

JavaScript

CC Lab Week 2

PComp Shopping!

The starter kit from Adafruit:

<https://www.adafruit.com/products/170>

The starter kit from 16Hertz:

[https://www.amazon.com/gp/offer-listing/
B000HQ3BFE](https://www.amazon.com/gp/offer-listing/B000HQ3BFE)

The official kit(?):

[Arduino.org Starter Kit](#)

Objects

Objects can contain many values

Written with curly braces { }, with object properties written in **name:value pairs** and separated by commas

//literal notation

```
var student = {  
    firstName: "Sven",  
    lastName: "Travis",  
    height: 900  
};
```

```
//constructor notation
```

```
var student = new Object();
```

```
student.firstName = "Sven";
```

```
student.lastName = "Travis";
```

```
//object constructor
```

```
var Pet = function(name, age){
```

```
    this.name = name;
```

```
    this.age = age;
```

```
}
```

//new object based on constructor

var cat = new Pet("wowowow", 999);

//inheriting properties

a **cat** is a branch of **Pet**, it inherit all the properties from **Pet**.

//changing the base constructor

Pet.prototype.height = 12;

Exercise using constructor

create a constructor

function within constructor

create two objects

use .prototype to edit constructor

Javascript Libraries

A **JavaScript library** are file(s) with pre-written **JavaScript** in them and makes it easier to develop **JavaScript**-based applications.



jQuery
DOM
manipulation



d3.js
Data
visualizations



p5.js
Processing
for web



three.js
3D/webGL

How to use libraries?

Download, copy to your folder, then link them to your html file, just like any other external JS file:

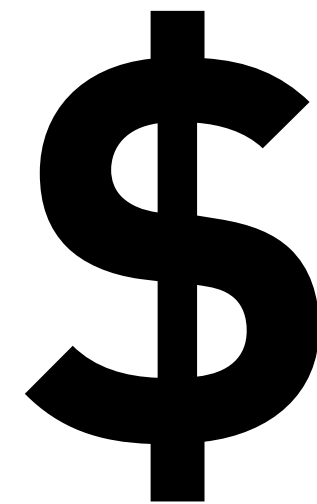
```
<script src="jquery-1.12.4.min.js"></script>
```

Or use a external file from a url:

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.4/jquery.min.js"></script>
```

jQuery

Probably the most popular and common JavaScript library in existence.



“Write less, do more” - jQuery

Javascript

```
var div1 = document.getElementById("div1");
```

jQuery

```
var div1 = $('#div');
```

vanilla JS or jQuery?

<http://vanilla-js.com>

DOM is ready?!

JS:

```
document.addEventListener( "DOMContentLoaded", ready, false )
```

jQuery:

```
$(document).ready(function(){
```

```
    functionHere();
```

```
});
```

simple jQuery function

`$("element").doSomething();`

`$("p").fadeIn();`

<https://api.jquery.com/category/events/mouse-events/>

Exercise using jQuery

create a webpage called “The Psychic Duck”

Sublime

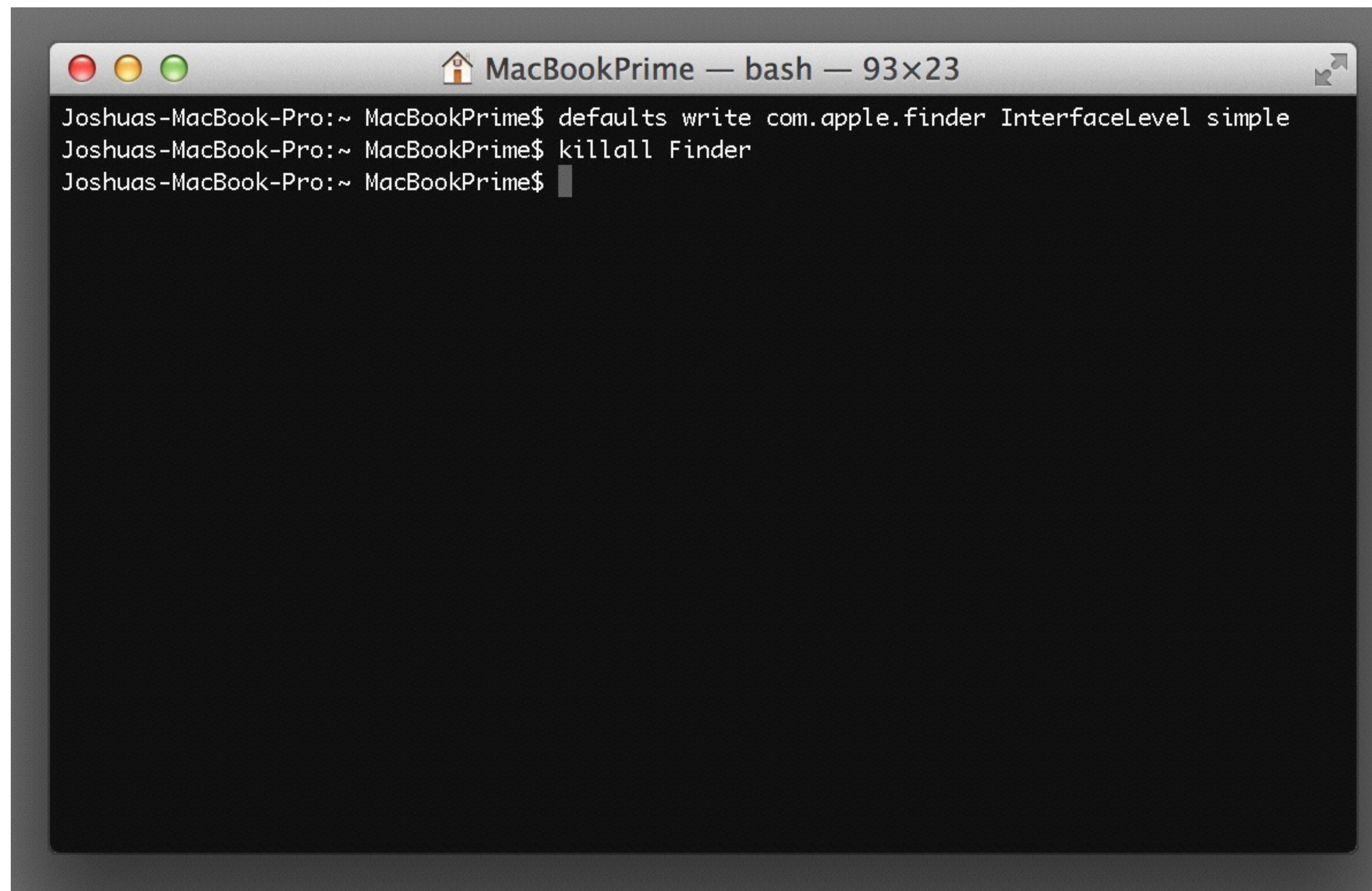
<https://www.sublimetext.com/3>

Package Control

<https://packagecontrol.io/packages/jquery>

<https://packagecontrol.io/>

Terminal



```
MacBookPrime — bash — 93x23
Joshuas-MacBook-Pro:~ MacBookPrime$ defaults write com.apple.finder InterfaceLevel simple
Joshuas-MacBook-Pro:~ MacBookPrime$ killall Finder
Joshuas-MacBook-Pro:~ MacBookPrime$
```

⌘ + Space or Ctrl + Space
type “terminal”

```
MINGW32:~/git
Welcome to Git (version 1.8.3-preview20130601)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

Bacon@BACON ~
$ git clone https://github.com/msysgit/git.git
Cloning into 'git'...
remote: Counting objects: 177468, done.
remote: Compressing objects: 100% (52057/52057), done.
remote: Total 177468 (delta 133396), reused 166093 (delta 123576)
Receiving objects: 100% (177468/177468), 42.16 MiB | 1.84 MiB/s, done.
Resolving deltas: 100% (133396/133396), done.
Checking out files: 100% (2576/2576), done.

Bacon@BACON ~
$ cd git

Bacon@BACON ~/git (master)
$ git status
# On branch master
nothing to commit, working directory clean

Bacon@BACON ~/git (master)
$
```

Git for windows: <https://git-for-windows.github.io/index.html>

Babun: <https://babun.github.io/>

list folder content

ls

Change directory

cd [folder name]

home directory

cd ~

go upstream

cd ..

open current folder

open .

<https://github.com/0nn0/terminal-mac-cheatsheet>

list folder content

ls

change directory

cd [folderName]

home directory

cd ~

go upstream

cd ..

open current folder

open .

create new file

touch [fileName.extension]

create new folder

mkdir [folderName]

remove folder

rm -r newTest

<https://github.com/0nn0/terminal-mac-cheatsheet>

practice using terminal

- create a new folder on your Desktop
- create a new file inside new folder
- remove that file
- remove folder

What is Git?

[https://en.wikipedia.org/wiki/Git_\(software\)](https://en.wikipedia.org/wiki/Git_(software))
<https://www.git-tower.com/blog/git-cheat-sheet/>

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

[https://en.wikipedia.org/wiki/Git_\(software\)](https://en.wikipedia.org/wiki/Git_(software))
<https://www.git-tower.com/blog/git-cheat-sheet/>

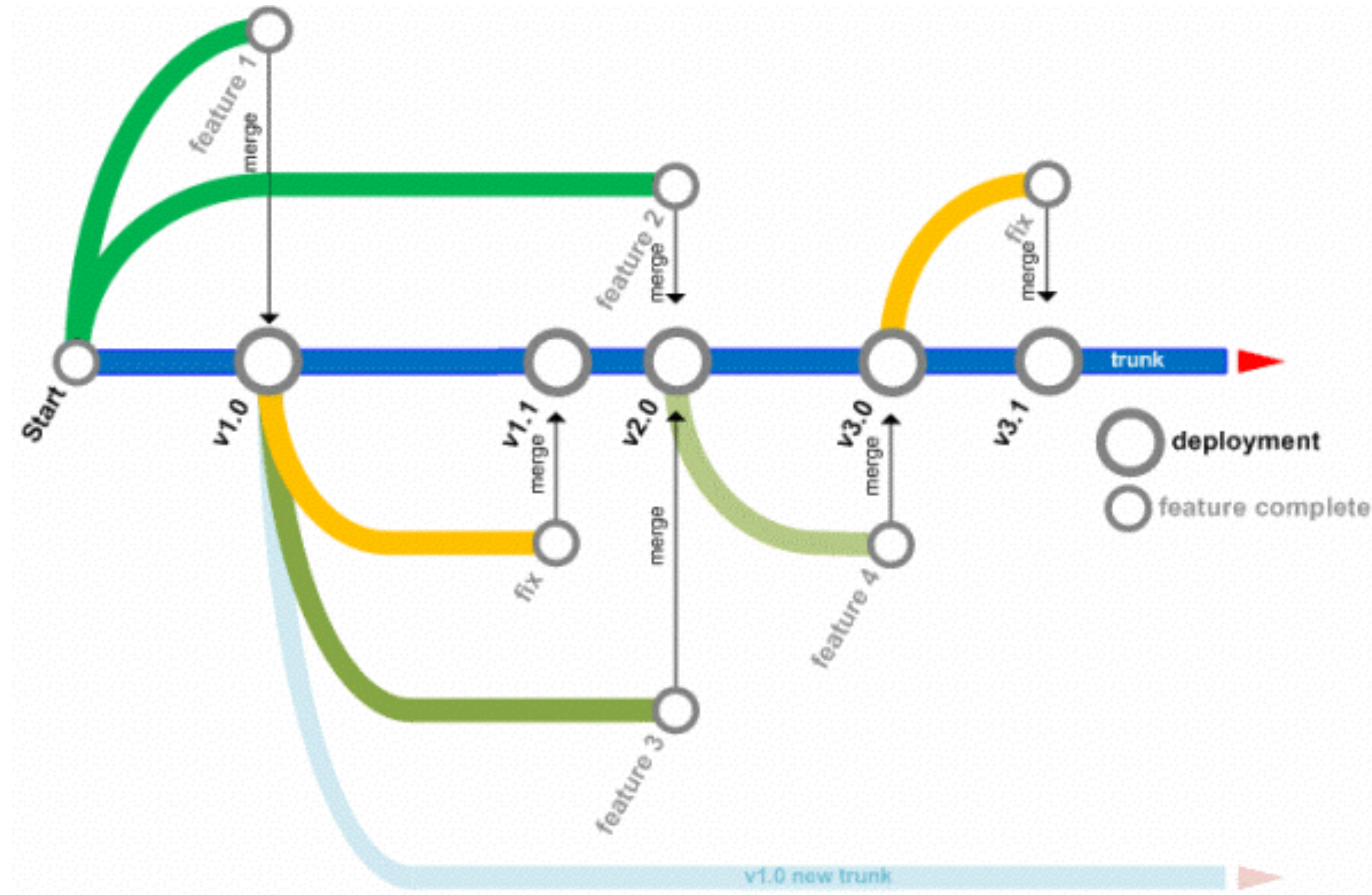


image credit @ronaldwidha

//your first git command

git init

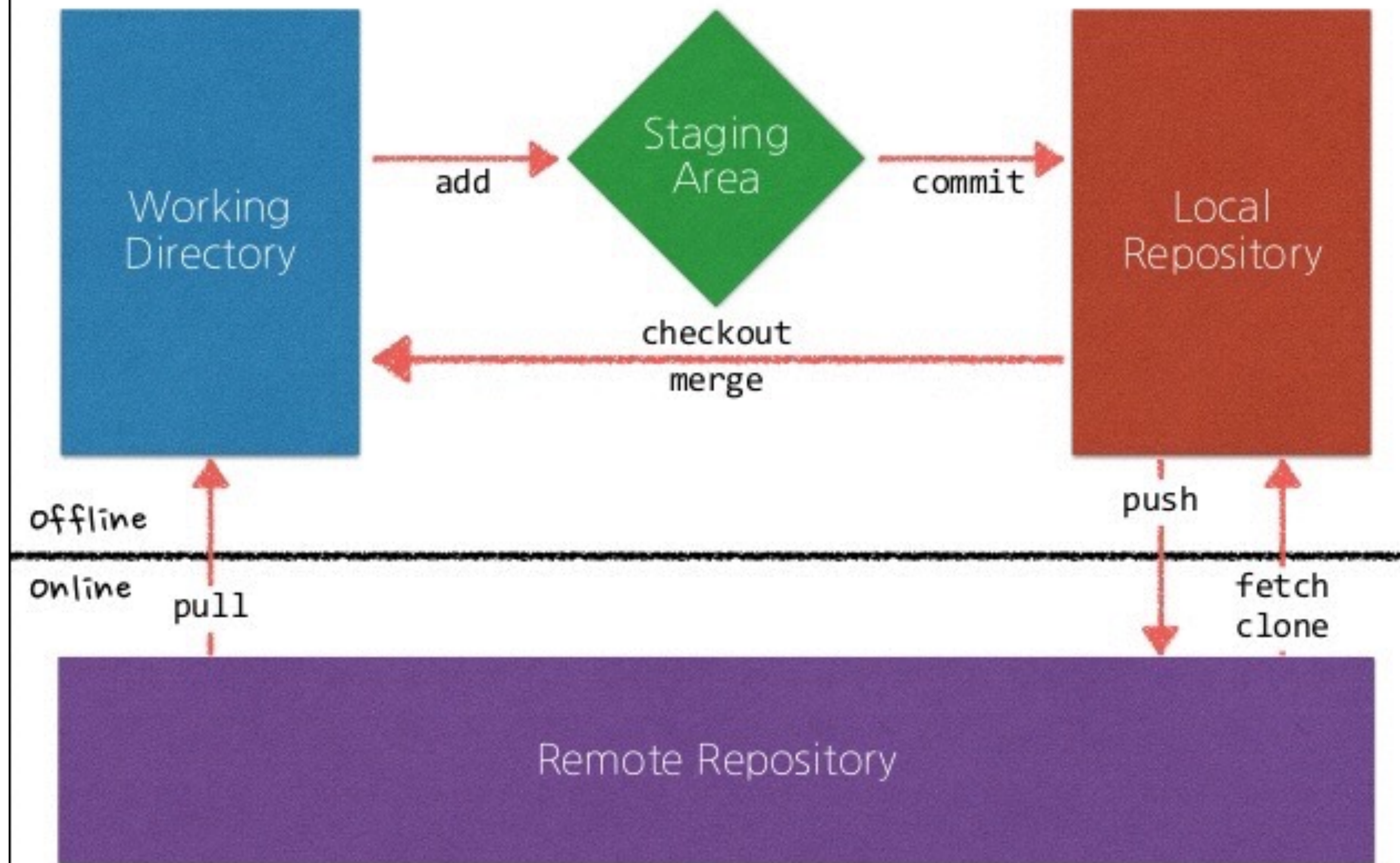
what is branch

master // the main branch (stable)

develop // current in develop (not stable but complete)

feature-branch // (experimenting)

GIT Structure



git status
// check your staging area (HEAD)



<https://stackoverflow.com/questions/2304087/what-is-head-in-git>

`git add . // add all of them to HEAD`

`git add file.txt // add one file`

`git add ./folderName // add entire folder`

<https://stackoverflow.com/questions/2304087/what-is-head-in-git>



git commit -m “your message”

git log



`git reset HEAD --hard`



git checkout



GitHub is a web-based Git repository hosting service.

Homework

Create the front page of your portfolio.

It needs to have :

- pictures!
 - animations!
 - mouse interactions!
 - buttons!
- and more! (optional)