Housekeeping

- Please respect the **Code of Conduct**
- Handouts available in:

  https://github.com/alan-turing-institute/github-introduction
- Use the **post-its** provided to let us know if you have a question or need help
- Please ask questions on anything related to these topics!

Online repo: github.com/alan-turing-institute/github-introduction.

Zenodo at DOI: https://doi.org/10.5281/zenodo.8221283

The Alan Turing Institute

Git Good: an Introduction to GitHub for Collaboration

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Let’s Git Good:

- **Part 1: Why and basics**
- Exercise 1: Finding an Issue and contributing to a project.
    - You will practice: Using issues to contribute and document decisions
- **Part 2: Advanced**
- Exercise 2: Editing a file and making a Pull Request.
    - You will practice: Markdown; contributing, pull requests
- **Bonus Exercise**: Make your own repo, edit your readme

Collaboration

Working together, often not at the same time or in the same place (distributed)

Challenges:

- People editing the same line
- Incorporating different ideas
- Different versions of the doc

What is version control?

An approach to **recording** changes in a file over time so that you can:

- track history
- review specific changes
- go to earlier/later versions (back up!)

Git & GitHub

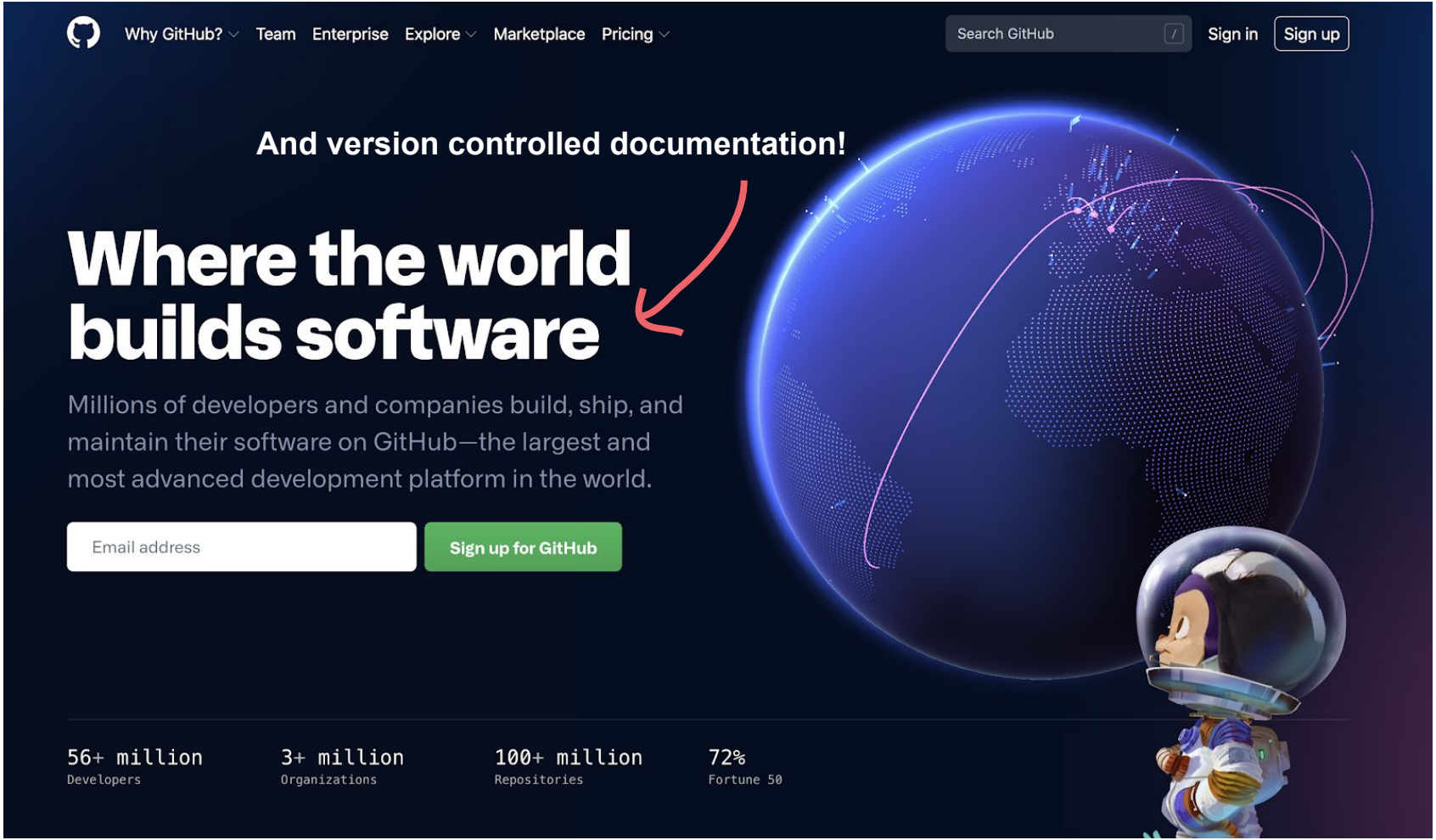
Git is one of the most widely used **software** for version control. It is free and open source!

You can use git **on your computer** through the command line or a GUI.

GitHub is a popular **website** for hosting and sharing projects you have been tracking with git.

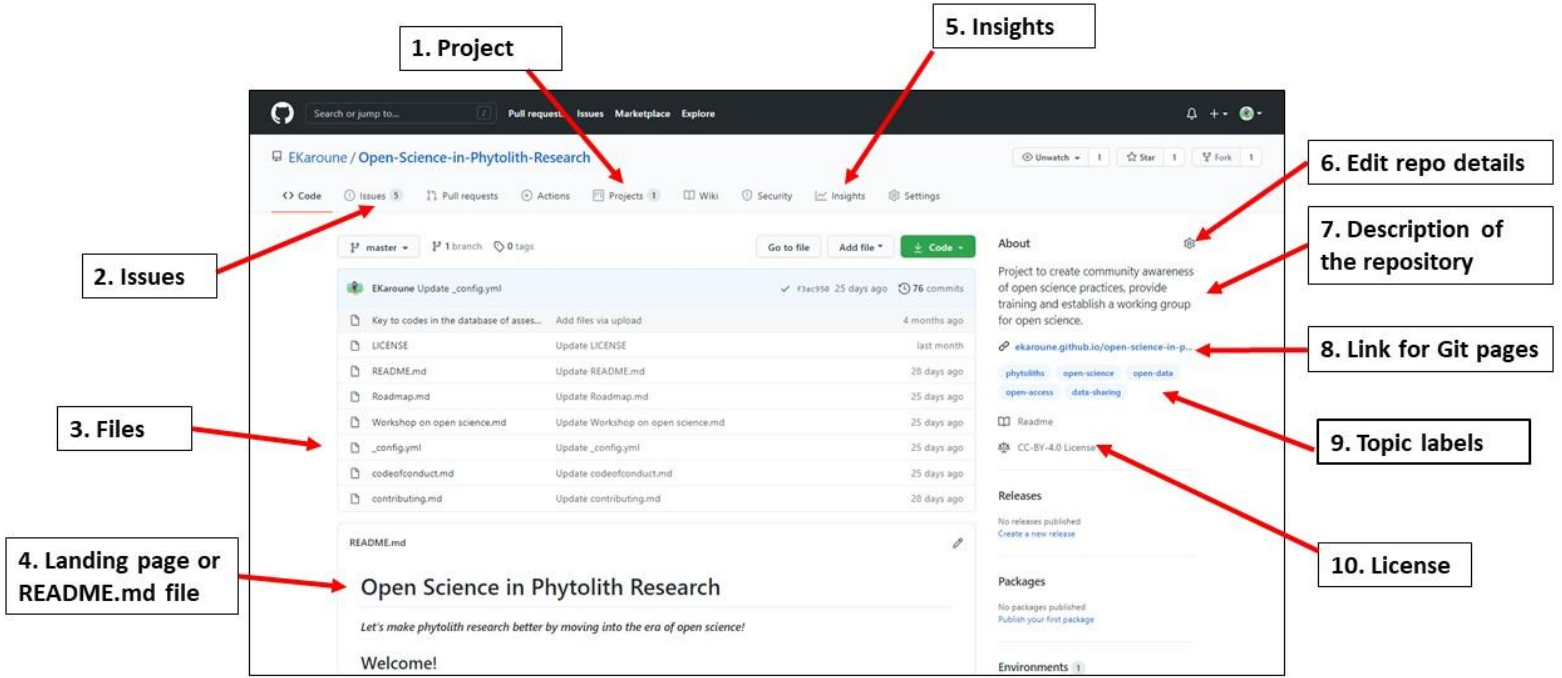
Flexible and securely control of access to materials, and open publishing.

Logos from GitHub and Git.



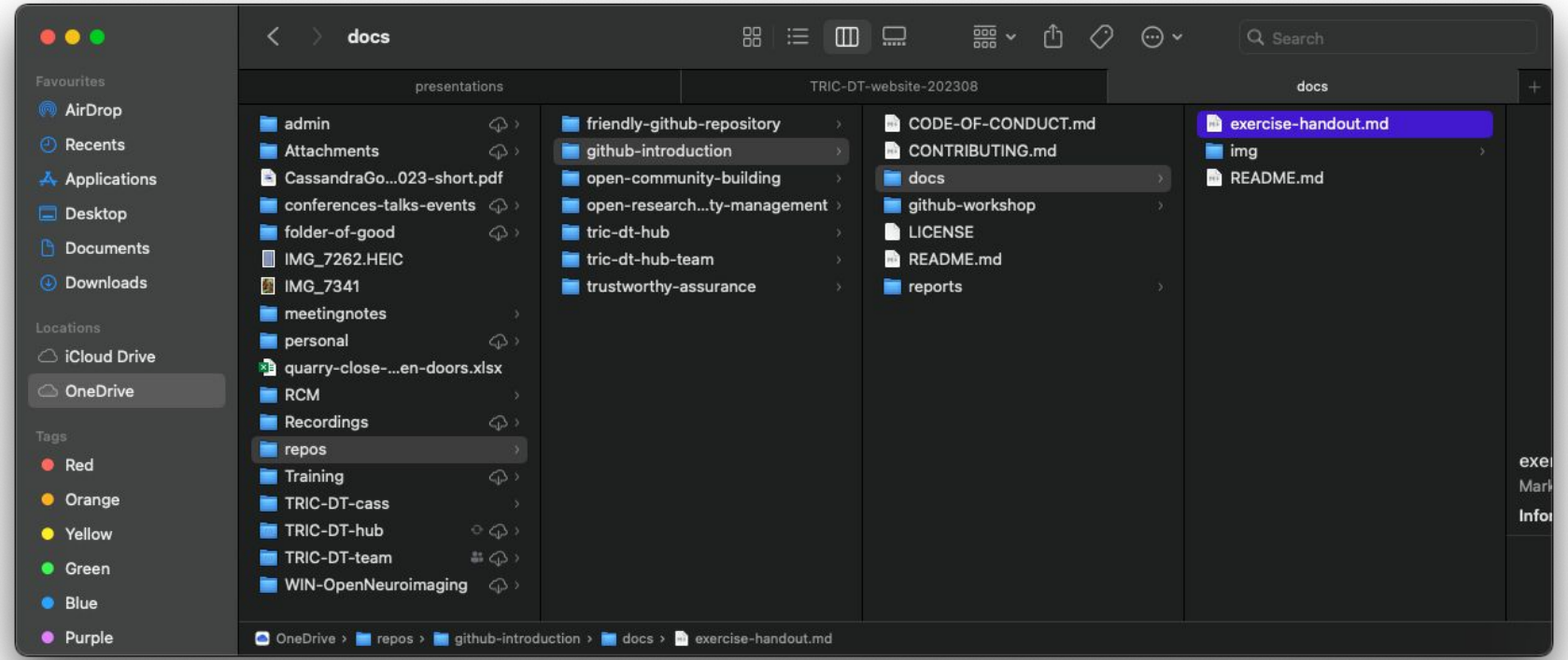
GitHub: https://github.com/

GitHub - online (“remote”)



github.com/alan-turing-institute/github-introduction ; github.com/alan-turing-institute/open-research-community-management ; github.com/alan-turing-institute/the-turing-way

GitHub - local

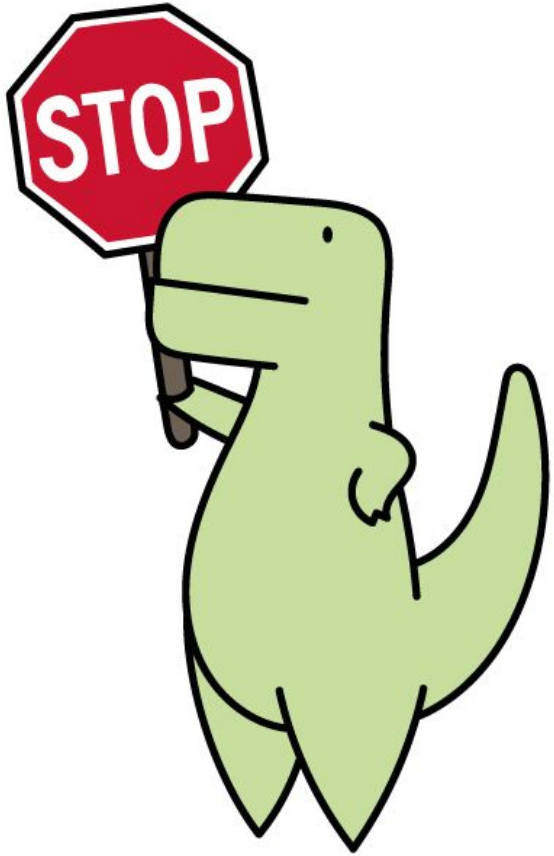


Online repo: github.com/alan-turing-institute/github-introduction.

GitHub Vocabulary: Repository

- Repository (repo)  = filing cabinet / directory
- Commit  = save point
- Issue  = feedback and “to-do” list
- Branch & Fork  = different “streams” of work
- Pull request  = ask to incorporate your changes
- Merge  = incorporate changes

Questions?



https://github.com/alan-turing-institute/github-introduction. Image from Giphy. CC-BY 4.0.

Exercise 1: Commenting on an issue.

- Go to the repository we've set up for this session.
- Comment on the issue titled "**Exercise 1: Getting started**".

https://github.com/alan-turing-institute/github-introduction. CC-BY 4.0. GIF from https://tenor.com/view/yoda-watch-and-learn-gif-15256521

Collaborating in GitHub

When working with others, we want to:

- draft ideas NOT on main branch
- reviews and editing from team members before finalising new additions

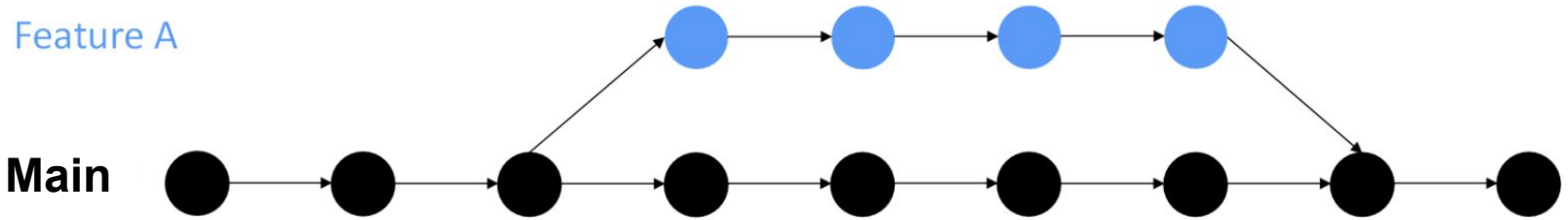


Fig. 18 An illustration of a development and main branch in git.

Branch vs Fork

A temporary place in **your** repo pointing to a commit

Is used to work on an idea (like a solution to a problem) → *requires 'write' access to the original repo*

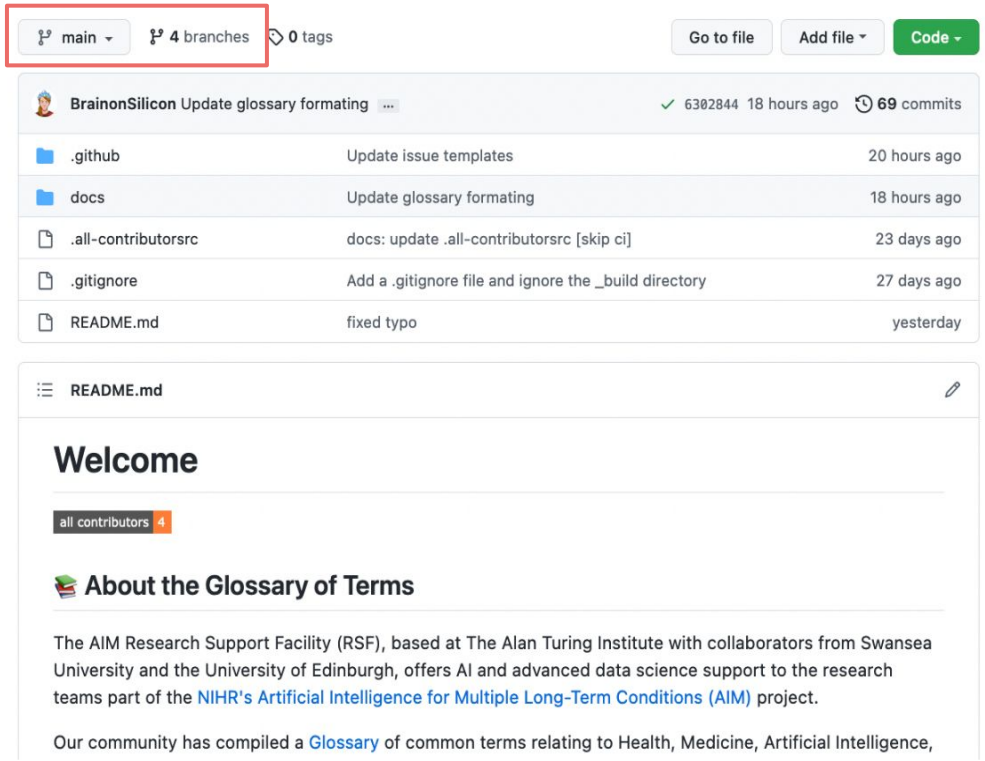
Fork: An **independent** copy of a repo

Can be used for independent work or collaboration → *does not require write access to original repo*

Branch

A temporary place in **your** repo pointing to a commit

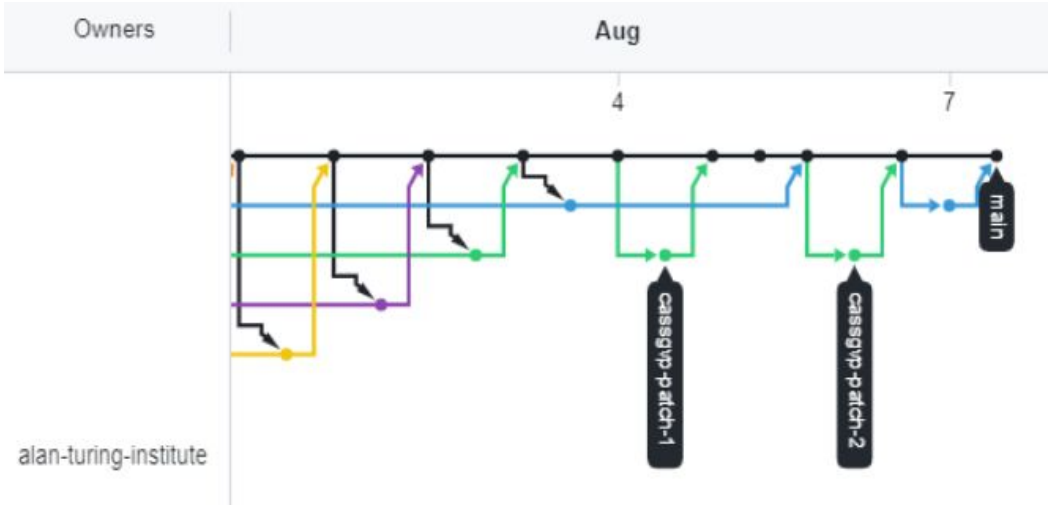
Is used to work on an idea (like a solution to a problem) → *requires 'write' access to the original repo*



Pull Request & Merge

Pull request
request to add your changes from a branch back into main.

Merge
act of incorporating new changes (commits) from one branch to another.



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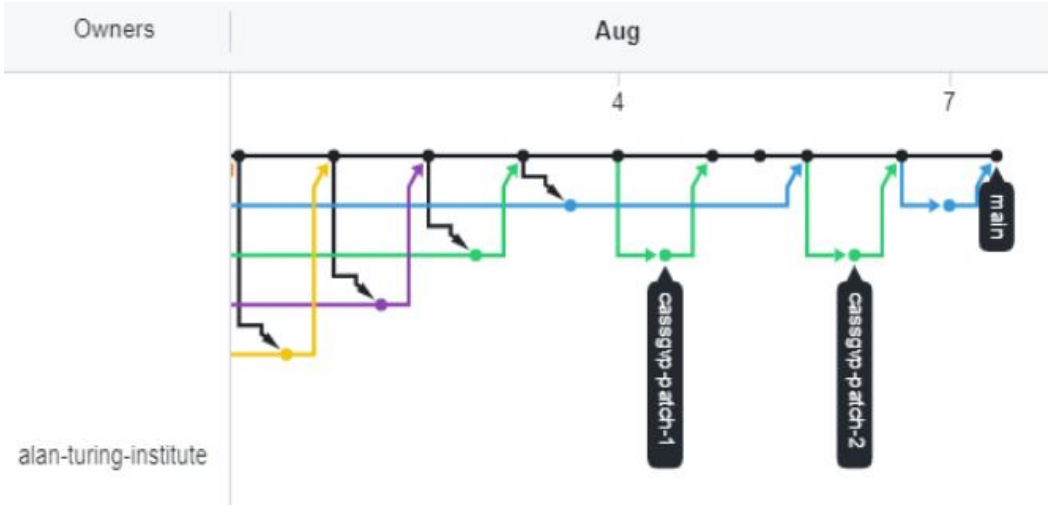

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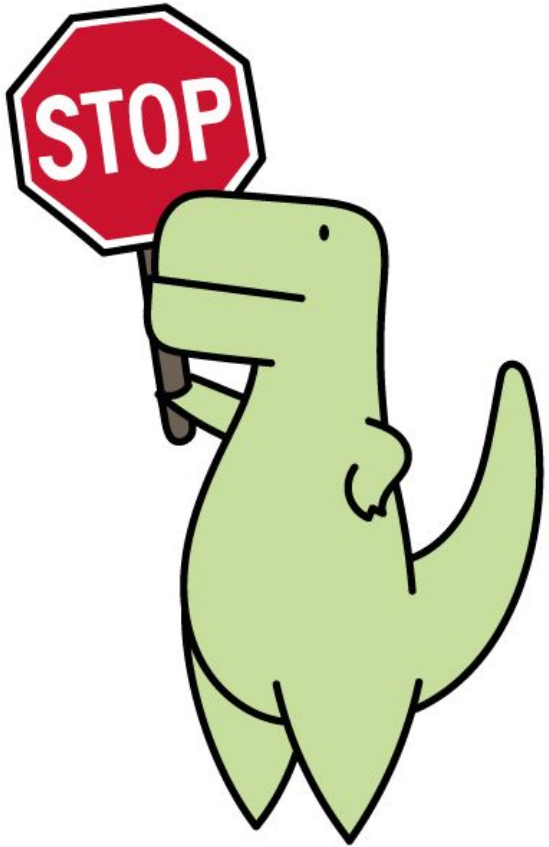


https://github.com/alan-turing-institute/github-introduction. Image from Giphy. CC-BY 4.0.

GitHub Exercise 2: Edit a file and make a Pull Request.

1. Go to the file labelled **introductions**
2. Edit the file and write about your **favourite pizza topping**
3. **Commit** the change and submit a **Pull Request.**

GitHub Stretch Exercise: Create a new repo

1. Create a repo
2. Edit your README.md

Branches, PRs, and Merging

If you own a repo or are an official collaborator:

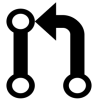
a. you will **Create a new branch**
b. work on the new branch
c. **create a Pull Request** for the changes you've made
d. a collaborator will decide to merge them in.

Forks, PRs, and Merging

If you **do not** own a repo and aren't an official collaborator:

a. you will **Create a fork**
b. work on your own fork
c. **create a Pull Request** for the changes you've made
d. the repo maintainer will decide to merge them in.

GitHub Skills Summary

- Repository to store your project 
- Issues to track tasks 
- Writing in Markdown to add links and content
- Branches and Pull requests to collaborate 

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- Original artwork by Scriberia: https://doi.org/10.5281/zenodo.3332807


THANK YOU!!
Scriberia