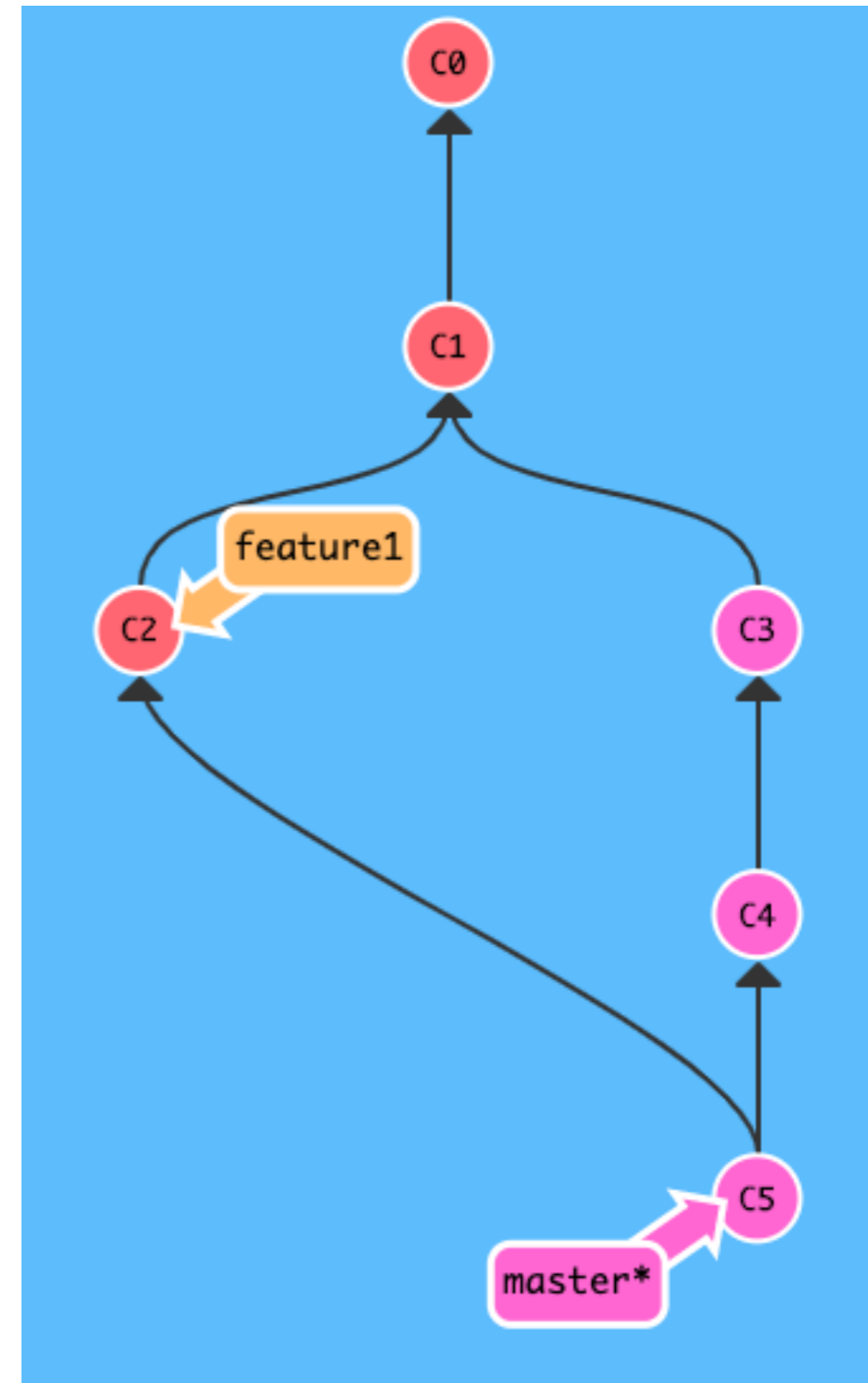
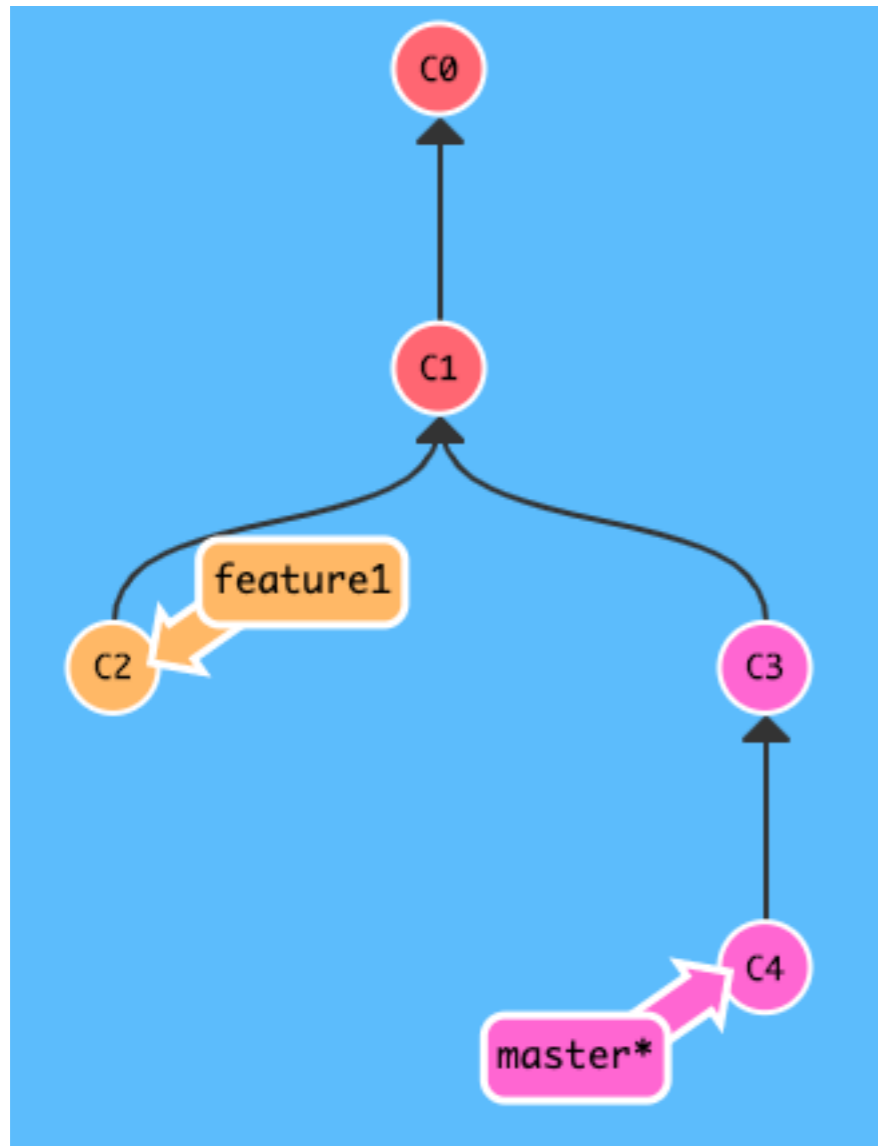
Git equivalent of PythonTutor:

<https://learngitbranching.js.org/?NODEMO>

```
Learn Git Branching
$ git branch feature1
$ git checkout feature1
$ git commit
$ git checkout master
$ git commit -m 'v1'
$ git commit
```



Merging without Conflicts



Switch branch

`git merge frombranch`

add whatever is there to the current branch

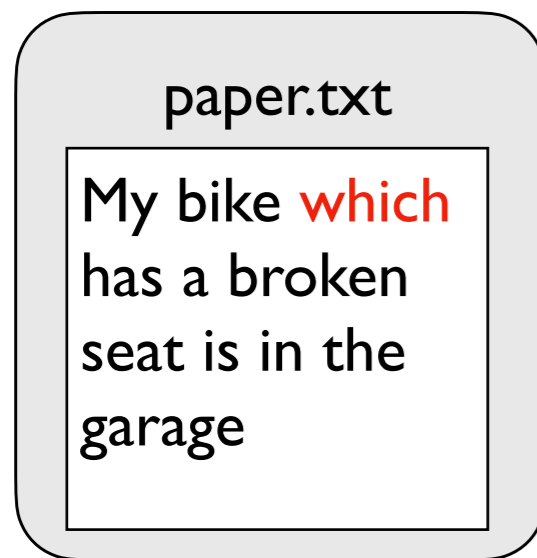
tip (or learn vim):

`export EDITOR=nano`

Merging with Conflicts

What happens when two people try to fix the same issue, in two different (incompatible) ways?

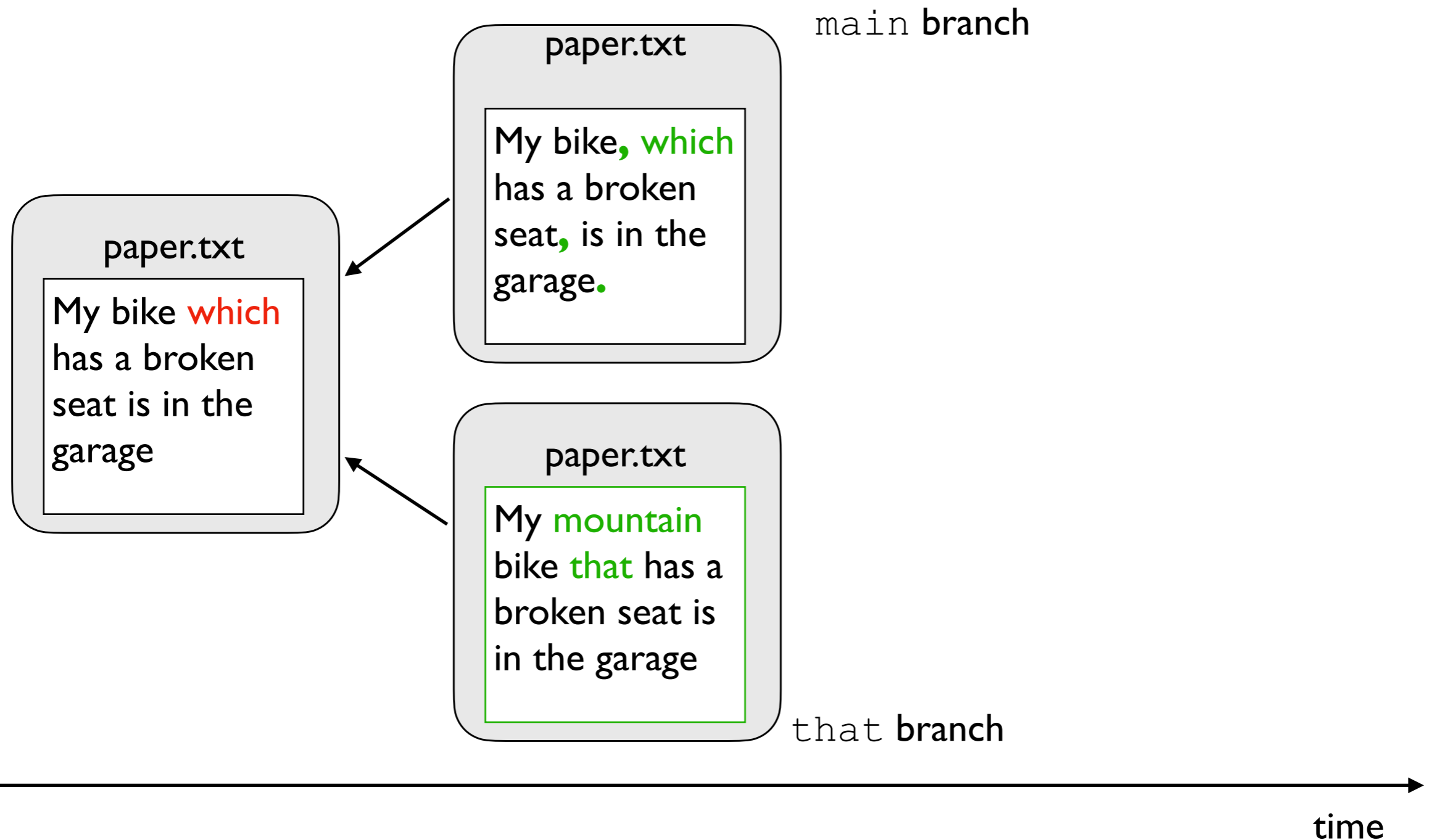
main branch



time

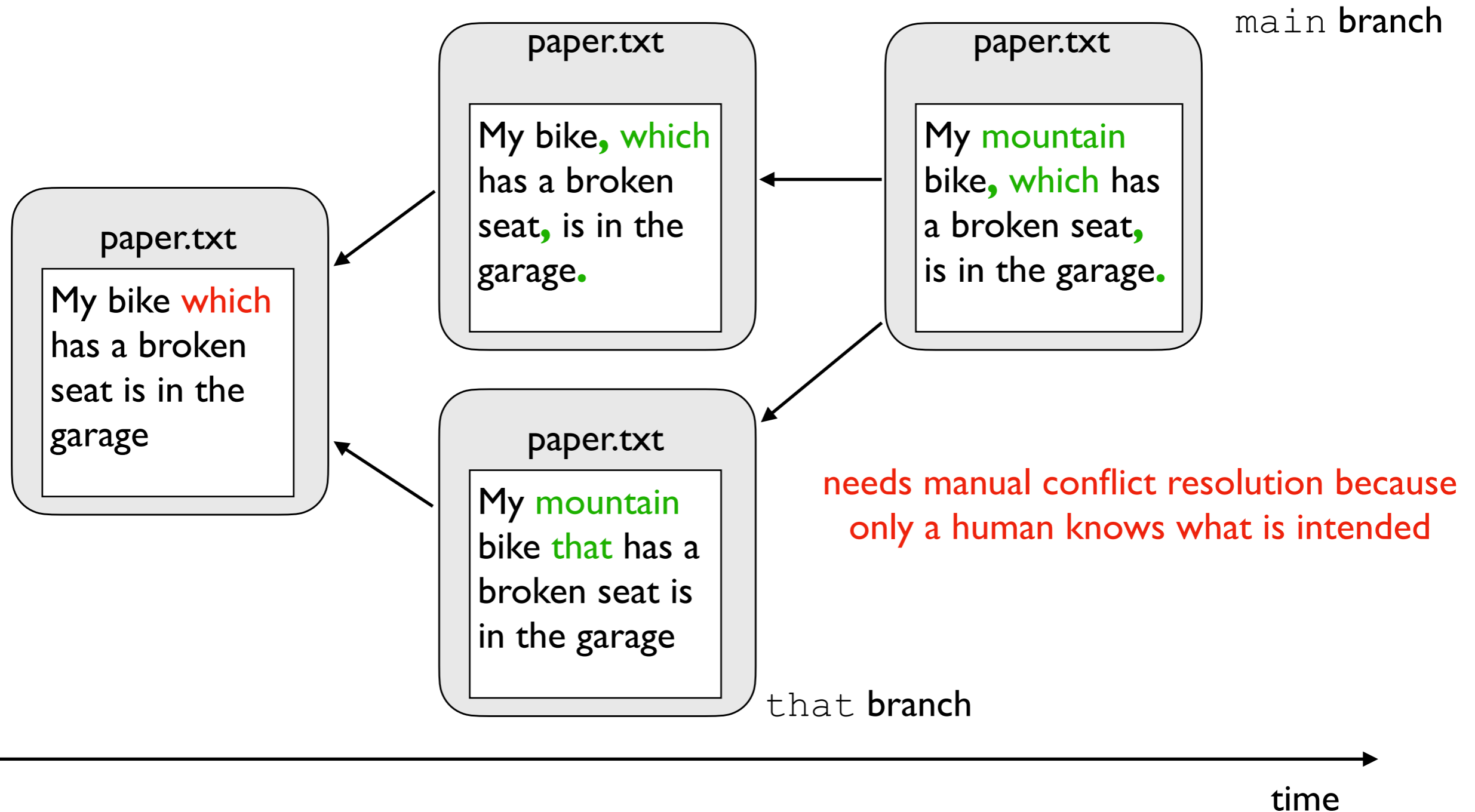
Merging with Conflicts

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Merging with Conflicts

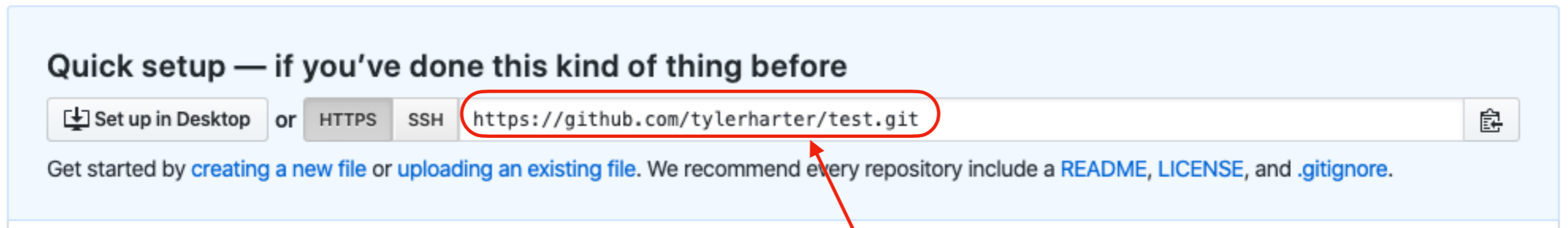
What happens when two people try to fix the same issue, in two different (incompatible) ways?



Remotes

We will often want to work on our laptops, but also have our repositories on GitHub (or similar)

Create GitHub account, go here: <https://github.com/new>



Quick setup — if you've done this kind of thing before

Set up in Desktop or HTTPS SSH

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

The screenshot shows the GitHub 'Quick setup' interface. A red circle highlights the URL 'https://github.com/tylerharter/test.git' in the input field. A red arrow points from this circle down to the 'github' part of the terminal command below.

Pushing a branch to GitHub

```
git remote add github https://github.com/tylerharter/test.git
```

```
git push github main
```

remote
name

branch
name

see reading about naming in software

Summary of Terms

commit: a snapshot of files at a point in time

HEAD: a convenient label for the current commit

tag: a long-term label associated with a commit

branch: a label attached to a commit that re-attaches to new commits

merge: to combine changes on another branch into the current branch

conflict: differences that cannot automatically be merged

Challenges: <https://learngitbranching.js.org/?NODEMO>

