Tools

What you need to get started

Your Toolset

- Terminal window
- Text editor (Sublime Text)
- Version control (Git) and repository (Github)
- Visualisation tools (Tableau Public, QGIS)
- Languages (Python, R, Javascript, D3)

Terminal Window

- Mac:
  - applications > utilities > terminal
- Windows:
  - Taskbar Start Button > Command Prompt
- Linux:
  - applications > accessories > terminal

Terminal: basic commands

- **pwd**: print current directory name (Windows: **dir**)
- **cd** xxx: change to directory xxx
- **cd ~**: go to your ‘home’ directory
- **ls**: list files in directory (Windows: **dir**)
- **ls -al**: list *all* files in directory (including hidden ones)
- **mkdir** xxx: create a directory called xxx

Terminal: create a work directory

- Coders often put their code into a folder called "workspace"

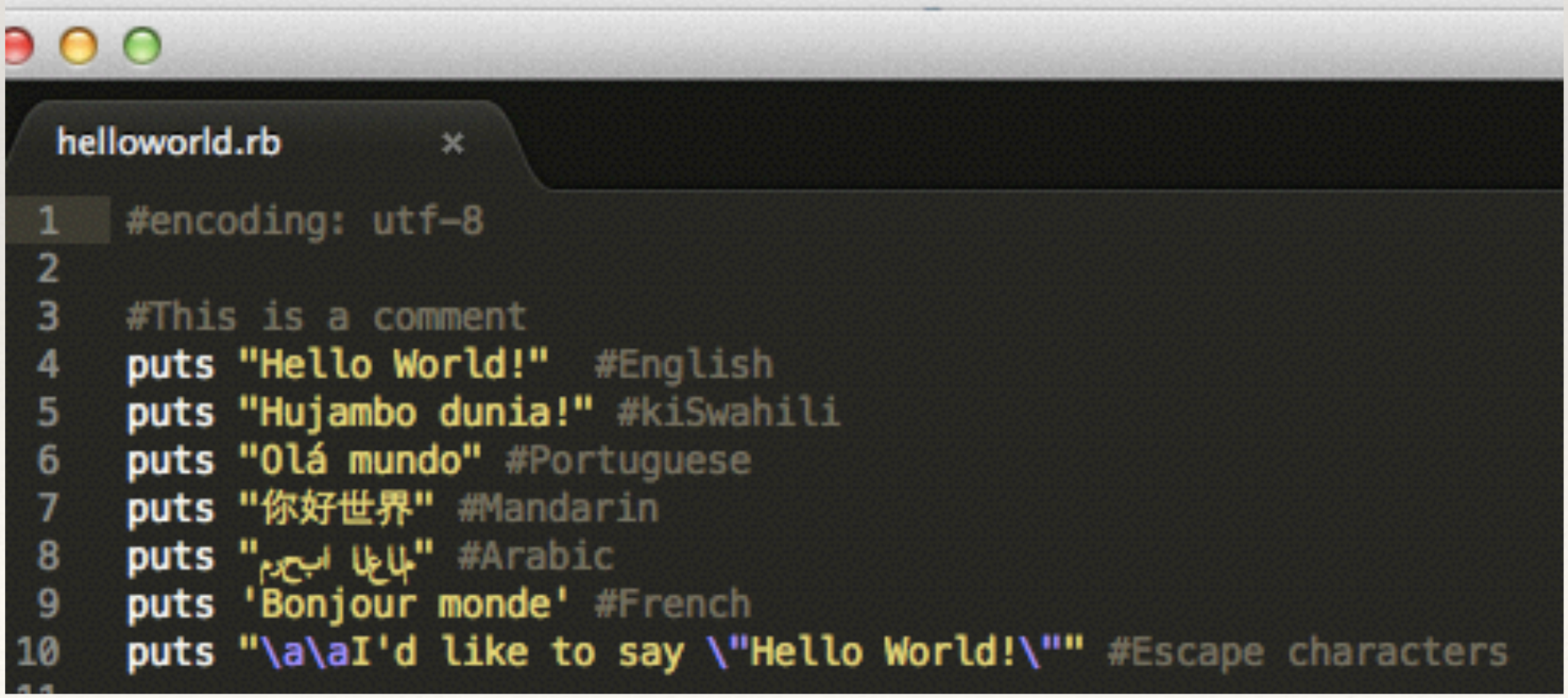
cd ~

mkdir workspace

- It doesn't matter where you put your code, but make sure you can find it again!
- e.g. I work in Python and Php on a Mac, so all my files are in /Users/sara/Sites

Text Editor

- You need a text editor that highlights your code
- We're using SublimeText in these lectures:
- http://www.sublimetext.com



Git and Github

- **Git**
  - Version Control System (VCS)
  - Logs changes to files
  - Can “roll back” to a previous version of a file or project

- **Github**
  - Remote repository
  - Online versions of your project
  - Share code with other people
  - Log changes to files (what, who, when)

Gory details: http://git-scm.com/book/en/Getting-Started-About-Version-Control

Git/Github: getting started

- Get a github account
  - https://github.com/
- Install git
  - http://git-scm.com/downloads
  - *not* the GUI version (although that could be useful to you later)

- **OSX Snow leopard**: install git version 1.7.5 from https://code.google.com/p/git-osx-installer/downloads/list

http://git-scm.com/book/en/Getting-Started-Installing-Git

Github - getting your course notes

- In the terminal window:
  - cd to the directory that you want your notes in, then type:

git clone https://github.com/bodacea/datasciencefordevelopment

- You should see a new directory appear, containing the files from the repo

- If the online course notes change, you can get the new files from the terminal window:
  - cd into the new directory, then type:

git pull

Your portfolio: GitHub.io

- The easy way to show people your D3 visualisations!
- Follow the instructions at https://pages.github.com/

Github - some repos to check out

- Human development:
  - **UNOCHA**: https://github.com/OCHA-DAP
  - **UNHCR**: https://github.com/unhcr
  - **US State Dept Humanitarian Info Unit**: https://github.com/state-hiu
  - **Humanitarian OSM**: https://github.com/hotosm
  - **Ushahidi** https://github.com/ushahidi
  - **Sahana** https://github.com/sahana
  - **OpenStreetMap website** https://github.com/openstreetmap/openstreetmap-website

Installing Tableau Public

- Go to http://public.tableau.com/
- Click “Download The App”
- Start Tableau Public

Installing QGIS

- Go to http://www.qgis.org
- Click “download now”

Installing R

- Go to http://www.r-project.org
- Click “download R”

Installing Python

- Go to https://www.python.org/downloads/
- Click “download Python 2.7.x”
- **Windows users**: 32-bit version, not 64-bit
- (Using Python 2.7 not Python 3.x because libraries!)

Using Python pre-2.7.9? You might also need pip: http://pip.readthedocs.org/en/latest/installing.html#install-pip

Adding Python Libraries

- Libraries contain reusable code.
- To add a library, type “pip install <libraryname>” in the terminal window… whilst you’re connected to the Internet.
- Add these libraries:
  - xlrd
  - xlwt
  - requests
  - beautifulsoup
  - scrapy
  - ipython
  - numpy
  - scipy
  - matplotlib
  - pandas
  - nltk
  - shapely

Installing D3

- Get D3:
  - Go to http://d3js.org
  - Click on “d3.zip”
- Check that you have javascript enabled in your browser: http://www.enable-javascript.com

Done?

- Start looking at datasets and visualizations
- Start thinking about what you'd like to build

Backup: http://learn.adicu.com/setup/