The Tremont Street Subway in Boston's MBTA Subway system is the oldest subway tunnel in North America and the third oldest worldwide.

FEWD WEEK 3 • CLASS 5:

CSS Positioning

https://slides.com/jennifermeade/fewd-2-5/live

CHECKING IN

SHOW OF HANDS: About Your Assignment

Were you able to successfully complete the homework following the instructions?

□ Nailed It!

□ No answers???!!!

□ I'm not even speaking to you right now

THIS ASSIGNMENT

- This assignment was hard, and you've been thrown into the deep end
- This is designed to resemble a real-world project
- Learning to use Google, your dev tools and sample code on StackOverflow are essential skills

HOMEWORK REVIEW

HOMEWORK

OBJECTIVES

- Distinguish pseudo elements from pseudo classes
- Use positioning to control stacking order and placement of elements on the page
- Install a web server locally using Node.js and npm

PSEUDO ELEMENTS

PSEUDO ELEMENTS

- Pseudo elements create new elements in our page without editing our HTML.
- They are different from pseudo classes (like the `:hover` or `:nth-child`), which work on existing elements in our page.
- Since CSS3, pseudo elements are preceded by two colons, although for backward compatibility they will work with a single colon.

FIVE PSEUDO ELEMENTS

1. `::before`: Creates a new element that is the first child.
2. `::after`: Creates a new element that is the last child.
3. `::first-letter`: Creates a new element that contains the first letter.
4. `::first-line`: Creates a new element that contains the first line.
5. `::selection`: Create a new element that contains only the selected text.

::BEFORE & ::AFTER

- The before and after pseudo elements must have a property of `content` even if the value is an empty string `""`.

```
//Adds a copyright as the last child of the footer element

footer::after {
  content: "© 2016 Acme, Inc. All rights reserved.";
}
```

::FIRST-LETTER

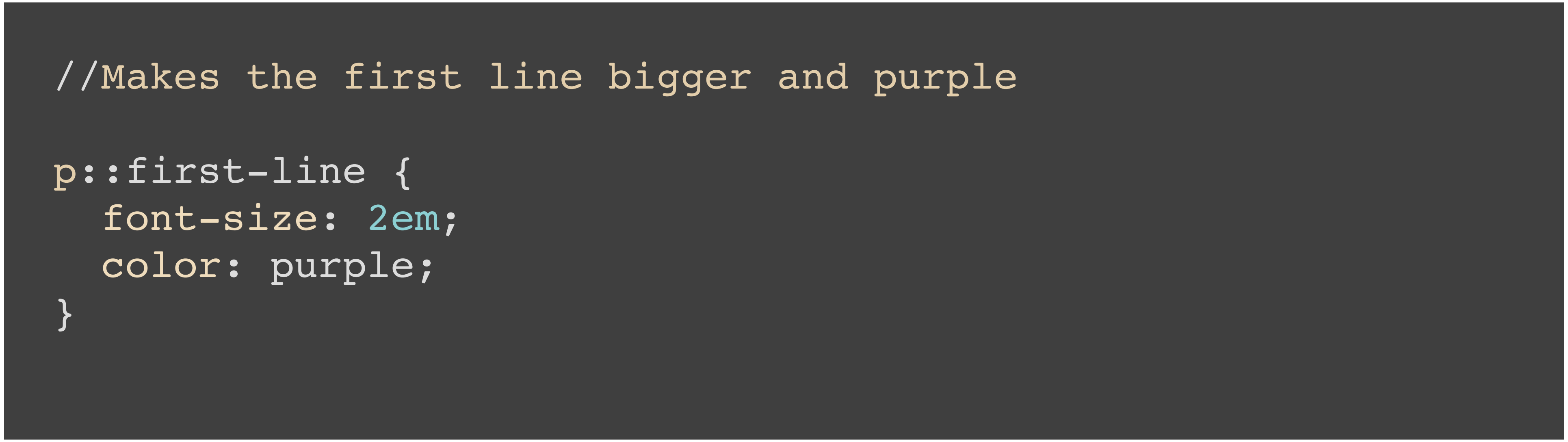
- The first-letter pseudo element takes: float, margin, padding, border, font and color properties only.

```
//Floats the first letter and changes its color and font

p::first-letter {
  float: left;
  background: blue;
  padding: 10px;
  color: white;
  font-size: 2em;
}
```

::FIRST-LINE

- The first-line pseudo element takes: font and color properties only.



```
//Makes the first line bigger and purple

p::first-line {
  font-size: 2em;
  color: purple;
}
```

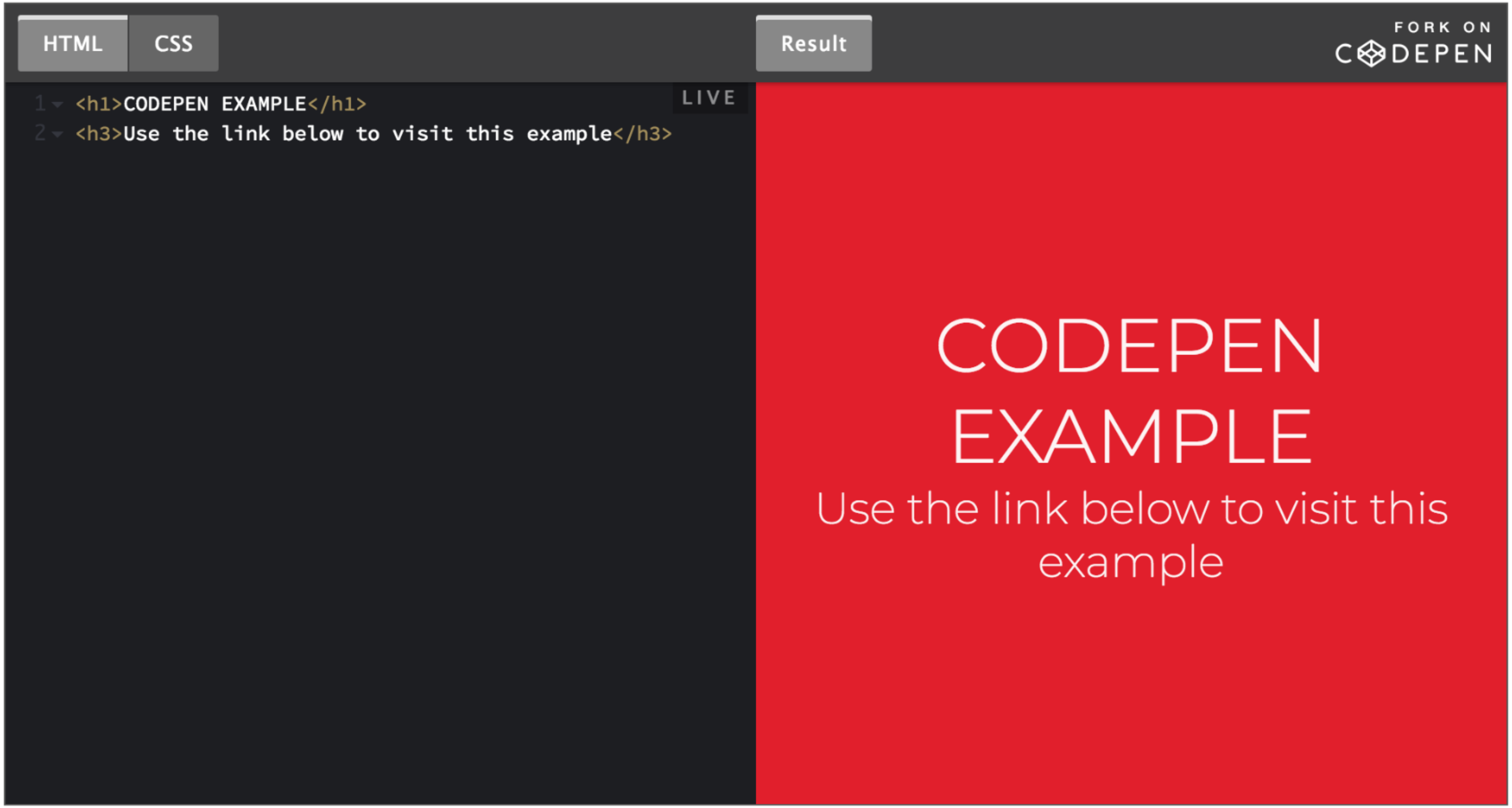
::SELECTION

- The selection pseudo element takes: color, background, and outline properties only.

```
//Change the background color of the selection

p::selection {
  background: yellow;
}
```

PSEUDO ELEMENTS



```html
<h1>CODEPEN EXAMPLE</h1>
<h3>Use the link below to visit this example</h3>
```

CODEPEN EXAMPLE

Use the link below to visit this example

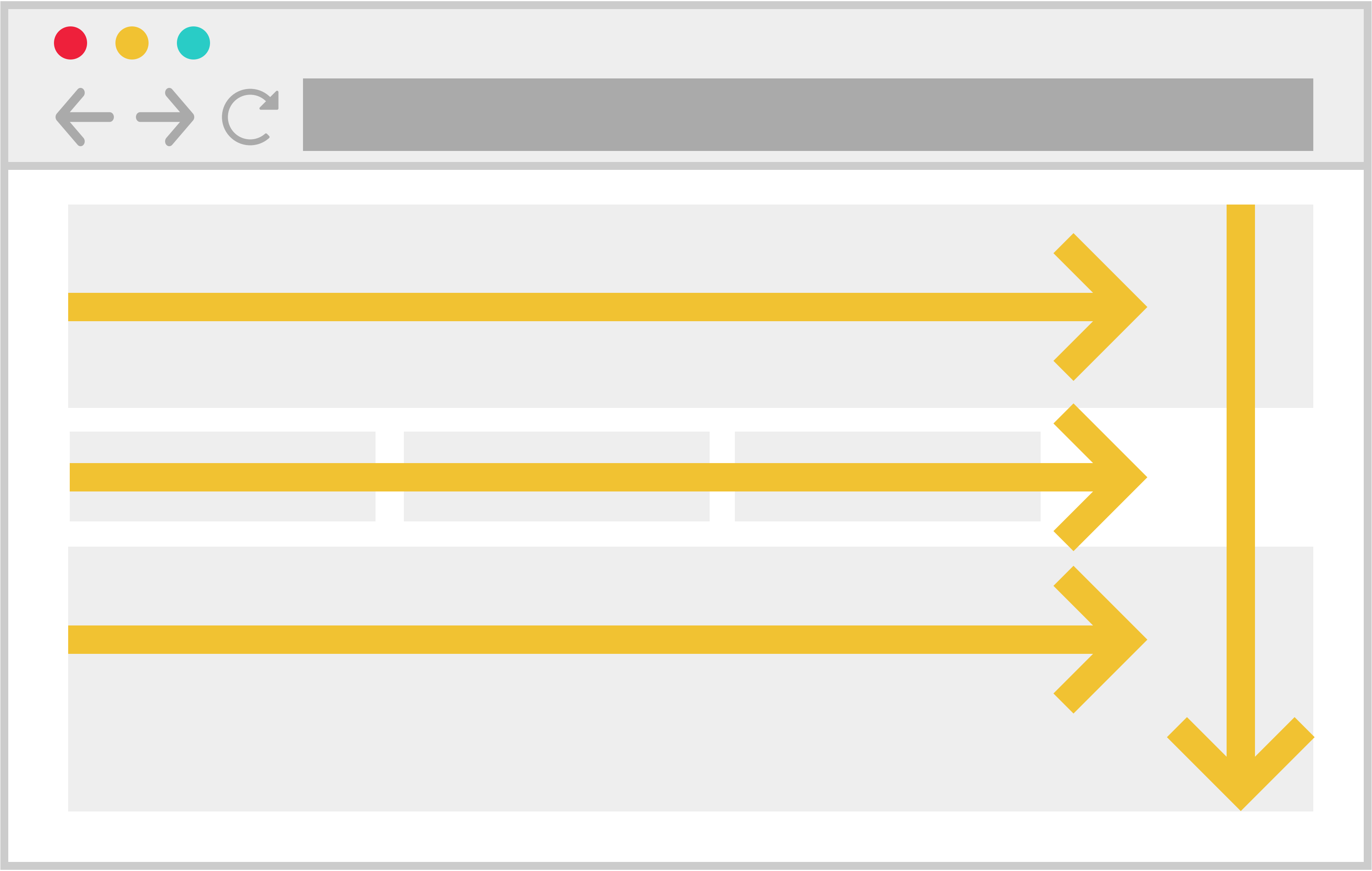
https://codepen.io/jme11/pen/NOBmKo

POSITIONING IN CSS

POSITIONING

The CSS position property is one way for us to control how elements are placed on the page relative to other elements or to the viewport.

NORMAL "DOCUMENT FLOW"



ELEMENTS ARE STATIC

- By default, all elements have position static.
- They will follow the normal document flow.
- They will behave as either block or inline and align themselves in the window according to their source order.

CHANGING HOW AN ELEMENT FLOWS

- There are five different values for the position property:
  1. **static**: default
  2. **relative**
  3. **absolute**
  4. **fixed**
  5. **sticky**

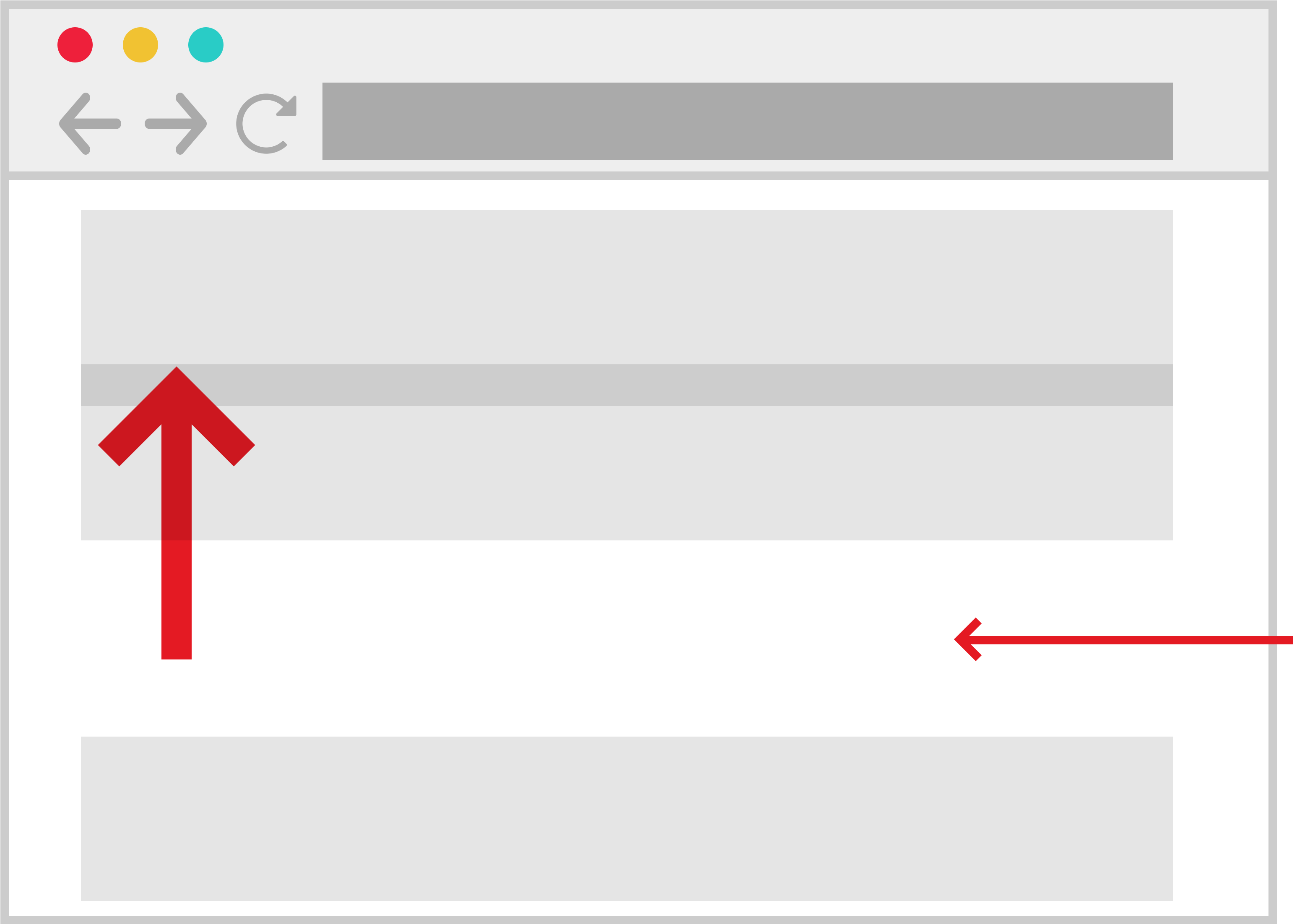
POSITION: RELATIVE

```
/* Moves the element 150px up relative to its static placement */

div {
  position: relative;
  top: -150px;
}
```

- Relative elements stay in the normal flow
- But, they can be moved relative to their natural position using top, right, bottom and left properties.
- Relative elements anchor descendants with absolute positioning.

POSITION RELATIVE



```
div:nth-child(2) {
  position: relative;
  top: -150px;
}
```

Leaves the space where it would flow without positioning.

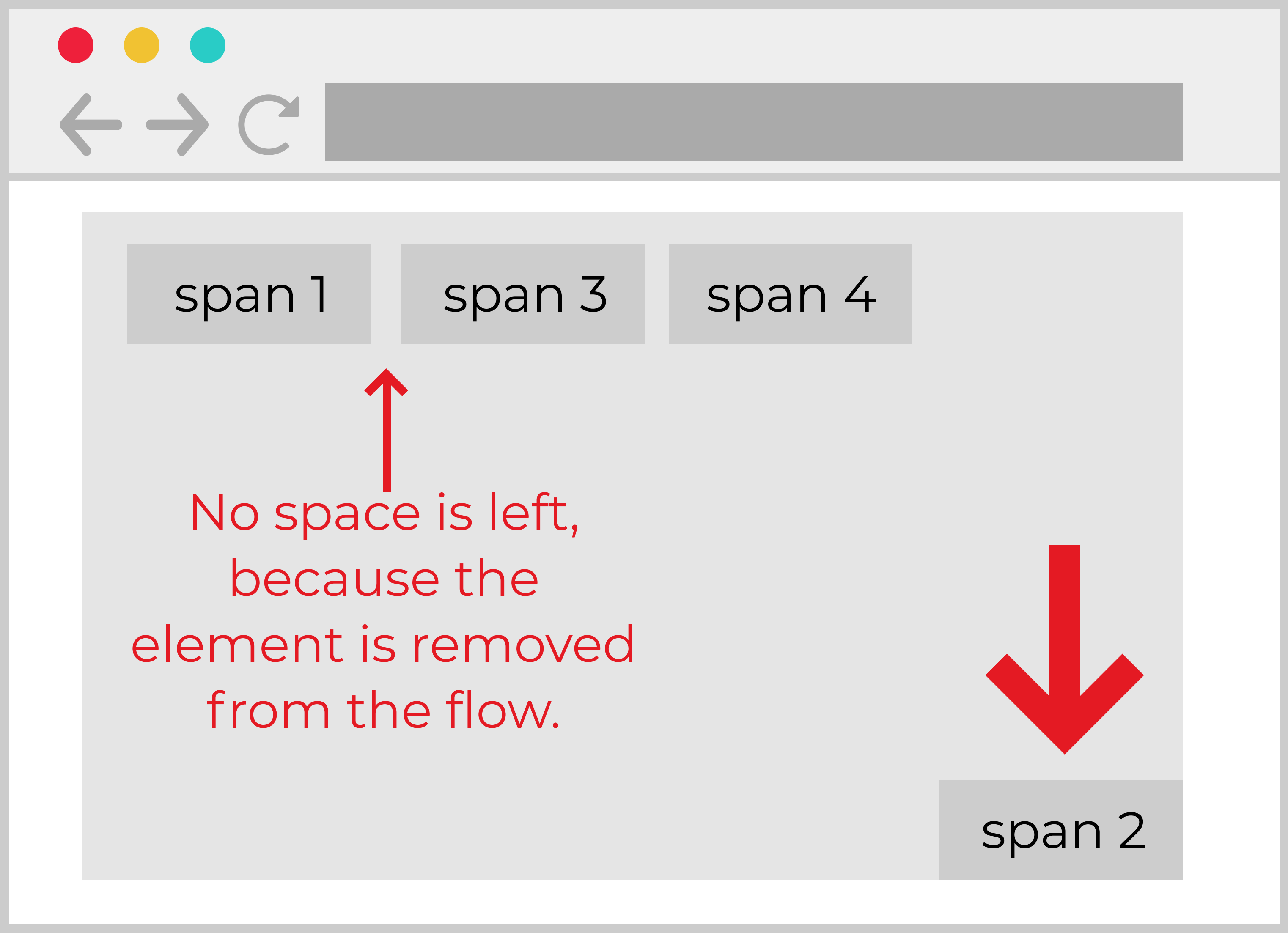
POSITION: ABSOLUTE

```css
/* Moves the element relative to its nearest ancestor
   with positioning other than static */

div {
  position: absolute;
  bottom: 0;
  right: 0;
}
```

- Absolute elements are removed from the document flow
- They are positioned relative to the **nearest ancestor** with position **not static**

POSITION ABSOLUTE

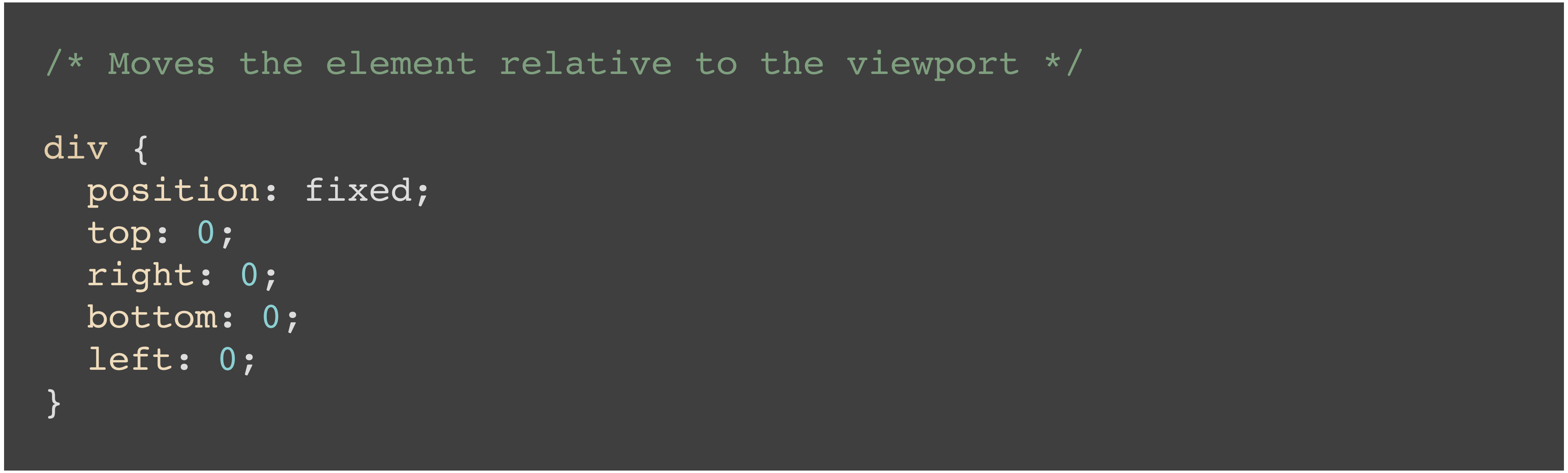


No space is left, because the element is removed from the flow.

```
div {
  position: relative;
}

span:nth-child(2) {
  position: absolute;
  bottom: 0;
  right: 0;
}
```

POSITION: FIXED

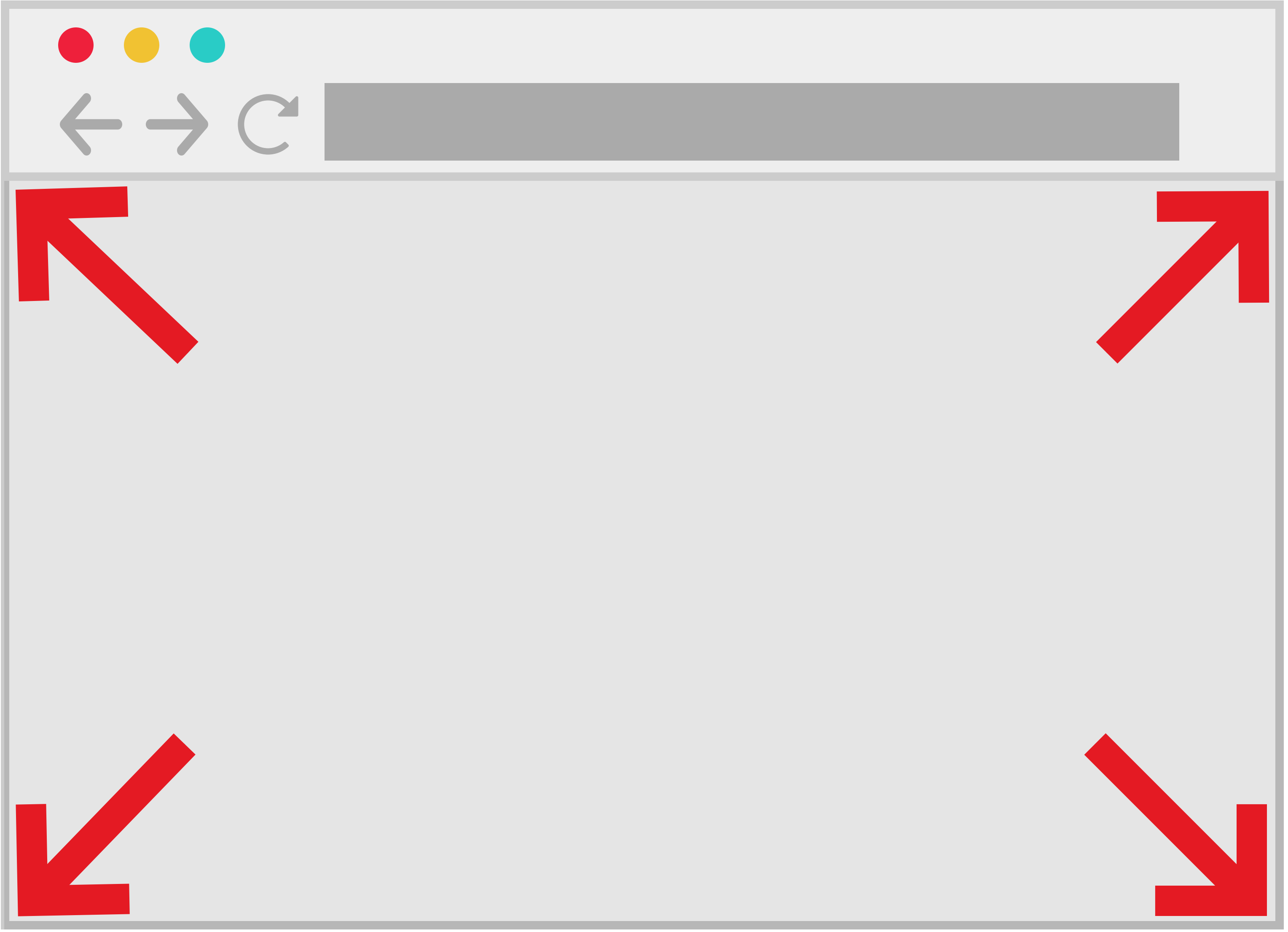


```css
/* Moves the element relative to the viewport */

div {
  position: fixed;
  top: 0;
  right: 0;
  bottom: 0;
  left: 0;
}
```

- Fixed elements are removed from the document flow
- They are positioned relative to the viewport (they remain **fixed** even when the page is scrolled)

POSITION FIXED



```
.overlay {
  position: fixed;
  top: 0;
  left: 0;
  bottom: 0;
  right: 0;
  background: rgba(0,0,0,.5);
}
```

</>

CODE ALONG

IMAGE GALLERY

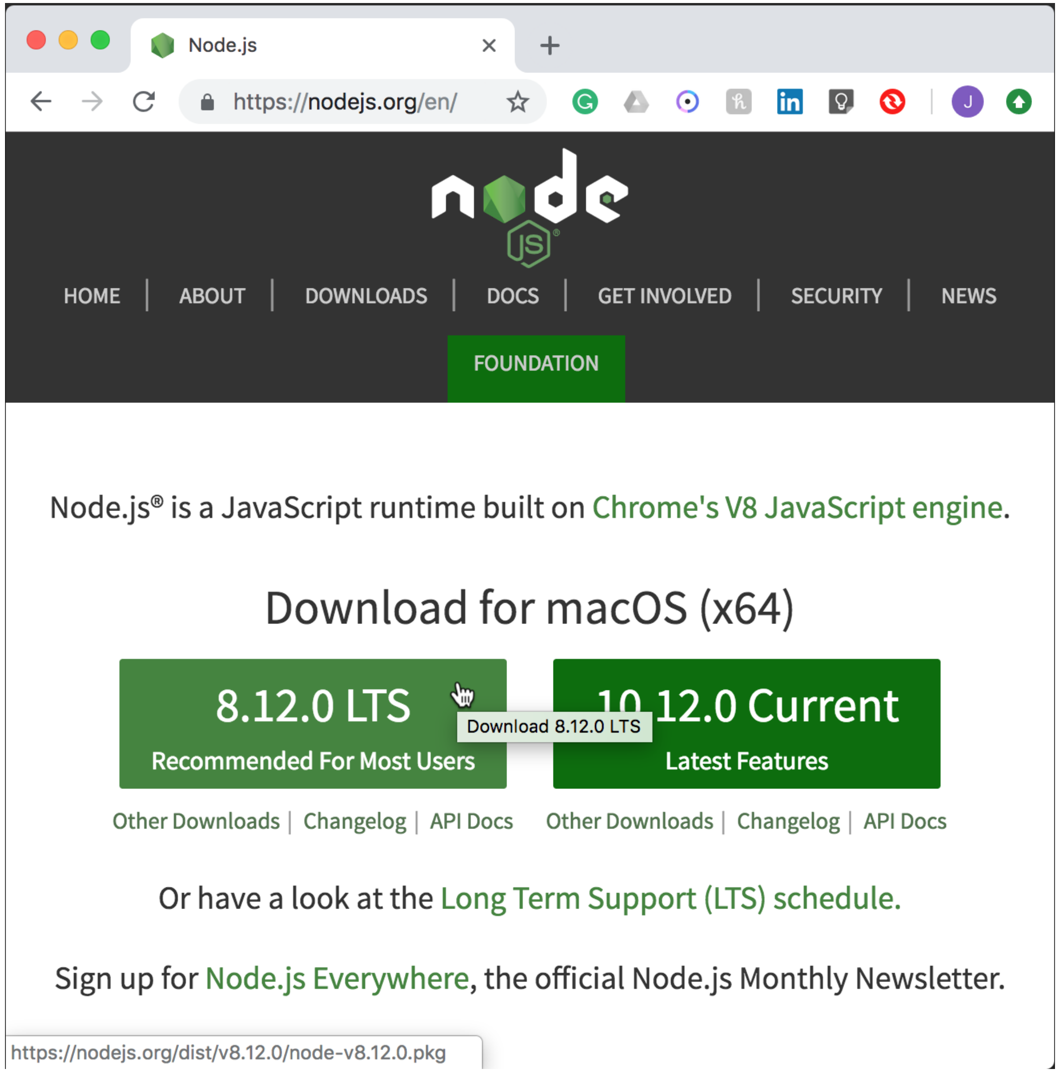
INSTALLING A LOCAL SERVER

TOOLS

NODE.JS & NPM

- Node.js is a runtime environment for Javascript
- Simply put, Node.js makes it possible to run Javascript on a computer outside of the browser
- npm stands for Node Package Manager and is a tool that lets us easily add, remove and configure stuff written for Node.js

STEP 1: INSTALL NODE.JS



Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine.

Download for macOS (x64)

8.12.0 LTS
Recommended For Most Users
Download 8.12.0 LTS
10.12.0 Current
Latest Features
Other Downloads | Changelog | API Docs
Other Downloads | Changelog | API Docs

Or have a look at the Long Term Support (LTS) schedule.

Sign up for Node.js Everywhere, the official Node.js Monthly Newsletter.

https://nodejs.org/dist/v8.12.0/node-v8.12.0.pkg

- Go to **nodejs.org**
- Download the **LTS** version of Node.js for your operating system
- Run the installer and follow the onscreen prompts.

STEP 2: CHECK THAT NODE.JS & NPM ARE INSTALLED

- Go to **Applications** > **Utilities** > **Terminal**
- At the prompt, type `node -v`
- You should get back `v8.12.0`
- Next type `npm -v`
- You should get back `v6.4.1`

STEP 3: INSTALL BROWSERSYNC

- In the Terminal, type:

```
sudo npm install -g browser-sync
```

- Enter your password when prompted.
- This step may take a few minutes.
- To check if the install was successful, type:

```
browser-sync --version
```

- You should get back: `2.23.6` or some later version

USING YOUR SERVER

LAUNCHING YOUR SERVER

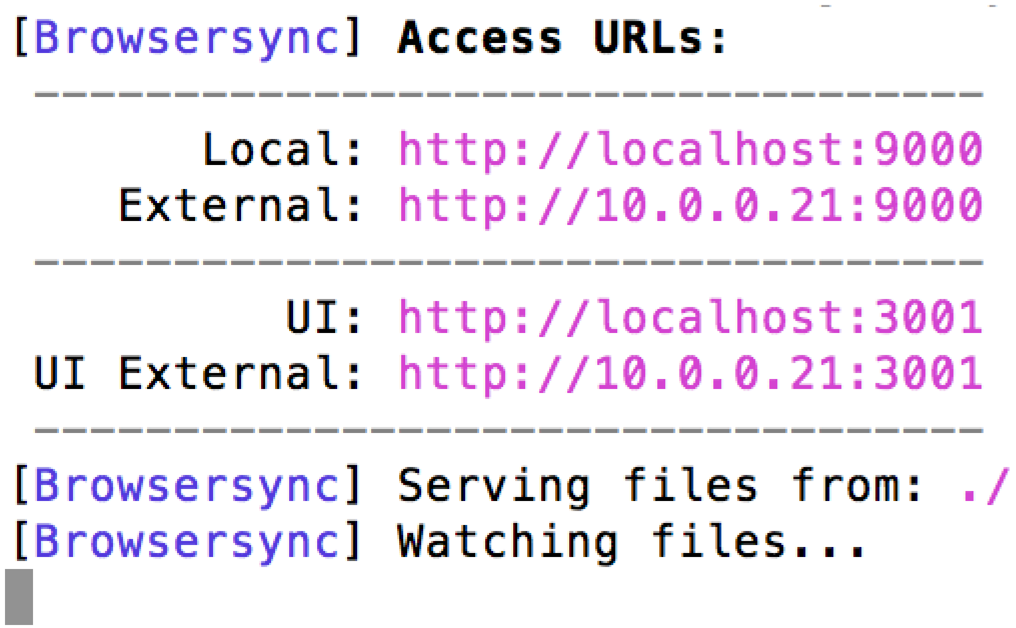
- In Terminal, switch to the directory where your website is.
- The easiest way to do this in Terminal is to type `cd ` (with a space after it), then drag the folder you want to switch to onto the terminal window from Finder and press ENTER.
- Next, type the following command and press ENTER

```
browser-sync start -s -f . --no-notify --host --port 9000
```

WHAT'S HAPPENING HERE?

- With our server installed, we can use that long-ass command to tell it to launch the server and serve the files in the current directory
- The command also tells it to watch for any changes we make to those files
- If we save any files in the directory, it will update the web page in the browser!
- Finally, we tell it to use the local address of **http://localhost:9000/**

RUNNING YOUR SERVER



```
[Browsersync] Access URLs:
 --------------------------------------
       Local: http://localhost:9000
    External: http://10.0.0.21:9000
 --------------------------------------
          UI: http://localhost:3001
 UI External: http://10.0.0.21:3001
 --------------------------------------
[Browsersync] Serving files from: ./
[Browsersync] Watching files...
```

- **Local** is the address you use on the machine that is running the server
- **UI** provides a browser-based interface that lets you configure certain features of your server
- **External (requires additional configuration)** allows you to go to the website from any other device on the same network (e.g., same wifi)

The server will shut down if you close the the Terminal window. To manually shut down the server, type ^ Control + C in the Terminal window.

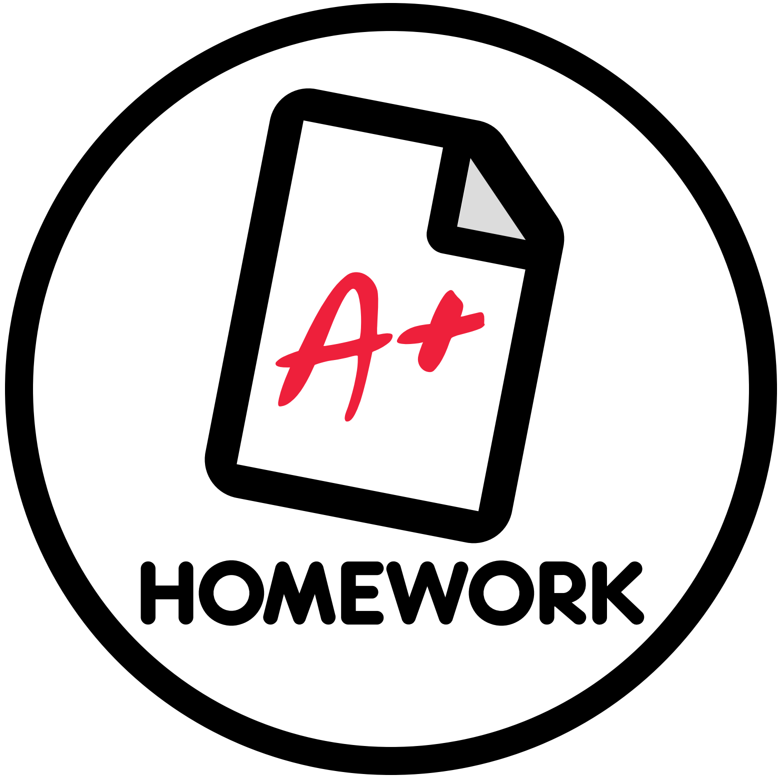
TERMINAL TIPS

- Type `exit` to save your session before closing the window
- Go back to previously typed commands with the keyboard up arrow. Press ENTER to run the command.
- The `cd` command means change directory, and `cd..` goes back one directory level.
- The `ls` command lists all of the files in the current directory.
- To go to your home directory, type: `cd ~/`

MAKE A SHORTCUT

- We can save that long command to launch our server inside our profile with an alias, so that we can run it by typing a short command like: `serve` instead.
- Learn more about it on the wiki:

https://github.com/jmeade11/FEWD/wiki/Browsersync



CLASS 5 HOMEWORK

https://github.com/jmeade11/FEWD/tree/master/Class5/homework

HOMEWORK FOR NEXT CLASS

- Fix up your Relaxr blog and get it uploaded.
- If you've already got it working to your satisfaction, then revisit your original profile homework and see if you can add the overlays to the gallery like we did in class today.
- If you're still looking for more to do, set up your local server with a shortcut following the instruction in the wiki.

EXIT SURVEY

https://goo.gl/EB4XFw

GO BUILD AWESOME THINGS!