git-fundamentals

A starting point for discovering the wonderful world of Git, GitHub, and Git Annex (Assistant)

Getting the tools / Setup

- Sign up for [github (https://github.com)](https://github.com), and verify your email.
- Command line tools (you'll need this!):

    - GitHub recommends the [official Git installer (http://git-scm.com/downloads)](http://git-scm.com/downloads)
    - I recommend [homebrew (http://brew.sh)](http://brew.sh) for hackers on OS X
    - And it's easier to use your package manager (apt, yum, ...) for Unix, etc.

- GUI tools

    - Windows & Mac, also supports hg: [SourceTree (http://www.sourcetreeapp.com/)](http://www.sourcetreeapp.com/)
    - Lightweight Mac client: [GitX-dev (http://rowanj.github.io/gitx/)](http://rowanj.github.io/gitx/)
    - Lightweight GTK client: [gitg (https://wiki.gnome.org/Apps/Gitg)](https://wiki.gnome.org/Apps/Gitg) (get it with your package manager).
    - Integrated with file manager:

        - [TortoiseGit (https://code.google.com/p/tortoisegit/)](https://code.google.com/p/tortoisegit/) on Windows
        - [RabbitVCS (http://rabbitvcs.org/)](http://rabbitvcs.org/) on Linux (also integrates with gedit)

    - Many [others (http://git-scm.com/downloads/guis)](http://git-scm.com/downloads/guis) are available, and you can search for even more!

- Integration for your text editor!

    - Vim [fugitive (https://github.com/tpope/vim-fugitive)](https://github.com/tpope/vim-fugitive)
    - [Emacs (http://www.emacswiki.org/emacs/Git)](http://www.emacswiki.org/emacs/Git)
    - [Sublime Text 2 (https://github.com/kemayo/sublime-text-git)](https://github.com/kemayo/sublime-text-git)
    - gedit (use RabbitVCS)

Awesome resources

- [Basic commands cheat sheet(s) (http://git-scm.com/docs)](http://git-scm.com/docs) (Note the links to other cheat sheets!)
- [Gamified git (http://pcottle.github.io/learnGitBranching/)](http://pcottle.github.io/learnGitBranching/)
- GitHub sponsors [this (http://try.github.io/)](http://try.github.io/).
- Where does "help" go from GitHub? [Here (https://help.github.com/)](https://help.github.com/).
- [Linux commands cheat sheet (http://www.pixelbeat.org/cmdline.html)](http://www.pixelbeat.org/cmdline.html) (also mostly works for OS X command line).
- [git - the simple guide (http://rogerdudler.github.io/git-guide/)](http://rogerdudler.github.io/git-guide/)
- [The visual git guide (http://marklodato.github.io/visual-git-guide/index-en.html)](http://marklodato.github.io/visual-git-guide/index-en.html)

Local Git expositors at UC Berkeley

- A problem-focused exploration of git features is available in @jkitzes' [Data Science Lessons (http://jkitzes.github.io/datasci-lessons/)](http://jkitzes.github.io/datasci-lessons/)

- [An IPython notebook (https://github.com/fperez/reprosw/blob/master/Version%20Control.ipynb)](https://github.com/fperez/reprosw/blob/master/Version%20Control.ipynb) (of course!) from @fperez.
- [Lots of exposition (http://matthew-brett.github.io/pydagogue)](http://matthew-brett.github.io/pydagogue) on git + other mostly python stuff and [python scripts for a standardized git workflow (https://github.com/matthew-brett/gitwash)](https://github.com/matthew-brett/gitwash) from @matthew-brett.
- [Tons of R code to access public APIs (http://ropensci.org/packages/index.html)](http://ropensci.org/packages/index.html) from @karthik and the @rOpenSci team.

Fancy GitHub features

Map diffs are amazing (you may have to click the "rich diff" button as opposed to the raw "<>" button):

- [Explore the history of markers for restaurants (https://github.com/DU-GIS/Geojson_Data/blob/master/Restaurants.geojson)](https://github.com/DU-GIS/Geojson_Data/blob/master/Restaurants.geojson)
- [See how congressional redistricting looks (https://github.com/benbalter/congressional-districts/commit/2233c76ca5bb059582d796f053775d8859198ec5?short_path=85d2c1b#diff-85d2c1b78193e963475250414e57940b)](https://github.com/benbalter/congressional-districts/commit/2233c76ca5bb059582d796f053775d8859198ec5?short_path=85d2c1b#diff-85d2c1b78193e963475250414e57940b)

CSV diffs are strangely not as good, but (properly formatted) CSV is displayed nicely and is searchable:

- [A tables of S&P 500 securities (https://github.com/datasets/s-and-p-500-companies/blob/master/data/constituents-financials.csv)](https://github.com/datasets/s-and-p-500-companies/blob/master/data/constituents-financials.csv)

Git Annex

Read more here: http://git-annex.branchable.com/

Forking! What's that?

Forking on github is same as cloning in the command line.

Branching is also very important for collaboration

For branching, you should check the above link for now.