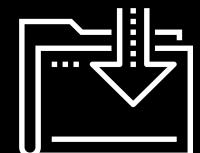


Git'n Pro with HTML/CSS

Web Development Boot Camp
Lesson 1.2



Activity: Intro to HTML

In a new HTML file, create the basic structure of an HTML document and include the following in it:

- DOCTYPE declaration
- Head tag with a title tag
- H1 tag with a title of your choice
- An embedded image

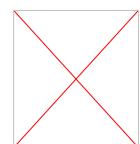
Now add the following three links to your page:

- One link that has target="_blank" so that it opens a new tab when clicked
- One link that is bold
- One link that is only a placeholder (it goes nowhere)

BONUS!

- Create an ordered list of steps to make a sandwich
- Create an unordered list of five bands/musicians you like
- Create a table with two columns (animal class and animal name) and four rows of animals
- Use an alternate way of separating links without line breaks
- Embed a YouTube video of your favorite band/musician

Suggested Time: 5 minutes



YouTube Video Walkthrough

Watch the [walkthrough video](#):

Admin Items

How do I do this again?



How to Get Help

01

Practice, practice, practice: work individually or in groups.

02

Review in-class material (activities and slides).

03

Watch the class videos again.

04

Attend office hours, which are held 45 minutes before and 30 minutes after class.

05

Attend one-on-one sessions with your Student Success Manager (SSM) (to be announced by your SSM).

06

Contact your Student Success Manager anytime!

Today's Class!

Today's Objectives

Today we will:

01

Understand the importance of Git version control and how to use it.

02

Create GitHub repositories, push up code, and share with the class.

03

Create more HTML documents.

04

Learn how to properly use basic HTML tags.

05

Apply basic CSS styling to HTML documents.

Know Thyself

If you are a beginner to HTML/CSS and coding, your objectives are to:

- Continue to get comfortable with HTML.
- Be able to write a complete, basic HTML document.
- Understand the function of CSS and how it works with HTML.
- Be able to use Git and GitHub to upload code.

If you've had past exposure to HTML/CSS and coding and felt comfortable with the last lesson, your objectives are to:

- Aim to build up your skills.
- Clear up any questions or confusion you have about HTML.
- Become knowledgeable about a wider range of HTML and CSS tags.
- Be able to selectively apply CSS to specific HTML elements.
- Be able to use Git and GitHub to upload code.

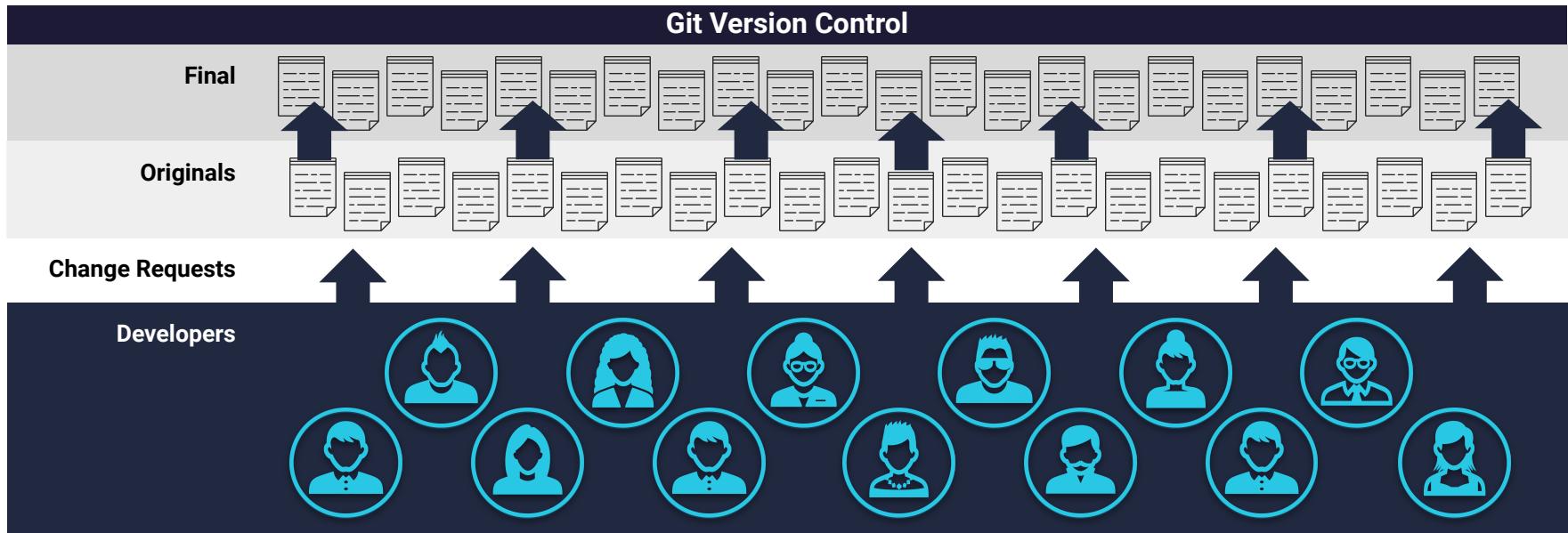
What Is Git?

Collaborative Coding

Modern web development is *highly* collaborative.

Teams are often extremely large and spread out across the country or world.

Apps are sometimes made up of hundreds or even thousands of files.



The Team's Task

Make a list of creative works you've written in the past.

| Programming Team | | |
|--|--|--|
| Maya Angelou | Anne Sexton | Gil Scott Heron |
|  A circular portrait of Maya Angelou, an African American woman with short, curly grey hair, wearing a dark suit and a blue sash with a gold medal around her neck. |  A circular black and white portrait of Anne Sexton, a woman with dark hair, wearing a white blouse. |  A circular portrait of Gil Scott Heron, a Black man with a beard and a baseball cap, sitting at a piano and singing into a microphone. |

Maya Angelou & Gil Scott Heron Make Their Edits



Maya Angelou is programming away.



Maya Angelou's version

```
<ul>
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
</ul>
```



Gil Scott Heron is programming away.



Gil Scott Heron's version

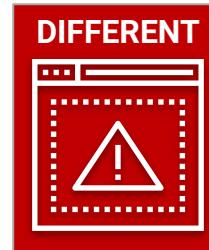
```
<ul>
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be
    Televised</li>
</ul>
```

Different Solutions



Maya Angelou's version

```
<ul>
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
</ul>
```



Gil Scott Heron's version

```
<ul>
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be Televised</li>
</ul>
```

Resolution



Maya Angelou's version

```
<ul>
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
</ul>
```



Gil Scott Heron's version

```
<ul>
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be Televised</li>
</ul>
```

Let's settle on this:

```
<ul>
  <li>Poems</li>
  <li>Albums</li>
  <li>Songs</li>
</ul>
```

Anne Sexton Writes Her Own Version



Anne Sexton's version

```
<ul>
  <li>The Double Image</li>
  <li>Heart's Needle</li>
  <li>Baby Picture</li>
</ul>
```

Anne Sexton Overwrites the Work of Her Teammates



Delete. Delete.
Delete. Delete.
Delete. Delete.

```
<ul>  
  <li>Poems</li>  
  <li>Albums</li>  
  <li>Songs</li>  
</ul>
```

```
<ul>  
  <li>The Double Image</li>  
  <li>45 Mercy Street</li>  
  <li>The Road Back</li>  
</ul>
```

The Group Project

Lesson: You should use version control because it helps you manage multiple developers working on a single codebase.



“Today we fret and pull on wheels, ignore our regular loss of time...” Or maybe we should just use Git.



Git Version Control

Git provides an organized system for managing code when multiple developers work on a project at the same time.

The Benefits of Git



01

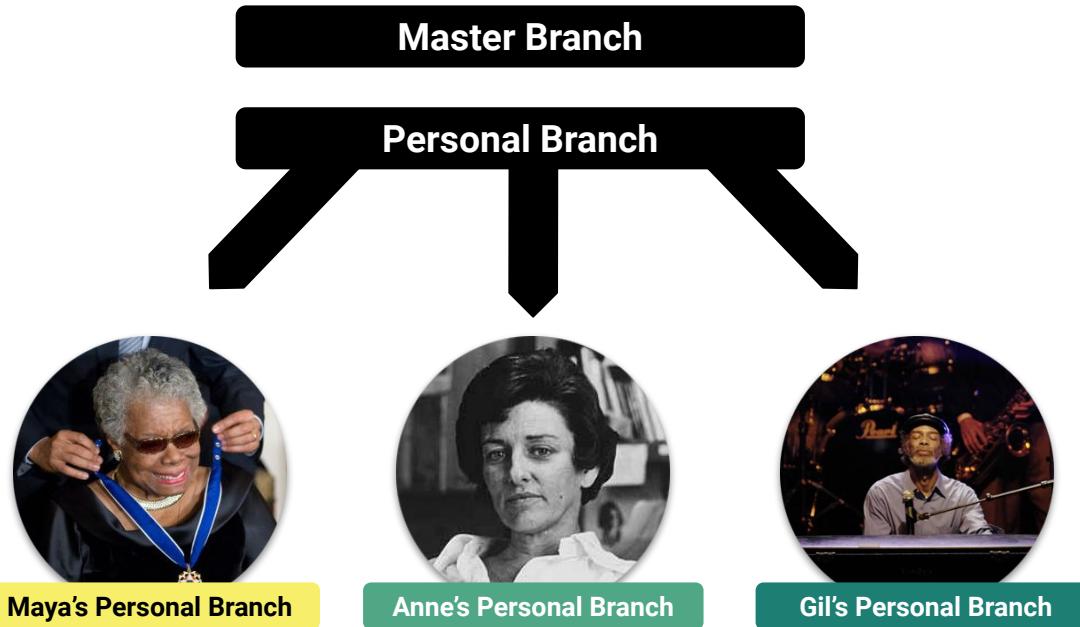
A process for resolving conflicts in code

02

Version history

The Group Project

Branch = personal copy

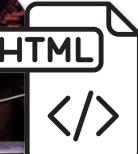


The Team Goes to Work



Maya Angelou's version

```
<ul>
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
</ul>
```



Gil Scott Heron's version

```
<ul>
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be Televised</li>
</ul>
```

Maya Angelou Pushes First

Maya Angelou pushes (uploads) her code changes into the main branch.

No code conflicts

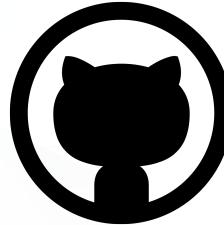


Master Branch



Maya's Personal Branch



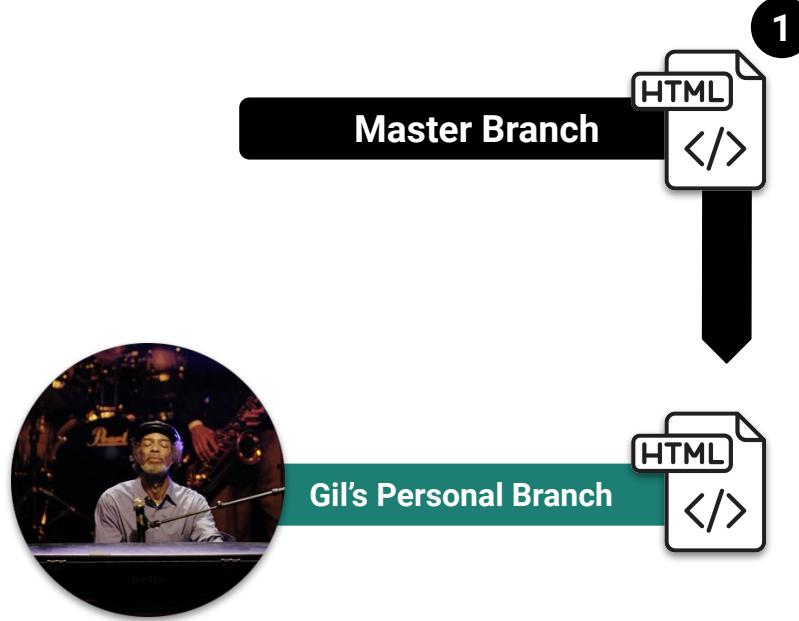


Rule: Pull first, and then push your changes.

Gil Scott Heron's Edits Are Ready



Rule: Pull first, and then push your changes.

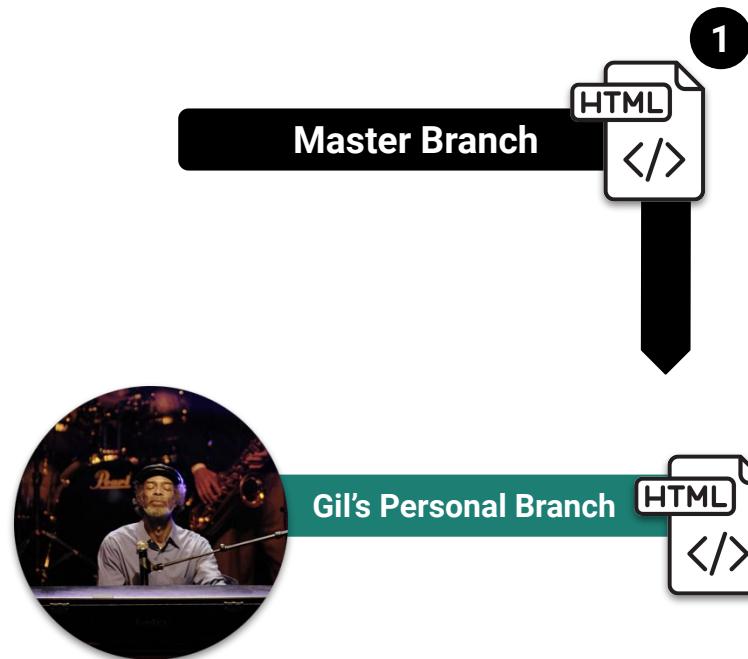


Gil Scott Heron Conflicts with the Master Branch



Git sees a conflict.

```
<ul>
<<<<<<< HEAD
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be Televised</li>
=====
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
>>>>>> master
</ul>
```



Gil Resolves

```
<ul>
<<<<<<< HEAD
  <li>Free Will</li>
  <li>Pieces of a Man</li>
  <li>The Revolution Will Not Be Televised</li>
=====
  <li>On the Pulse of Morning</li>
  <li>I Know Why the Caged Bird Sings</li>
  <li>And Still I Rise</li>
>>>>>> master
</ul>
```

```
<ul>
  <li>Poems</li>
  <li>Albums</li>
  <li>Songs</li>
</ul>
```



Gil's Personal Branch



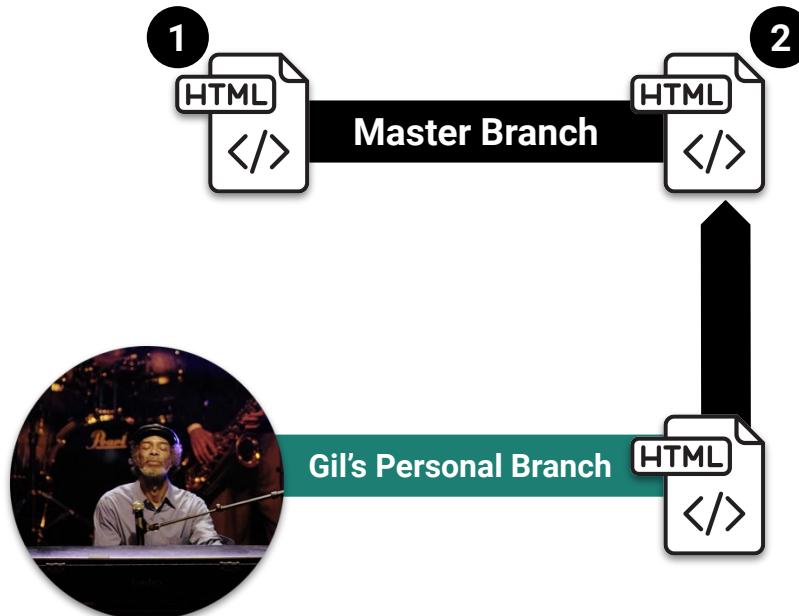
Gil Scott Heron Fixes and Pushes

Gil pushes (uploads) his revision to the main branch.



No code conflicts

```
<ul>
  <li>Poems</li>
  <li>Albums</li>
  <li>Songs</li>
</ul>
```



Anne Sexton Starts Her Work



Rule: Pull first, and then push your changes.

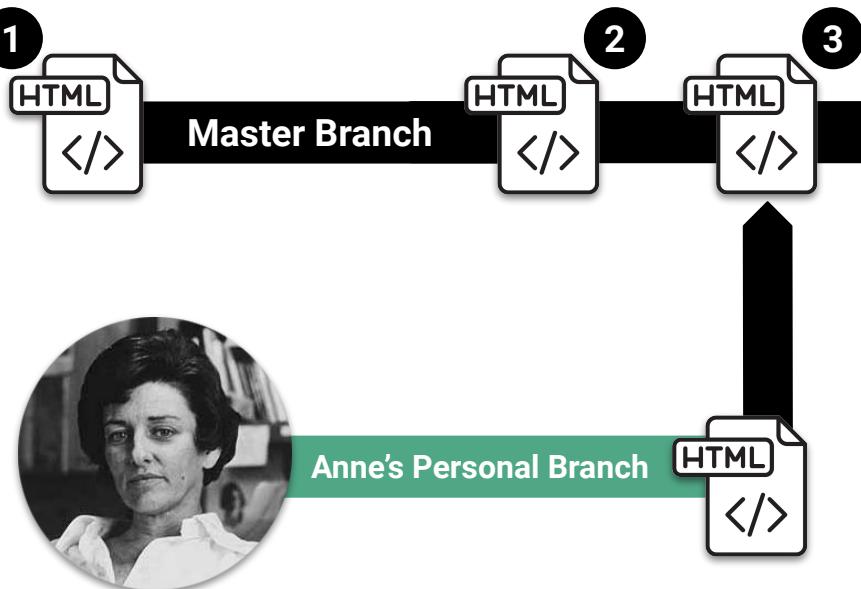


*look into my face
and you will know that crimes dropped upon me
as from a high building...
...by which I mean, I broke the rules.*

Anne Sexton Pushes

Anne Sexton pushes (uploads) her revision to the main branch, but she doesn't pull first. Because she did not pull first, she sees no conflicts in the code (and doesn't get Gil's work!). **This is not what we want.**

```
<ul>
  <li>The Double Image</li>
  <li>Heart's Needle</li>
  <li>Baby Picture</li>
</ul>
```



If Anne Had Made a Pull First...

Conflict!

```
<ul>
<<<<<<<< HEAD
    <li>The Double Image</li>
    <li>Heart's Needle</li>
    <li>Baby Picture</li>
=====
    <li>Poems</li>
    <li>Albums</li>
    <li>Songs</li>
>>>>>>> master
</ul>
```

CONFLICT!

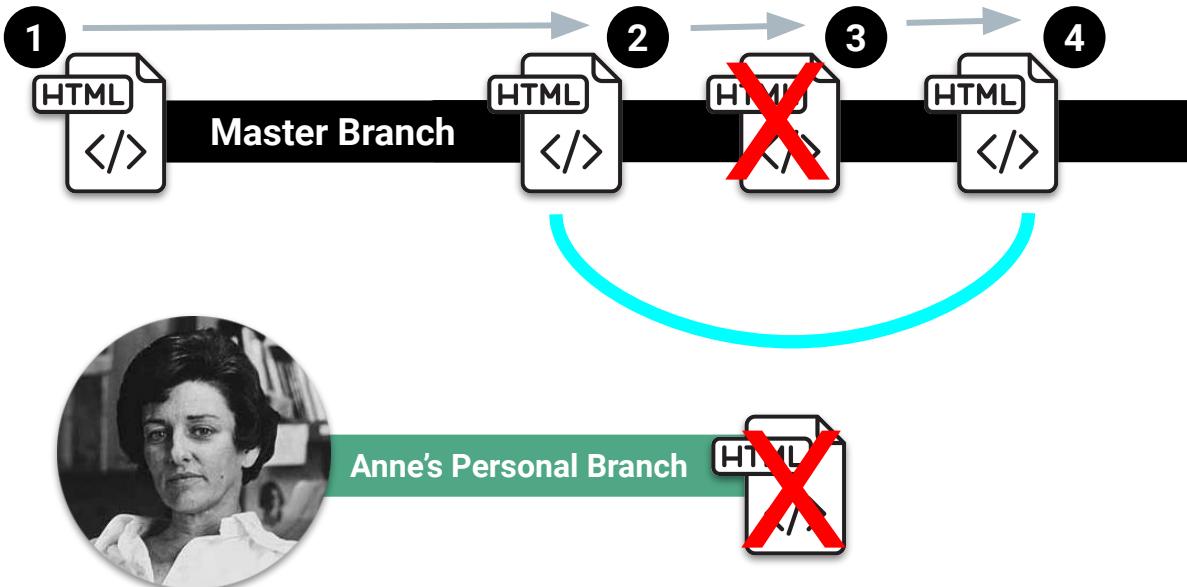


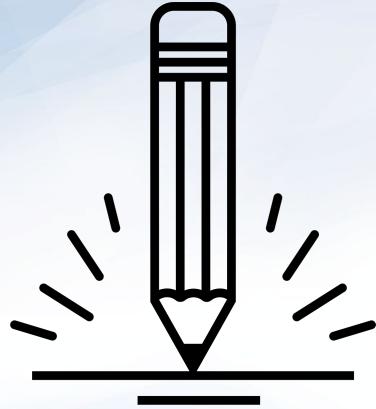


The **overwritten** work
is discovered!

Roll Back

Maya **rolls back** the code to an earlier version.





Activity:

Explain Git (Version Control)

Suggested Time:
3 Minutes



Activity: Explain Git (Version Control)

Turn to your neighbor, and have one of you explain to the other:

The concept of version control

Then, the other should explain:

Two key advantages of using a version control system

Suggested Time: 3 Minutes



What Is GitHub?

01

GitHub is a web-based hosting service to store code online.



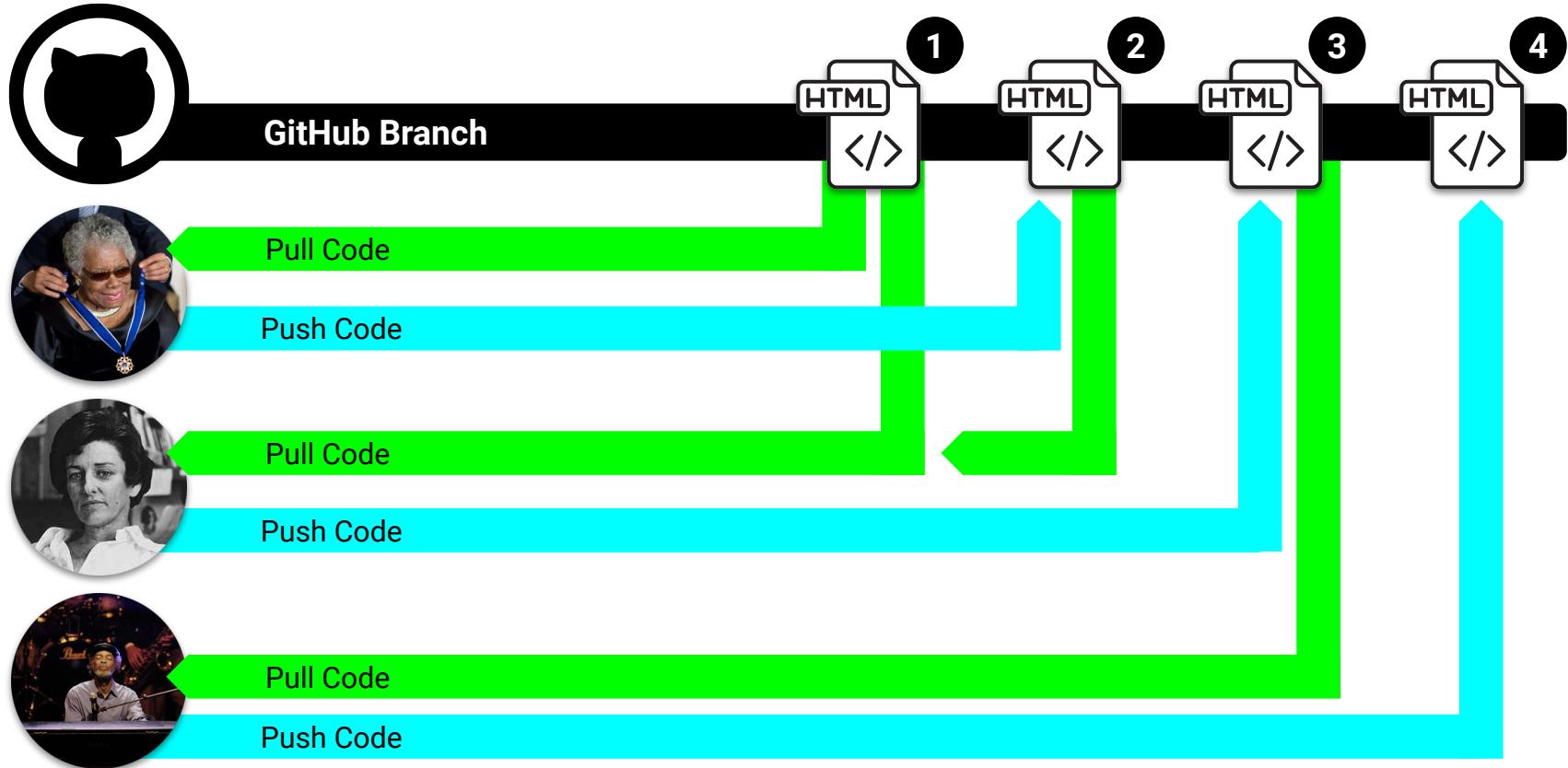
02

It allows developers to pull (download) code or push (upload) code to the same repository (directory).

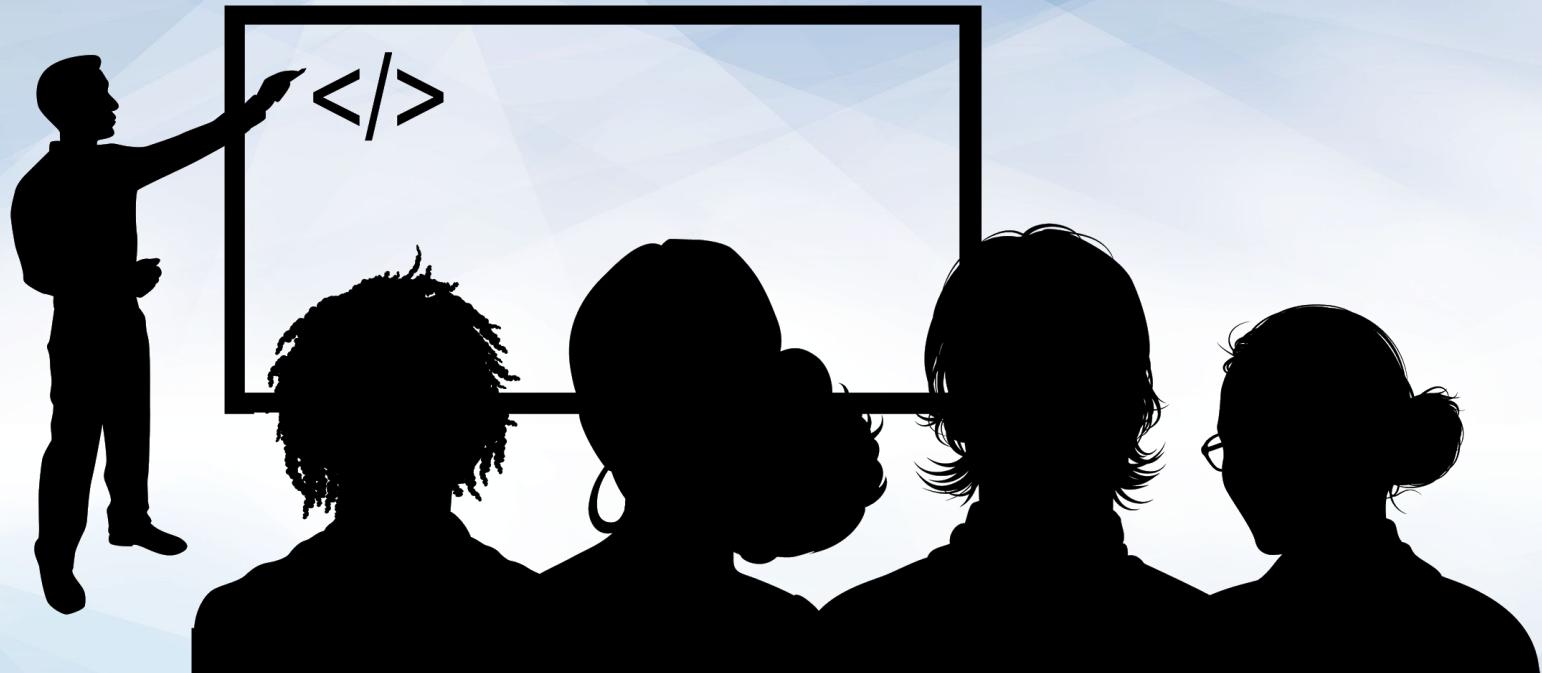
03

It also allows developers to view histories of code changes and track issues.

Pushing and Pulling to GitHub



Get Started with Git



Instructor Demonstration

Git

Basic Git Commands

These are the five basic Git commands to get started:

01

`git clone`

02

`git add`

03

`git commit`

04

`git push`

05

`git pull`

Basic Git Commands

git clone

Copies an entire repo (to begin)

git add

Adds a file for inclusion in Git

git commit

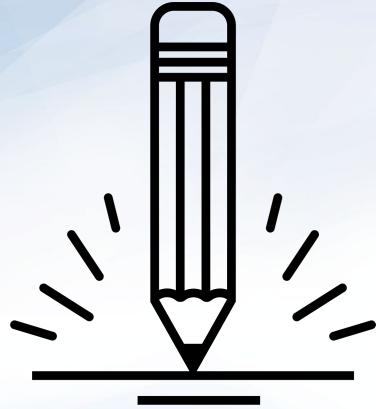
Notes a change to the local repo

git push

Sends changes to hosting service

git pull

Downloads freshest version of repo



Activity:

Git Add, Commit, Push

Suggested Time:
20 minutes



Activity: Git Add, Commit, Push

Using GitHub and the command line:

1. Create a new **public GitHub repository** and name it whatever you like. Be sure to check the box to initialize this repository with a README.
2. **Clone** the repo to your local directory.
3. Create an **HTML file** inside the local directory.
4. **Add, commit, and push** the code to GitHub.

Bonus:

1. Find a partner in class, and **fork** *their* repository to your own GitHub account. Clone this forked repository to your local directory.
2. **Add, commit, and push** the code back to your forked copy.
3. Submit a **pull request** to send your changes to your partner's repo.

Suggested Time: 20 Minutes



Still a Bit Lost? Don't Worry!

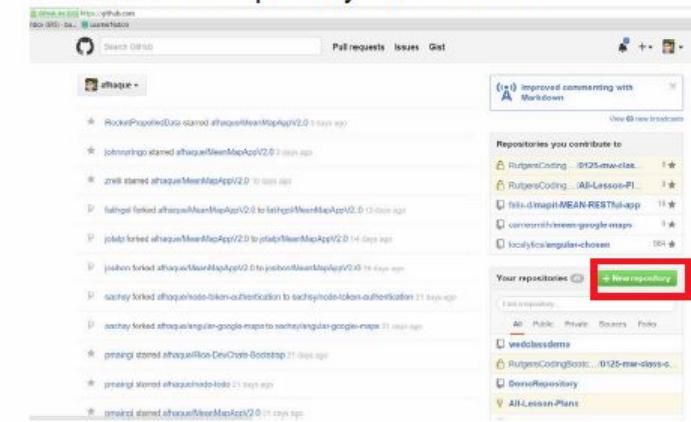
Follow this handy guide!

Practice a few times on your own before the next class.

Steps to Uploading Your Code to GitHub

Step 1

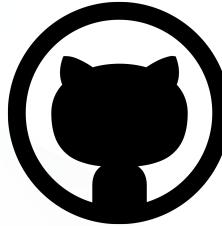
Create a New Repository in GitHub.com



The screenshot shows a GitHub user profile with the following details:

- Profile picture: afraque
- Repositories you contribute to:
 - RutgersCoding - 0125-mvc-class-1
 - RutgersCoding - All-Lesson-Plans
 - fixx-dmpt-MEAN-RESTful-app
 - caronmehmene-google-maps
 - localticas/impulsa-chosen
- Your repositories:
 - Find a repository
 - All Public Private Scores Parks
 - vedclassdemo
 - RutgersCodingBootcamp - 0125-mvc-class-4
 - DemoRepository
 - All-Lesson-Plans

A red box highlights the green "New Repository" button in the bottom right corner of the "Your repositories" section.



If you're still lost, here's a (free) course on how to use GitHub:

[Get Started with Github](#)

HTML Round 2

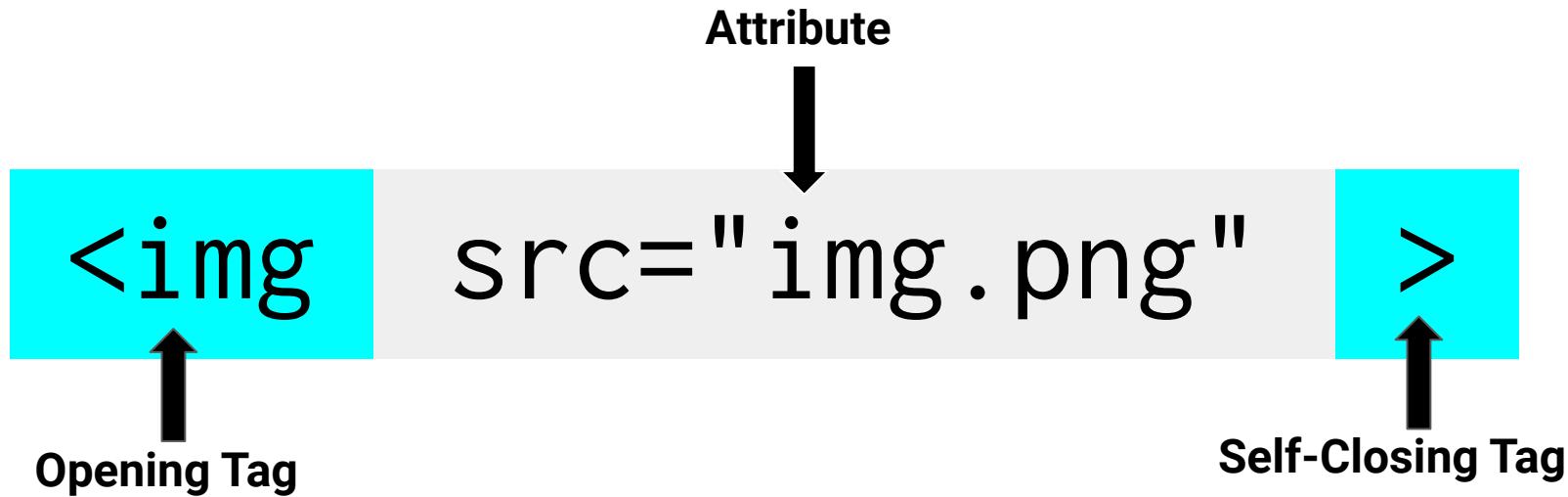
HTML Syntax (Basic)



HTML Syntax (with Attribute)



Tricky Tags (Self-Closing)



Important Common Tags

| Headings: | Containers: | Others: | |
|-------------------------------------|----------------------------------|---|------------------------------|
| <code><h1> </h1></code> | Heading 1 (Largest heading) | <code><html> </html></code> | Wraps the entire page |
| <code><h2> </h2></code> | Heading 2 (Next largest heading) | <code><head> </head></code> | Wraps the header of the page |
| <code><h3> </h3></code> | Heading 3 | <code><body> </body></code> | Wraps the main content |
| | | <code><div> </div></code> | Logical container |
| | | <code><p> </p></code> | Wraps individual paragraphs |
| | | <code></code> | bold |
| | | <code></code> | emphasis |
| | | <code></code> | images |
| | | <code><a href></code> | links |
| | | <code></code> | list items |
| | | <code><title></code> | title |
| | | <code> </code> | line break |
| | | <code><table></code> | tables |
| | | <code><!-- --></code> | comments |

Less Common Tags

All HTML tags are listed here: <http://www.w3schools.com/tags/>

Don't try to memorize them! Simply refer back to documentation as needed.

| | |
|----------|-----------------------------|
| <video> | for videos |
| <audio> | for audio files |
| <embed> | for embedded files |
| <code> | for including computer code |
| <header> | for headers |
| <nav> | for navigation bars |
| <footer> | for footers |

HTML for Forms

Common UI (user interface) form elements:

| | |
|------------|--------------------------------|
| <form> | Creates a form section in HTML |
| <input> | Input boxes |
| <label> | Labels for boxes |
| <button> | Button |
| <textarea> | Large text box |

HTML for Forms

```
<!DOCTYPE html>
<html>
<body>

<form>
  First name:<br>
  <input type="text" name="firstname">
  <br>
  Last name:<br>
  <input type="text" name="lastname">
</form>

<p>Note that the form itself is not visible.</p>

<p>Also note that the default width of a text input field is 20 characters.</p>

</body>
</html>
```



First name:

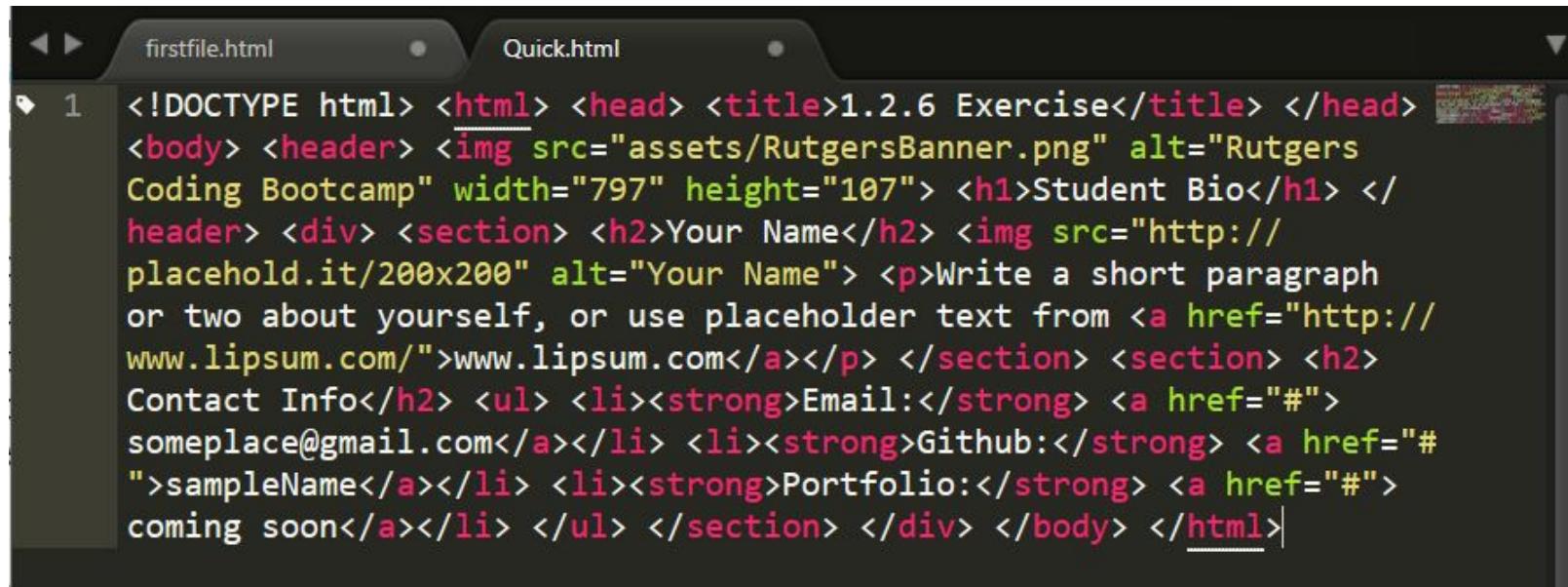
Last name:

Note that the form itself is not visible.

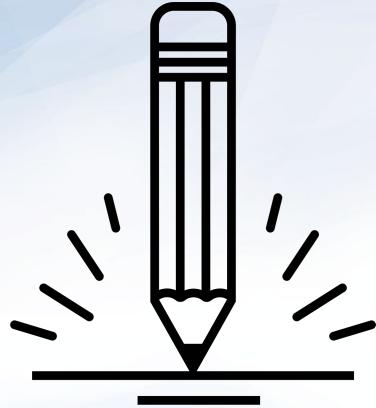
Also note that the default width of a text input field is 20 characters.

Ugly HTML

- Don't do this. Use proper indentation and sectioning.
- Readable code is easier to maintain.
- Invest time to get better at this now. It will pay dividends!



```
<!DOCTYPE html> <html> <head> <title>1.2.6 Exercise</title> </head>
<body> <header>  <h1>Student Bio</h1> <
header> <div> <section> <h2>Your Name</h2>  <p>Write a short paragraph
or two about yourself, or use placeholder text from <a href="http://
www.lipsum.com/">www.lipsum.com</a></p> </section> <section> <h2>
Contact Info</h2> <ul> <li><strong>Email:</strong> <a href="#">
someplace@gmail.com</a></li> <li><strong>Github:</strong> <a href="#">
sampleName</a></li> <li><strong>Portfolio:</strong> <a href="#">
coming soon</a></li> </ul> </section> </div> </body> </html>
```



Activity: Basic Student Bio

In this activity, you'll create a student bio using HTML. You will then add, commit, and push your completed HTML to GitHub for the world to see.

(Additional instructions will be sent via Slack)

Suggested Time:
20 minutes



Activity: Basic Student Bio

Student Bio

Your Name



Write a short paragraph or two about yourself, or use placeholder text from www.lipsum.com.

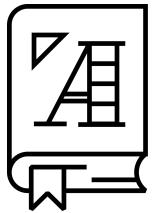
Contact Info

- Email: someplace@gmail.com
- GitHub: [Sample Name](#)
- Portfolio: [Coming Soon](#)



CSS Stylin'

HTML and CSS Definitions



HTML: Hypertext Markup Language (Content)

CSS: Cascading Style Sheets (Appearance)

HTML/CSS are the “languages of the web.” Together they define both the content and aesthetics of a webpage, including layouts, colors, fonts, and content placement. (JavaScript is the language that deals with logic, animation, etc.)

HTML/CSS Analogy

| HTML Alone | HTML and CSS |
|---|--|
| Like writing papers in Notepad | Like writing papers in Microsoft Word |
| Can only write unformatted text | Can format text, page layout, alignment, and more based on highlighting and menu options |
|  |  |

Basic HTML Page

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <title>My First Website!</title>
</head>

<body>

    <h1>Awesome Header</h1>
    <h2>Smaller Awesome Header</h2>
    <h3>Even Smaller Header</h3>

    <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
       incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
       exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
    

    <h3>Menu Links</h3>
    <ul>
        <li><a href="http://www.google.com">Google</a></li>
        <li><a href="http://www.facebook.com">Facebook</a></li>
        <li><a href="http://www.twitter.com">Twitter</a></li>
    </ul>

</body>
</html>
```

Basic HTML Page: Result

Awesome Header

Smaller Awesome Header

Even Smaller Awesome Header

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
 Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Menu Links

- [Google](#)
- [Facebook](#)
- [Twitter](#)

Basic HTML Page: Result

Awesome Header

Smaller Awesome Header

Even Smaller Awesome Header

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
 Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Boring

Menu Links

- [Google](#)
- [Facebook](#)
- [Twitter](#)

Enter CSS

```
26▼ <style>
27▼   h1 {
28     font-size: 60px;
29     text-align: center;
30     margin-bottom: 15px;
31     text-decoration: underline;
32     background-color: black;
33     color: white;
34   }
35
36▼   h2 {
37     font-size: 40px;
38     text-align: center;
39     margin-top: 15px;
40     margin-bottom: 15px;
41   }
42
43▼   h3 {
44     font-size: 20px;
45     text-align: center;
46     margin-top: 15px;
47   }
48
```

```
49▼     img {
50       display: block;
51       margin-left: auto;
52       margin-right: auto;
53     }
54
55▼   p {
56     text-align: center;
57     font-size: 20px;
58     font-weight: bold;
59   }
60
61▼   ul {
62     text-align: center;
63     font-size: 35px;
64     list-style-position: inside;
65     border-style: solid;
66     border-width: 5px;
67   }
68 </style>
```

Enter CSS: Result

Awesome Header

Smaller Awesome Header

Even Smaller Awesome Header

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor
 incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
 exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



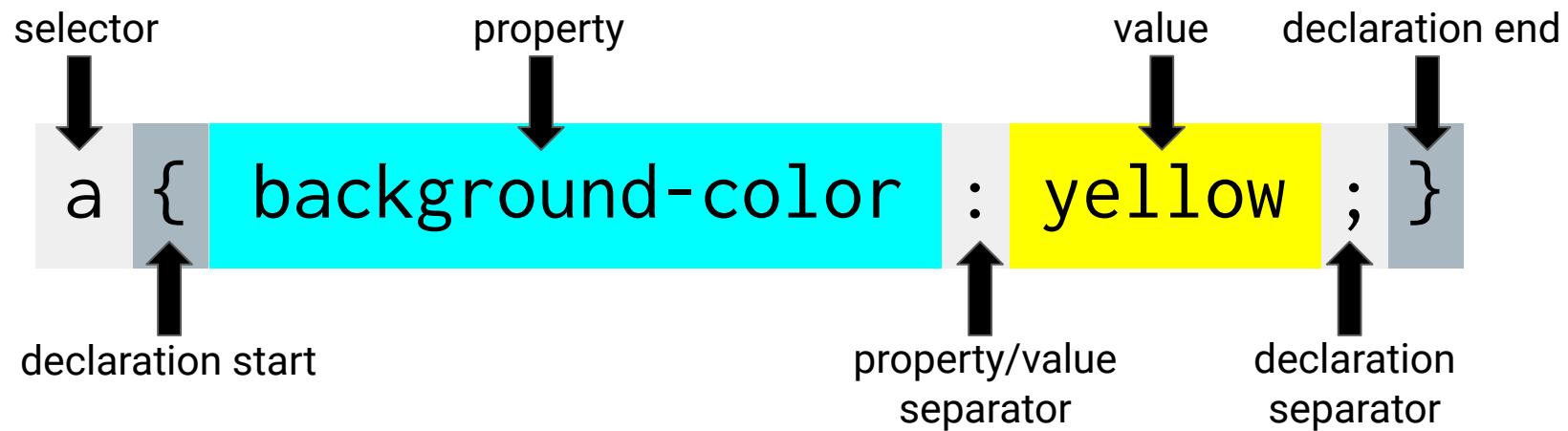
Menu Links

- [Google](#)
- [Facebook](#)
- [Twitter](#)

CSS Syntax

CSS works by hooking onto **selectors** added into HTML using **classes** and **identifiers**.

Once hooked, we apply **styles** to those HTML elements using CSS.



CSS Example

In the following example, the header would become blue and much larger because of the CSS.

We can incorporate an element's class or ID to apply a CSS style to a particular part of the document. Just remember to include the necessary symbol before the CSS: “.” for class, “#” for ID.

| Example (HTML) | Example (CSS) |
|--|--|
| <pre><p class="bigBlue">Header</p></pre> | <pre>.bigBlue { font-size: 100px; color: blue; }</pre> |

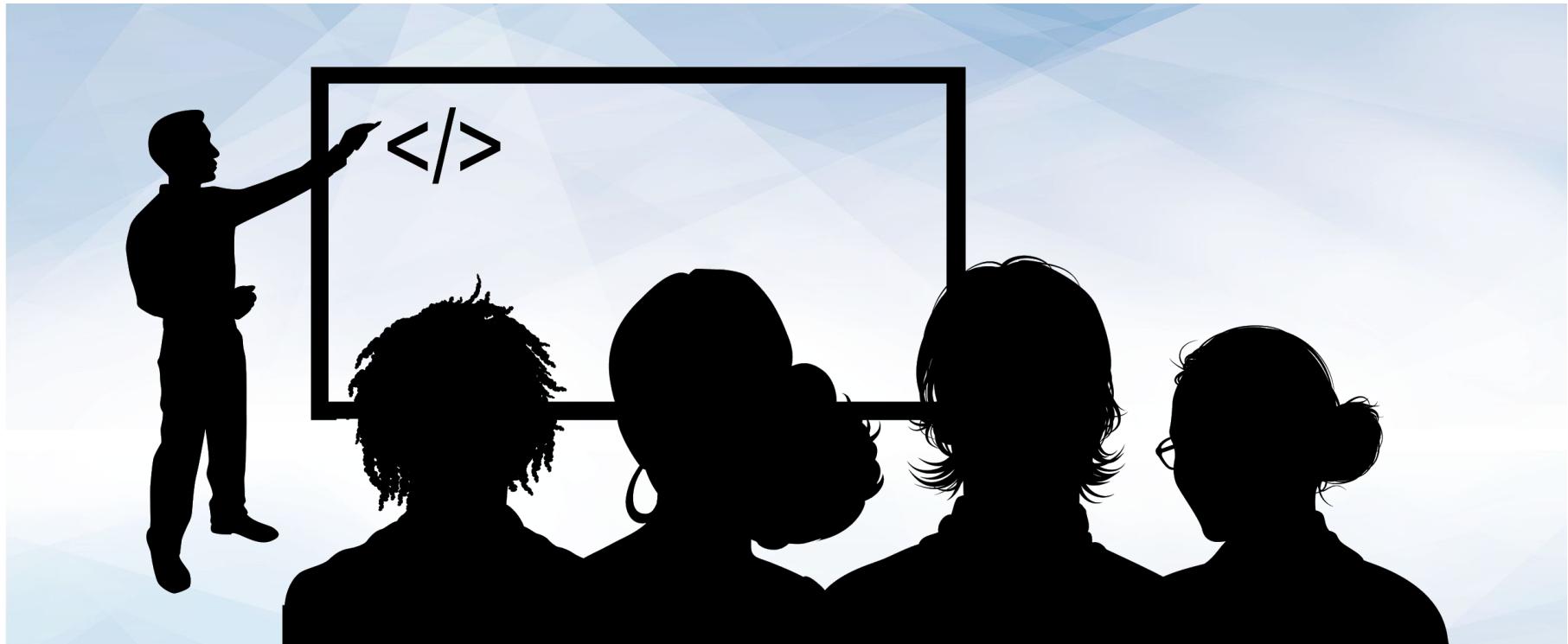
Key CSS Attributes

| Font and Color: | |
|----------------------------------|---|
| color: | sets color of text |
| font-size: | sets size of the font |
| font-style: | sets italics |
| font-weight: | sets bold |
| Alignment and Spacing: | |
| padding (top/right/bottom/left): | adds space between element and its own border |
| margin (top/right/bottom/left): | adds space between element and surrounding elements |
| float: | forces elements to the sides, centers, or tops |
| Background: | |
| background-color: | sets background color |
| background-image: | sets background image |

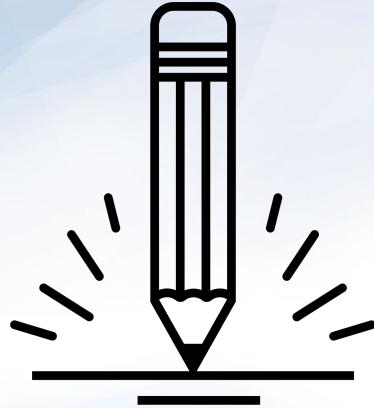


Powerful Duo

Believe it or not, HTML and CSS are all you need to develop a vivid, full-blown website.



Instructor Demonstration CSS Basics



Activity: CSS-Styled Bio Page

In this activity, you'll upgrade your previous HTML bio page using CSS style rules. Once you're done, commit and push your changes to GitHub.

(Additional instructions will be sent via Slack)

Suggested Time:
20 minutes



Activity: CSS-Styled Bio Page

Student Bio

Your Name



200x200

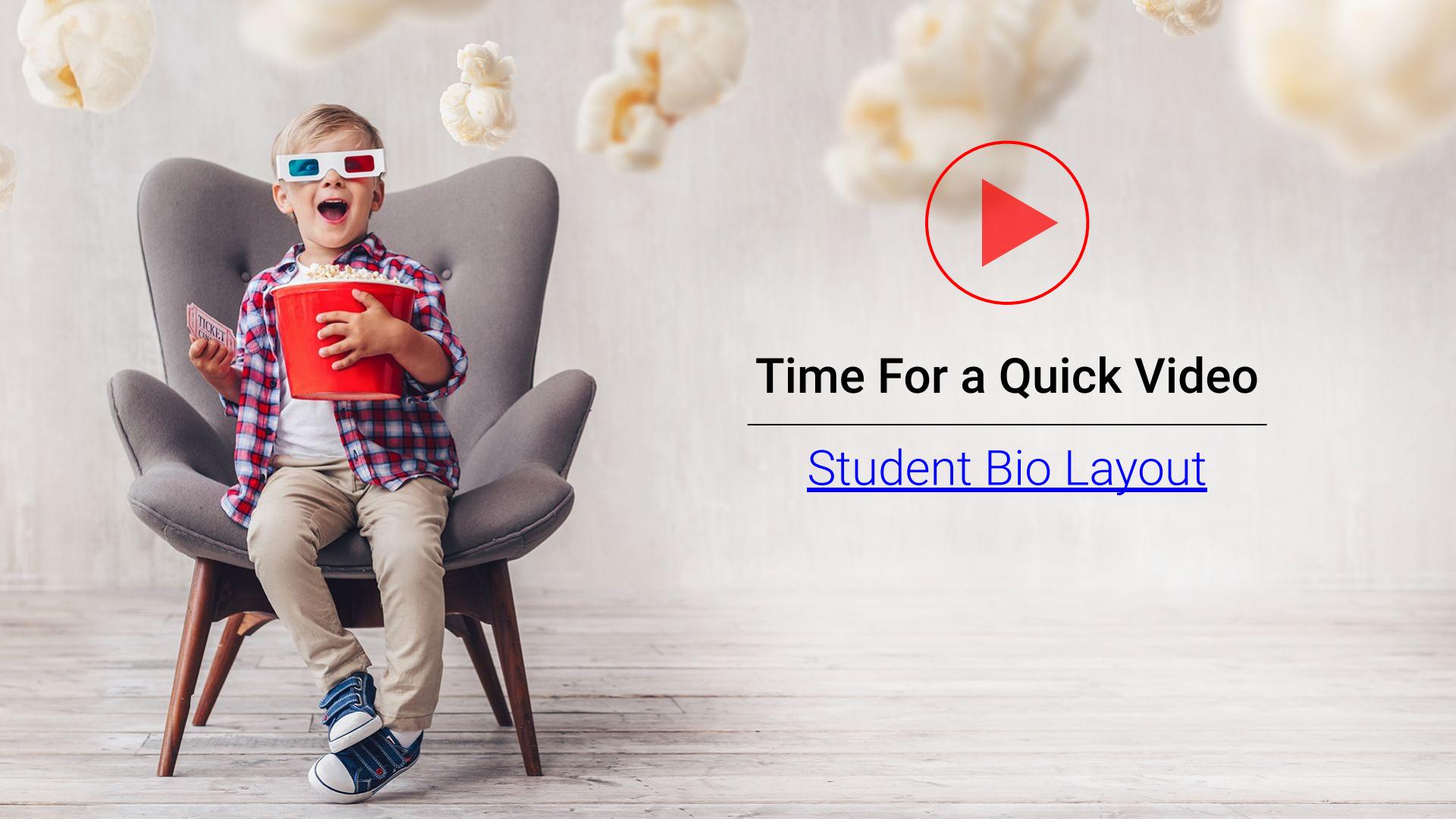
Write a short paragraph or two about yourself, or use placeholder text from www.lipsum.com

Contact Info

- Email: someplace@gmail.com
- Github: [sampleName](#)
- Portfolio: [coming soon](#)







Time For a Quick Video

[Student Bio Layout](#)

Still a Bit Confused?

- Remember the video guides for key activities (such as the last one).
- If you EVER feel like you are falling behind, use the video walk-throughs to catch up. They are made to be easy to understand.
- Still having trouble? Shoot your instructor or one of your TAs a message! We are here to help you out however we can.



Questions?