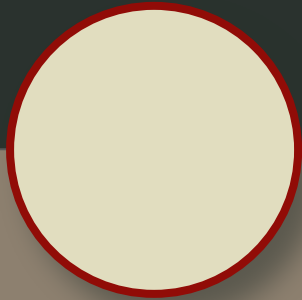


# Introduction to Github



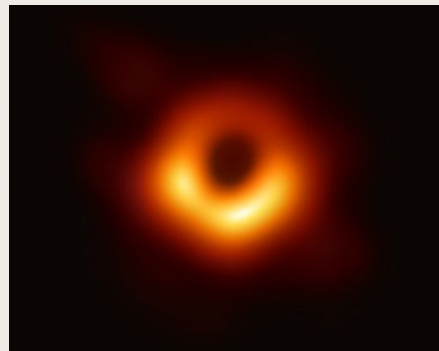
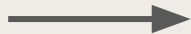
Javier Moldón & Manuel Parra

IAA-CSIC (Granada)

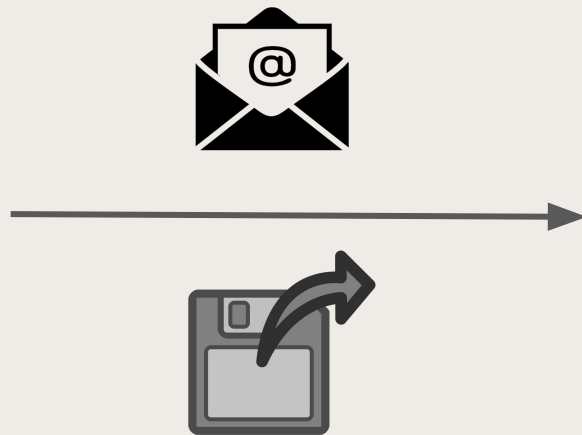
SO course Introduction to Github  
November 25, 2024

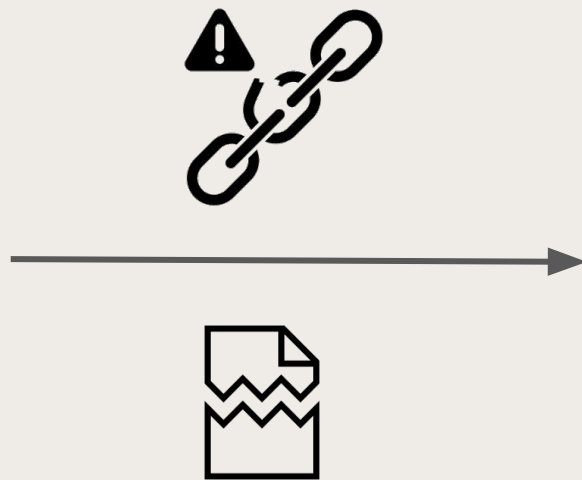


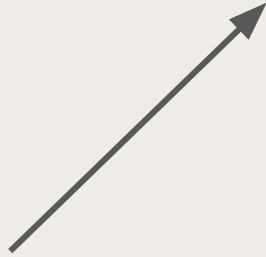




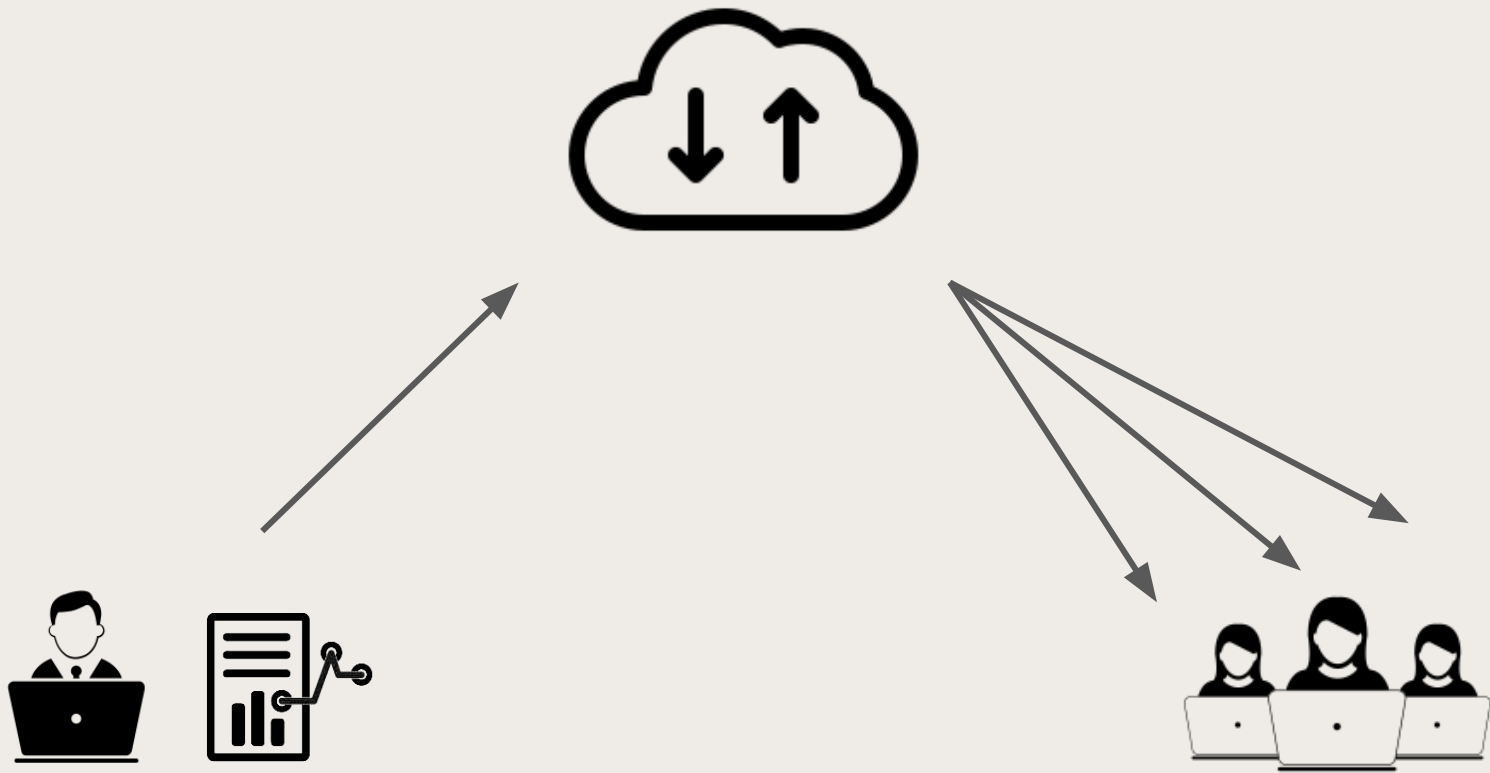


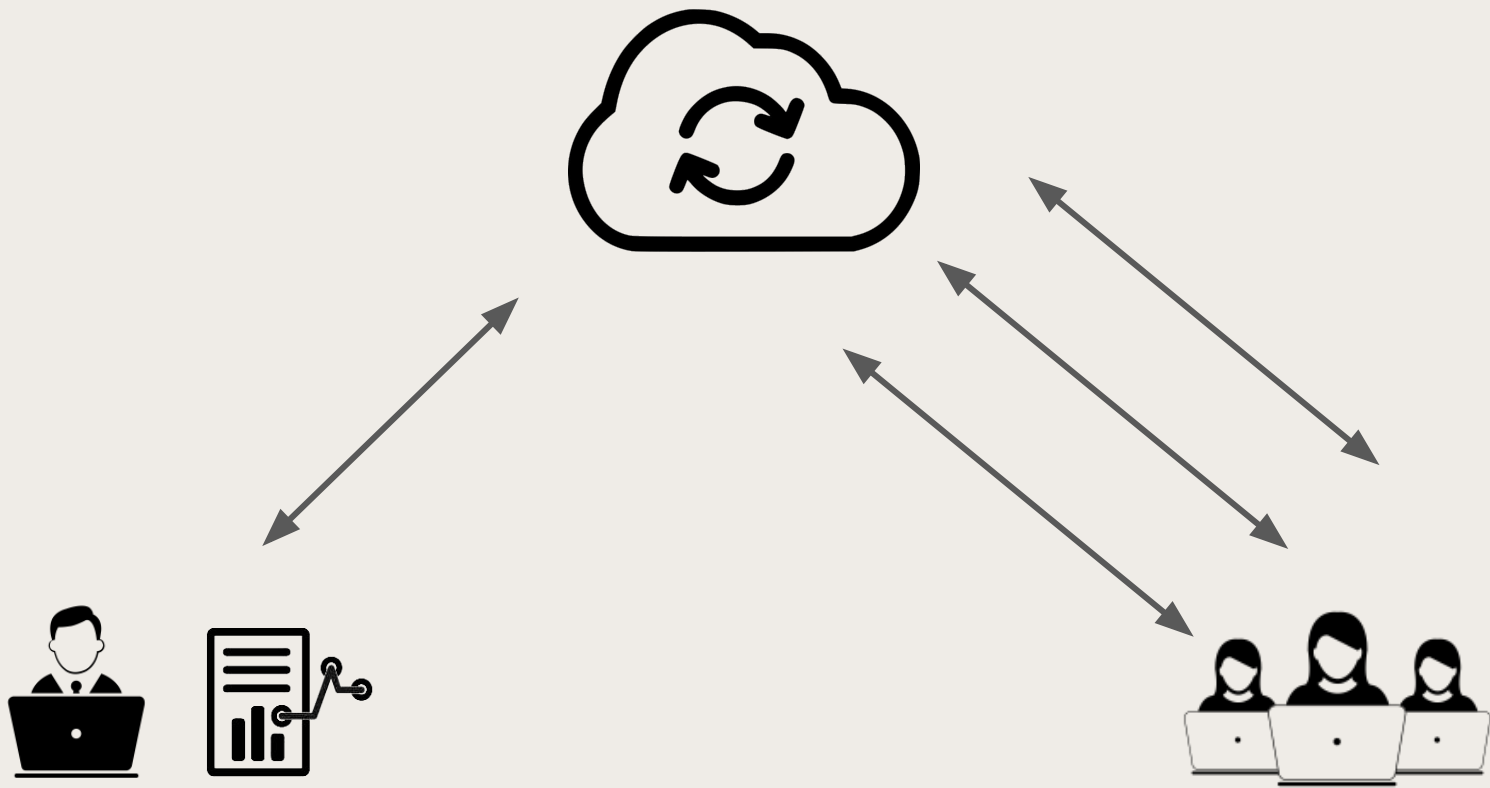
















## Github terms that we will use today

- Commit 
- Branch & Fork 
- Pull request 
- Merge 

# Version control

A robust and rigorous log  
of changes to a file

without renaming files  
(~~v1~~, ~~v2~~, ~~final\_copy~~)

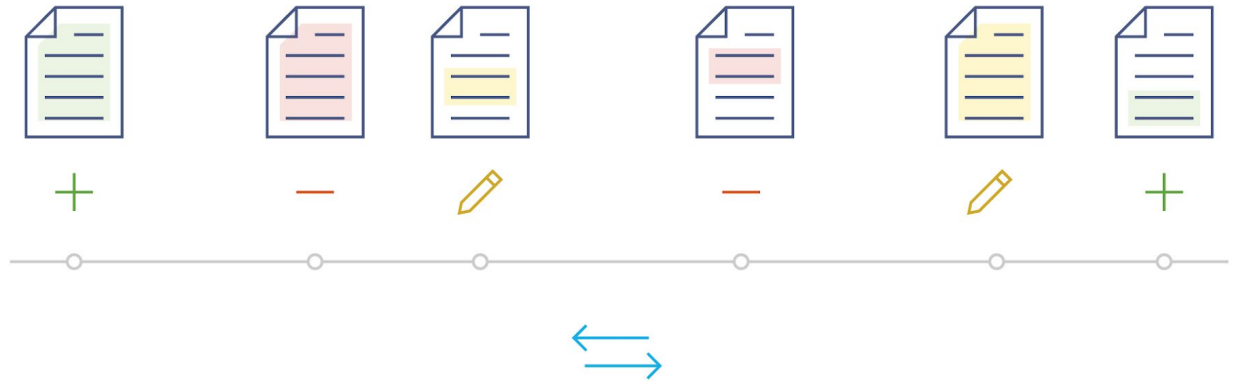
Full history



## TRACK PROJECT HISTORY



You don't save  
copies of your  
document,  
you just save the  
the life story of the  
document, or its  
**timeline**



Basic ingredients

jmolton / reproducibility-course

YOU AND YOUR REPOSITORY

Search

<> Code

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

reproducibility-course

Public

forked from [esprc/reproducibility-course](#)

Pin

Watch 0

Fork 0

Star 0

main

1 Branch

0 Tags

Go to file

+

<> Code

This branch is 74 commits behind esprc/reproducibility-course:main .

Contribute

Sync fork

jmolton

Merge branch 'main' of [https://github.com/jmolton/reprod...](#)

56a930d · 2 years ago

82 Commits

session1	Delete L1.2_Intro_Ciencia_Abierta	2 years ago
session2	Add charla git	2 years ago
.gitignore	Initial commit	2 years ago
LICENSE	Initial commit	2 years ago
OpenScience_Intro_CursoCSIC_Mar20...	Add files via upload	2 years ago
README.md	Update README.md	2 years ago

README

MIT license

Reproducibility course @ CSIC

README FILE

Material for the practical course on reproducibility of scientific analysis (plan de formación CSIC 2022)

About

Material for the practical course on reproducibility of scientific analysis (plan de formación CSIC 2022)

Readme

MIT license

Activity

0 stars

0 watching

0 forks

Releases

No releases published

[Create a new release](#)

Packages

No packages published

[Publish your first package](#)

DESCRIPTION







# README file


Describe it


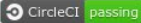
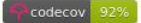




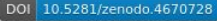
Instructions

Project info

Cite, contribute

 **README**  Code of conduct  BSD-3-Clause license  Security  

  
A Community Python Library for Astronomy

 failing  passing  92%  pypi v7.0.0  passing  enabled  Ruff  
 DOI 10.5281/zenodo.4670728


The Astropy Project is a community effort to develop a single core package for astronomy in Python and foster interoperability between packages used in the field. This repository contains the core library.

- [Website](#)
- [Documentation](#)
- [Slack](#)
- [Open Astronomy Discourse](#)
- [Astropy users mailing list](#)
- [Astropy developers mailing list](#)

## Installation

To install astropy from PyPI, use:

```
pip install astropy
```



For more detailed instructions, see the [install guide](#) in the docs.

## Contributing



# Markdown language

Simple and efficient syntax

Github renders it in markdown files, issues, pull requests, etc.

```
---
title: "Hi there"
output: pdf_document
---
```

## # An exhibit of Markdown

H<sup>3</sup> is cool.

This note demonstrates some of what [\[Markdown\]](#)<sup>[1]</sup> is capable of doing.

$$\int_{-\infty}^{\infty} e^{-x^2} = \sqrt{\pi}$$

*\*Note: Feel free to play with this page. Unlike regular notes, this doesn't automatically save itself.\**

## ## Basic formatting $x + 12$

Paragraphs can be written like so. A paragraph is the basic block of Markdown. A paragraph is what text will turn into when there is no reason it should become anything else.

Paragraphs must be separated by a blank line. Basic formatting of *\*italics\** and **\*\*bold\*\*** is supported. This *\*can be \*\*nested\*\* like\** so.

## ## Lists

### ### Ordered list

0 ▲ 0

## TITLE OUTPUT

Hi there pdf\_document

## An exhibit of Markdown

H<sup>3</sup> is cool.

This note demonstrates some of what [Markdown](#) is capable of doing.

$$\int_{-\infty}^{\infty} e^{-x^2} = \sqrt{\pi}$$

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Paragraphs must be separated by a blank line. Basic formatting of *italics* and **bold** is supported. This *can be nested* like so.

Some repository examples

# Repository examples

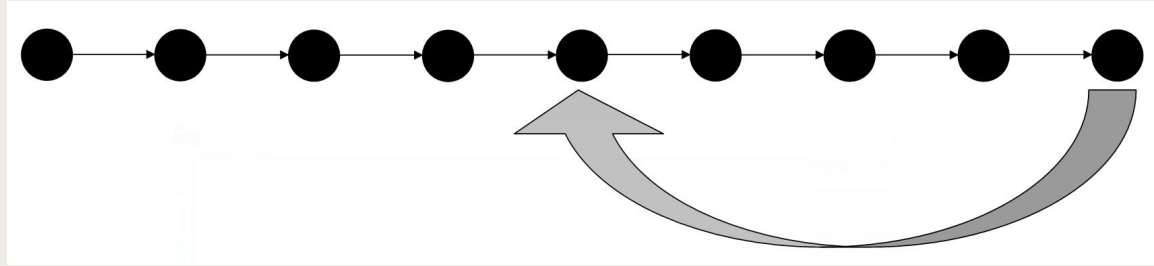
- Software project: [PyGaia](#)
- Large software Astropy: [Astropy](#)
- [Awesome Astronomy compilation](#)
- Publication: [Public data, code, and notebooks for paper analyzing inner bars and nuclear rings](#)
- Publication: [The viewing angle in AGN SED models, a data-driven analysis](#)
- A Nature Astronomy paper: [A tidal disruption event coincident with a high-energy neutrino](#)
- Full course: [Fundamentals of Radio Interferometry repository](#)
- Example of a [CV](#)
- A whole book written in Github: [Python Data Science Handbook](#) is in this Github [repository](#).
- You can also write papers on Github! [Mutiband Lomb-Scargle Periodograms, repository](#). In this example, the author even received feedback from a world expert on the topic (Jeff Scargle!) in a Github [issue](#) while writing the paper. Check this talk explaining the experience [In Defense of Extreme Openness](#)
- To learn more: [Github Guides](#)
- You can also write and host your personal webpage in Github: [examples](#)

## Exercise 1

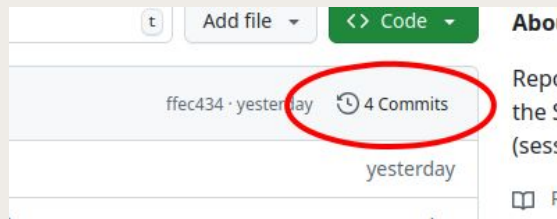
Create an initial repository.  
Commits and history

# Linear progression of commits

It is easy to navigate back in time to any point



# Commit history



main

Commits on Jan 30, 2022

- Merge pull request #22349 from QuLogic/luatex-kpsewhich ...  
timhoffm committed 15 hours ago ✓  
Verified 6eba0af <>
- Merge pull request #22025 from anntzer/wxf ...  
greglucas committed yesterday ✓  
Verified 5722182 <>

Commits on Jan 29, 2022

- Deprecate various custom FigureFrameWx attributes/methods. ...  
anntzer committed yesterday ✓  
b463a3b <>
- Merge pull request #21391 from anntzer/jpegbkg ...  
greglucas committed yesterday ✓  
Verified 30db833 <>
- Merge pull request #22026 from anntzer/wxc ...  
greglucas committed yesterday ✓  
Verified f44c225 <>
- Merge pull request #22351 from anntzer/tw ...  
timhoffm committed yesterday ✗  
Verified d771226 <>
- Fix "trailing" whitespace in C docstrings. ...  
anntzer committed yesterday ✓  
a9d12de <>
- Merge pull request #22342 from anntzer/\_qhull ...  
timhoffm committed yesterday ✓  
Verified dc1e9c1 <>

## Exercise 2

Plan your work: Issues

# Issues

Issues 42

1,462 Open ✓ 6,821 Closed		Author ▾	Label ▾	Projects ▾	Milestones ▾	Assignee ▾	Sort ▾
🕒	<b>[Doc]: Deprecation note in <code>get_cmap</code> is non-actionable</b>	Documentation					🗨 1
#22362 opened 9 hours ago by mwaskom							
🕒	<b>[Bug]: <code>text.usetex</code> Vs. <code>DateFormatter</code></b>	topic: date handling	topic: text/usetex				🗨 3
#22350 opened 2 days ago by leocirto							
🕒	<b>[ENH]: Having more customization options for the <code>FancyArrow</code> class (specifically different tails)</b>	New feature					🗨 4
topic: arrow #22344 opened 2 days ago by mapfiable							
🕒	<b>[MNT]: Delay (or make pending) the deprecation of <code>set_constrained_layout/set_tight_layout</code></b>	Maintenance					🗨 8
#22343 opened 3 days ago by annitzer							
🕒	<b>[Bug]: <code>GridSpec</code> or related change between 3.4.3 and 3.5.1</b>						🗨 2
#22341 opened 3 days ago by KelSolaar							
🕒	<b>[Bug]: <code>rcParams['legend.loc']</code> can't use float-tuple like <code>kwarg legend(loc...)</code></b>	topic: rcparams					
#22338 opened 3 days ago by cphlewis							
🕒	<b>[Bug]: Unable to <code>twinx</code> an axis with <code>sharex=True</code></b>						🗨 4
#22335 opened 3 days ago by madphysicist							
🕒	<b>[Bug]: Data under cursor crashes on <code>QuadMesh</code></b>	status: confirmed bug					🗨 3
#22334 opened 3 days ago by Stassels ↗ v3.5.2							
🕒	<b>[Bug]: First and or last minor ticks sometimes not plotted</b>	status: confirmed bug					🗨 1
#22331 opened 4 days ago by bproxau							

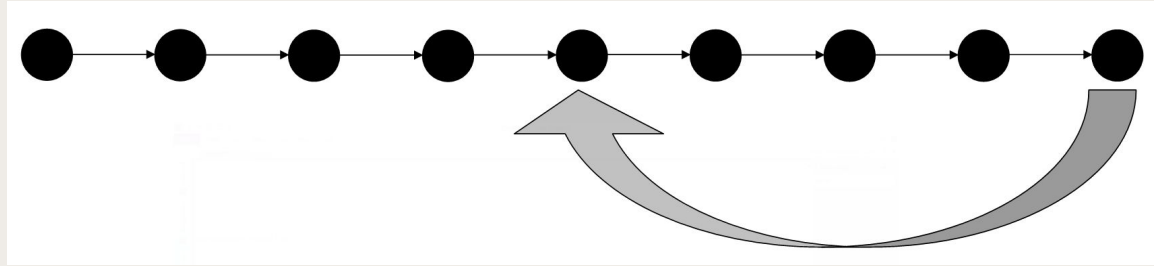


## Exercise 3

How to manage branches and Pull Requests

# Linear progression of commits

It is easy to navigate back in time to any point

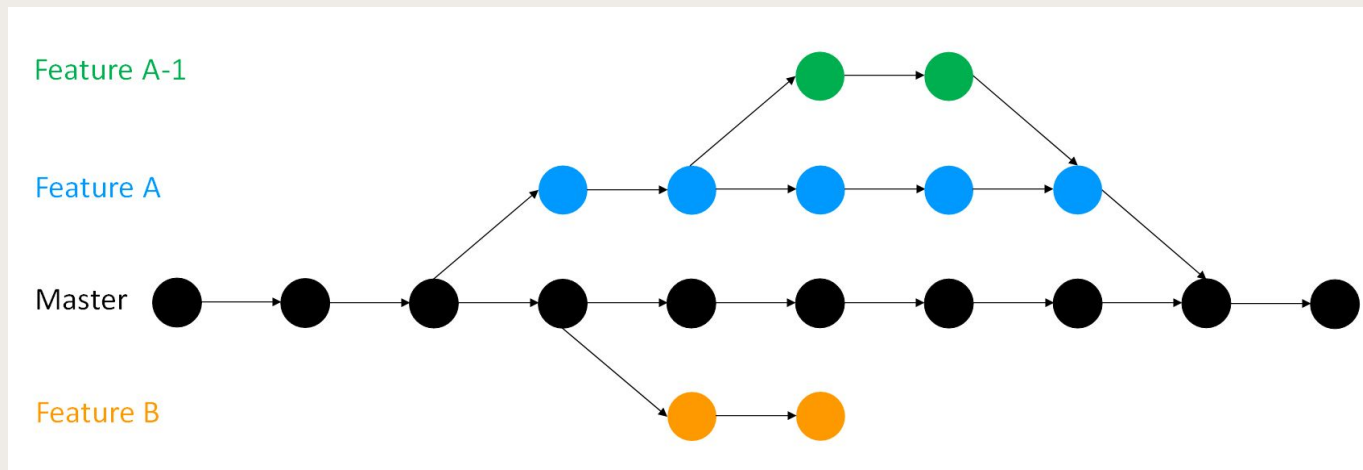


# Git branches








Easy to collaborate

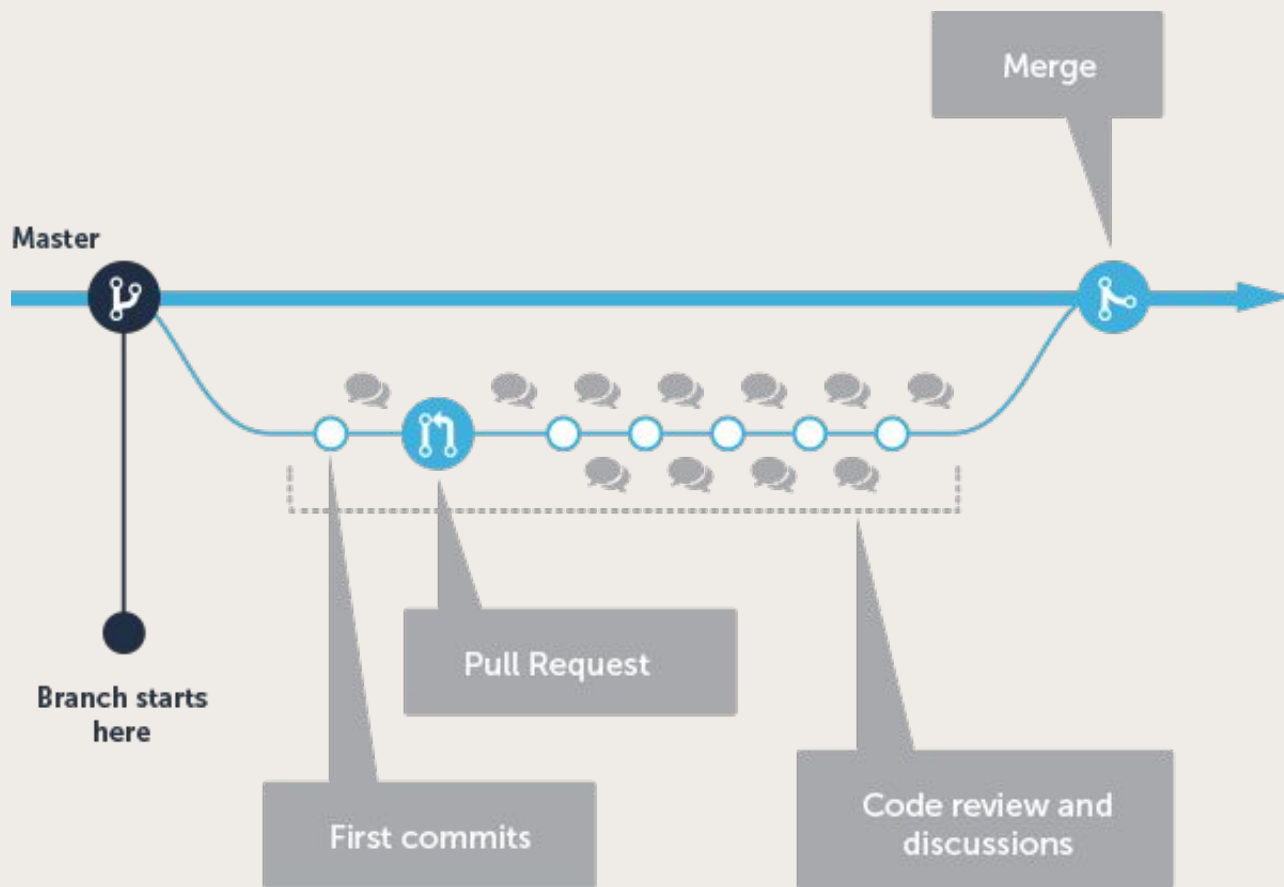
Check and verify  
new content

Requires  
pull/merge requests



# Pull/Merge requests

313 Open ✓ 13,745 Closed		Author ▾	Label ▾	Projects ▾	Milestones ▾	Reviews ▾	Assignee ▾	Sort ▾
	<b>Revert datetime usetex ticklabels to use default tex font.</b> ✗	topic: date handling	topic: text/usetex	topic: ticks axis labels		1		
#22361 opened 12 hours ago by annntzer • Review required 6 tasks								
	<b>Let TeX handle multiline strings itself.</b> ✗	status: waiting for other PR	topic: text/usetex					
#22360 opened 12 hours ago by annntzer • Review required 6 tasks								
	<b>Slightly refactor TeX source generation.</b> ✗	Maintenance	topic: text/usetex					
#22359 opened 12 hours ago by annntzer • Approved 6 tasks								
	<b>Cleanup tripcolor()</b> ✓	Maintenance				1		2
#22356 opened yesterday by timhoffm • Review required v3.6.0								
	<b>Auto font selection for system locale</b> ✗							
#22355 opened yesterday by kmivan • Review required 4 of 6 tasks								
	<b>correctly treat pan/zoom events of overlapping axes</b> ✗							13
#22347 opened 2 days ago by raphaelquast • Review required 2 of 6 tasks v3.6.0								
	<b>MNT: make layout deprecations pending</b> ✓	Maintenance				1		5
#22345 opened 2 days ago by jklymak • Approved 6 tasks v3.6.0								



## Exercise 4

Collaborate in a repository.

Fork a repository



A/myrepo



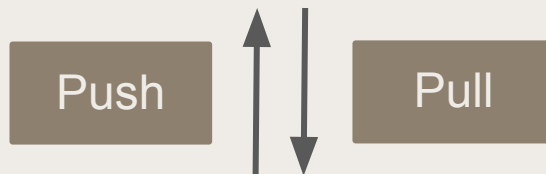
Clone



A



A/myrepo

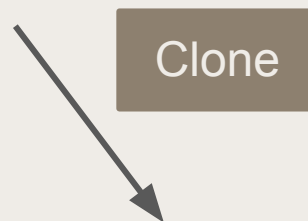


A





A/myrepo



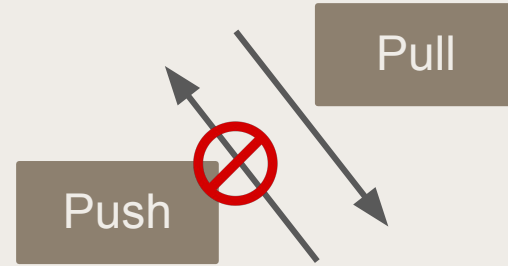
A



B



A/myrepo



A



B



A/myrepo



Fork



B/myrepo



A



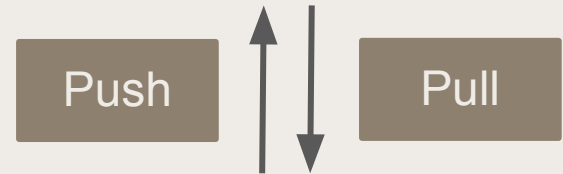
B



A/myrepo



B/myrepo



A



B



A/myrepo



B/myrepo



A



B

B/myrepo



A/myrepo



B/myrepo



C



A



B