

# [320] Branching and Merging

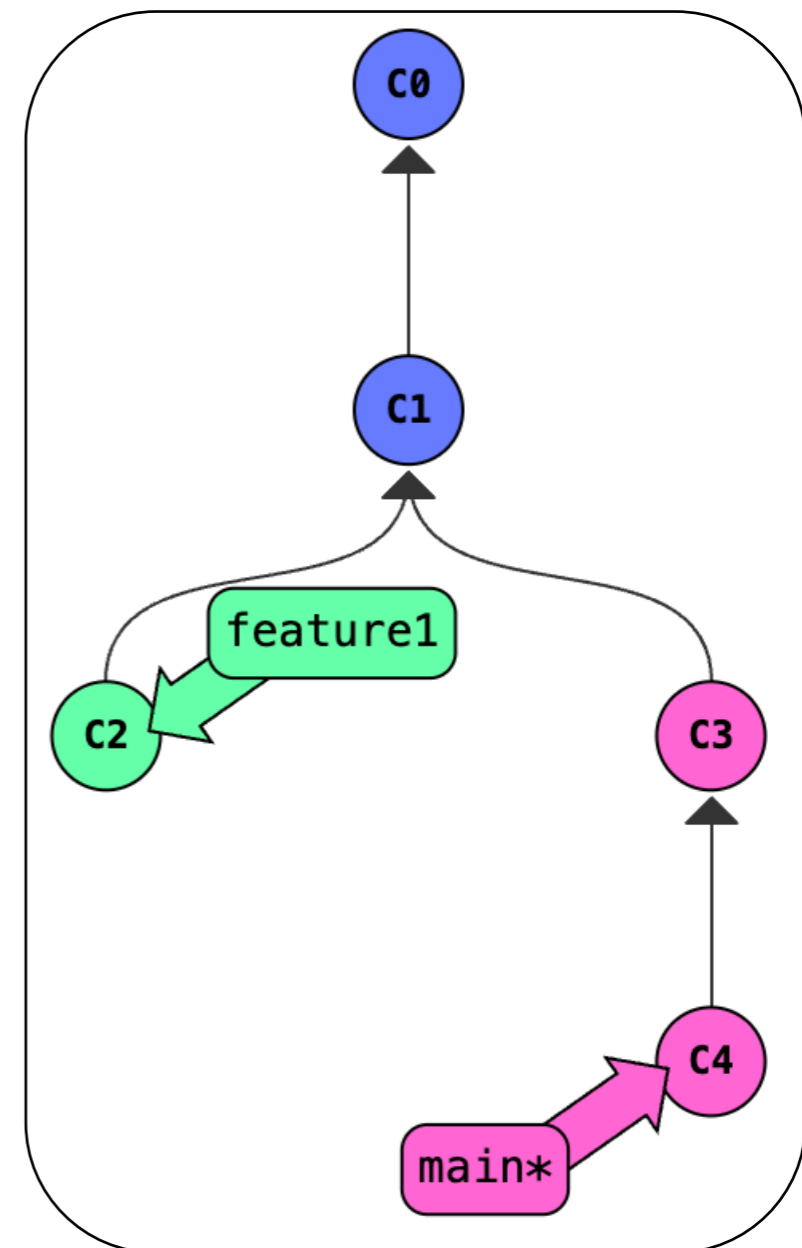
Meenakshi Syamkumar

# Practice Branching

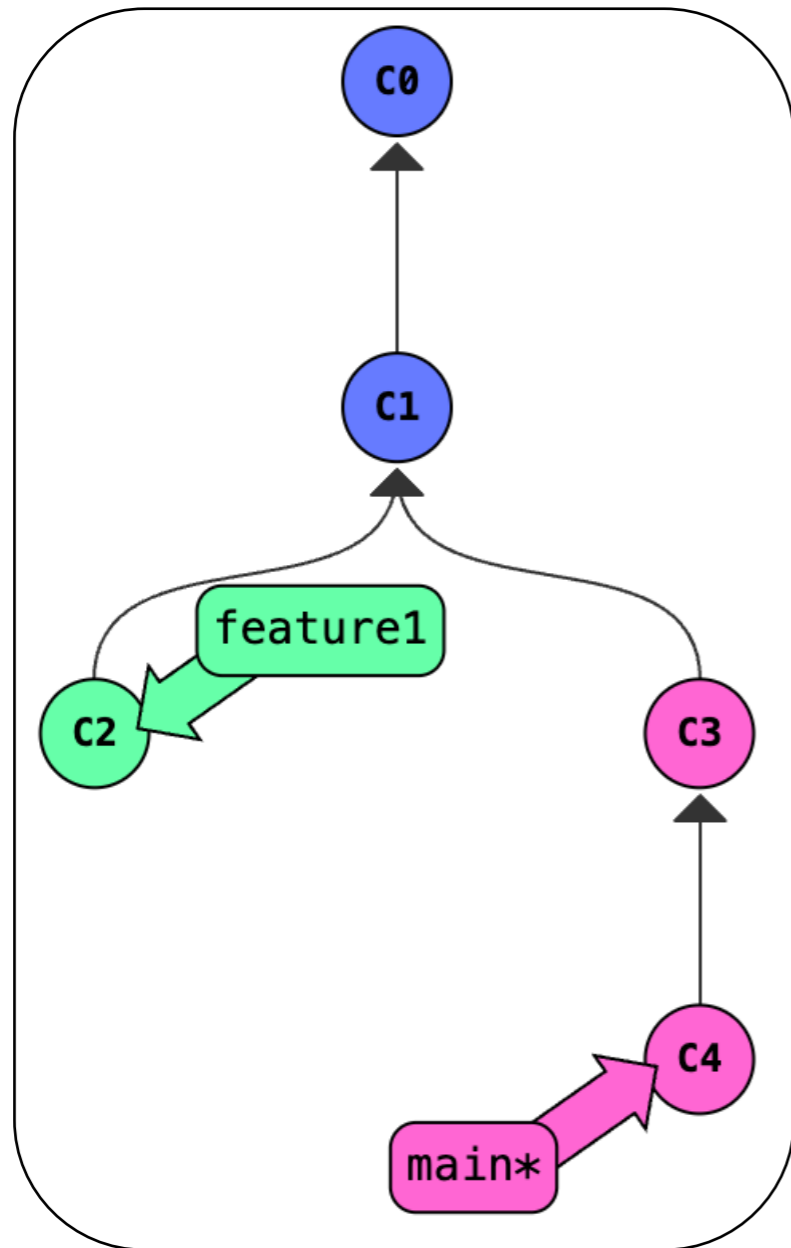
Git equivalent of PythonTutor:

<https://www.msyamkumar.com/cs320/learnGitBranching/index.html>

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



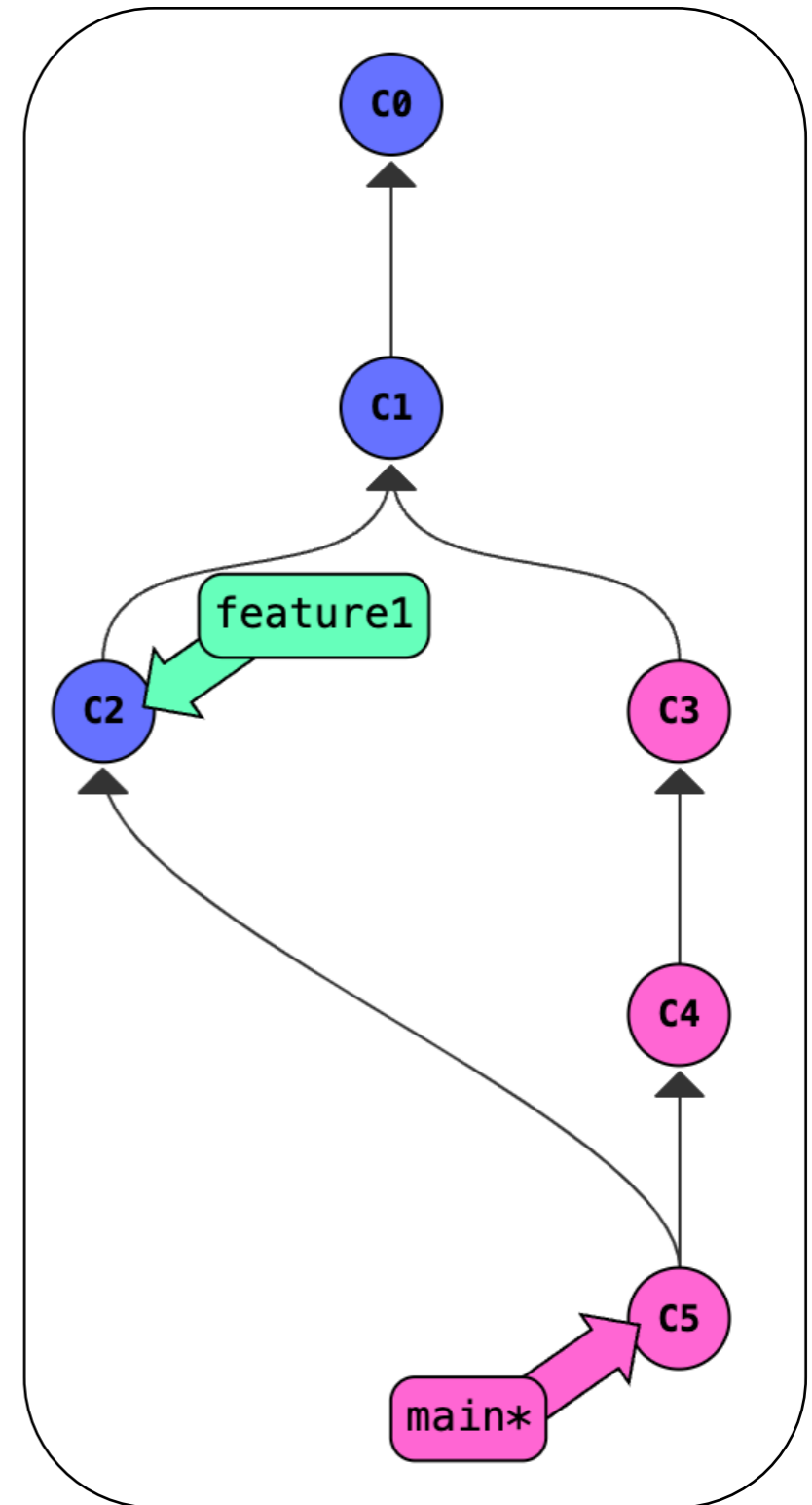
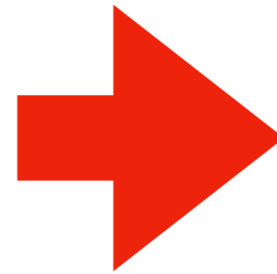
# Merging without Conflicts



Switch branch

`git merge frombranch`

add whatever is there to the current branch



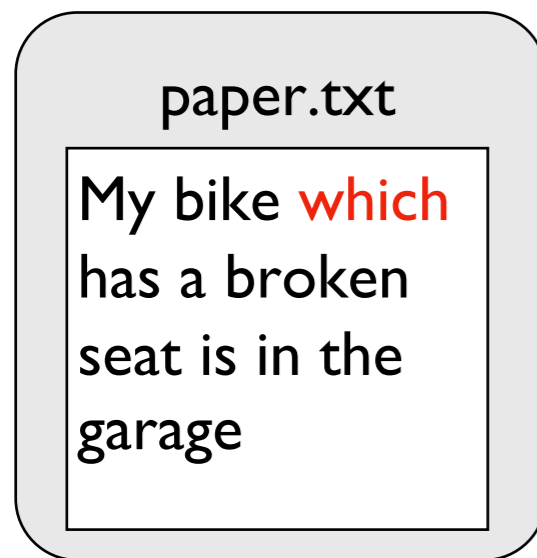
tip (or learn vim):

`export EDITOR=nano`

# Merging with Conflicts

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

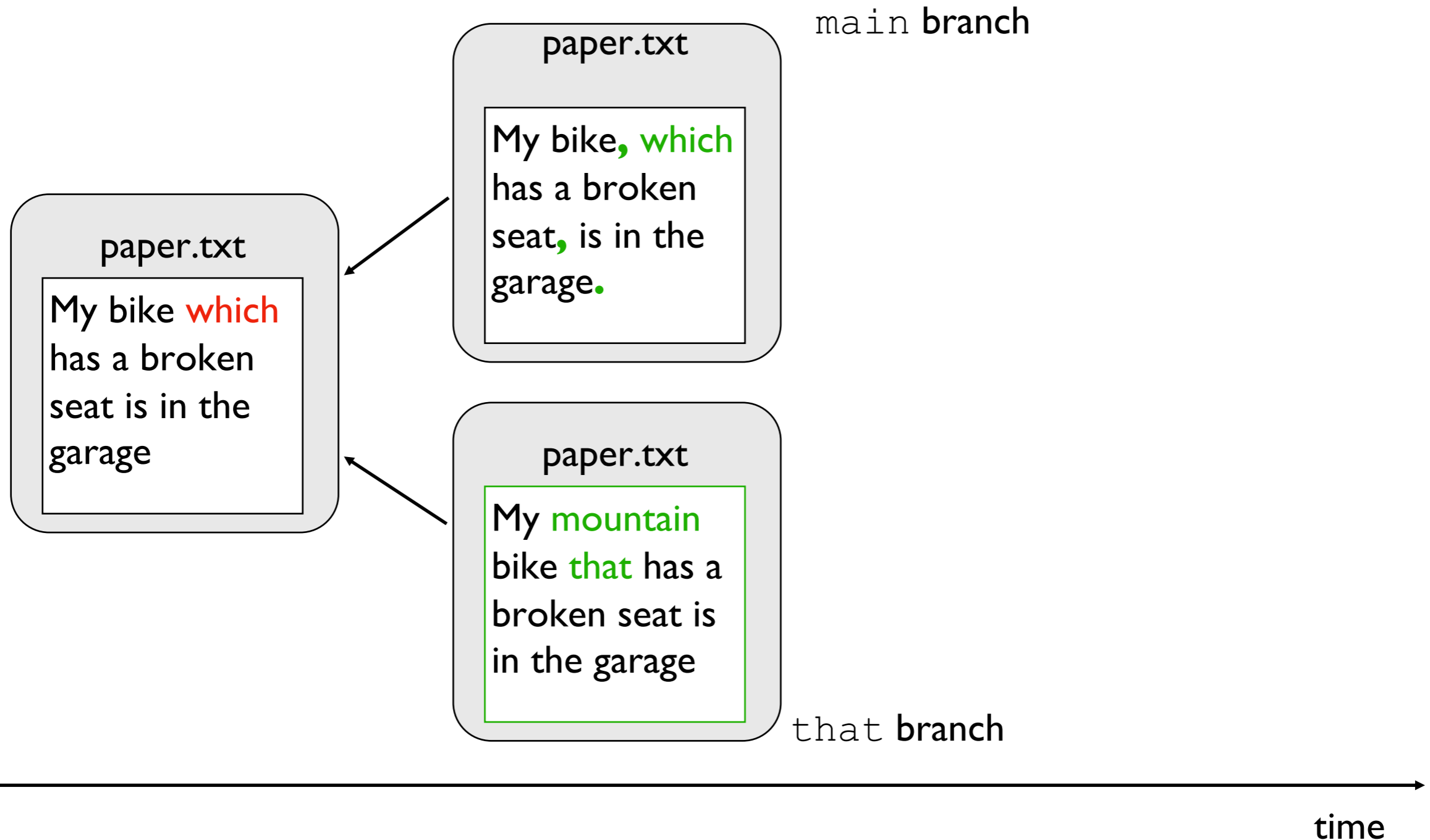
main branch



time

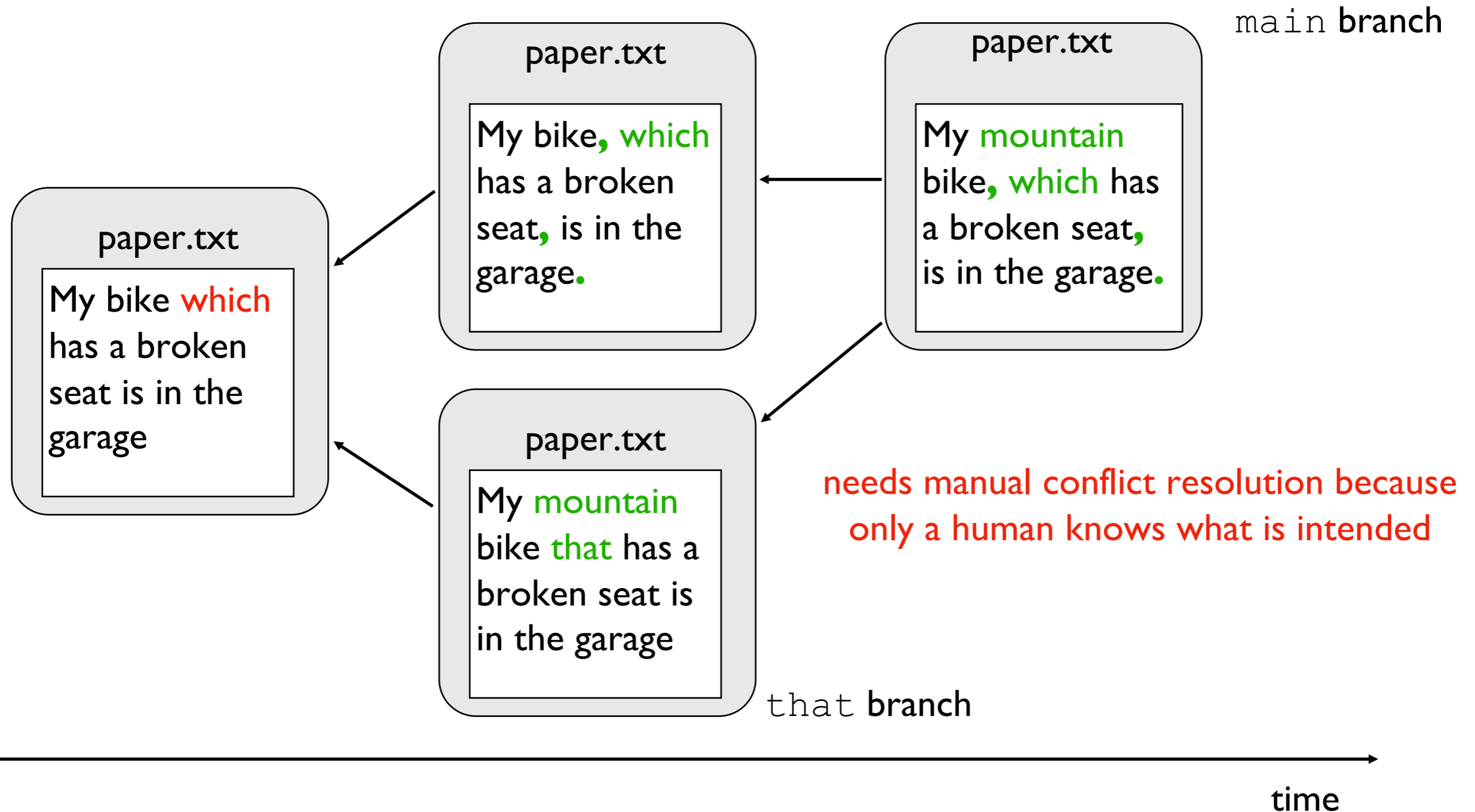
# Merging with Conflicts

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# 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

`git@github.com:msyamkumar/test.git`



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

## Pushing a branch to GitHub

```
git remote add github https://github.com/msyamkumar/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 (figure out how to reproduce):

