

Q1:

Clone the repository for the class website.

```
((base) 192:new_pp mac$ git clone https://github.com/missing-semester/missing-semester.git
Cloning into 'missing-semester'...
remote: Enumerating objects: 2429, done.
remote: Counting objects: 100% (1509/1509), done.
remote: Compressing objects: 100% (554/554), done.
remote: Total 2429 (delta 1007), reused 955 (delta 955), pack-reused 920 (from 3)
Receiving objects: 100% (2429/2429), 15.87 MiB | 2.59 MiB/s, done.
Resolving deltas: 100% (1430/1430), done.
```

Explore the version history by visualizing it as a graph.

```
((base) 192:missing-semester mac$ git log --all --graph --decorate
* commit 30be62c8345a45501a1016996e620406df7e24a1 (HEAD -> master, origin/master)
| Author: Faran Butt <faranbutt789@gmail.com>
| Date: Tue Mar 11 18:01:07 2025 +0500
|
| Added hw1
|
* commit 77938f2b89404a3172486ec22b7442512c13584a
| Author: Faran Butt <faranbutt789@gmail.com>
| Date: Tue Mar 11 17:51:12 2025 +0500
|
| Removed
|
* commit 2a7c256ff93a9d5bfa988b25c4c397b5614d6745
| Author: Faran Butt <faranbutt789@gmail.com>
| Date: Tue Mar 11 17:49:53 2025 +0500
|
| Removed
|
* commit cc1d7d44927221237f92a850260b1871a9595074
| Author: Faran Butt <faranbutt789@gmail.com>
| Date: Tue Mar 11 17:49:04 2025 +0500
```

Who was the last person to modify README.md? (Hint: use git log with an argument).

```
missing-semester — Faran Title — less ◀ git log -- README.md — 80x24

((base) 192:missing-semester mac$ git log -- README.md
commit f61bdc1d593a5261f4c1851b3e2c3dbb8e446632
Author: Anish Athalye <me@anishathalye.com>
Date: Sat Feb 1 10:12:19 2025 -0800

Update CI status URLs

commit 9ef9db72211fefc00caaa7133b35dda4a99accf
Author: Anish Athalye <me@anishathalye.com>
Date: Thu Oct 27 20:28:41 2022 -0400

Add Docker setup for easier development

commit ad1ba94203e741723f8012467c2c861b34ad77c8
Author: Sebastian Kupek <sebastian.kupek@uibk.ac.at>
Date: Wed Oct 26 18:15:19 2022 +0200

FIX: Spelling mistakes, 'content' should be plural and verb adjusted accordingly

commit 8010724516adc968765e8efd14991f262f0d0423
Author: Anish Athalye <me@anishathalye.com>
Date: Tue Jul 27 08:29:08 2021 -0400
```

What was the commit message associated with the last modification to the collections: line of `_config.yml`? (Hint: use `git blame` and `git show`).

```
missing-semester — Faran Title — -bash — 127x24
((base) 192:missing-semester mac$ git blame _config.yml | grep "collections:" | awk '{print $1}' | xargs git show --quiet
commit a88b4eac326483e29bdac5ee0a39b180948ae7fc
Author: Anish Athalye <me@anishathalye.com>
Date:   Fri Jan 17 15:26:30 2020 -0500

    Redo lectures as a collection
(base) 192:missing-semester mac$
```

Q2: One common mistake when learning Git is to commit large files that should not be managed by Git or adding sensitive information. Try adding a file to a repository, making some commits and then deleting that file from history (you may want to look at this).

Added `secrets.txt`

```
missing-semester — -bash — 80x24
((base) 192:missing-semester mac$ echo "Faran Secret" > secret.txt
((base) 192:missing-semester mac$ git add .
((base) 192:missing-semester mac$ git commit -m "Added Secret"
[master 0e15499] Added Secret
 1 file changed, 1 insertion(+)
 create mode 100644 secret.txt
((base) 192:missing-semester mac$ git log
commit 0e15499bef62d90e3e104ec60955491e3afb1aa4 (HEAD -> master)
Author: Faran Butt <faranbutt789@gmail.com>
Date:   Wed Mar 12 22:30:43 2025 +0500

    Added Secret

commit e3938249f3094b7ad3779976b12ed3c23035efaa (origin/master, origin/HEAD)
Author: Anish Athalye <me@anishathalye.com>
Date:   Sat Feb 1 10:12:19 2025 -0800

    Update CI status URLs
```

Now deleting history of `secrets.txt`

```
((base) 192:missing-semester mac$ git filter-branch --force --index-filter \
> "git rm --cached --ignore-unmatch secret.txt" \
[> --prune-empty --tag-name-filter cat -- --all
```

```
missing-semester — less • git log — 80x24
(base) 192:missing-semester mac$ git log
commit e3938249f3094b7ad3779976b12ed3c23035efaa (HEAD -> master, origin/master, origin/HEAD)
Author: Anish Athalye <me@anishathalye.com>
Date: Sat Feb 1 10:12:19 2025 -0800

    Update CI status URLs

commit 6dae511993aa76bf7ed062859385c452fd9310e2
Author: Anish Athalye <me@anishathalye.com>
Date: Sat Dec 21 08:51:49 2024 -0800

    Add autohotkey.com to ignore list

    Yet another domain that uses Cloudflare's WAF that blocks cURL.
```

Q3: Clone some repository from GitHub, and modify one of its existing files. What happens when you do git stash? What do you see when running git log --all --oneline? Run git stash pop to undo what you did with git stash. In what scenario might this be useful?

```
(base) 192:missing-semester mac$ nano 404.html
(base) 192:missing-semester mac$ git stash
Saved working directory and index state WIP on master: e393824 Update CI status URLs
(base) 192:missing-semester mac$ git log
commit e3938249f3094b7ad3779976b12ed3c23035efaa (HEAD -> master, origin/master, origin/HEAD)
Author: Anish Athalye <me@anishathalye.com>
Date: Sat Feb 1 10:12:19 2025 -0800

    Update CI status URLs
```

Git stash saved the changes without committing

```
(base) 192:missing-semester mac$ git stash pop
On branch master
Your branch is up to date with 'origin/master'.

No commands done.
Next commands to do (4 remaining commands):
  pick abd6e22 typo
  pick e7ba8e7 Update python call graph link
  (use "git rebase --edit-todo" to view and edit)
You are currently editing a commit while rebasing branch 'master' on 'e303bc4'.
  (use "git commit --amend" to amend the current commit)
  (use "git rebase --continue" once you are satisfied with your changes)

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   404.html

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (2396854c98ca2b073eeeb38af5a799f456c1e25b)
```


Git Stash Pop removed those changes made in **404.html**

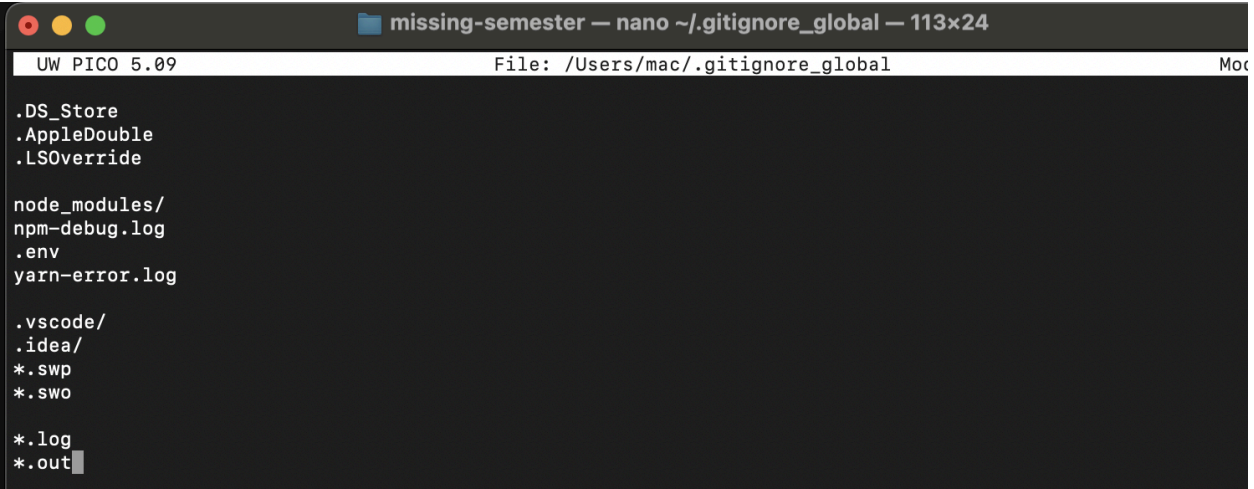
This will be useful when switching branches or when wanted to save changes temporarily

Q4: Like many command line tools, Git provides a configuration file (or dotfile) called `~/.gitconfig`. Create an alias in `~/.gitconfig` so that when you run `git graph`, you get the output of `git log --all --graph --decorate --oneline`. You can do this by directly editing the `~/.gitconfig` file, or you can use the `git config` command to add the alias. Information about git aliases can be found [here](#).

```
((base) 192:missing-semester mac$ git config --global alias.graph "log --all --graph --decorate --oneline"
((base) 192:missing-semester mac$ git graph
* 0e15499 Added Secret
* e393824 (HEAD -> master, origin/master, origin/HEAD) Update CI status URLs
* 6dae511 Add autohotkey.com to ignore list
* 22d9a9d Merge branch 'terryhsuu/update-py-call-graph-link'
| \
| * e7ba8e7 Update python call graph link
| /
* abd6e22 typo
* e303bc4 fix typos (#292)
* e373ffb Fix CI
* f6658f3 Merge pull request #287 from j-s-ashley/ci/add-dependabot
| \
| * ff7642a Add dependabot
* | dfed5c7 PyPi -> PyPI (Python Package Index) (#290)
* | 0332335 Merge branch 'BakirGracic/add-images'
| \
| /
```

Q5: You can define global ignore patterns in `~/.gitignore_global` after running `git config --global core.excludesfile ~/.gitignore_global`. Do this, and set up your global gitignore file to ignore OS-specific or editor-specific temporary files, like `.DS_Store`.

```
((base) 192:missing-semester mac$ git config --global core.excludesfile ~/.gitignore_global
```



The screenshot shows a terminal window with a nano editor open. The editor's title bar reads "missing-semester — nano ~/.gitignore_global — 113x24". The status bar at the top indicates "UW PICO 5.09" on the left, "File: /Users/mac/.gitignore_global" in the center, and "Moc" on the right. The editor content lists various files and directories to be ignored, including system files like `.DS_Store`, `.AppleDouble`, and `.LSOVERRIDE`; development-related files like `node_modules/`, `npm-debug.log`, `.env`, and `yarn-error.log`; IDE-specific files like `.vscode/`, `.idea/`, `*.swp`, and `*.swo`; and other temporary files like `*.log` and `*.out`.

