


Quiz section 9

May 24, 2018

Practical computing... a day in the life


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10:56 AM **You!** hey hannah! I have some recently sequenced sci-ATAC basecalls; wondering if you could point me to your pipeline to begin processing? thanks!

11:01 AM **Hannah Pliner**  Of course. I haven't used the pipeline in a while (hopefully the cluster hasn't messed anything up) but it should be good to go. If you give me your github ID I can add you and you can clone

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Git basics

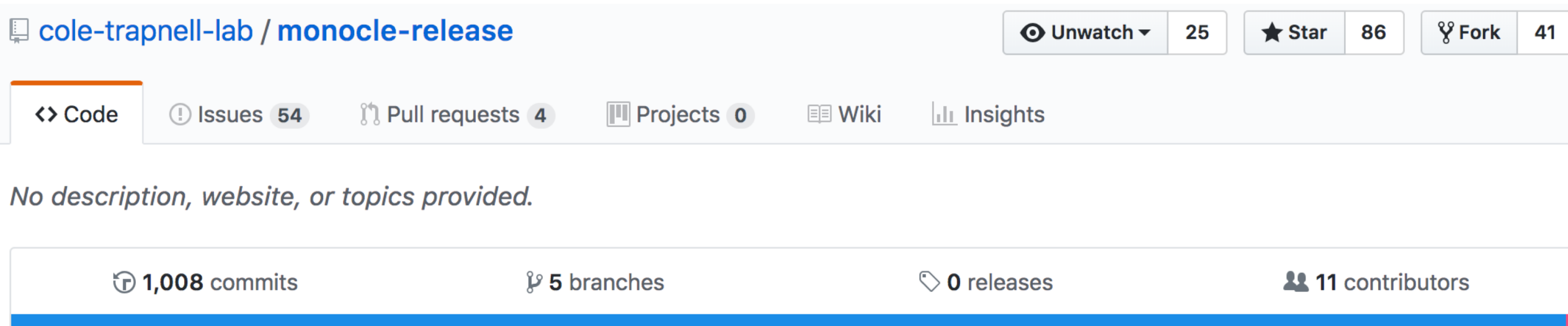
Git is version control software – it's a way to keep track of how your code changes as you write it (and go back to how it was if you need to!)

```
68 69     def cmd_exists(cmd):
69 70         return any(
70 71             os.access(os.path.join(path, cmd), os.X_OK)
71 72         )
72 73
73 74     @@ -75,6 +76,10 @@ def cmd_exists(cmd):
75 76         logging.info('ERROR bedtools not available')
76 77         sys.exit()
77 78
78 79     + if not cmd_exists("samtools"):
79 80     +     logging.info('ERROR samtools not available')
80 81     +     sys.exit()
81 82     +
82 83     # Make sorted bed file from all bams
83 84     qcf = open(qc_info, 'a')
84 85     if len(args.bamlist) == 1:
85 86     @@ -85,15 +90,15 @@ def cmd_exists(cmd):
86 87         args.force_overwrite_all:
87 88         args.force_overwrite_all = True
88 89         logging.info('Merge started.')
89 90
90 91     - subprocess.check_call('samtools merge %s.merge.bam %s' % (OUTPUT_PREFIX,
91 92     + subprocess.check_call('module load samtools/latest; samtools merge %s.merge.bam %s' % (OUTPUT_PREFIX,
```

Git basics

Git is also a way to share, collaborate and contribute to code projects

In git language, a repository (repo) is a project



The screenshot shows the GitHub interface for the repository 'monocle-release' by 'cole-trapnell-lab'. The repository name is displayed in blue text. To the right, there are buttons for 'Unwatch' (with a dropdown arrow), 'Star' (with 86 stars), and 'Fork' (with 41 forks). Below these, a navigation bar contains links for 'Code', 'Issues' (54), 'Pull requests' (4), 'Projects' (0), 'Wiki', and 'Insights'. The 'Code' link is highlighted with an orange underline. Below the navigation bar, a message states 'No description, website, or topics provided.' At the bottom, a summary bar shows '1,008 commits', '5 branches', '0 releases', and '11 contributors'.

cole-trapnell-lab / monocle-release

Unwatch 25 Star 86 Fork 41


<> Code Issues 54 Pull requests 4 Projects 0 Wiki Insights

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Git versus Github

Git is the version control software - it's the software keeping track of the changes/versions

Github is a website that allows you to store the version information off your computer (and therefore share etc)

Github users have IDs (ex. hpliner)

Accounts are free, private repositories are not (you can get a free student account with private repos with your UW email)

Git basics

To get someone else's repo, or put your repo on a different computer, you “clone” the repo

The screenshot shows the GitHub interface for the repository 'hpliner / Genome373-2018'. At the top, there are buttons for 'Unwatch', 'Star', and 'Fork'. Below this is a navigation bar with links for 'Code', 'Issues', 'Pull requests', 'Projects', 'Wiki', 'Insights', and 'Settings'. The repository description states 'No description, website, or topics provided.' and includes an 'Add topics' link and an 'Edit' button. A summary bar shows '46 commits', '1 branch', '0 releases', and '1 contributor'. Below this, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and a green 'Clone or download' button. The 'Clone or download' button has opened a dropdown menu with the following options:

- Clone with HTTPS** (with a help icon) and a link to [Use SSH](#).
- Text: 'Use Git or checkout with SVN using the web URL.'
- A text input field containing the URL: `https://github.com/hpliner/Genome373-2018` with a copy icon.
- Buttons: [Open in Desktop](#) and [Download ZIP](#).

Below the clone menu, a list of files is visible:

File	Commit Message
slides_site	week8
README.md	readme
_config.yml	Set theme jekyll-theme-cayman
index.md	Update index.md
slides_site.md	week8

Commit timestamps are shown on the right: '2 months ago' and '7 days ago'.

Git commands recap

`git clone [repo website link]`

`git pull`

`git status`

`git init`

`git add -A`

`git branch [branch name]`

`git commit -m "message"`

`git checkout [branch name]`

`git push`

Tons of great documentation, including videos,
here: <https://git-scm.com/doc>

You cloned the repo you needed, now what?

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Read the docs!!!!

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Although... if it's just your lab's/friend's software, there might not be much...

You cloned the repo you needed, now what?

Ok, you read the docs, but you still aren't sure exactly what's going on...

Luckily, you learned python in genome 373!

