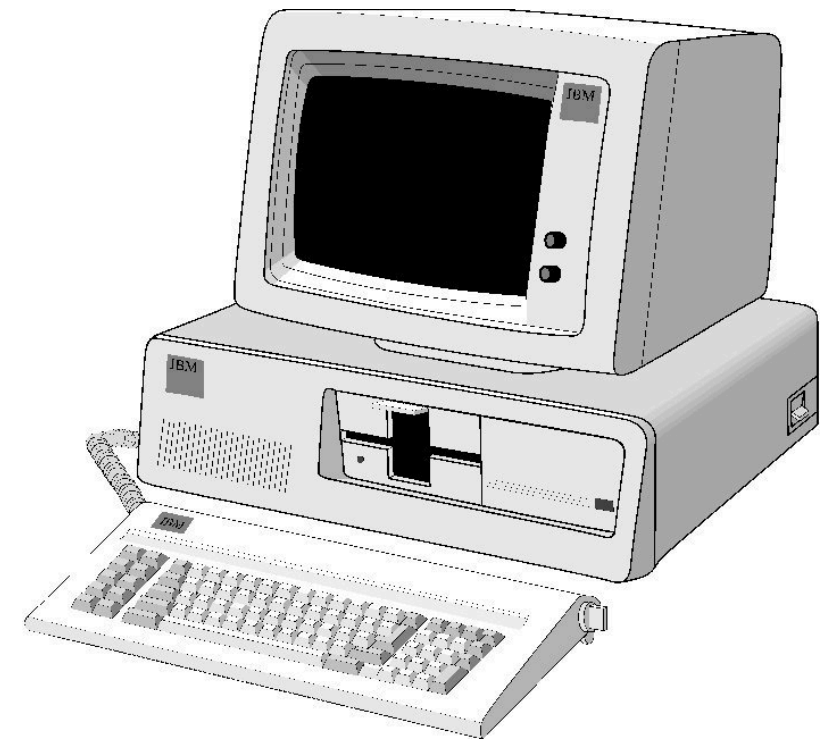


# **GIT / GITHUB**

**8.31.2018**

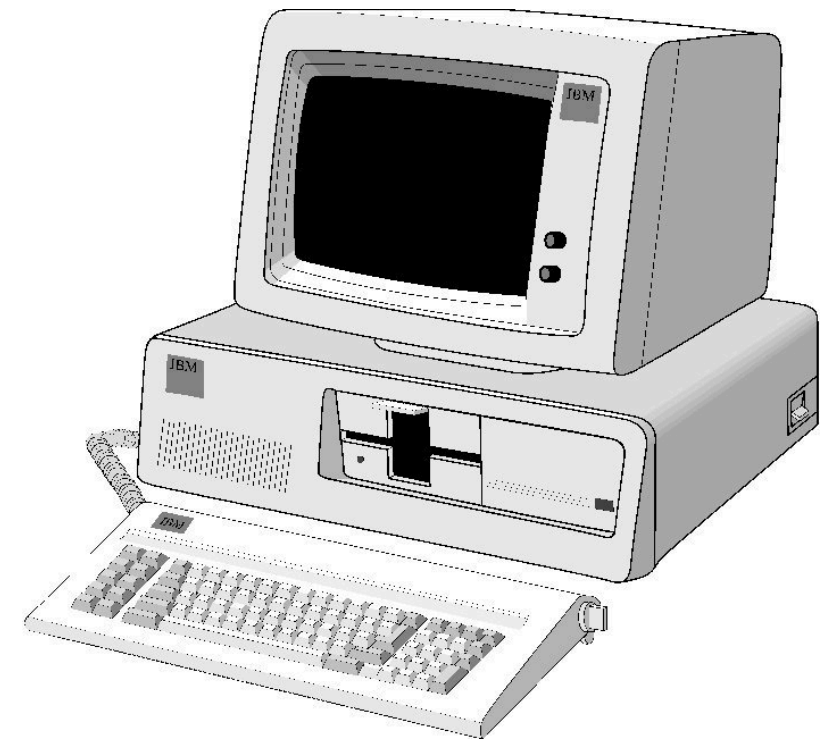
# “SCRIPTS” VS. “SOFTWARE”

- \* SCRIPT - artisanal, organic code lovingly passed from user to user, gently modified by each, growing cruftier and less understandable every year, with no way to know who made what changes or why and no way to combine updates you made with updates someone else made

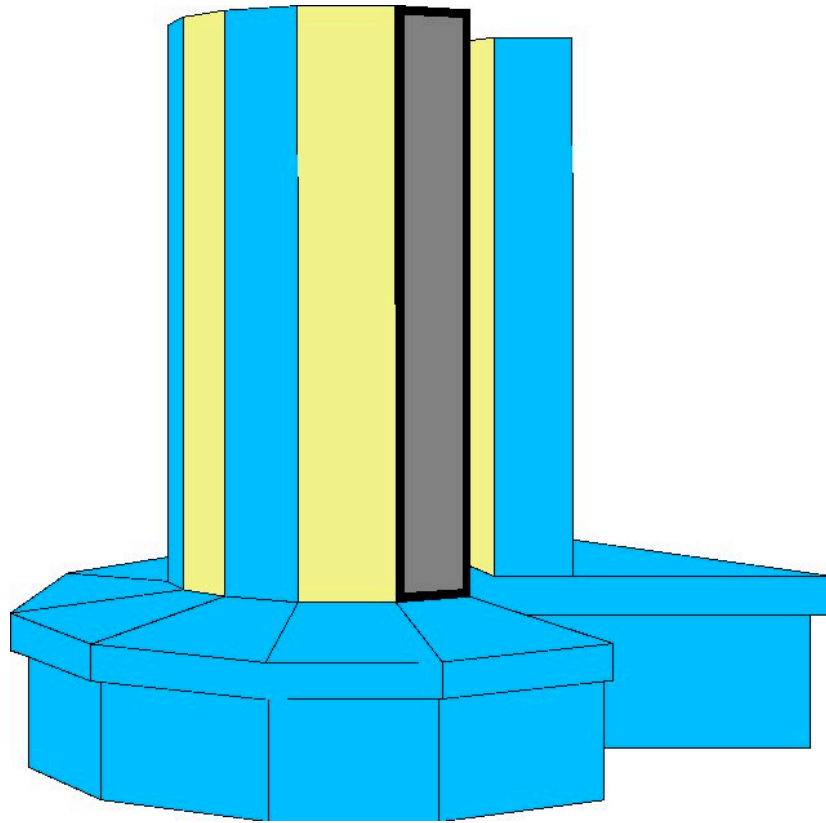


# “SCRIPTS” VS. “SOFTWARE”

- \* analysis\_test
- \* analysis\_test2
- \* analysis\_test2\_fixed
- \* analysis\_test\_3
- \* analysis\_final\_1
- \* analysis\_final\_fixed
- \* analysis\_final\_new
- \* analysis\_BROKEN
- \* analysis\_michael\_april

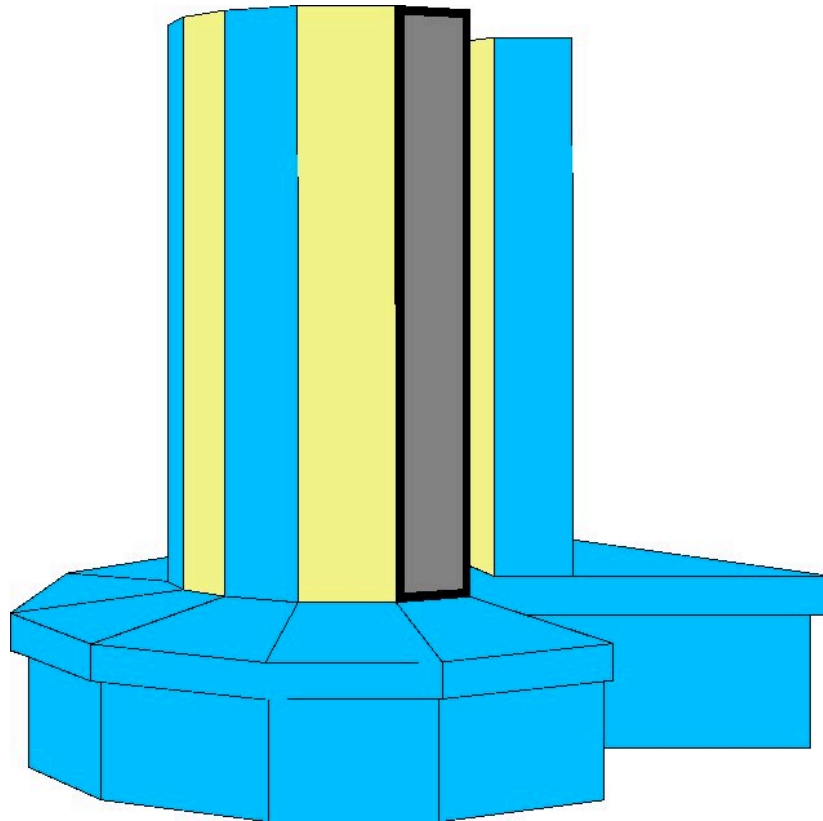


# “SCRIPTS” VS. “SOFTWARE”



- \* (OPEN SOURCE) SOFTWARE -  
monolithic, standardized  
code shared by many,  
contributed to by many

# “SCRIPTS” VS. “SOFTWARE”



- \* analysis
- \* analysis\_utils
- \* README

# **VERSION CONTROL:**

## **GIT**

# GIT

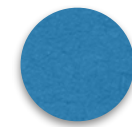


Linus Torvalds

- \* Command line tool
- \* Tracks changes to code
- \* Lets you share those changes with other ppl
- \* Lets other ppl share changes with you
- \* Lets you combine your changes with other ppl's changes

# GIT DEMO

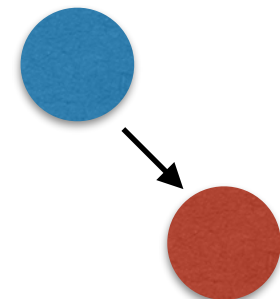
- \* `git init` - *create repository*
- \* `[create test.py using sublime text]`
- \* `git status` - *see what you've changed*
- \* `git add test.py` - *start tracking test.py*
- \* `git commit -m "initial commit"`
- \* `git log` - *see list of commits*





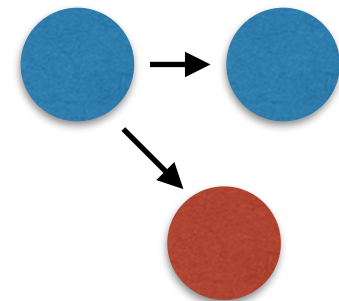
# GIT DEMO

- \* `git branch major_rehaul` - create a new branch
- \* `git branch` - *list all the branches*
- \* `git checkout major_rehaul` - *switch branches*
- \* `[edit test.py]`
- \* `git add test.py`
- \* `git commit -m "wow such changes"`
- \* `git log`



# GIT DEMO

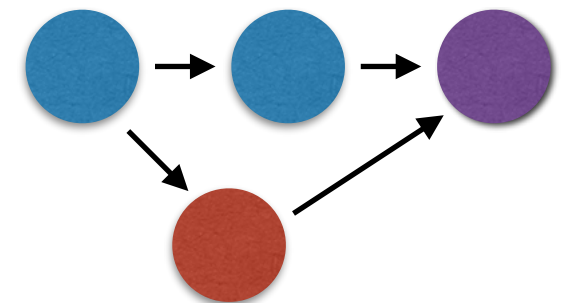
- \* `git checkout master` - *switch back to original branch*
- \* `[edit test.py again]`
- \* `git add test.py`
- \* `git commit -m "a different change!"`
- \* `git log`



# GIT DEMO

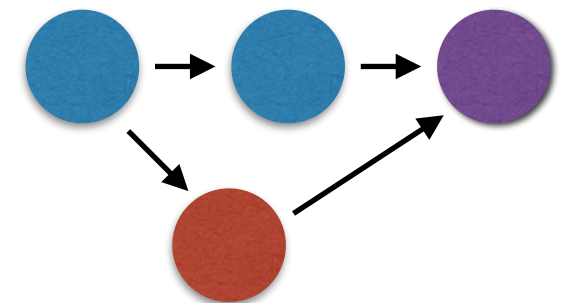
- \* `git merge major_rehaul`

- \* `[view test.py]`



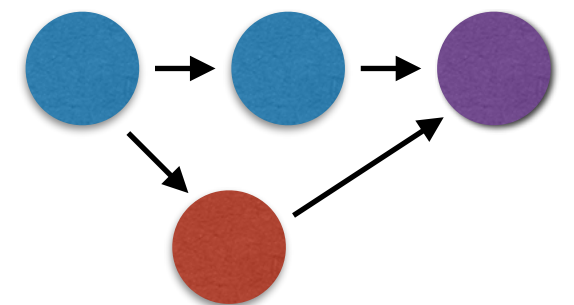
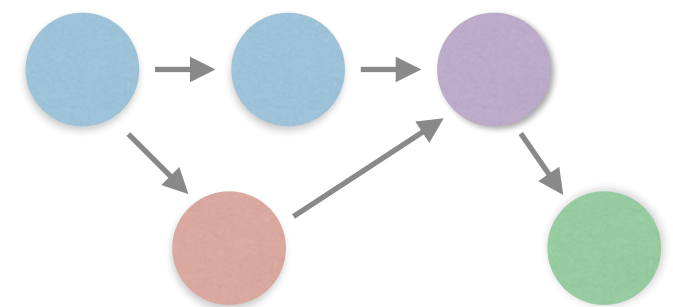
# GIT DEMO

- \* *If auto-merge successful:*
  - \* (save the merge message, all is good!)
  - \* `git log`
- \* *If auto-merge fails:*
  - \* [edit test.py, fix conflict, add, & commit]
  - \* `or: git merge --abort` - *undo!*



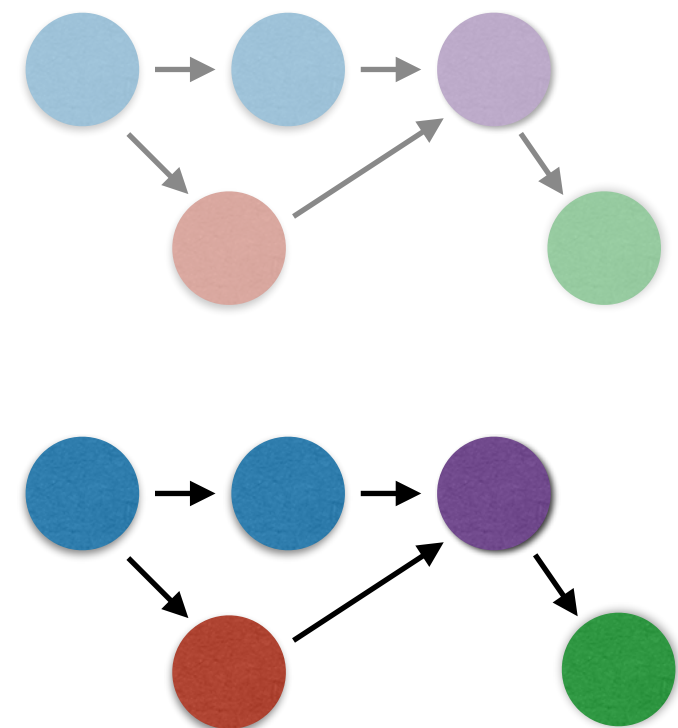
# HOW DO YOU SHARE?

- \* `git clone demo_repo demo_repo_2`
- \* [create new branch in demo\_repo\_2]
- \* [edit test.py, commit]



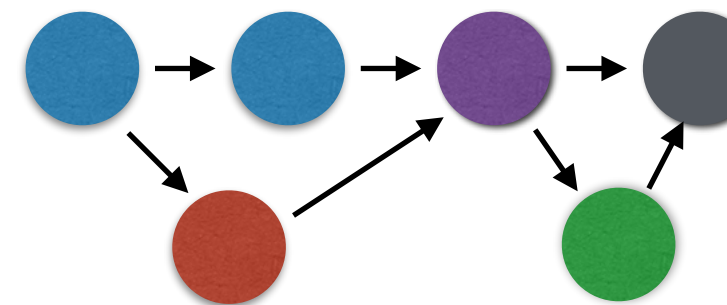
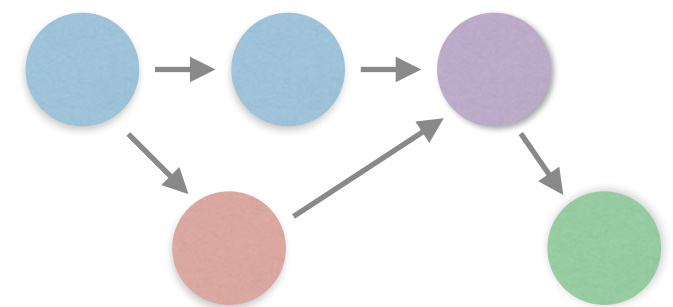
# HOW DO YOU SHARE?

- \* `git push --set-upstream origin new2`  
- *sends new2 branch to first repo*
- \* [switch to first repo]
- \* `git branch`
- \* `git checkout new2`
- \* `git log`



# HOW DO YOU SHARE?

- \* `git checkout master`
- \* `git merge new2`
- \* `git log`



# **SHARING CODE:**

# **GITHUB**



# GITHUB



- \* Website that hosts git repositories
- \* You can **git clone** from github, and **git push** your changes to github
- \* [demo]

# GITHUB



- \* To contribute on github you need a user account
- \* ***HOMework BY NEXT WEDNESDAY:***  
make a github user account,  
then “watch” the class github repo  
(<https://github.com/alexhuth/ndap-fa2018>)

# RESOURCES

- \* **GIT & GITHUB TUTORIAL** [https://www.youtube.com/watch?v=iNP\\_KmOFqXs](https://www.youtube.com/watch?v=iNP_KmOFqXs)
- \* **GITHUB HELLO WORLD:** <https://guides.github.com/activities/hello-world/>
- \* **INTRO TO GIT/GITHUB:** <https://www.slideshare.net/akrish/introduction-to-gitgithub-a-beginners-guide>
- \* **MANY MORE:** <http://lmgtfy.com/?q=git+github+tutorial>

**HAPPY LABOR DAY**