Embedded computing for scientific and industrial imaging applications

Lecture 3 - Git and GitHub demo

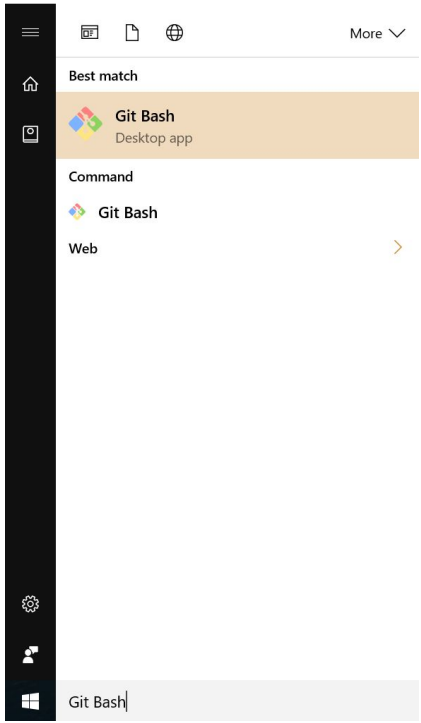
Outline

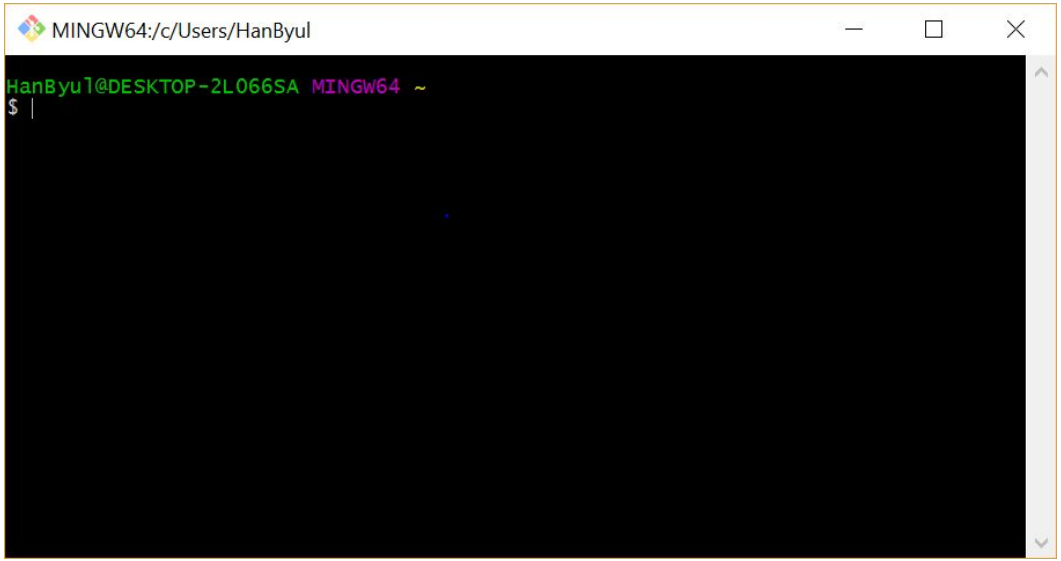
- Git demo
  - My first Git and GitHub repository
  - Branching, merging and resolving conflicts.
- GitHub demo
  - Fork
  - Pull request
- C demo
- Computing square roots

Git demo - My first git repository

Git Demo - Git Bash

- Press Windows key and type “Git Bash” and Execute

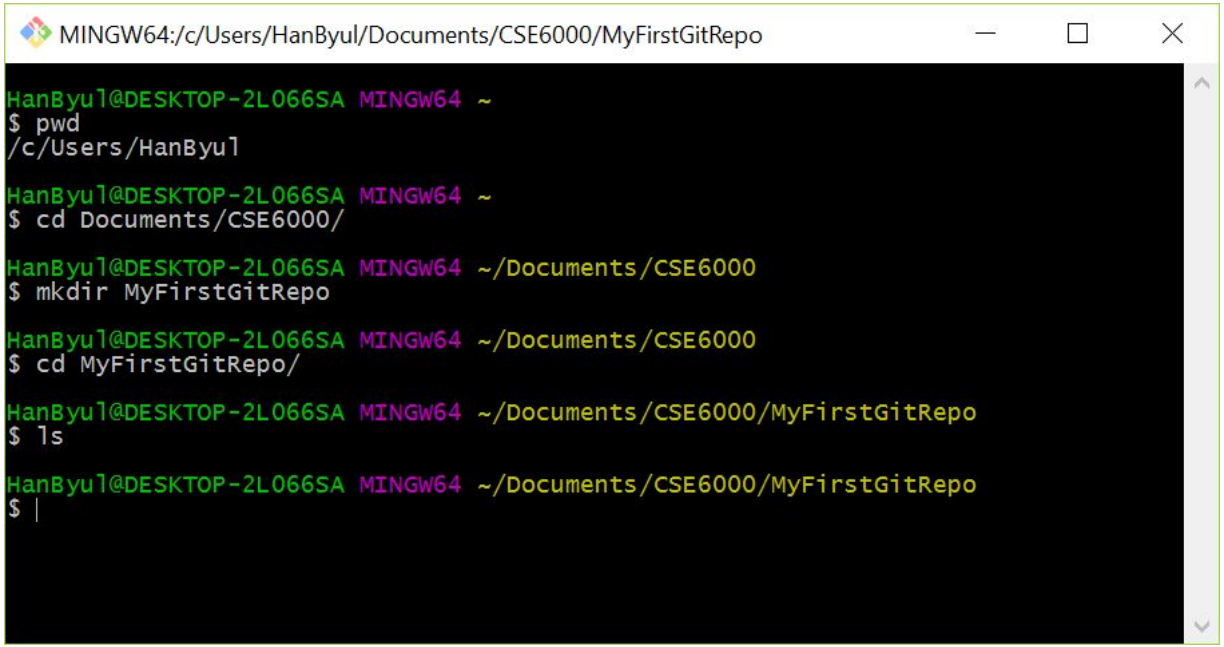




Git demo - shell command

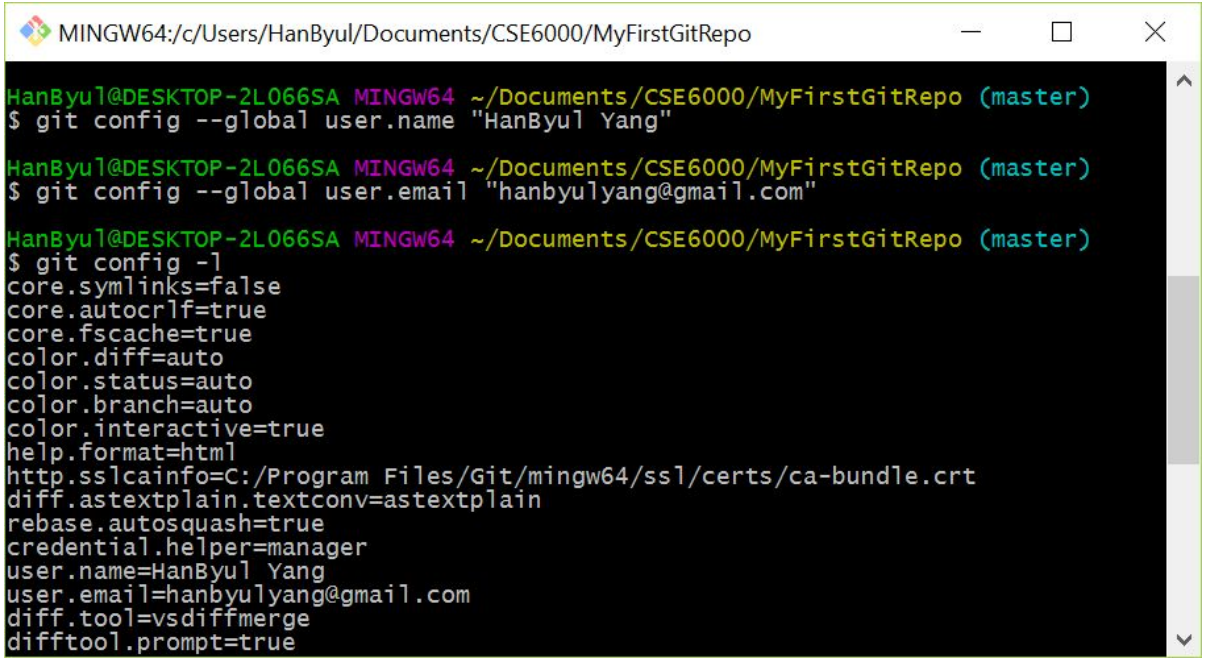
- `$ pwd` - print working directory
- `$ cd` - change directory
- `$ mkdir` - make directory
- `$ ls` - list
- `$ mv` - move
- `$ cp` - copy
- `$ clear` - clear

See more
UW AMATH 483/583 : Shell



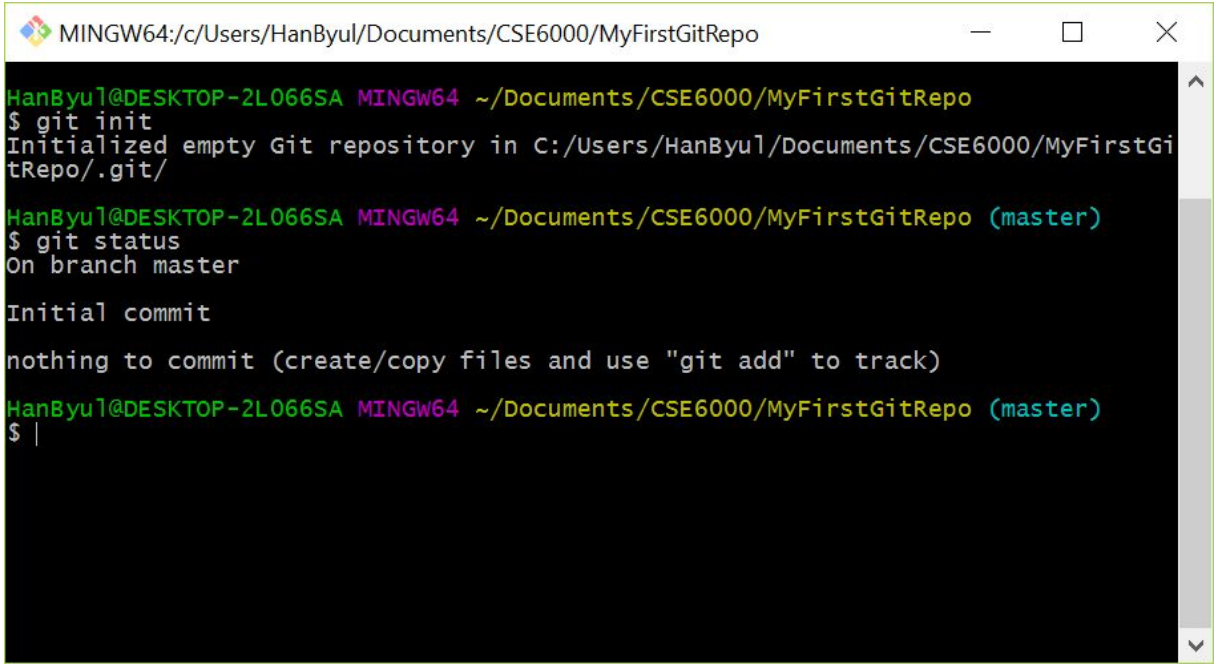
Git demo - git config

- `$ git config --global user.name "name"`
- `$ git config --global user.email "email"`
- `$ git config -l`



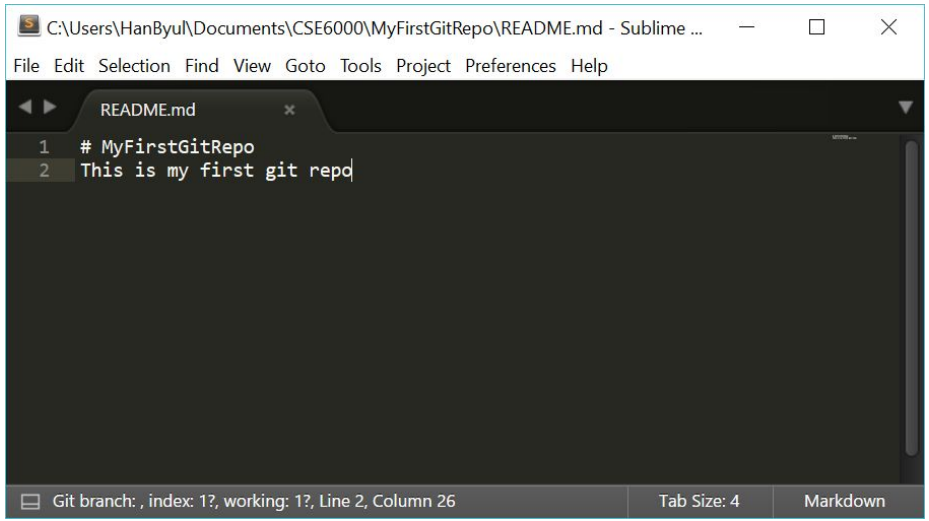
Git demo - git init

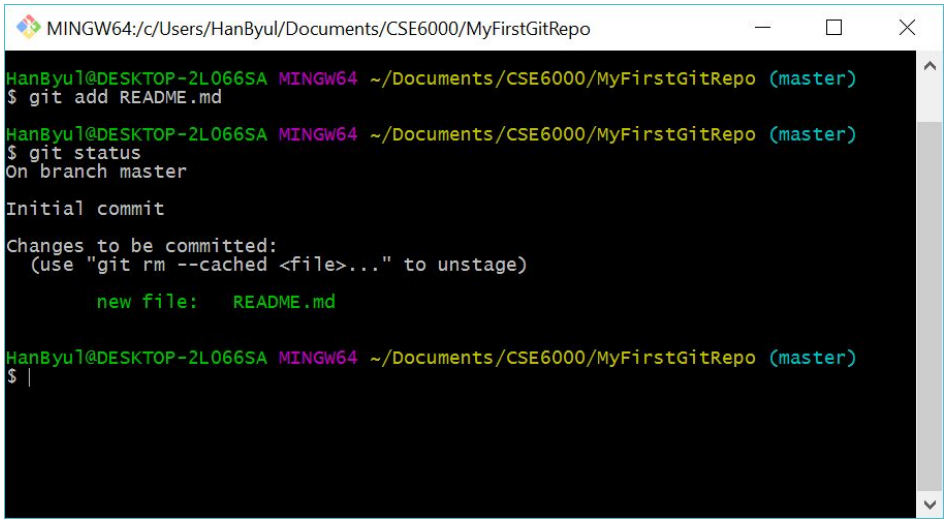
- `$ git init` - initialize empty git repository
- `$ git status` - check current status of git repository



Git demo - git add

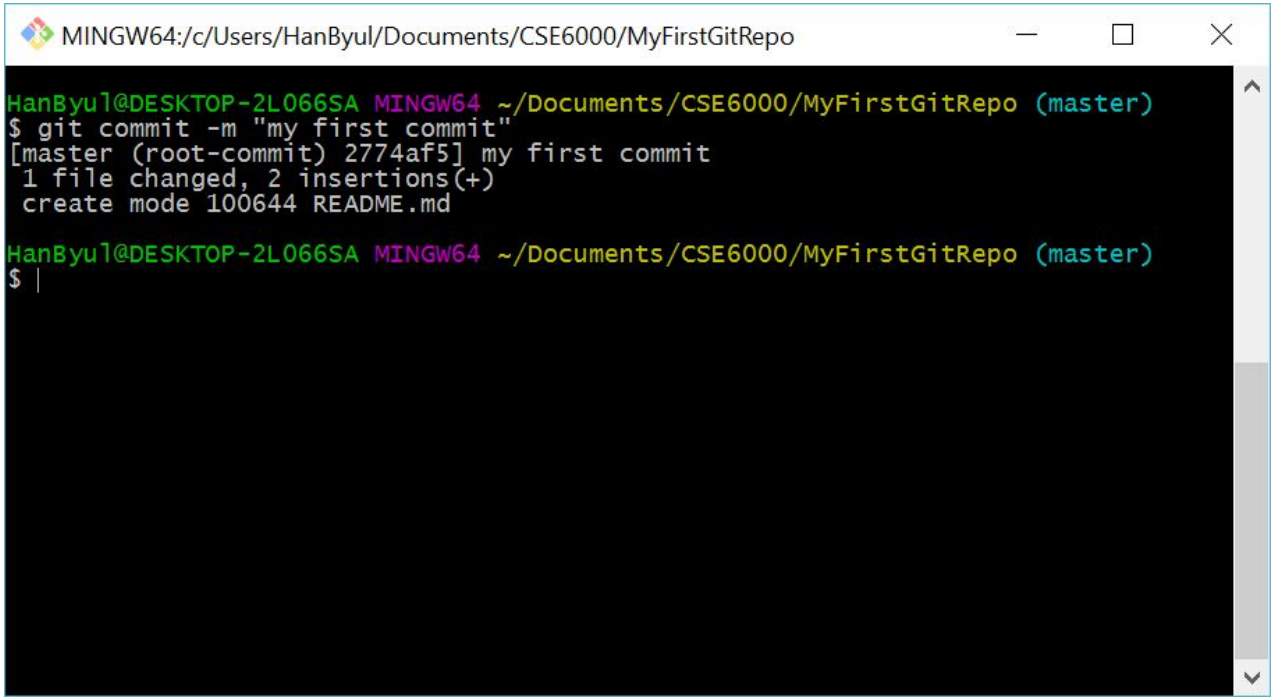
- Create a file “README.md” with any text editor (e.g. notepad, sublime text)
- `$ git add` - add files to staging area to commit
- `$ git status`





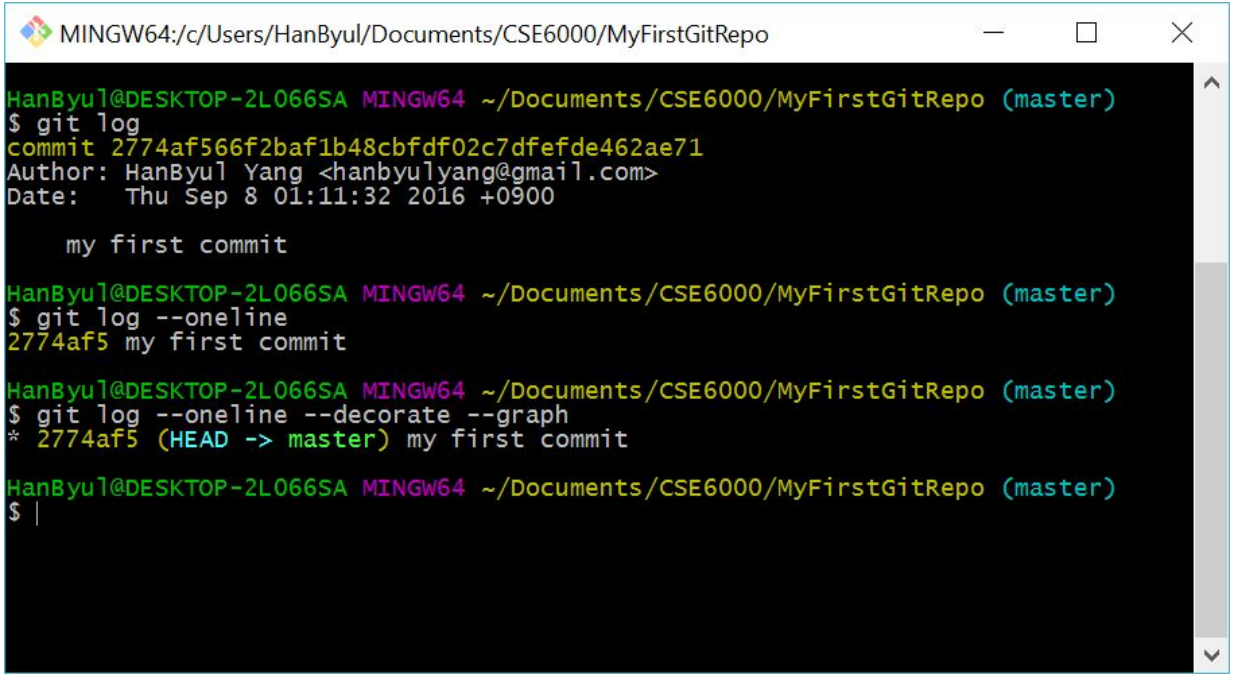
Git demo - git commit

- `$ git commit -m “my first commit”` - commit with some comments



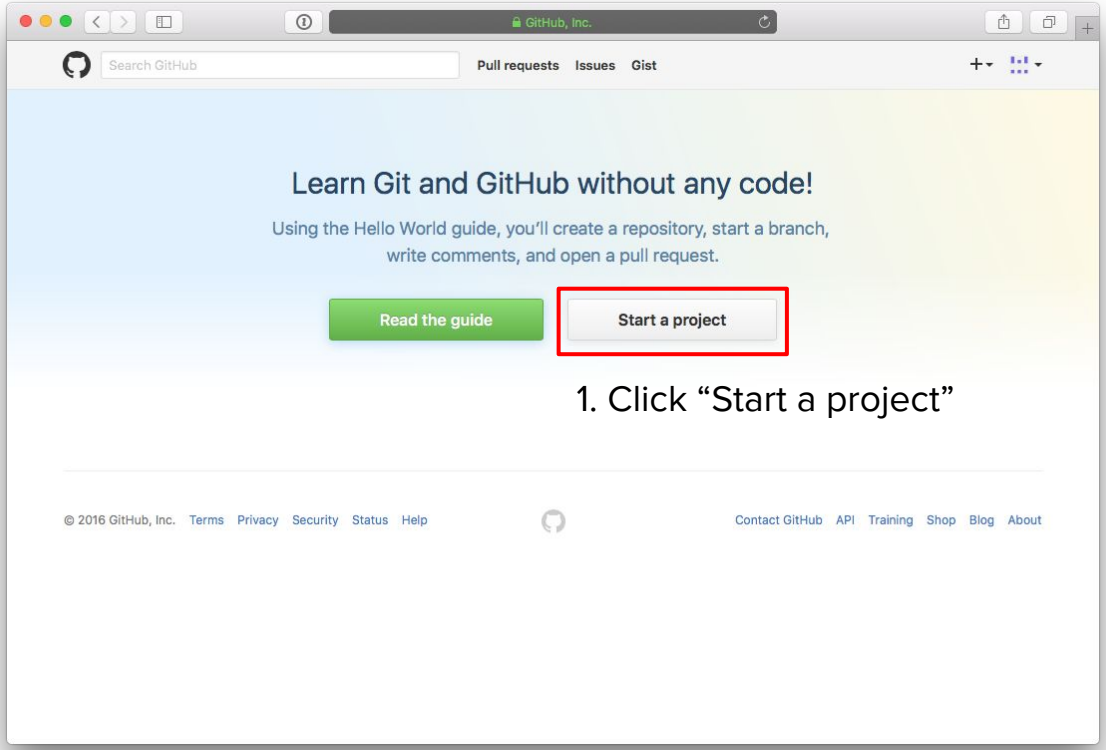
Git demo - git log

- `$ git log` - show history of commits

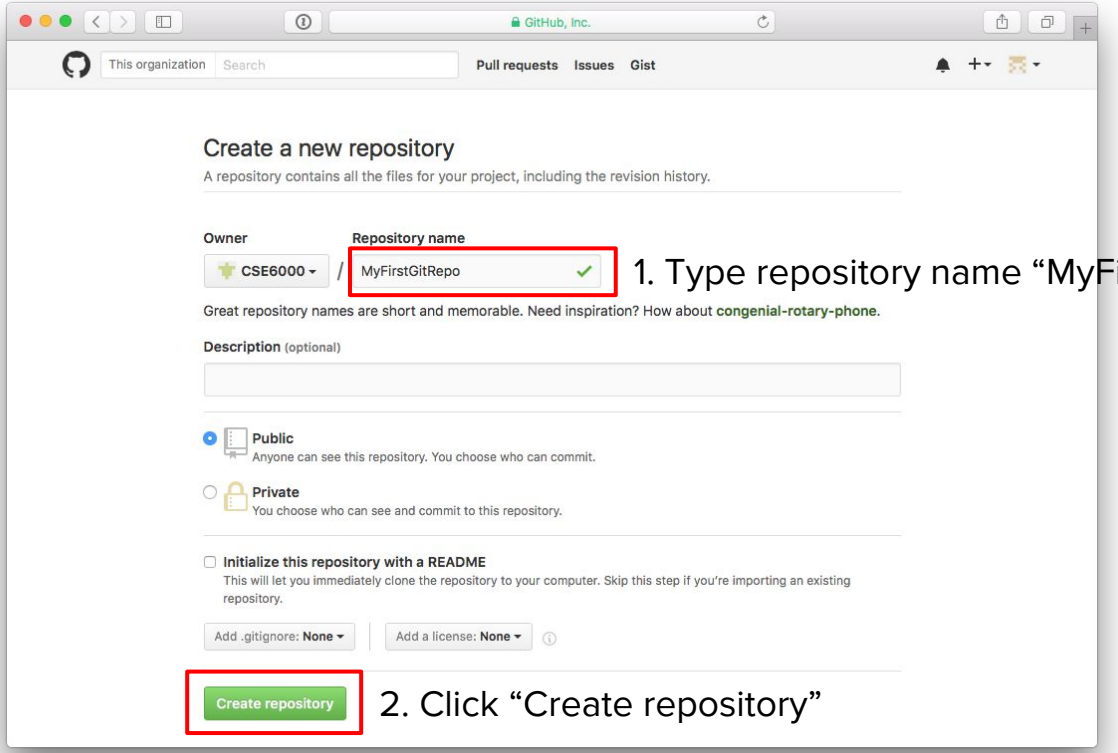


GitHub demo - My first git repository

GitHub demo - Start a project



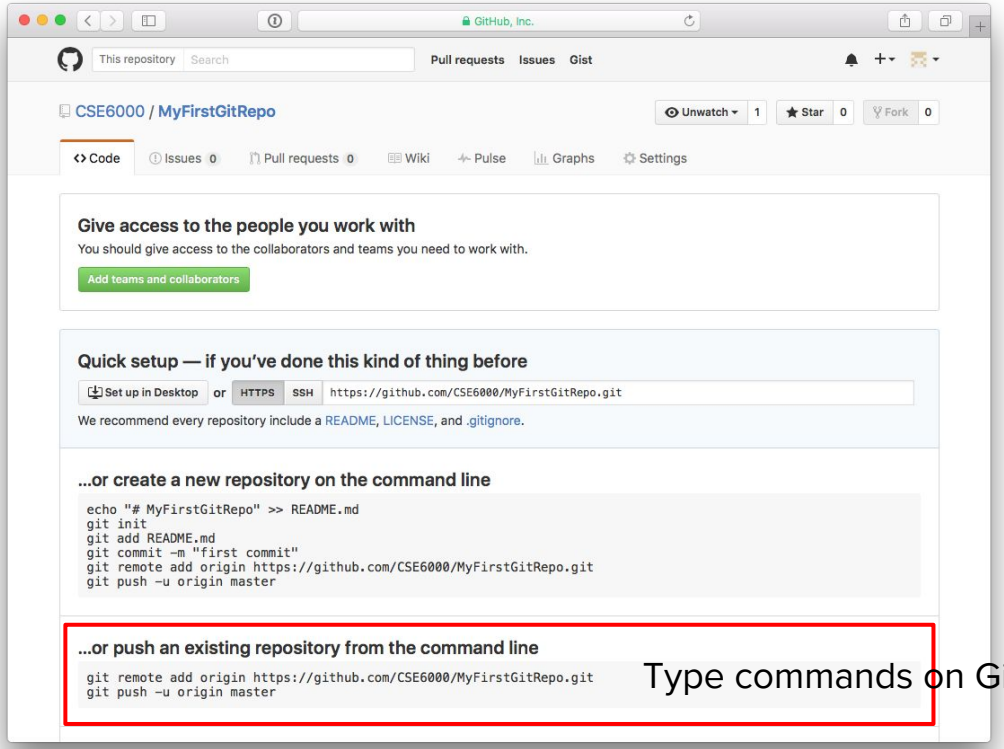
GitHub demo - Create a new repository



1. Type repository name “MyFirstGitRepo”

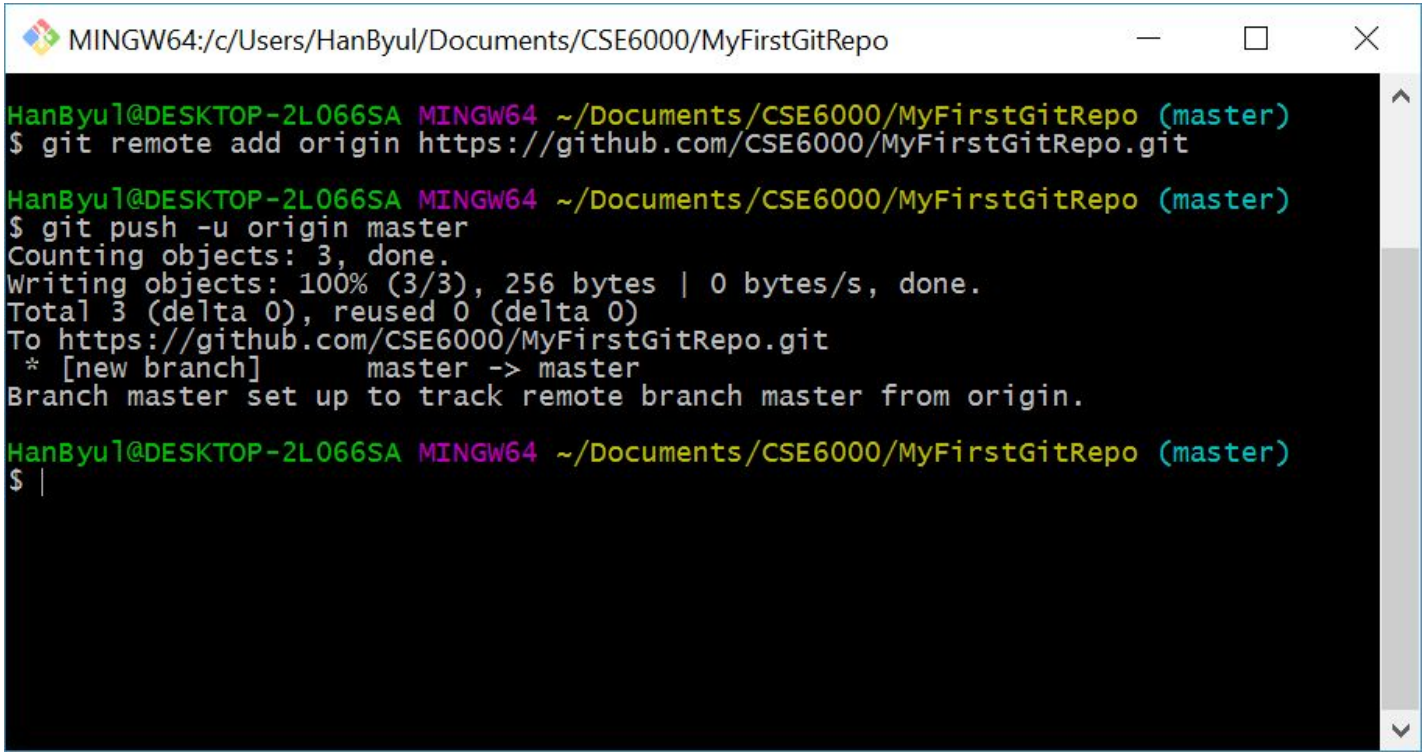
2. Click “Create repository”

GitHub demo - push an existing repository

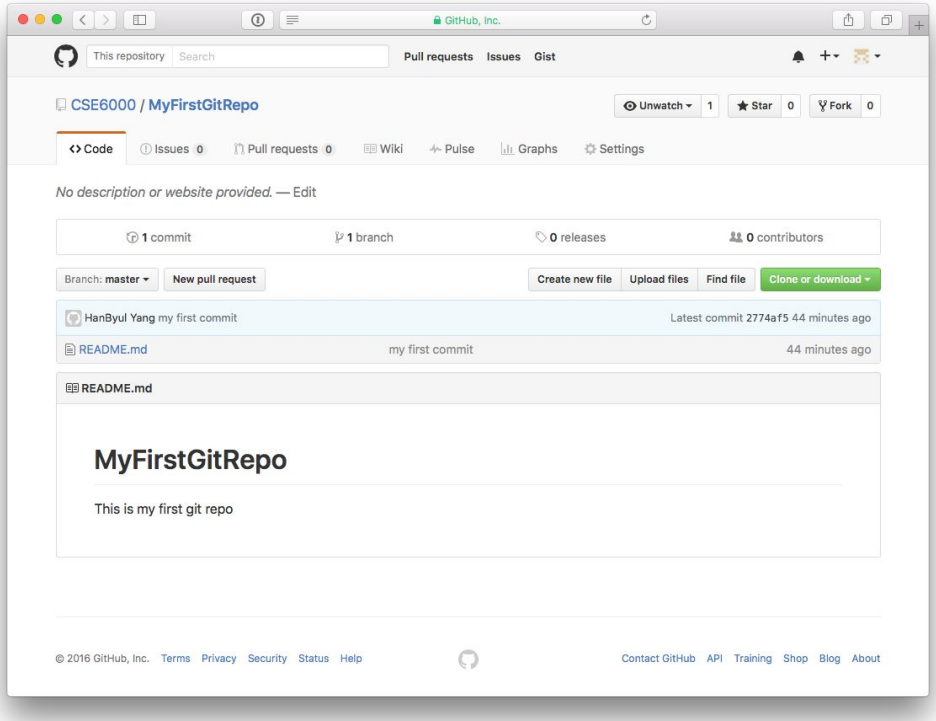


Type commands on Git Bash

GitHub demo - git push



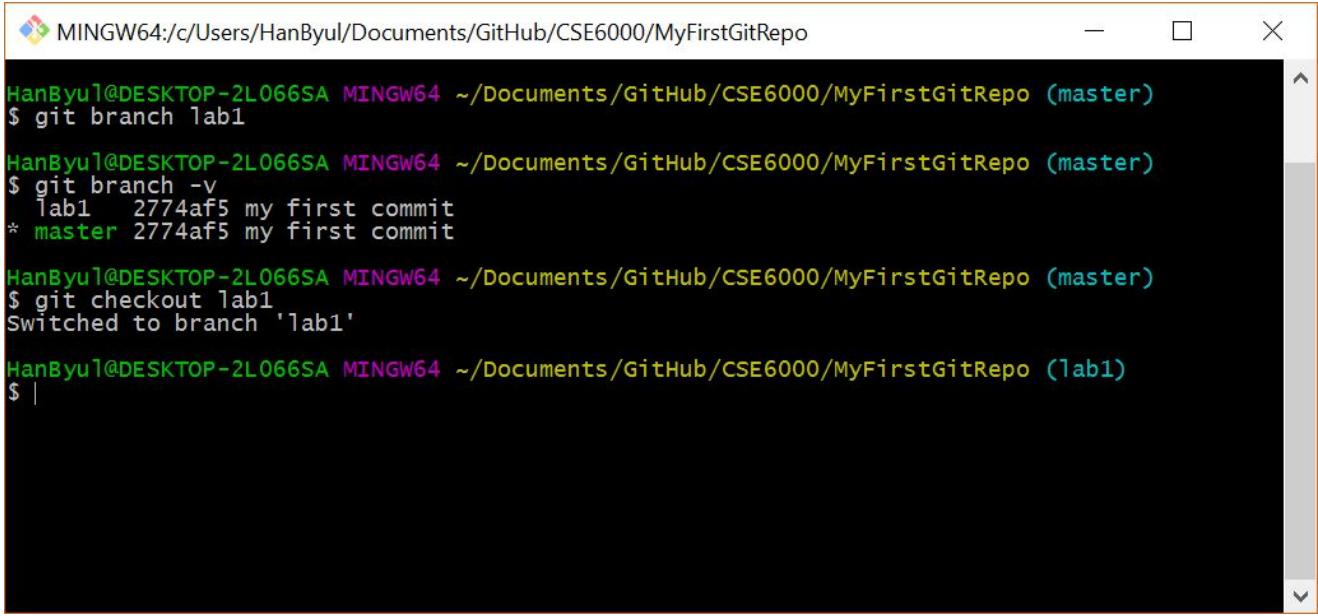
GitHub demo


GitHub, Inc.
This repository
Search
Pull requests
Issues
Gist
CSE6000 / MyFirstGitRepo
Unwatch 1
Star 0
Fork 0
Code
Issues 0
Pull requests 0
Wiki
Pulse
Graphs
Settings
No description or website provided. — Edit
1 commit
1 branch
0 releases
0 contributors
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download
HanByul Yang my first commit
Latest commit 2774af5 44 minutes ago
README.md
my first commit
44 minutes ago
README.md
MyFirstGitRepo
This is my first git repo
© 2016 GitHub, Inc.
Terms
Privacy
Security
Status
Help
Contact GitHub
API
Training
Shop
Blog
About

Git demo - Branch and merge

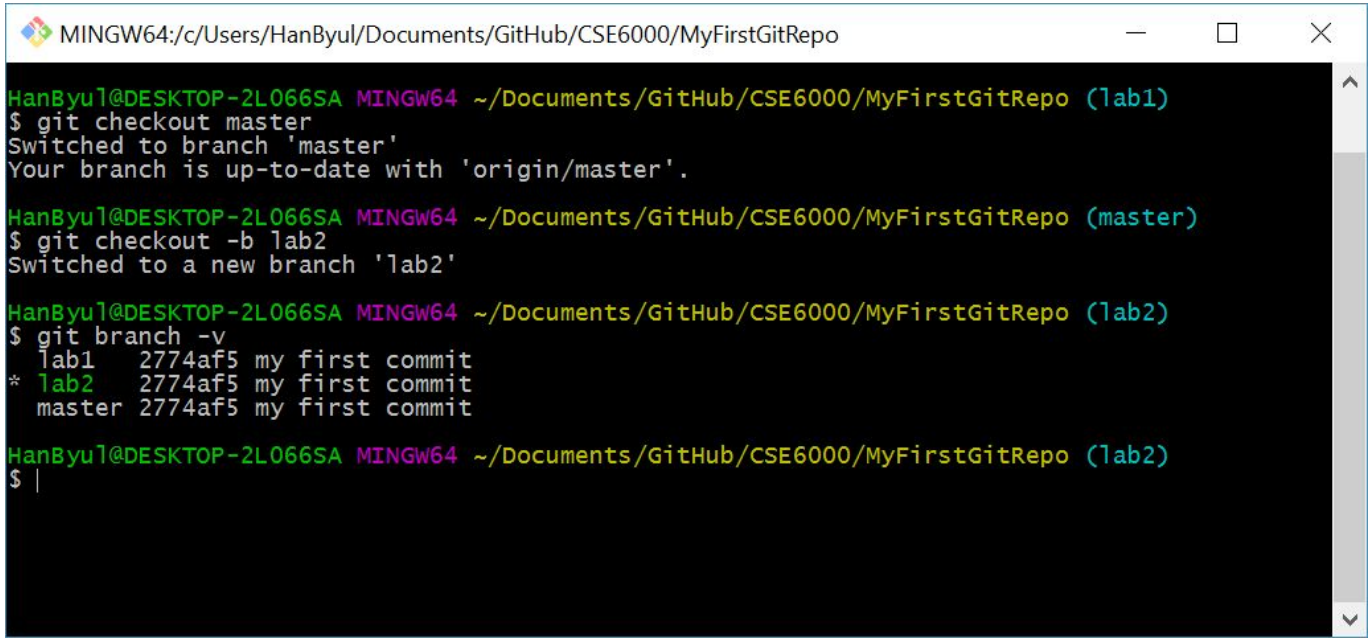
Git demo - branch

- `$ git branch lab1` - create branch “lab1”
- `$ git branch -v` - show branches
- `$ git checkout lab1` - Switch branch to lab1



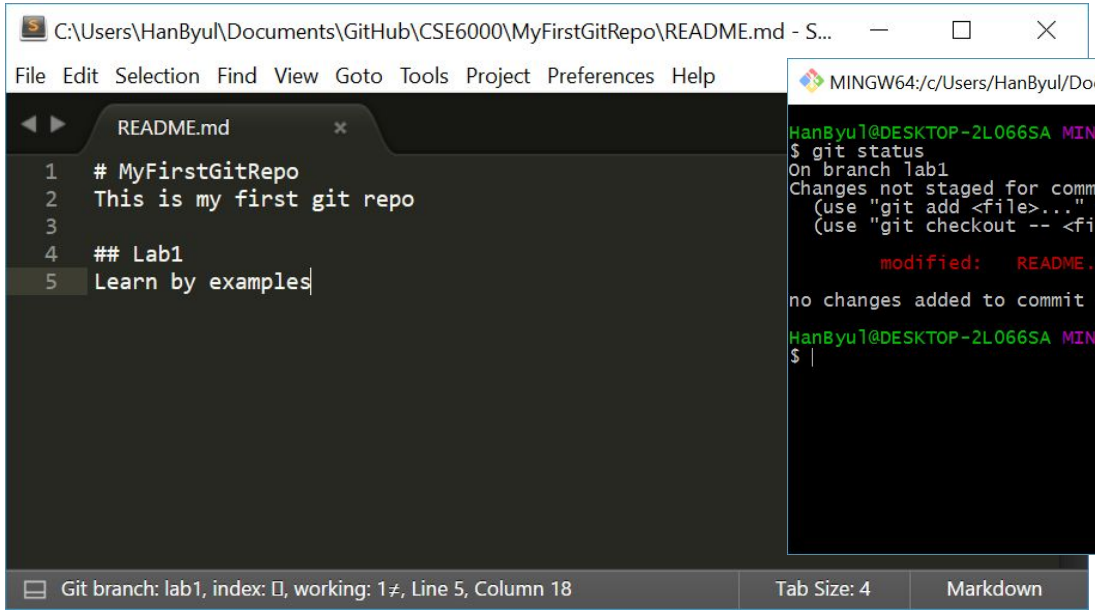
Git demo - branch

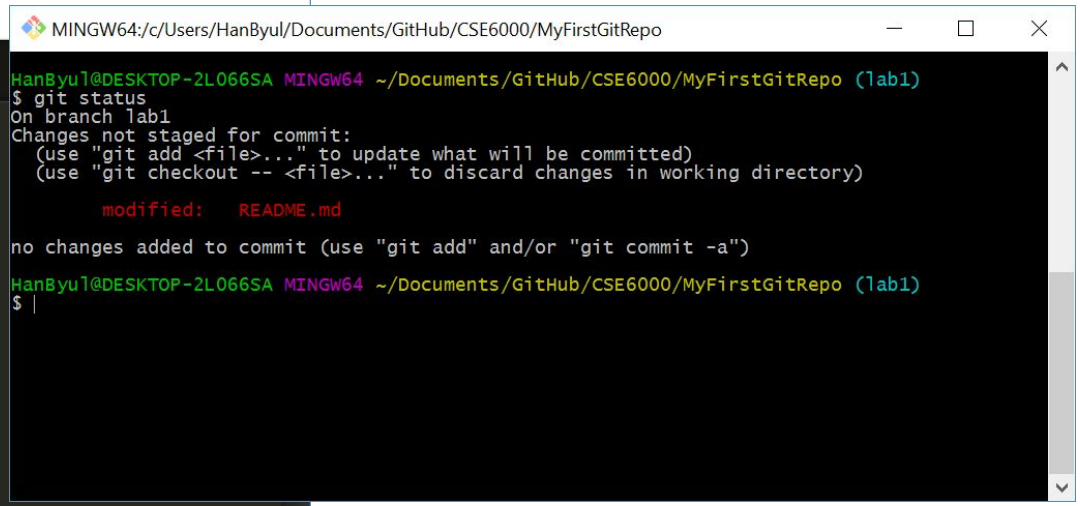
- `$ git checkout master` - switch branch to master
- `$ git checkout -b lab2` - create and switch branch lab2
- `$ git branch -v` - show branches



Git demo - branch

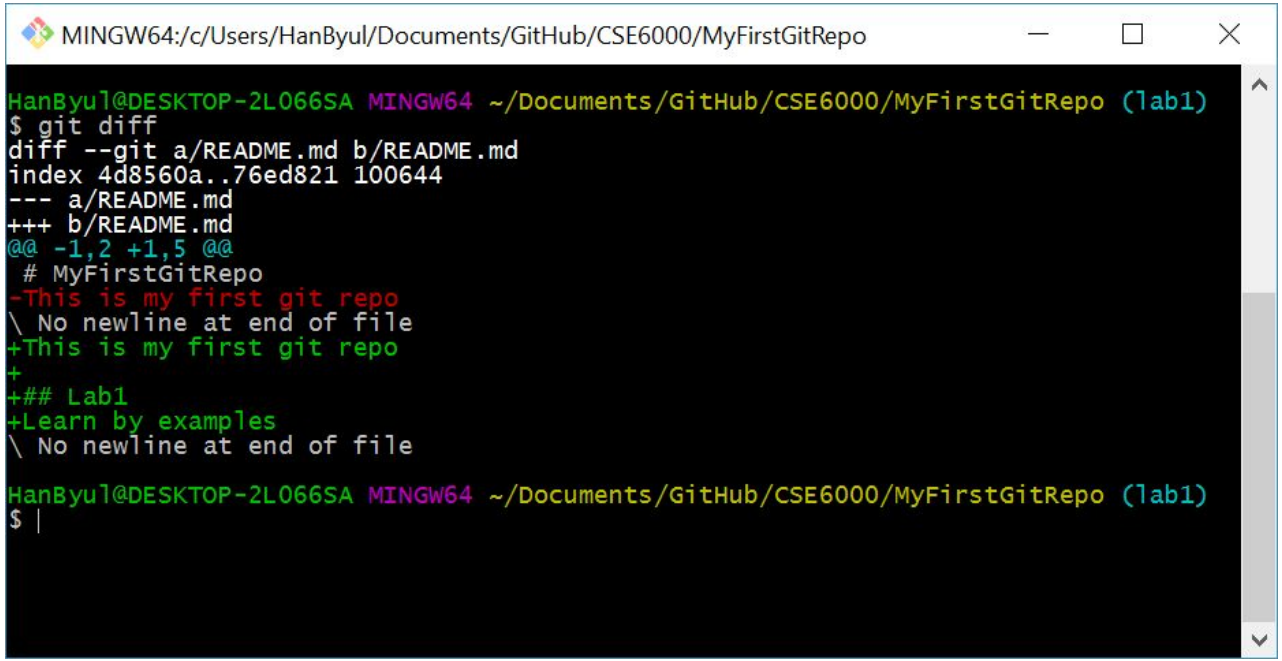
- `$ git checkout lab1` - switch to lab1
- Edit “README.md” as below. (added Lab1 section)
- `$ git status`





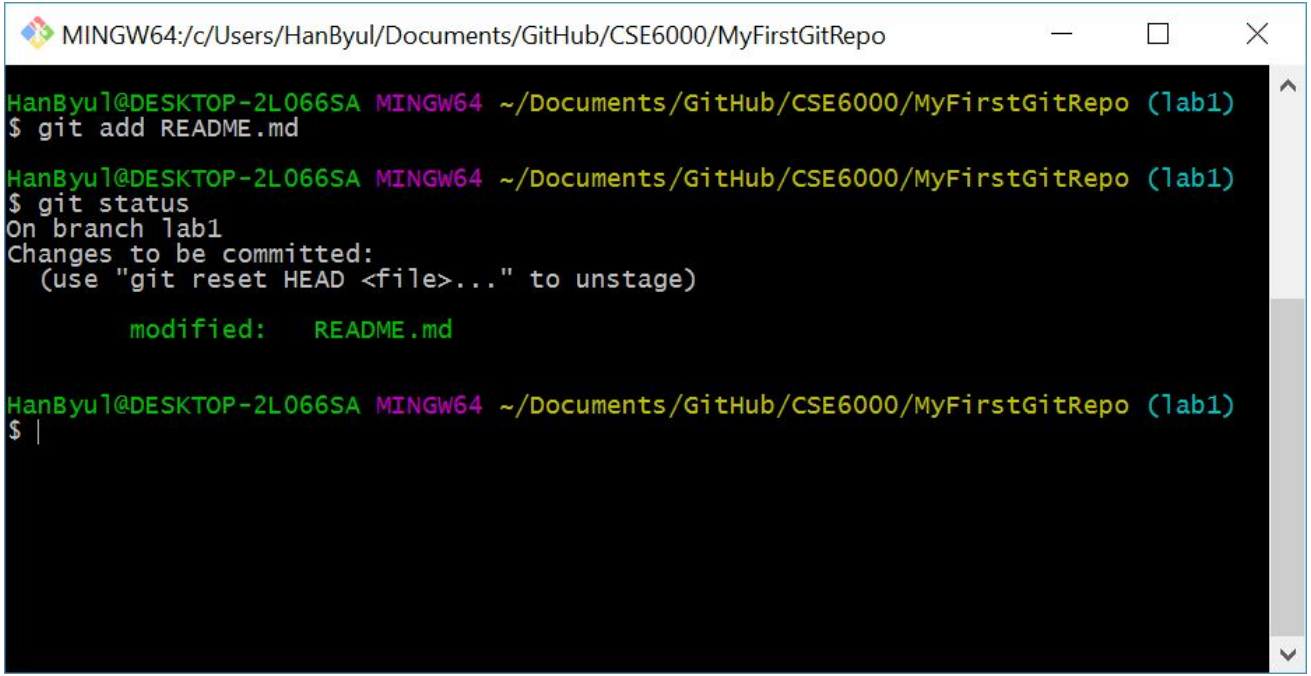
Git demo - diff

- `$ git diff` - show differences between working directory and most recent commit



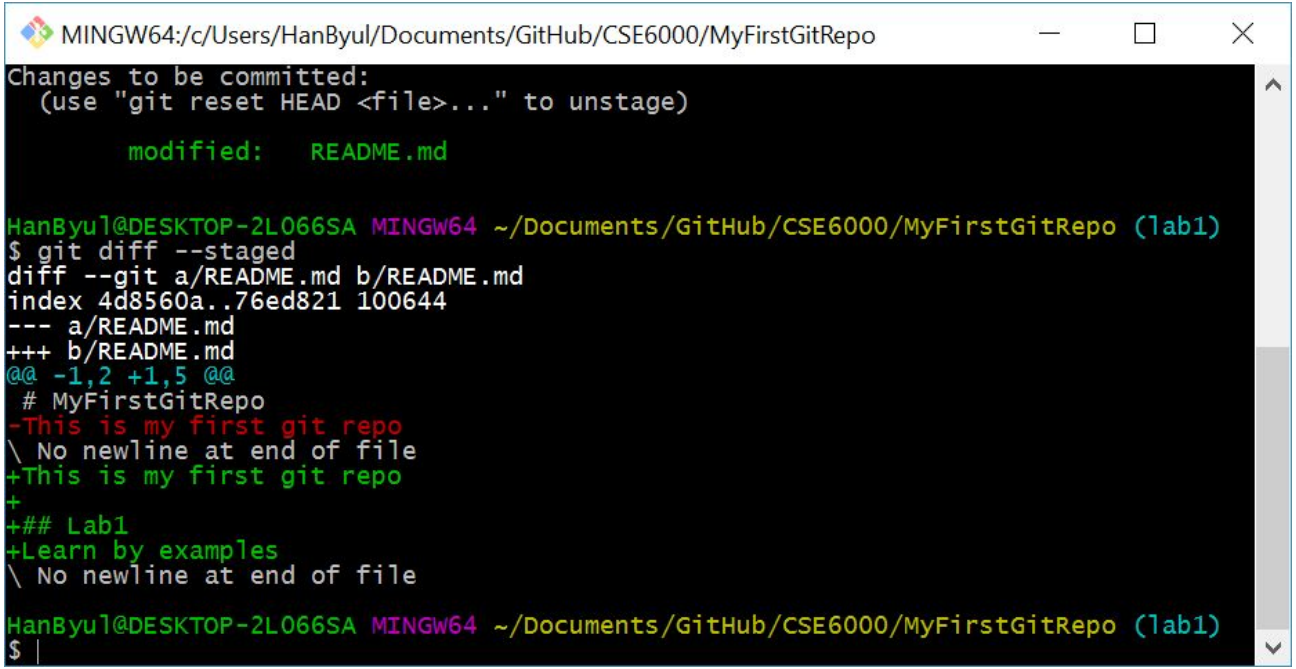
Git demo - diff

- `$ git add README.md`
- `$ git status`



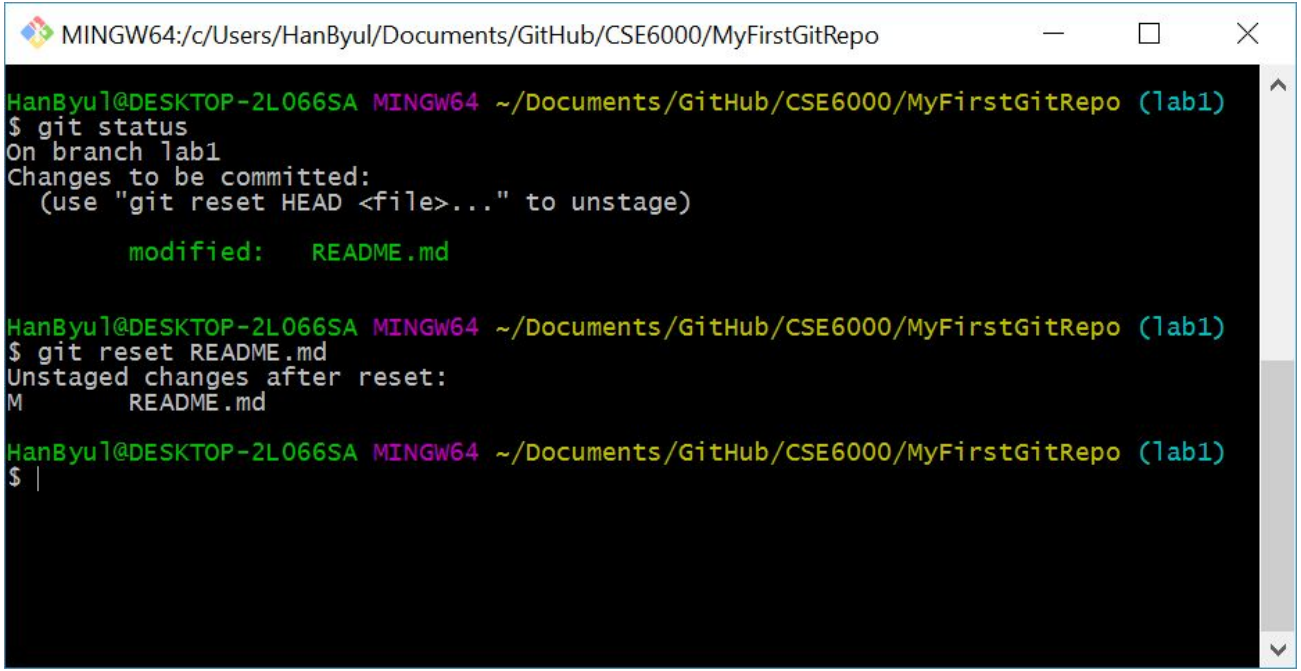
Git demo - diff

- `$ git diff --staged`

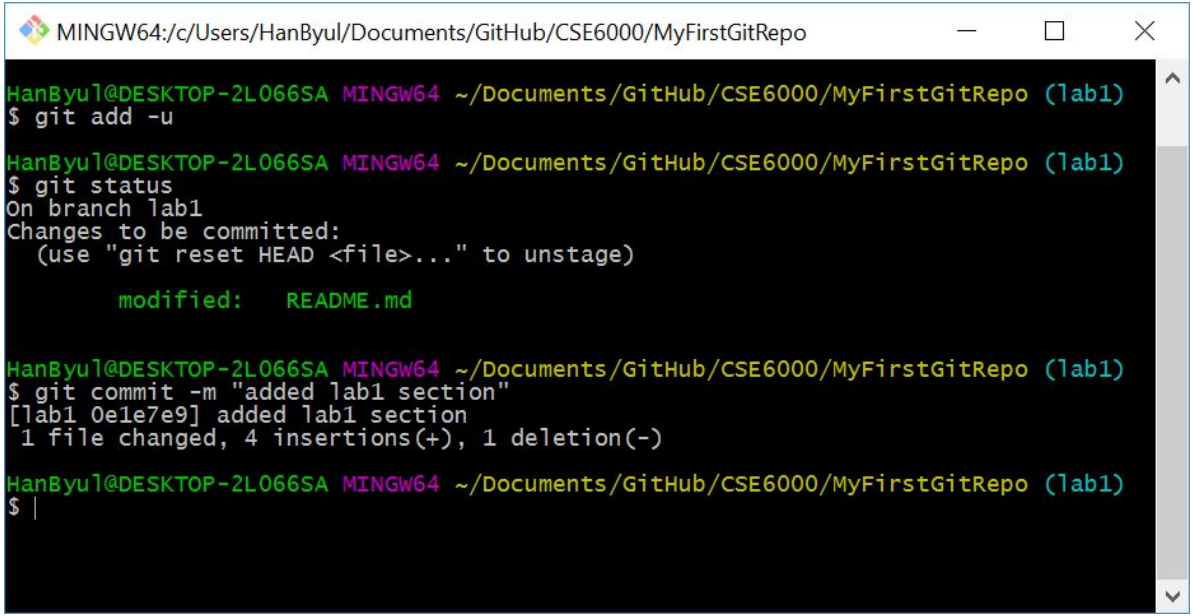


Git demo - git reset

- `$ git reset README.md` - Unstage README.md

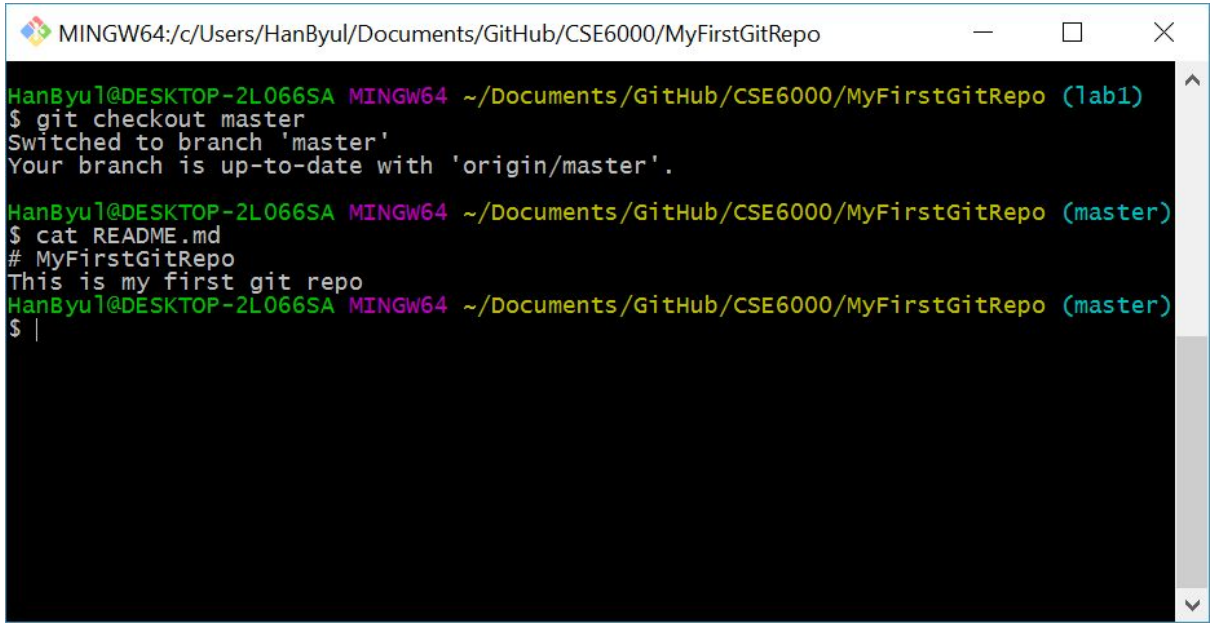


- `$ git add -u` - stage all changes of tracked files
- `$ git commit -m "added lab1 section"`



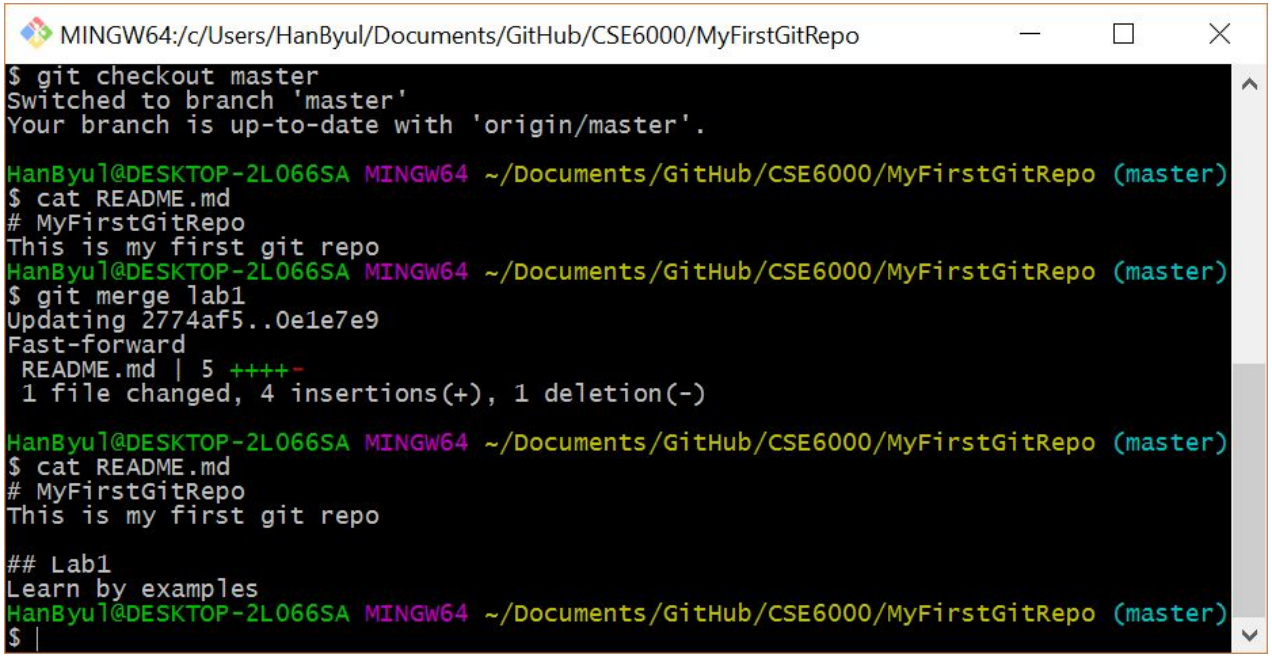
Git demo

- `$ git checkout master`
- `$ cat README.md` - Concatenate and print (display) the contents of files.



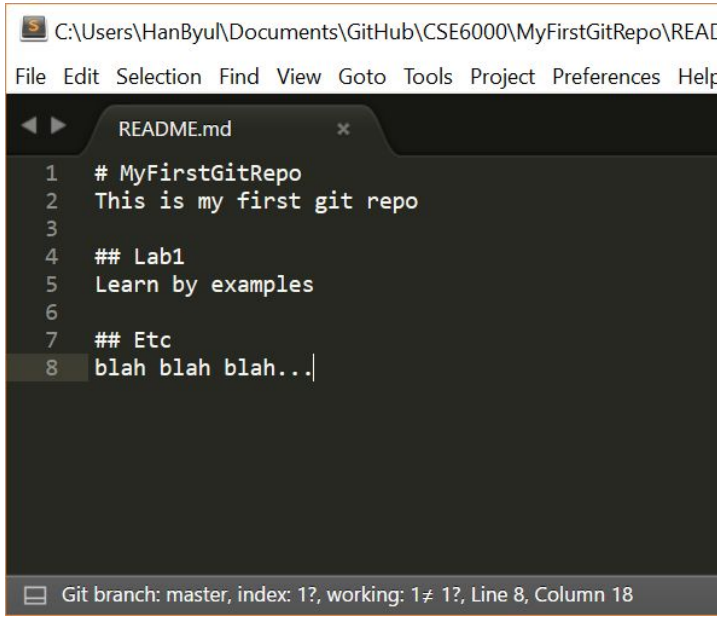
Git demo - merge

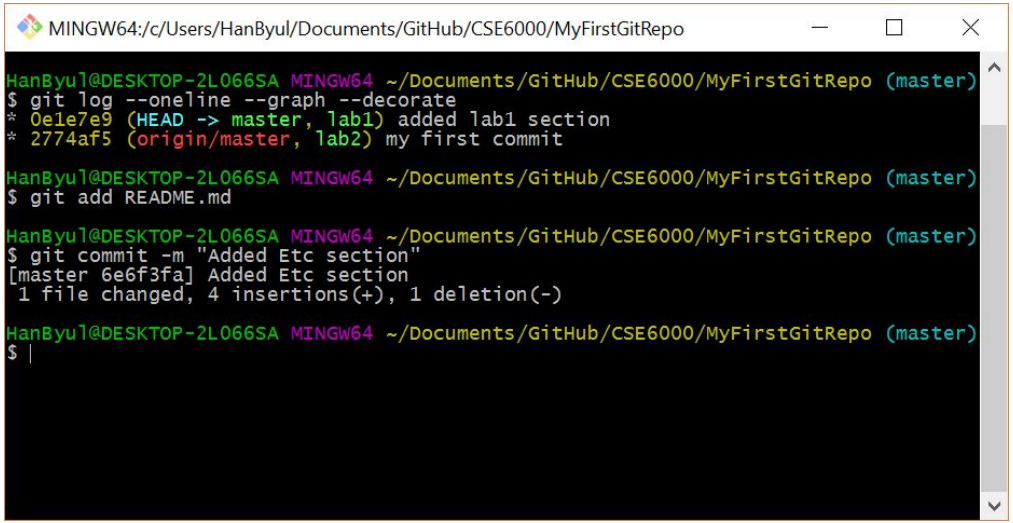
- `$ git merge lab1` - merge commits of lab1 to current branch (master)



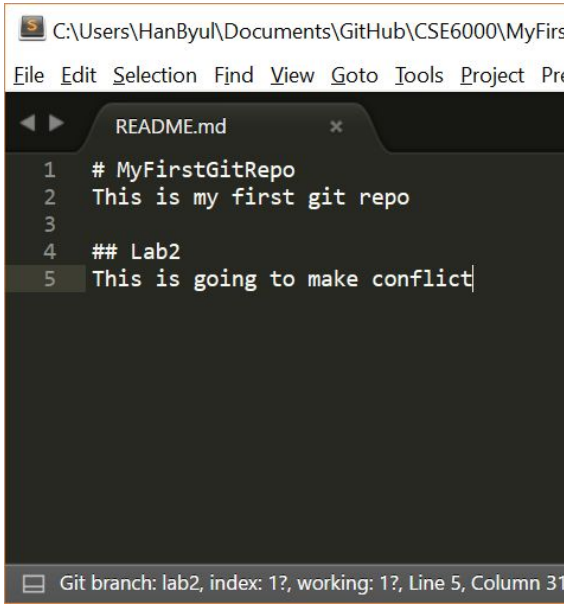
Git demo - merge and conflict

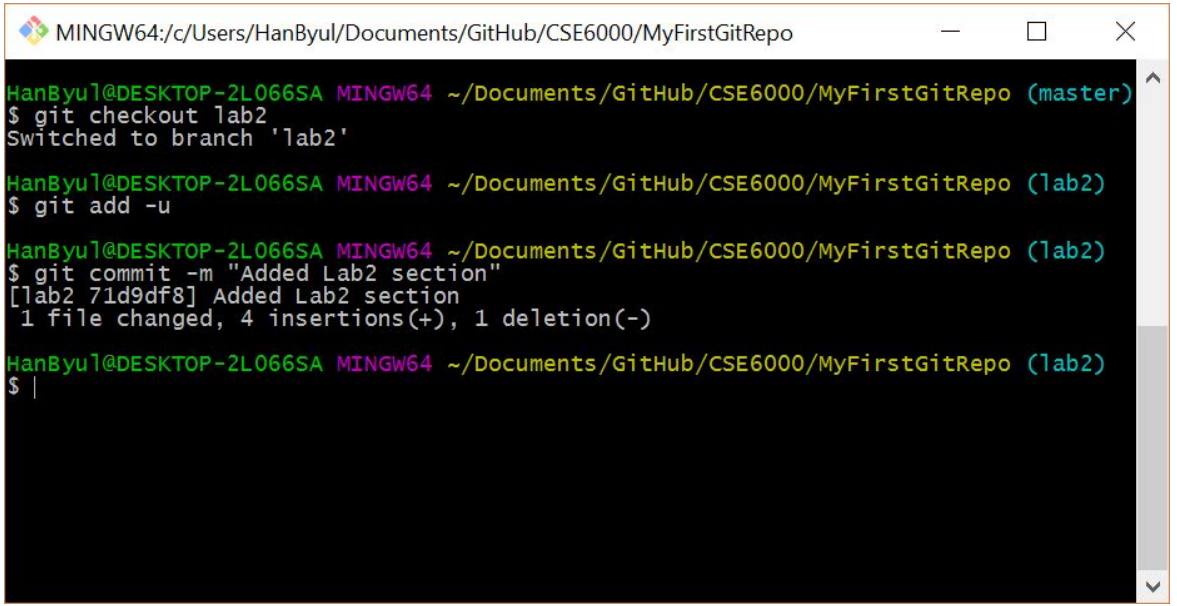
- Edit “README.md” and commit on master branch



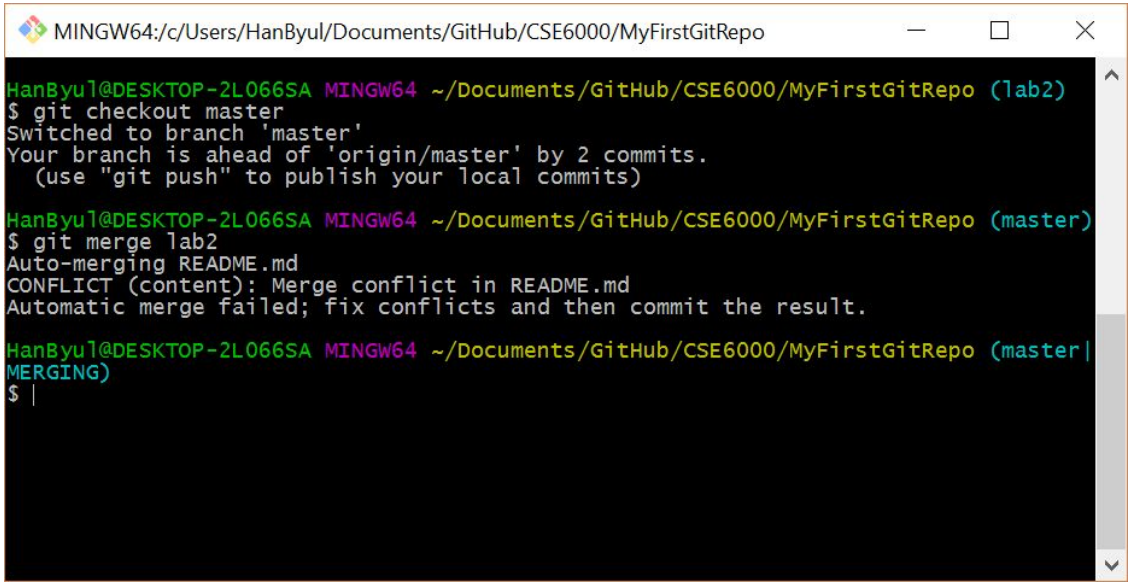


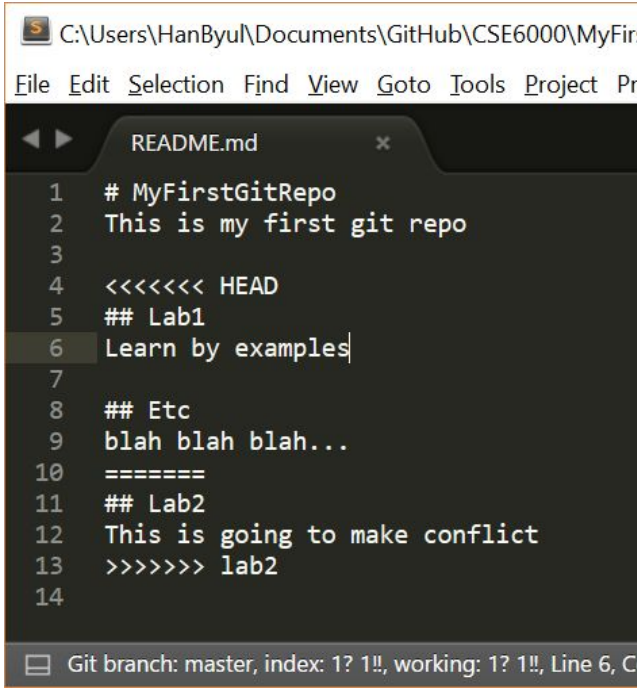
Git demo - merge and conflict



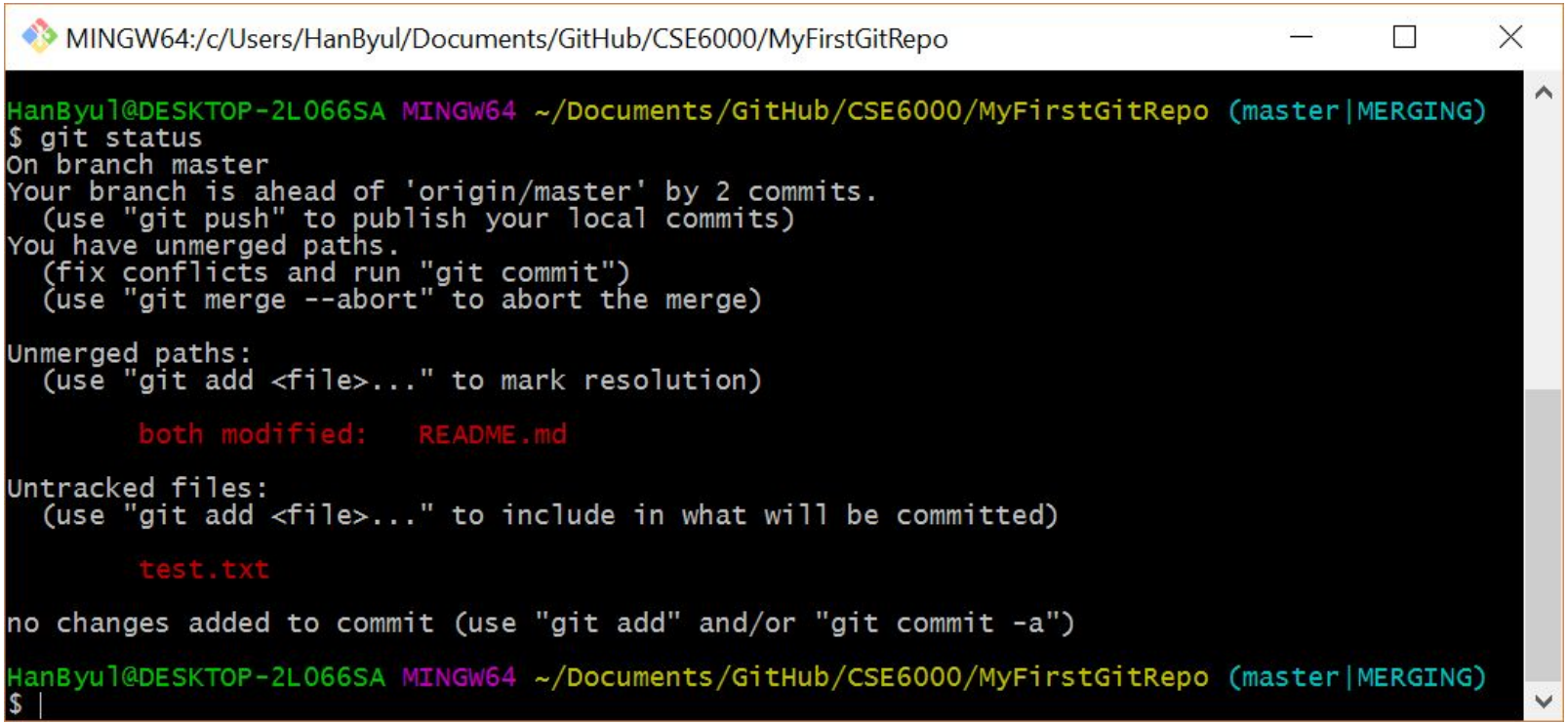


Git demo - merge and conflict

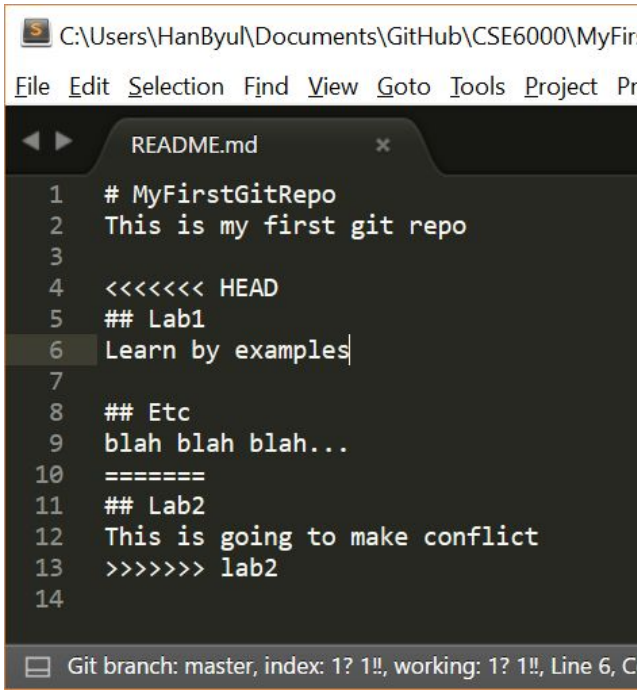


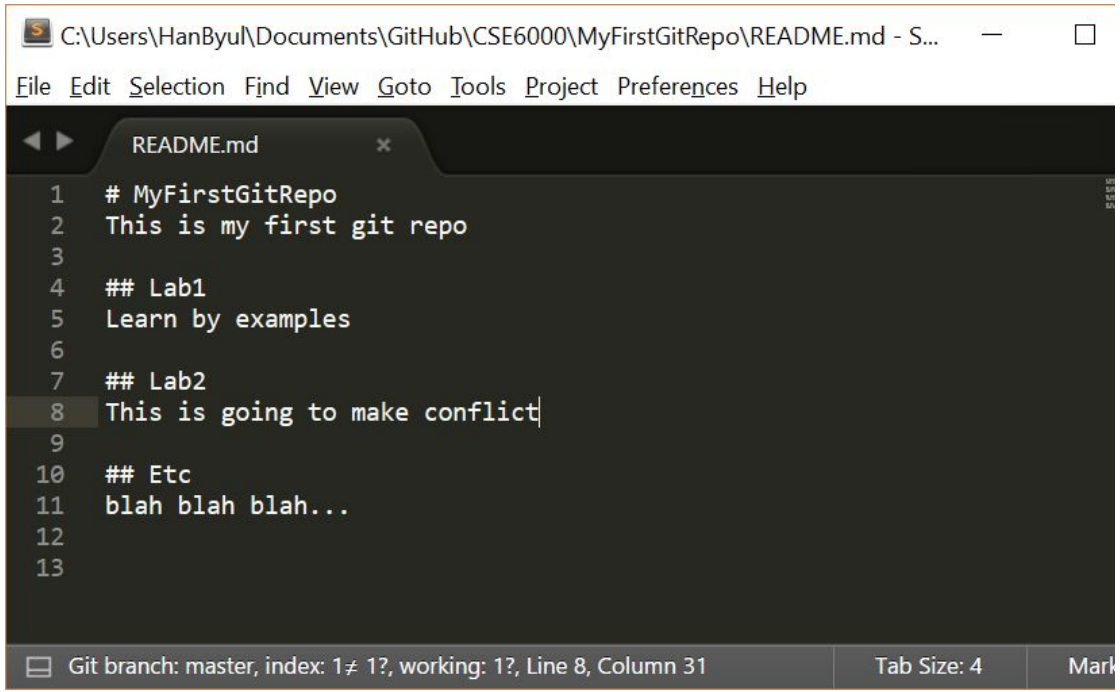


Git demo - merge and conflict

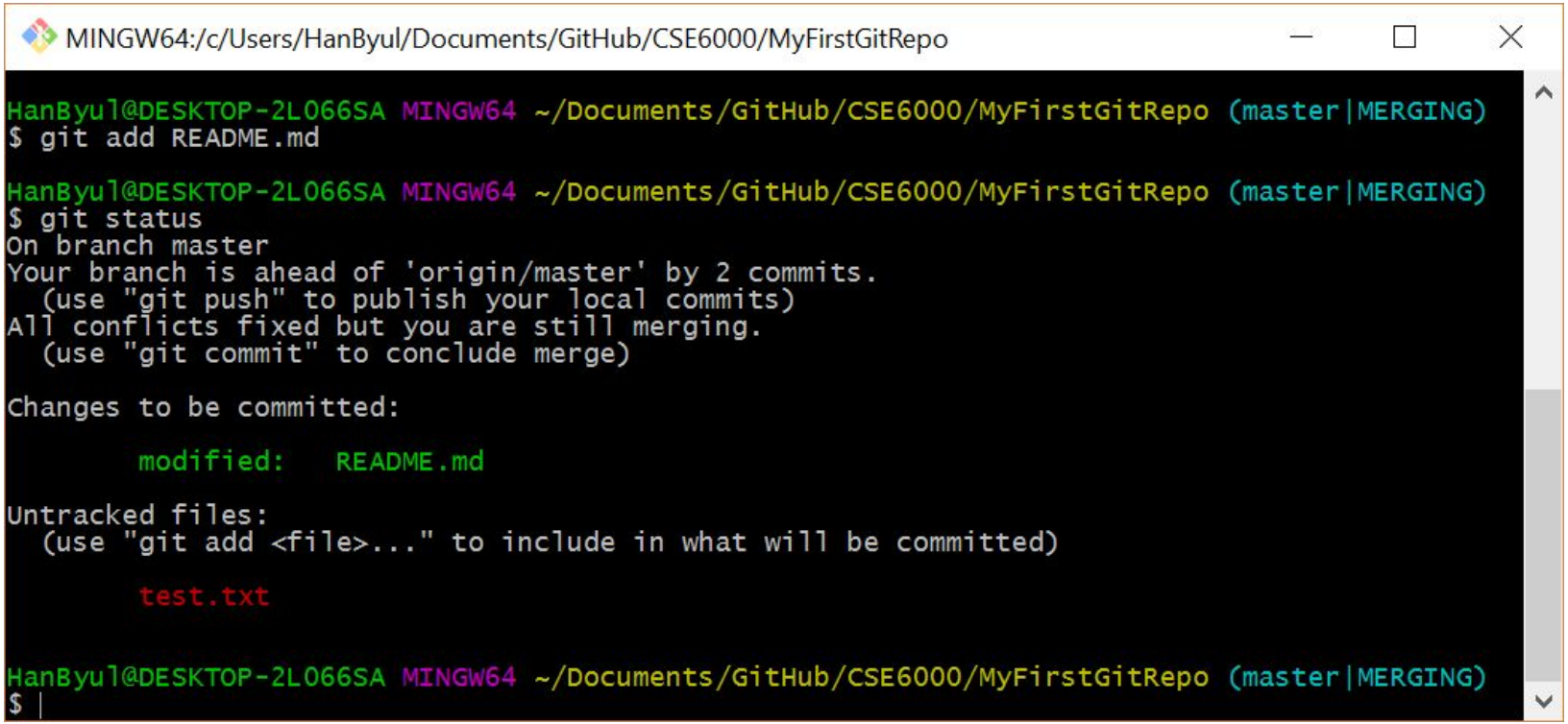


Git demo - merge and conflict

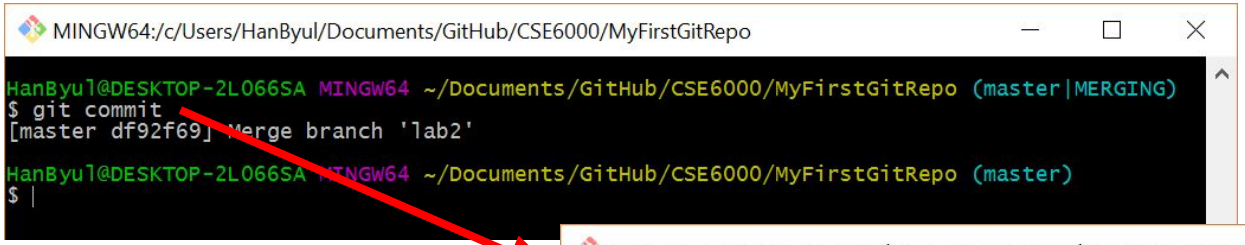


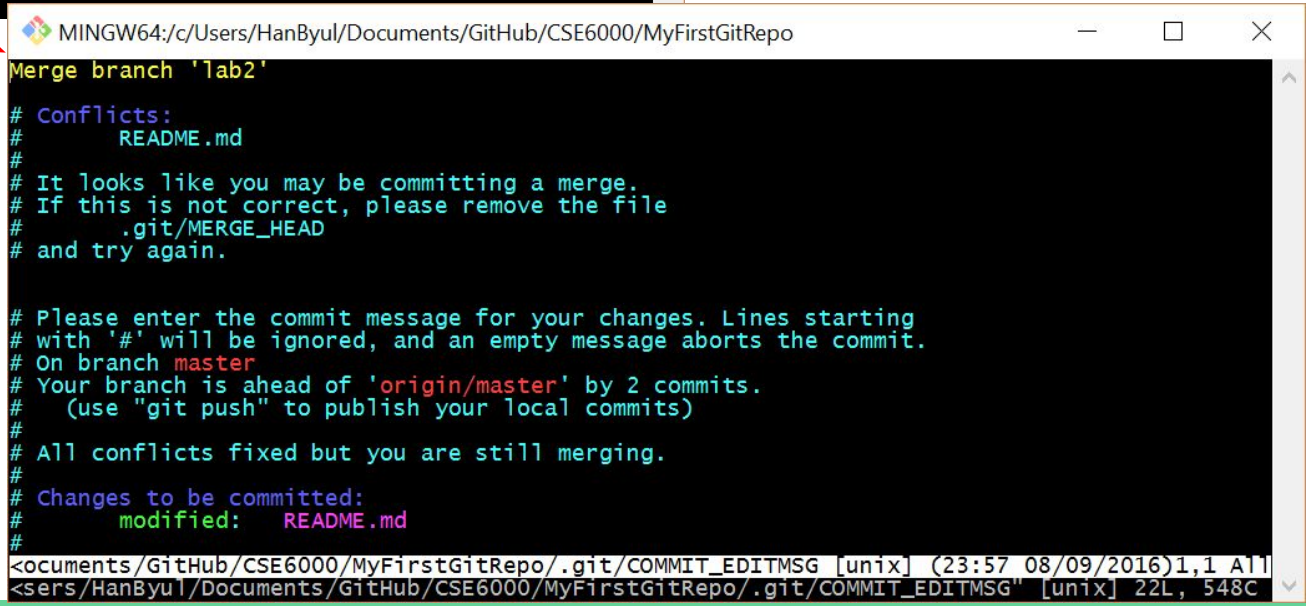


Git demo - merge and conflict



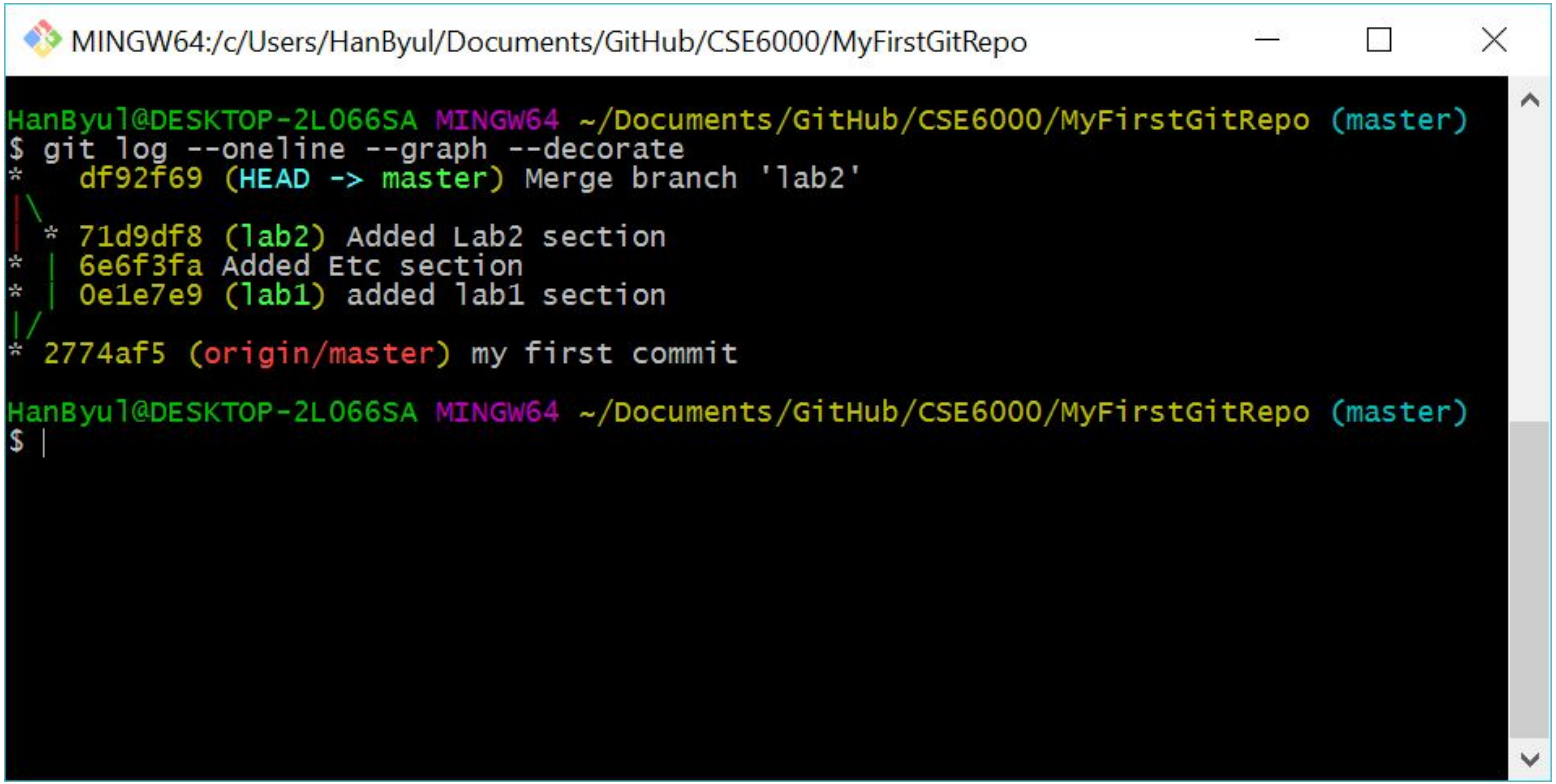
Git demo - merge and conflict





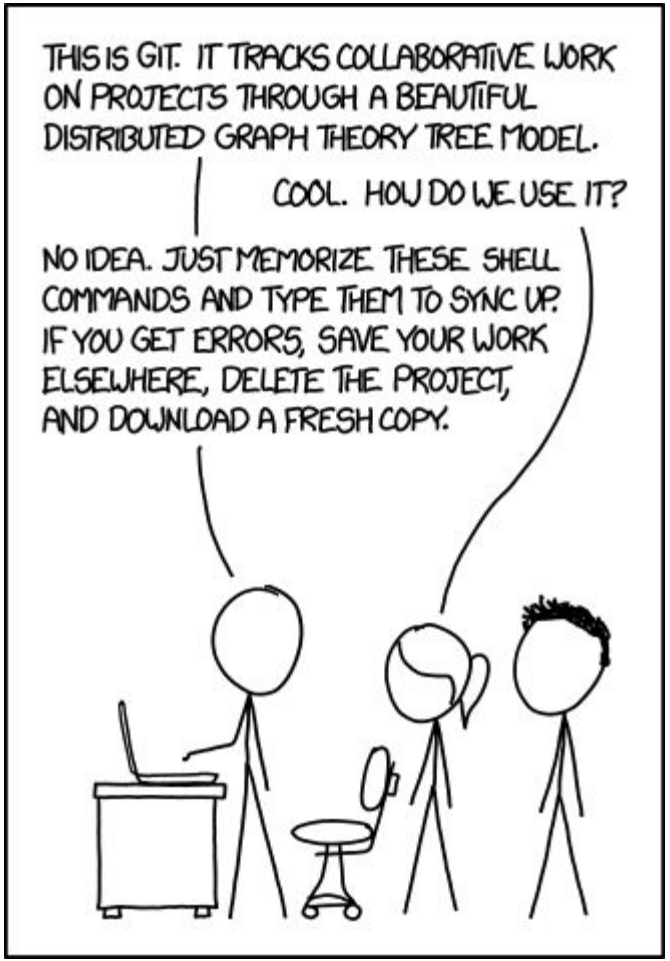
It is vi editor.
Type keys belows
ESC, :, w, q
(save and exit)

Git demo


MINGW64:/c/Users/HanByul/Documents/GitHub/CSE6000/MyFirstGitRepo
HanByul@DESKTOP-2LO66SA MINGW64 ~/Documents/GitHub/CSE6000/MyFirstGitRepo (master)
$ git log --oneline --graph --decorate
*   df92f69 (HEAD -> master) Merge branch 'lab2'
|\
| * 71d9df8 (lab2) Added Lab2 section
* | 6e6f3fa Added Etc section
* | 0e1e7e9 (lab1) added lab1 section
|/
* 2774af5 (origin/master) my first commit
HanByul@DESKTOP-2LO66SA MINGW64 ~/Documents/GitHub/CSE6000/MyFirstGitRepo (master)
$

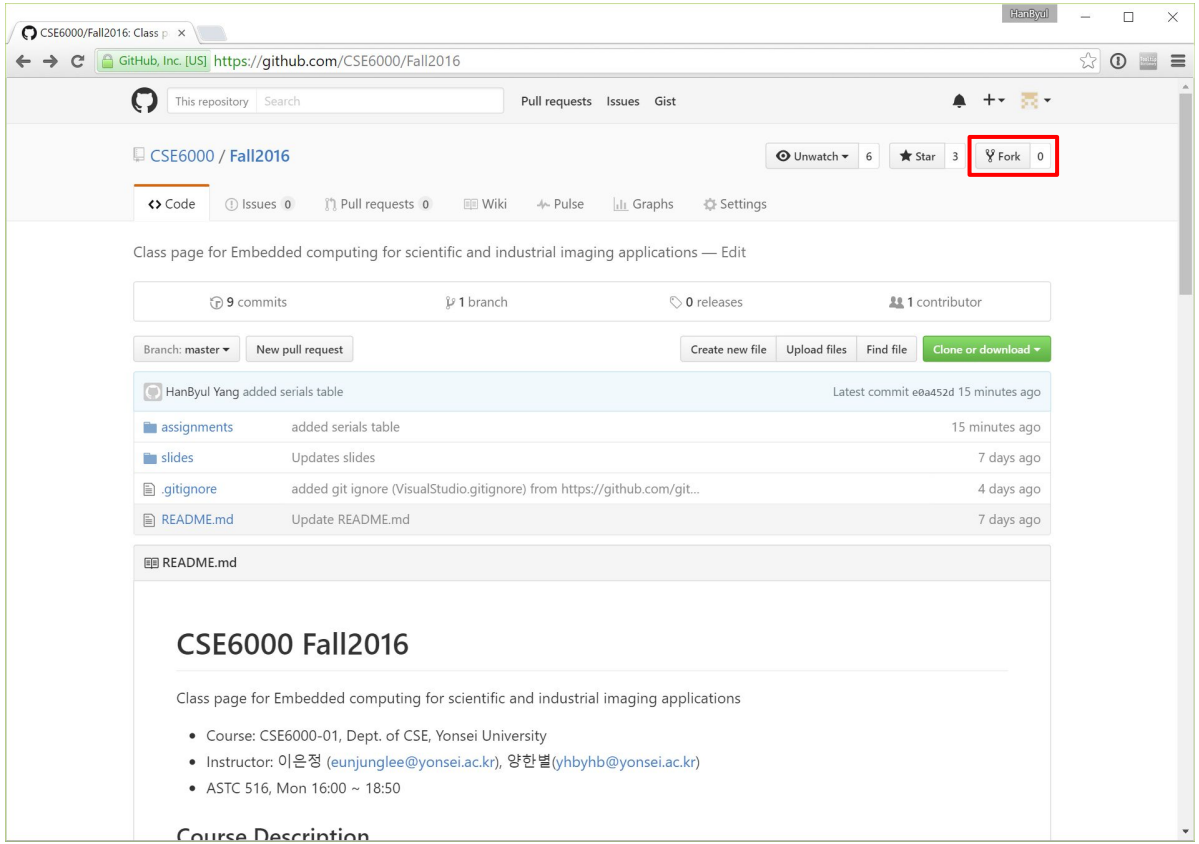
Git

http://xkcd.com/1597/

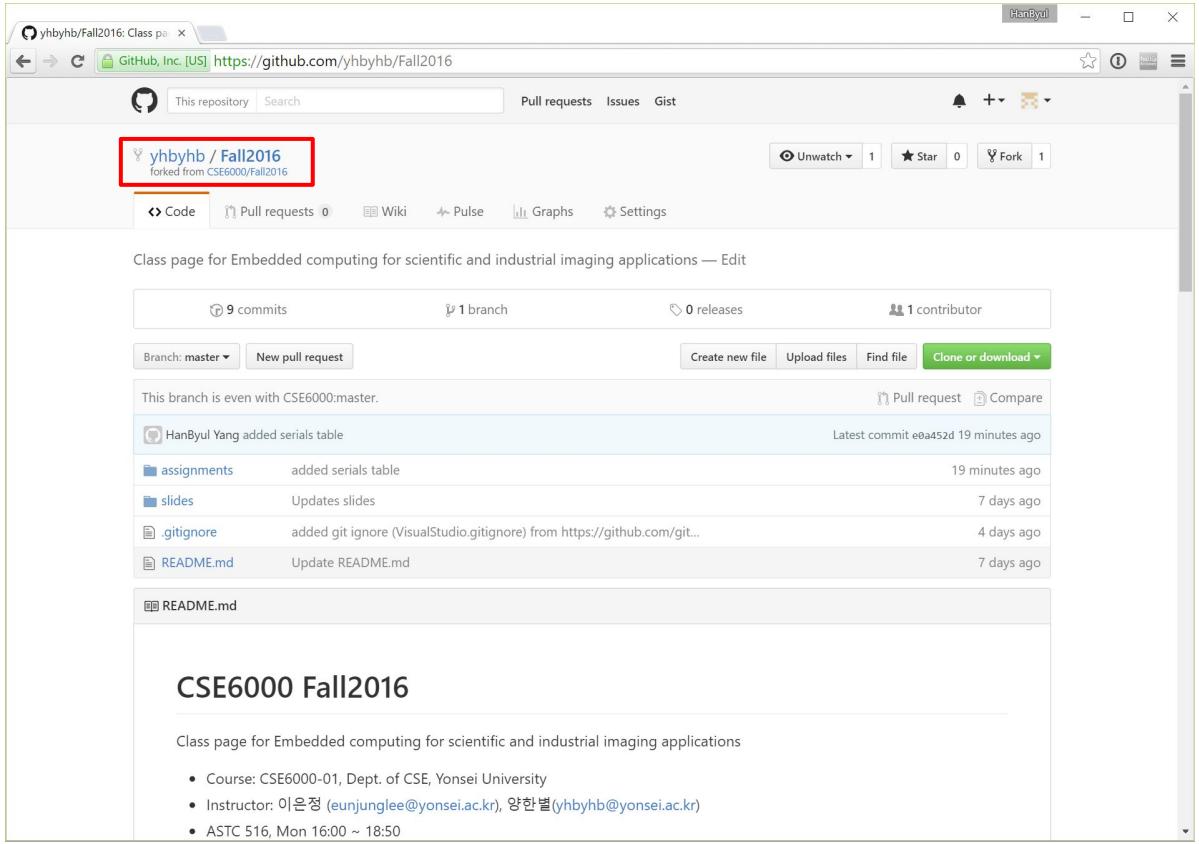


GitHub - Fork and pull request

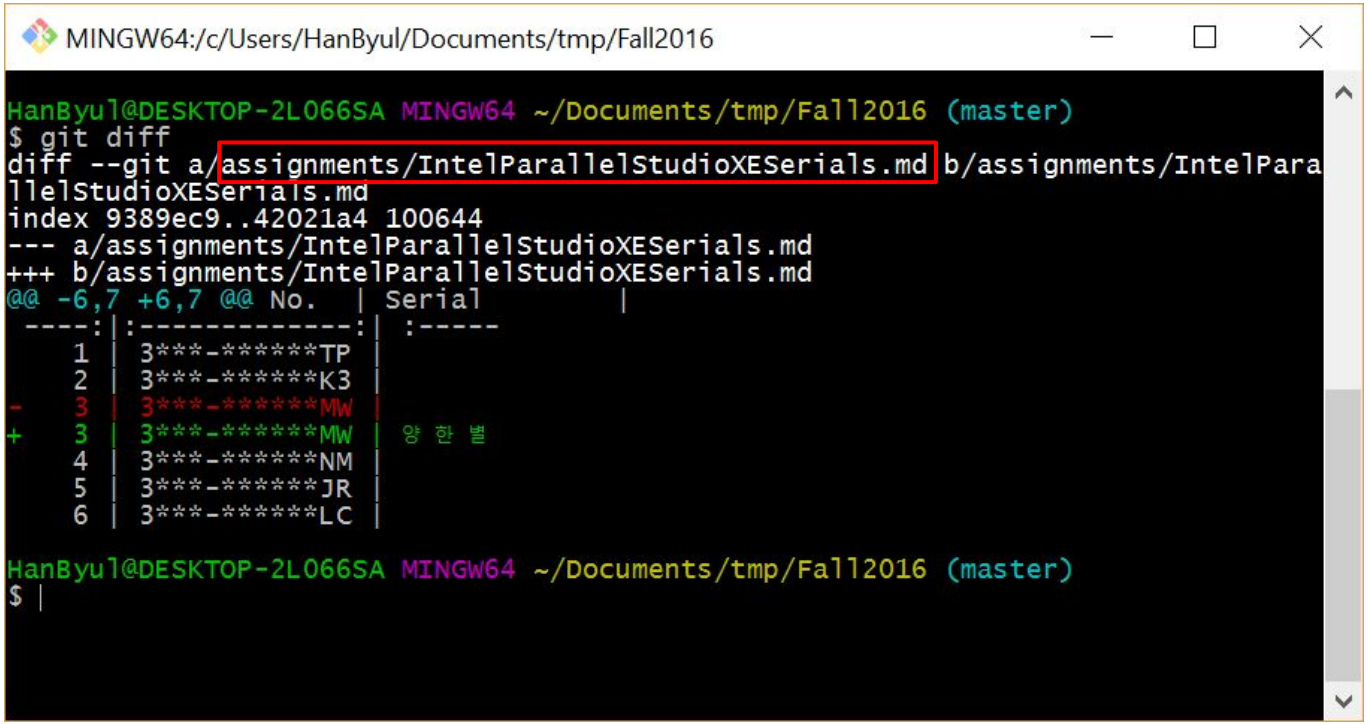
GitHub - Fork


CSE6000/Fall2016: Class
GitHub, Inc. [US] https://github.com/CSE6000/Fall2016
This repository Search
Pull requests Issues Gist
CSE6000 / Fall2016
Unwatch 6
Star 3
Fork 0
Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings
Class page for Embedded computing for scientific and industrial imaging applications — Edit
9 commits 1 branch 0 releases 1 contributor
Branch: master New pull request
Create new file Upload files Find file Clone or download
HanByul Yang added serials table
Latest commit e0a452d 15 minutes ago
assignments added serials table 15 minutes ago
slides Updates slides 7 days ago
.gitignore added git ignore (VisualStudio.gitignore) from https://github.com/git... 4 days ago
README.md Update README.md 7 days ago
README.md
CSE6000 Fall2016
Class page for Embedded computing for scientific and industrial imaging applications
Course: CSE6000-01, Dept. of CSE, Yonsei University
Instructor: 이은정 (eunjunglee@yonsei.ac.kr), 양한별(yhbyhb@yonsei.ac.kr)
ASTC 516, Mon 16:00 ~ 18:50
Course Description

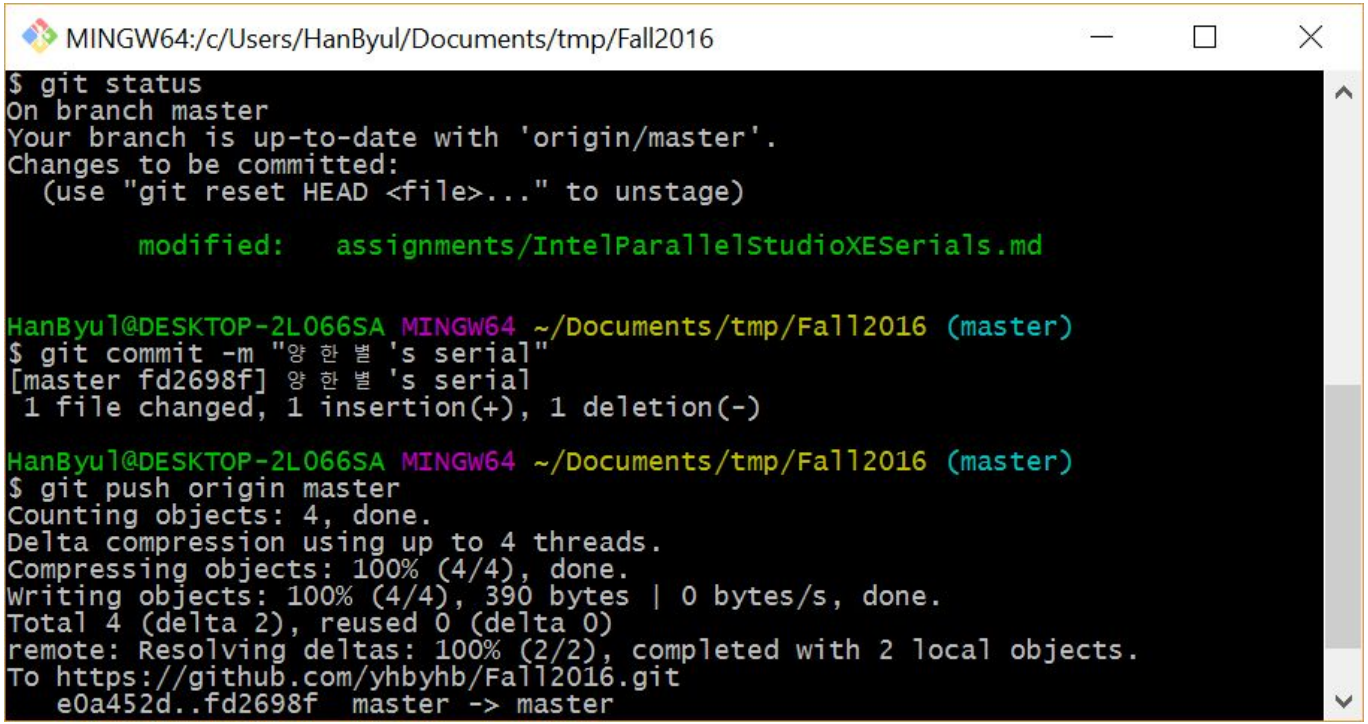
GitHub - Fork result



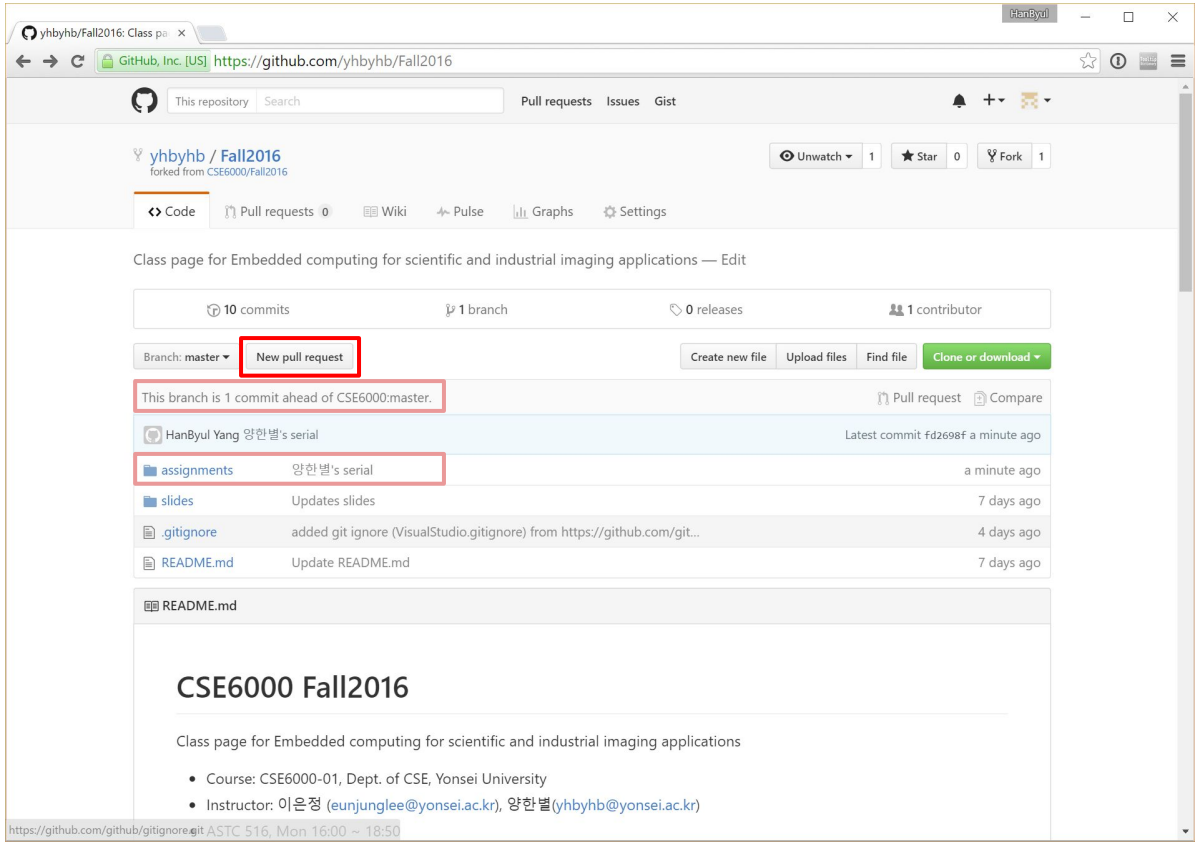
GitHub - clone and edit file



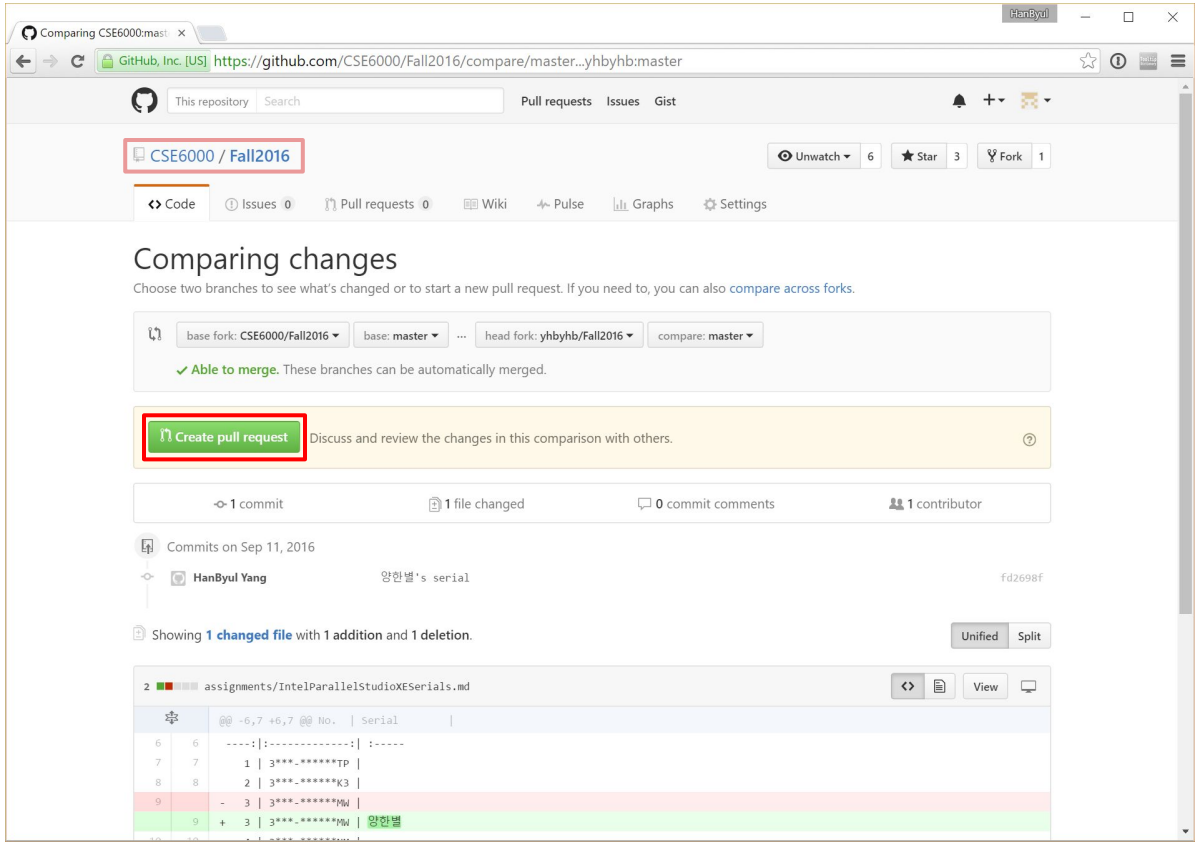
GitHub - commit and push



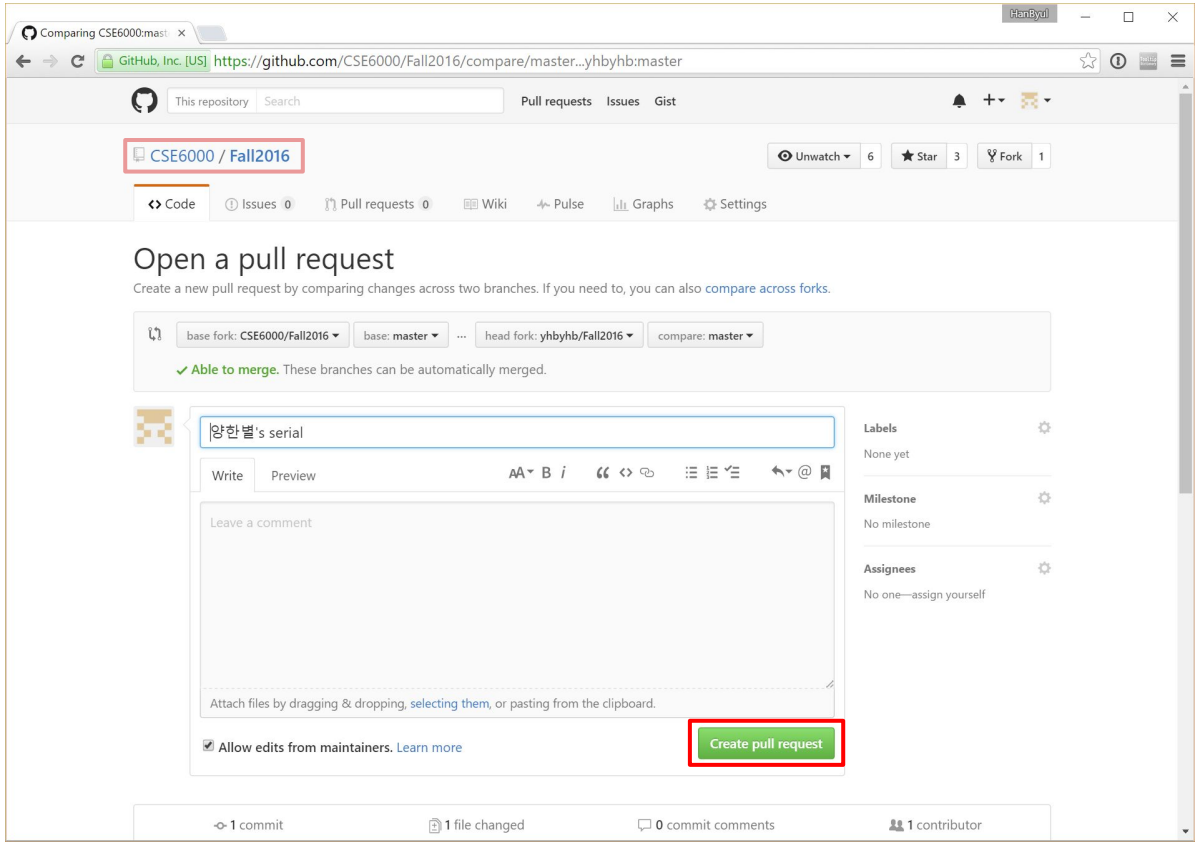
GitHub - pull request



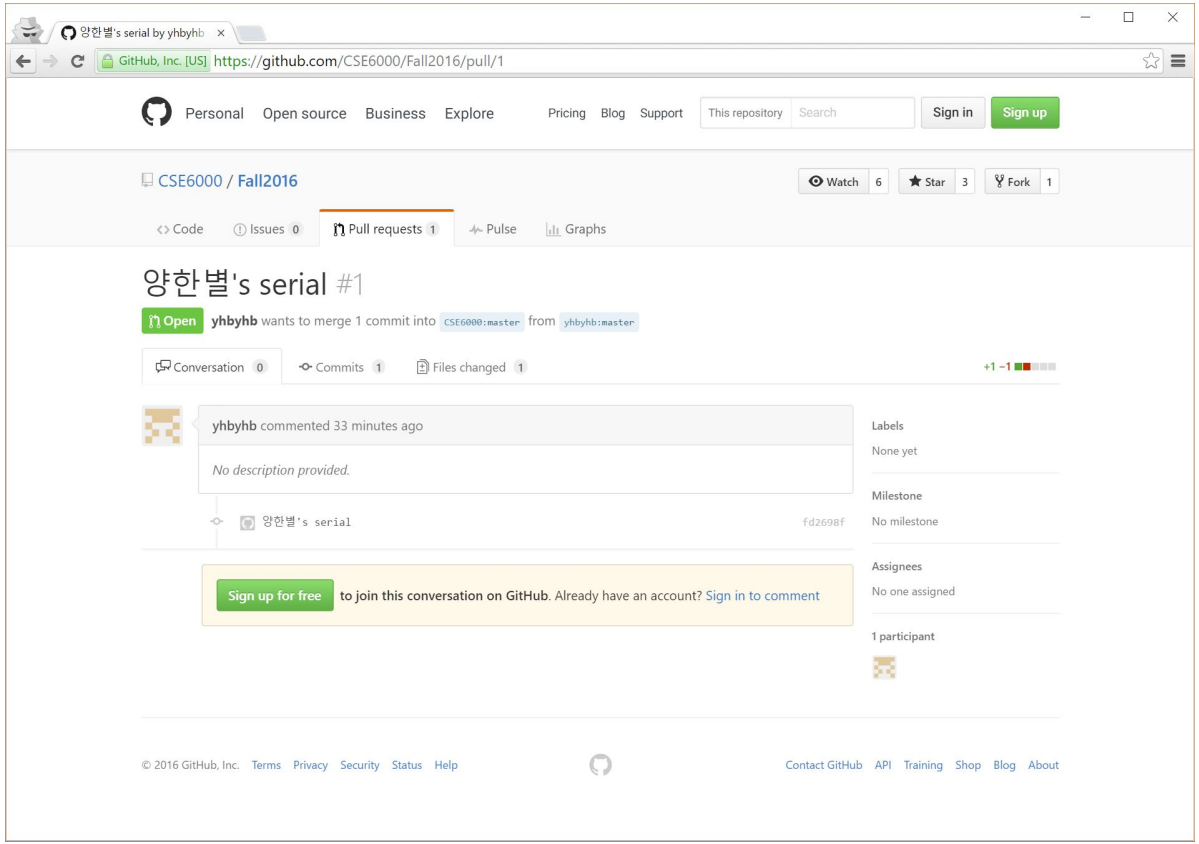
GitHub - pull request (reviewing changes)



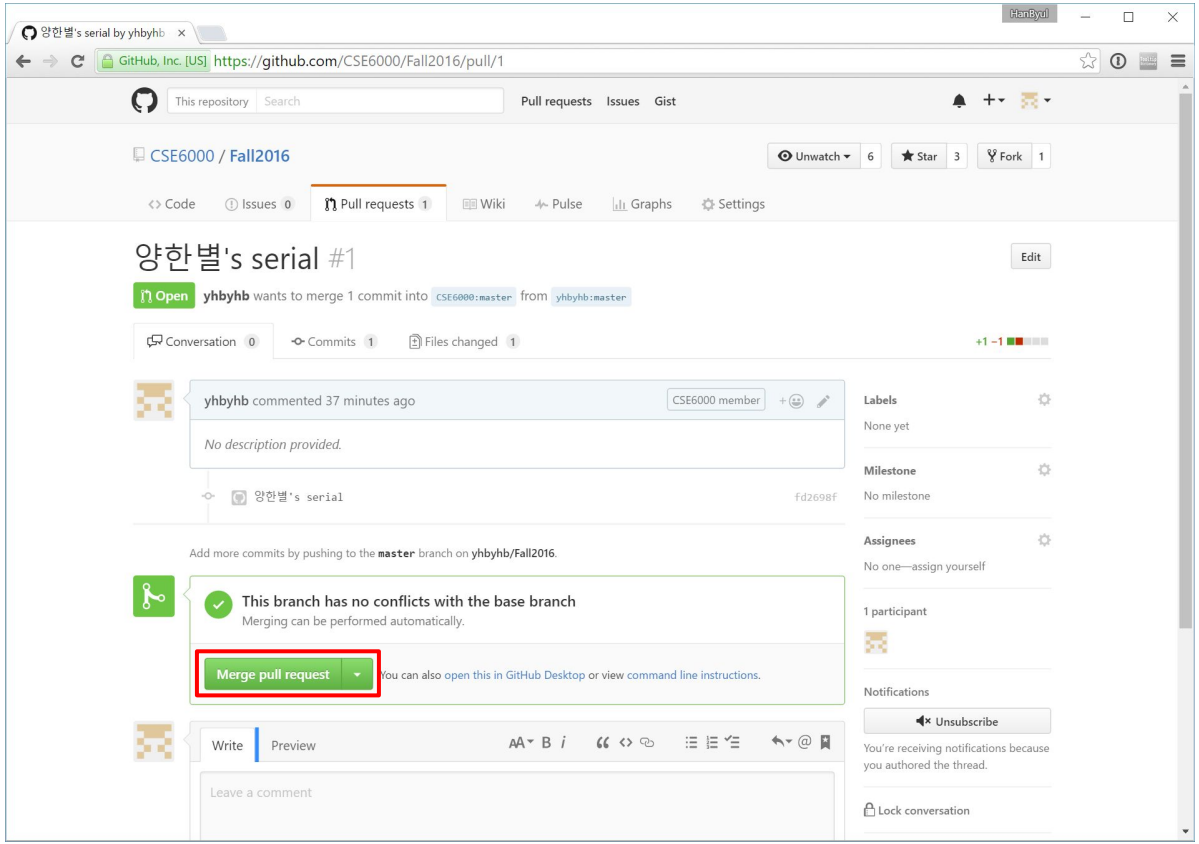
GitHub - create pull request



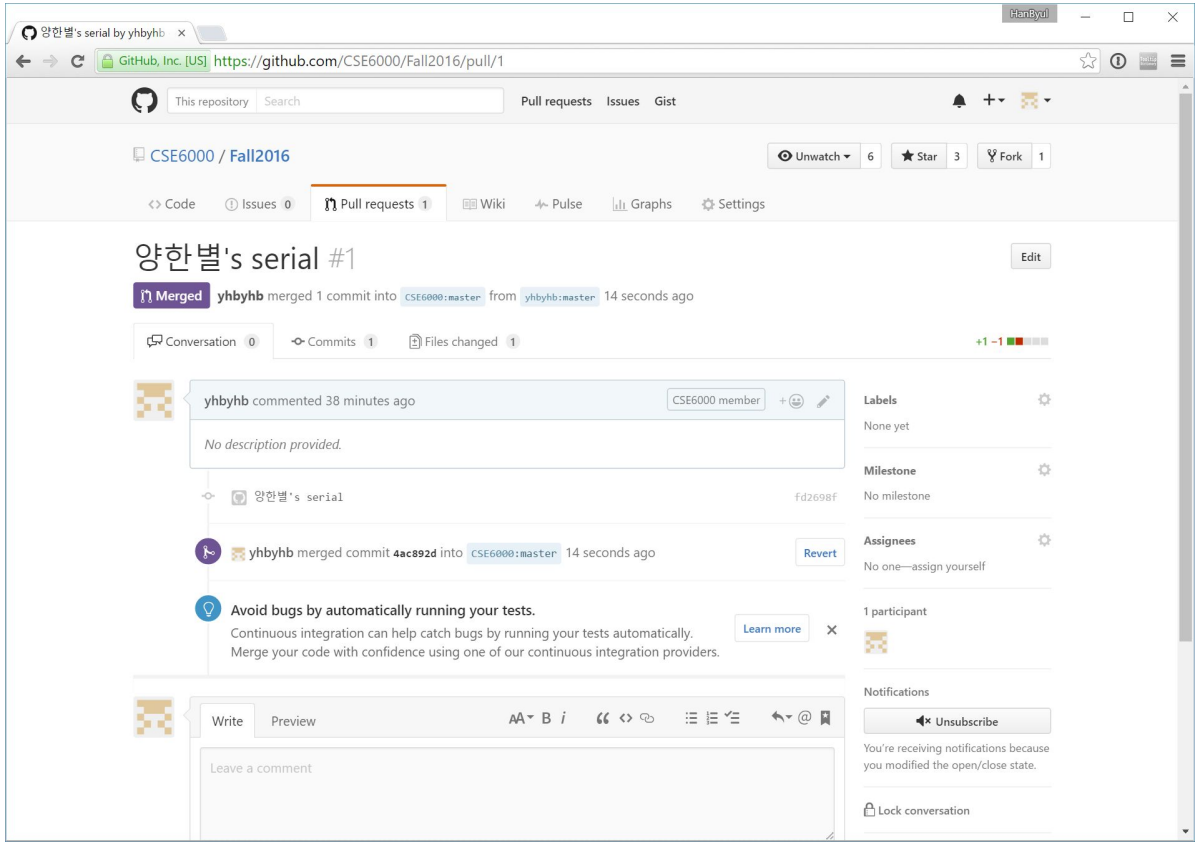
GitHub - result of pull request



GitHub - maintainer's view of pull request



GitHub - result of merged pull request



Links

- Git Cheat Sheet - GitHub Education
- GitHub Guides
  - Hello world
  - Forking Projects
- GitHub markdown
  - Mastering Markdown
  - Markdown Cheatsheet