# git Version Control

**What is version control?**

- imagine 100 people working on the same program. How do they collaborate?
- answer: **version control** tools. We what to keep track of what each person wrote, when they wrote it, and what **feedback** received. We want a **history** so that we can go back in time if somebody messing things up.
- there are many version control tools: svn, mercurial, git, others. We'll use git.
- git is open-source, and there are many providers. We'll use github.

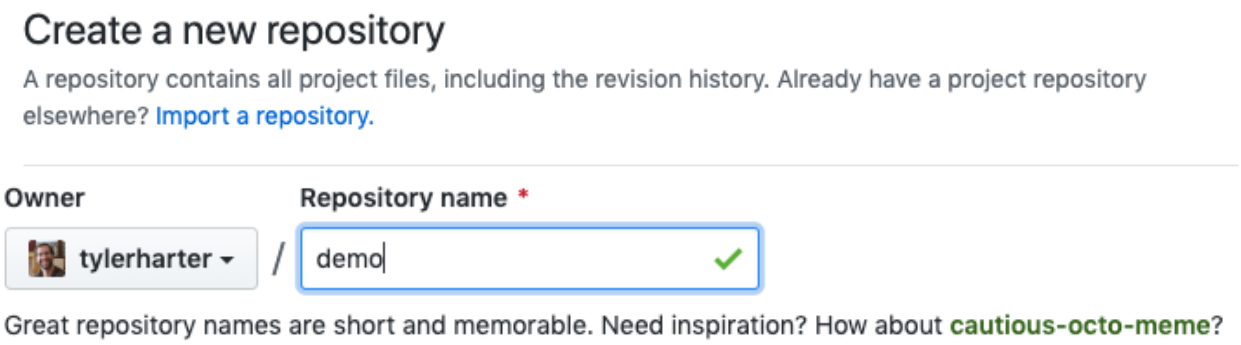
**git'ing started**

- Windows: https://git-scm.com/download/win
- Mac: https://www.ics.uci.edu/~pattis/common/handouts/macmingweclipse/allexperimental/macxcodecommandlinetools.html
- Create github account: https://github.com/
- VERY useful tool for learning git: https://learngitbranching.js.org/

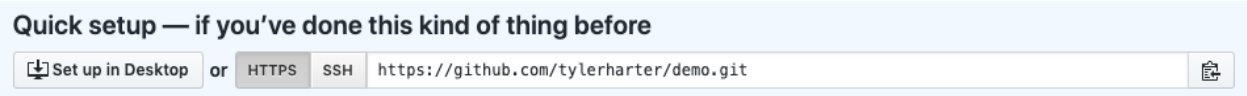
**Git vocabulary**

- **commit**: a checkpoint of the code in a certain state. "git commit" command creates a new commit
- **branch**: an easy-to-remember name for a commit (automatically follows latest)
- **repo**: collection of commits/branches for a given project
- **clone**: git command to make a copy of a repo on your computer
- **fork**: like a clone, but creates a copy on github
- **pull**: git command to pull new commits from another repo to your own
- **push**: git command to push new commits from your own repo to another
- **pull request**: suggestion that the people managing a primary repo pull commits you made in your repo into the main codebase
- **remote**: local name for another repo

**1. create a repo on GitHub:**




**2. copy the HTTPS URL**




**3. run the following from command line:**

```
git clone https://github.com/tylerharter/demo.git
cd demo/
echo TODO > README.md
git add README.md
git status
git commit -m 'add directions'
git status
git push origin master
git log
```

**4. view it online:**

- https://github.com/tylerharter/demo
- https://github.com/tylerharter/demo/commits/master

Recommendation:

- put your .tex and .eps files in a github repo
- split your one big .tex file into multiple smaller .tex files
- everybody is responsible for certain .tex files

```
\begin{document}
\input{title} % this inserts from title
\input{intro} % this inserts from intro.tex
...
\input{conclusion} % this inserts from conclusion.tex
\end{document}
```