

- Why Github?
  - Version control on steroids
  - Removes the need to rename different version of files
  - Can branch and go back to earlier commits
  - Can directly compare changes made to files
  - Makes collaboration very easy
    - Can clone the entire history
    - Can branch and merge and conflicts will be notified
- <https://git-scm.com/downloads>
  - Change name to “main”
  - For MacOS use Binary installer
  - Use git --version to check for install
- Basic commands
  - Windows
    - pwd – prints working directory
    - cd – changes working directory
    - cd /c/Users/chase/GDrive/GD\_Work/SoDA496/SoDA496\_GitTutorial
    - .. – move one level out
    - ls – list files and folders
    - mkdir – makes working directory
      - mkdir test-folder
    - touch – create new file
      - touch test.txt
    - rm –removes file
      - rm test.txt
- First repo
  - cd /c/GitRepos
  - mkdir soda496
  - cd soda496
  - touch newfile.txt
  - git init
  - git status
  - git add newfile.txt
  - git status
- Config
  - Git config –global user.name ‘Chase Bloch’
  - Git config user.name
  - Git config –global user.email [chasebloch@gmail.com](mailto:chasebloch@gmail.com)
  - Git config user.email
- First commit
  - Git status
  - Add “test” to newfile.txt
  - Git status

- Git add .
- Git status
- Git commit newfile.txt
- Press esc
- :wq
- Git log
- Make a change to newfile.txt
- Git add .
- Git commit -amend newfile.txt
- Make another change to file
- git commit -a -m "Added changes"
- git revert "enter commit id"
- git reset HEAD~
- git restore newfile.txt
- Branching and merging
  - Git branch feature
  - Git branch
  - Git checkout feature
  - Git branch
  - Touch feature.r
  - Git add .
  - Git commit -m "Added R feature"
  - Git checkout master
  - Git merge feature
  - Git branch -d feature
- Github Desktop
  - Make a Github account
  - <https://desktop.github.com/>
  - Add soda496 as new repository
  - Show history
  - Push it to Github
  - Show it on github
  - Create a new file directly on github
  - Show that it is not in local repository
  - Fetch it on github desktop
- Merge in github desktop
  - Create feature branch
  - Edit one of the files and commit
  - Go back to master and make a different edit
  - Try to merge in desktop