ARCH A4988

Coding for Spatial Practices

💻 <HTML Basics>

Learning Objectives

Learning Objectives

1. Learn about the different roles of HTML and CSS.
2. Learn about the different HTML elements available to us, including those that create content and those that group it.
3. Learn how to use the HTML validator to create valid HTML.

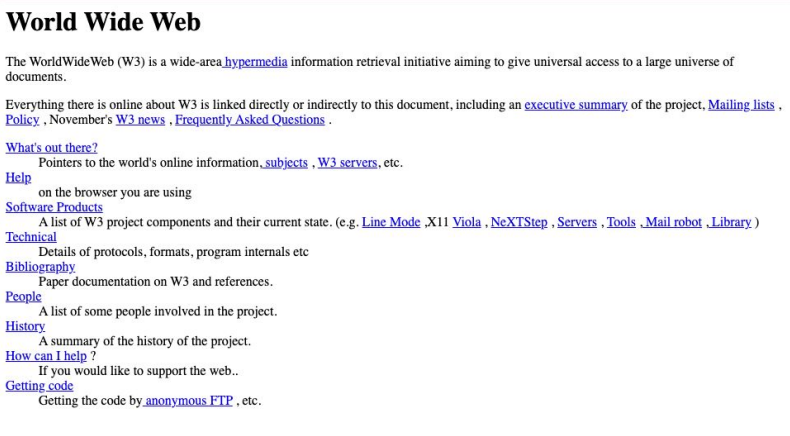
Agenda

1. Why Learn to Code?
2. Up and Running
3. Lecture: HTML Basics
4. Assignment #1
5. Project #1

Why Learn to Code?

Why Learn to Code?

Let's think about why we're learning to code in an architecture program? What is the benefit of learning how to create lightweight, simple websites?



World Wide Web

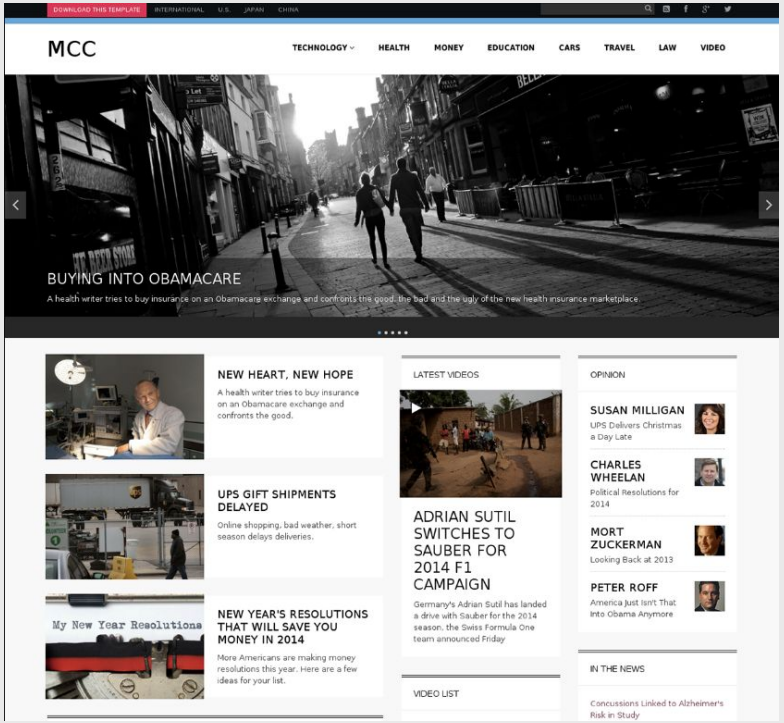
The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.
Help
on the browser you are using
Software Products
A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
Details of protocols, formats, program internals etc
Bibliography
Paper documentation on W3 and references.
People
A list of some people involved in the project.
History
A summary of the history of the project.
How can I help ?
If you would like to support the web..
Getting code
Getting the code by anonymous FTP , etc.

1. **Easy to publish your own ideas**
2. Ability to translate physical designs to digital designs
3. Provides a new vocabulary
4. Helps you become more critical about the digital products you encounter
5. Possibility for you to put better products out into the world

Why Learn to Code?



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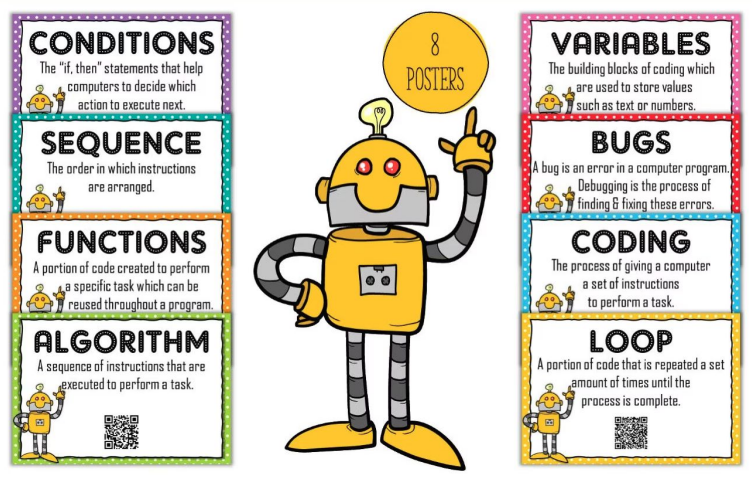

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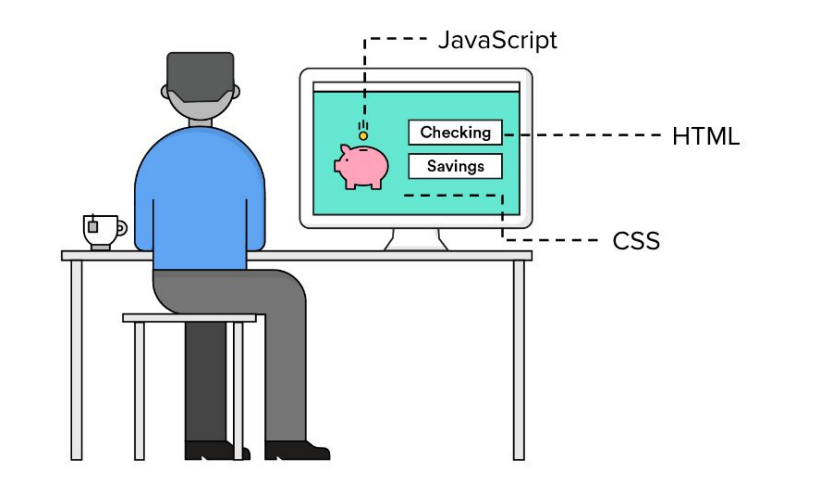

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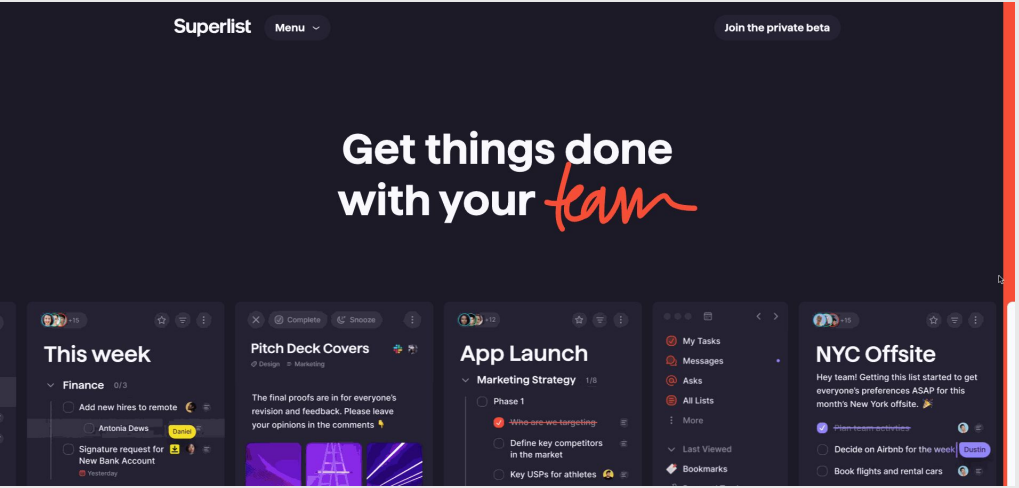

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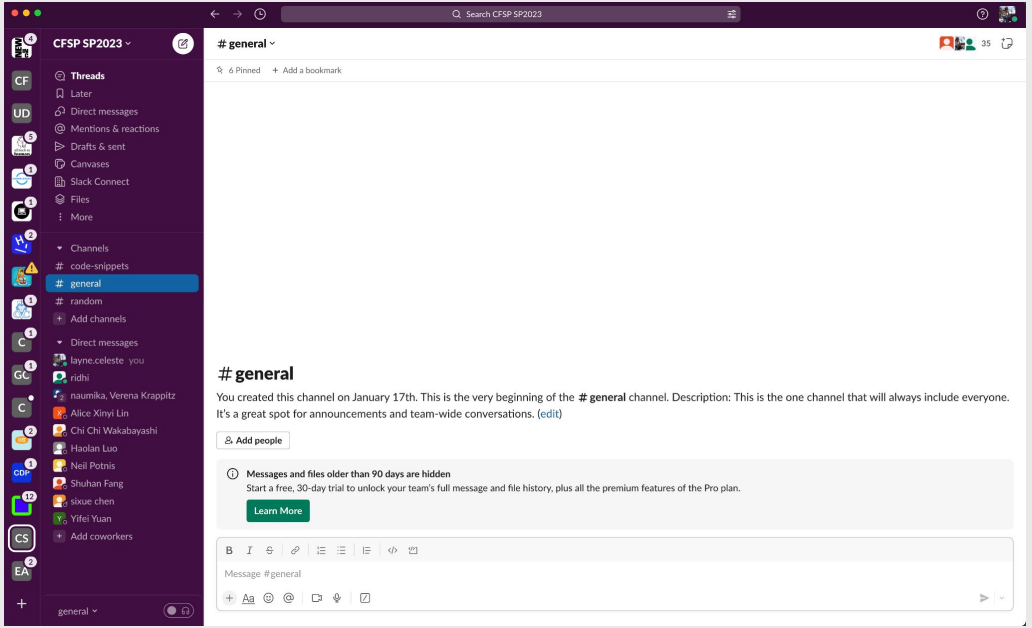
Up and Running

Download Software

1. **Slack**
2. Google Drive
3. VS Code
4. GitHub Desktop
5. github.com



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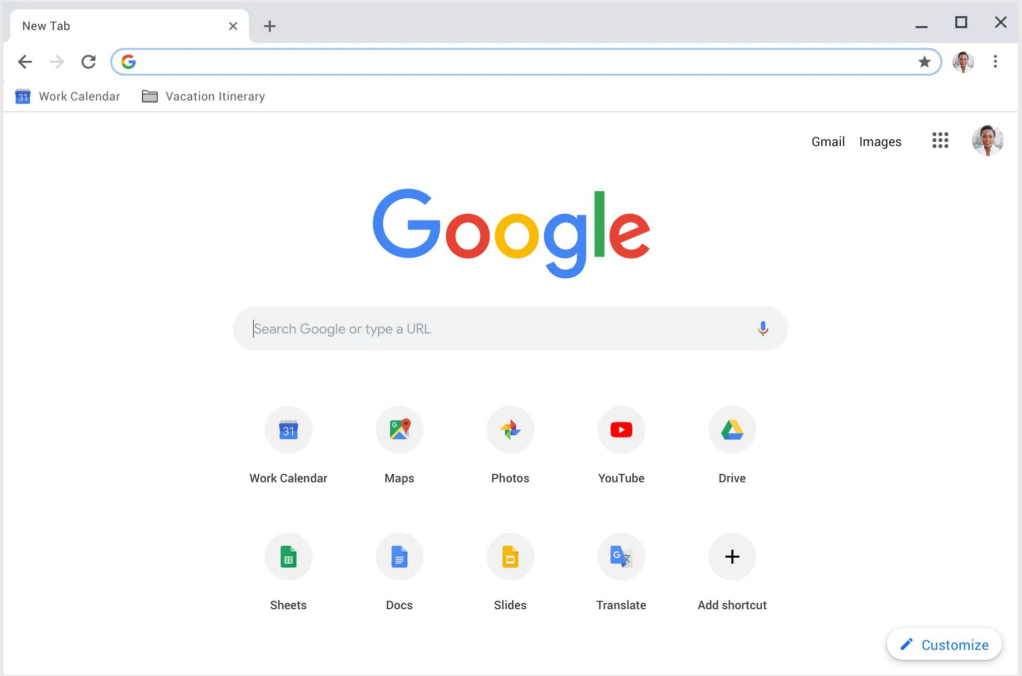

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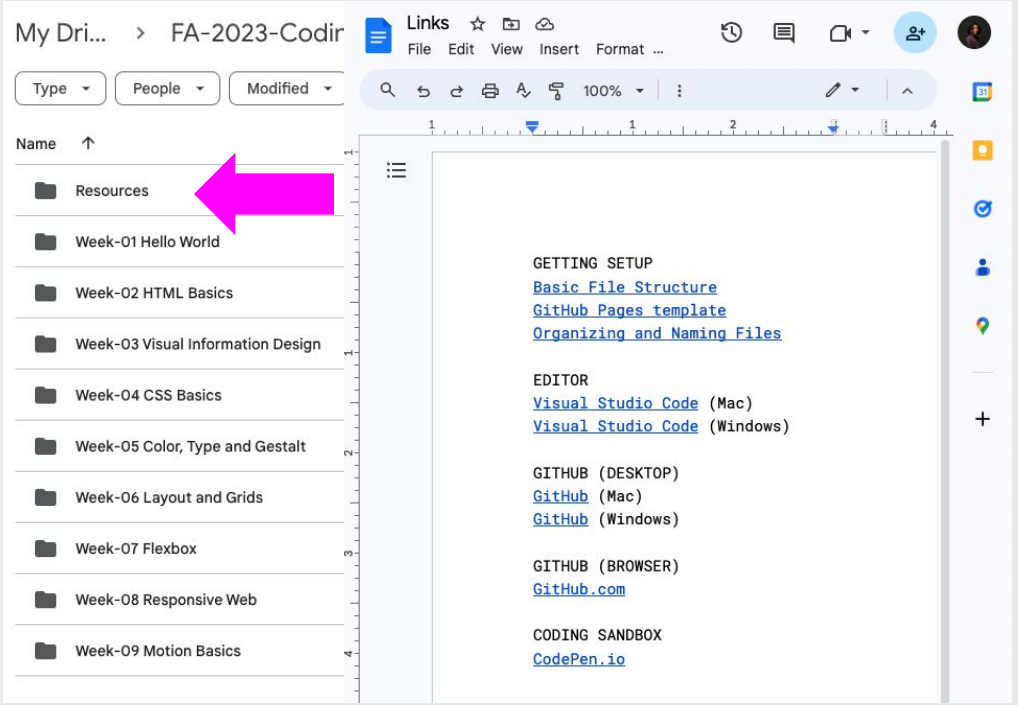

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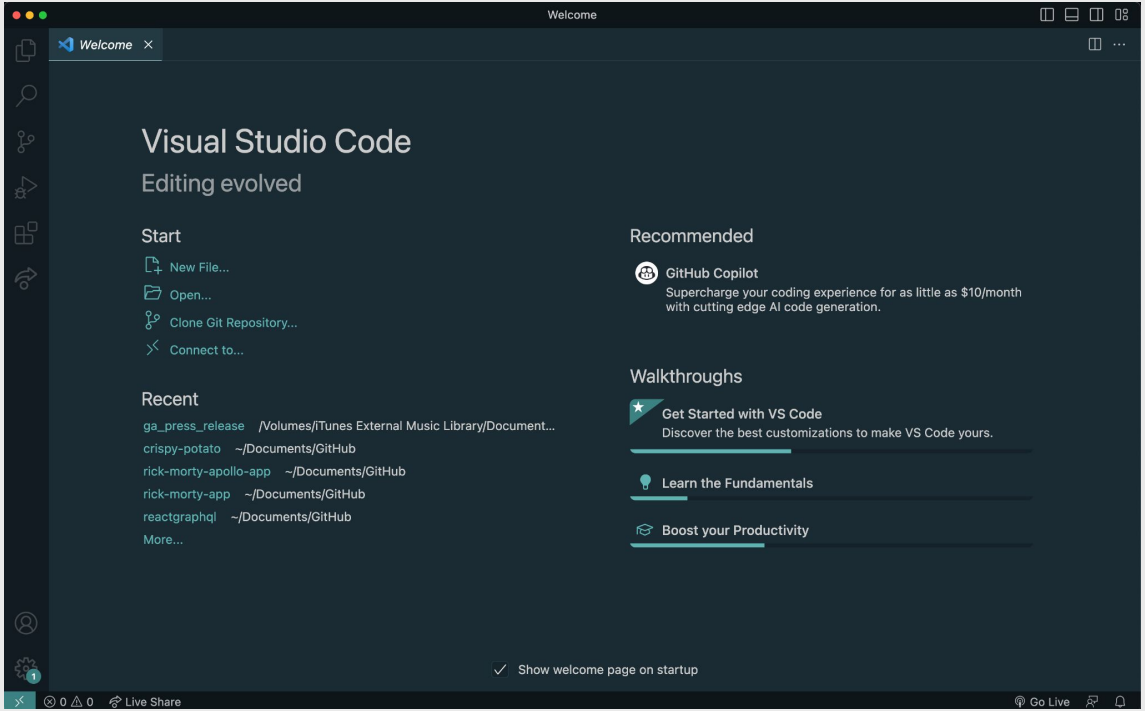

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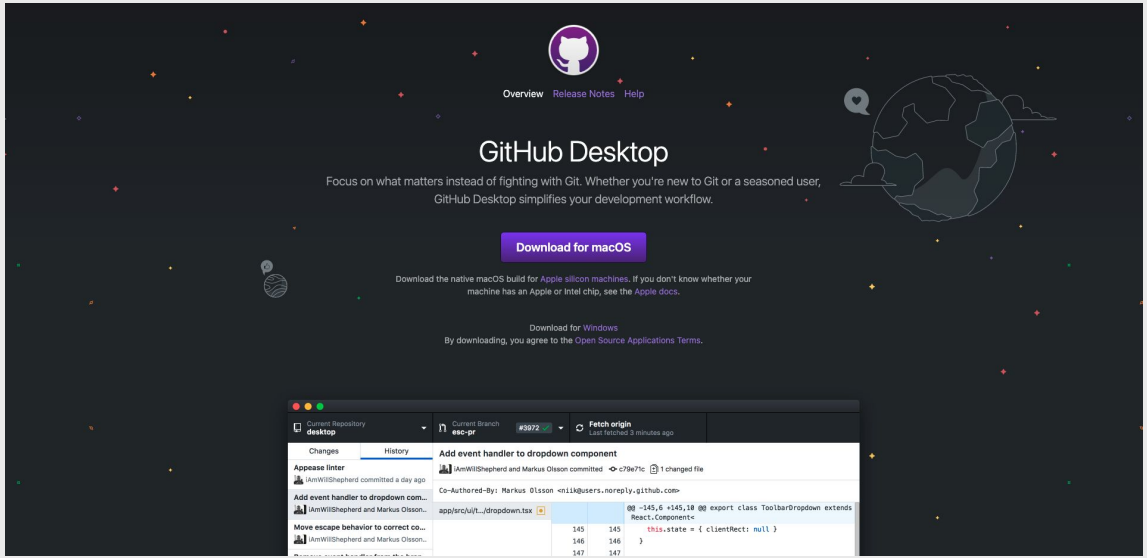

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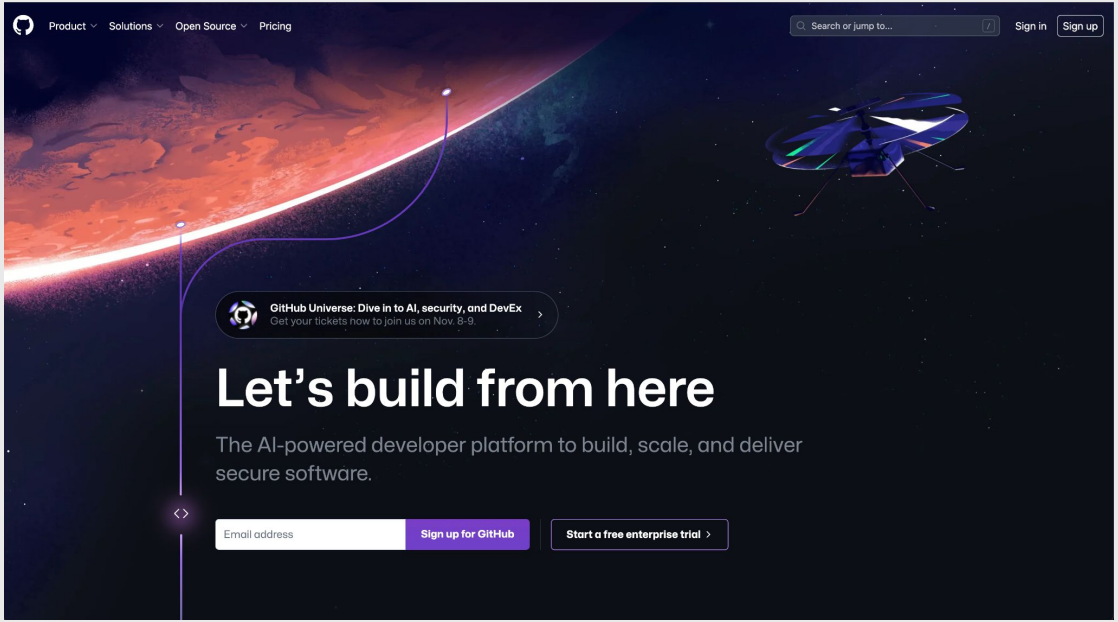


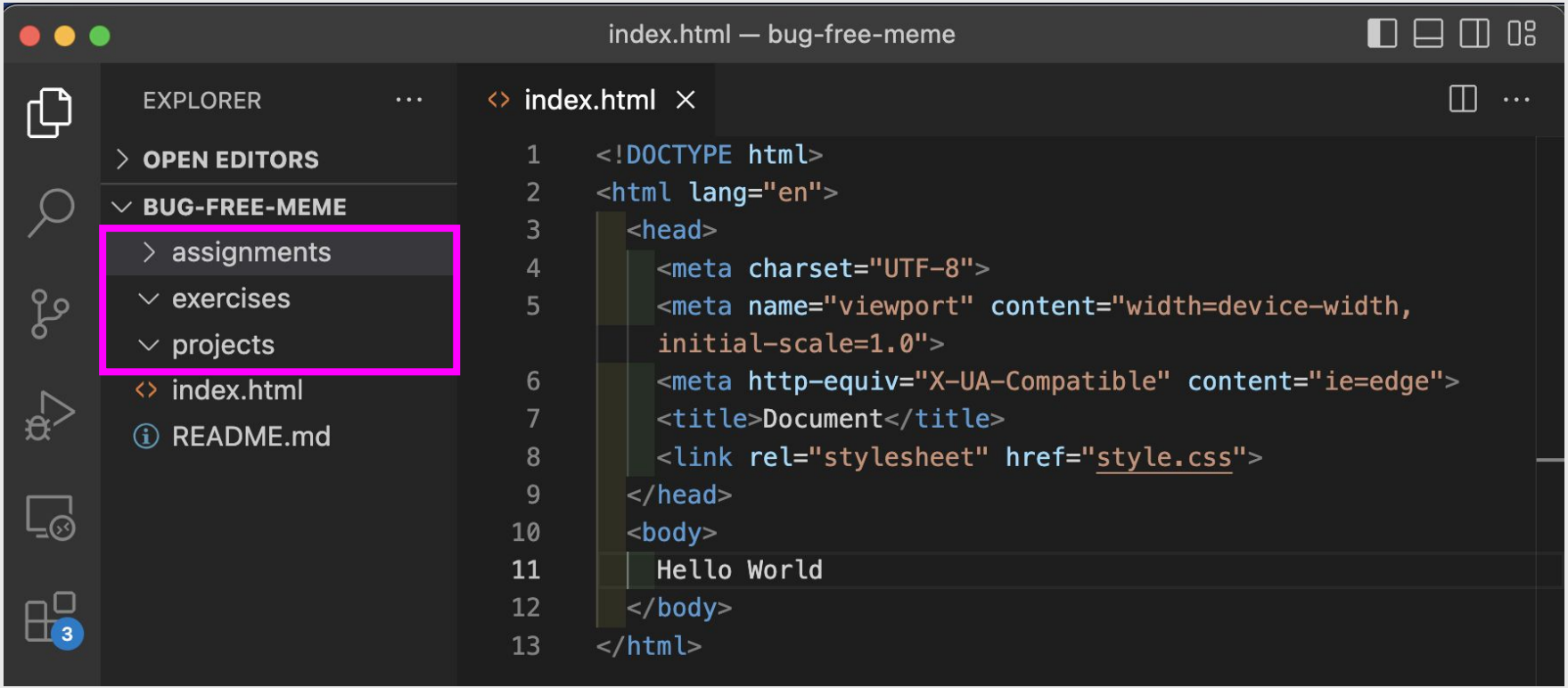
Getting Started: Visual Studio Code

1. Open the **Finder** (*Mac*) or **Explorer** (*Windows*) application
2. Create a new folder:
    - File > New Folder
3. Give that folder a name, e.g. **hello-world**
4. Open the **VS Code** application
5. From VS Code, open the **hello-world** folder:
    - File > Open Folder
6. Go to the Google Drive course folder, **Week-02: HTML Basics**
7. Follow the instructions in **Exercise 01: Hello World**

Getting Started: GitHub

1. Go to the Google Drive course folder, **Week-02: HTML Basics**
2. Follow the instructions in **GitHub: Getting Started**

Directory Structure



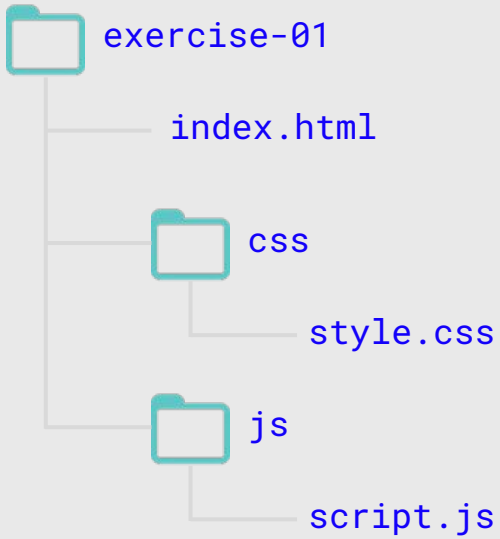
Directory Structure

Ultimately, your file structure should look like the following:

```
├── bug-free-meme
    ├── assignments
    │   ├── assignment-01
    │   └── assignment-02
    ├── exercises
    │   ├── exercise-01
    │   └── exercise-02
    ├── projects
    ├── index.html
    └── README.md
```

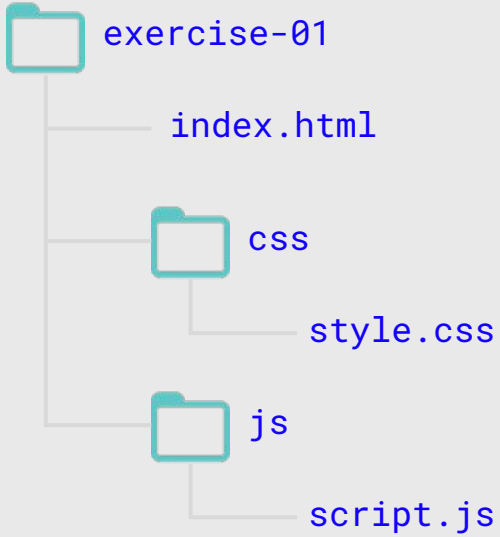
Directory Structure

On larger sites, it's best practice to organize your code by placing the files for each major section into a new folder.

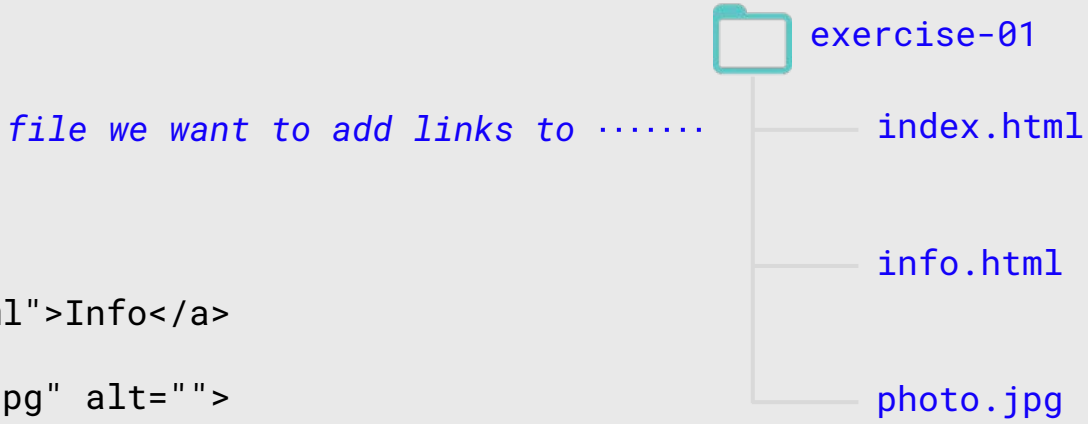


Directory Structure

The topmost folder is called the root folder. It contains all other files and folders for the website.



Directory Structure

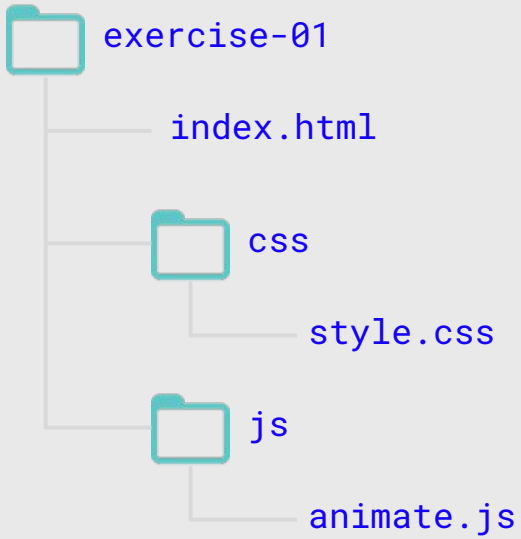



```
<a href="info.html">Info</a>

<img src="photo.jpg" alt="">
```

Directory Structure

file we want to add links to ·····

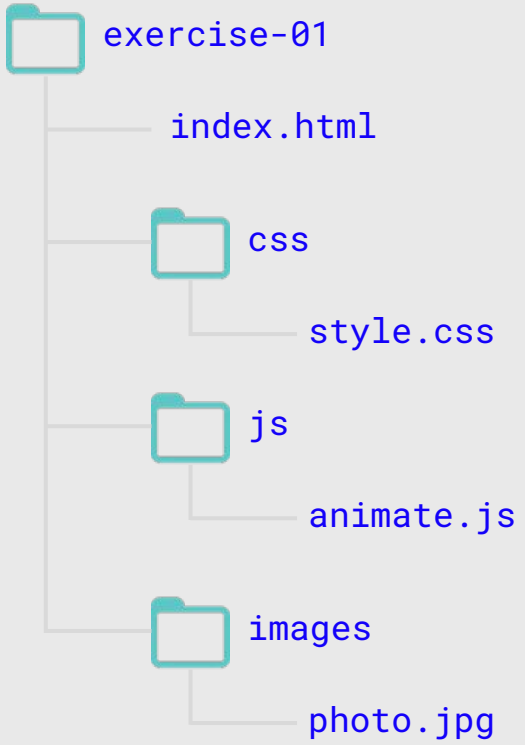



```
<link href="css/style.css" rel="stylesheet">

<script src="js/animate.js">
```

Directory Structure

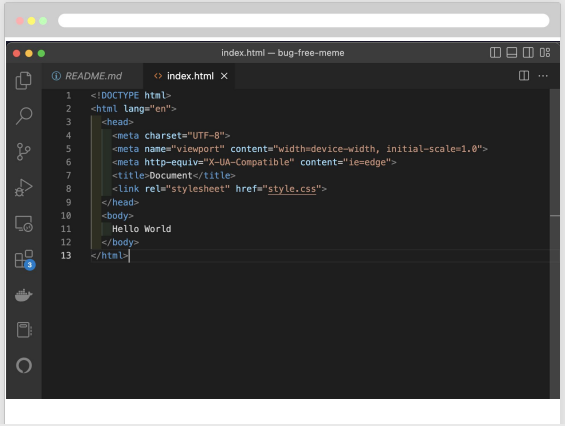
file we want to add links to ·····



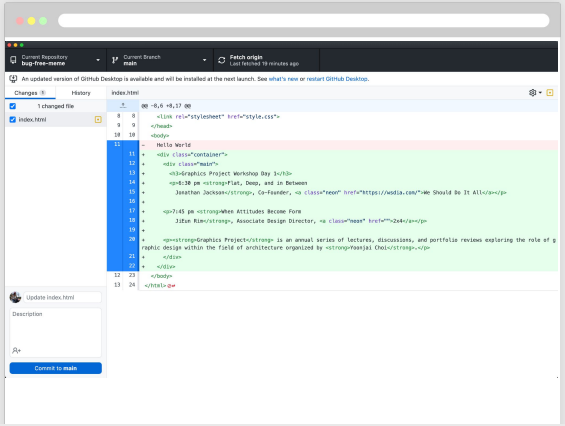

```
<a href="../images/photo.jpg" alt="">
```

GitHub – From Your Local Laptop to Remote Web

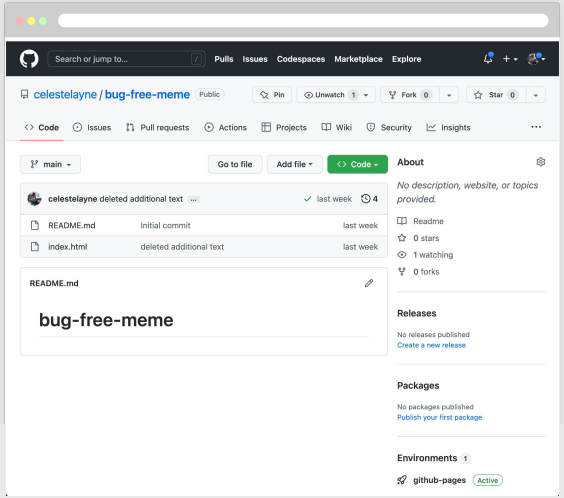
VS Code



GitHub Desktop



Github.com



1. Write your code in the code editor

2. See your changes and send to the cloud

3. Verify code changes. Check web link.

HTML Basics

HTML Basics

What is HTML?

HTML Basics

What is HTML?

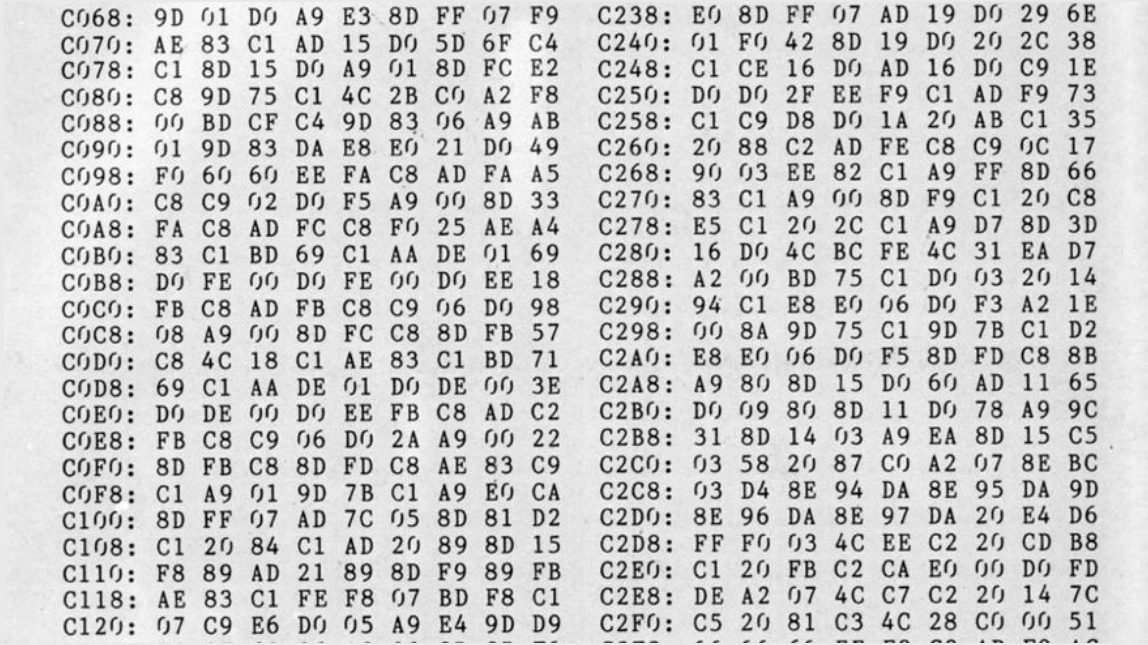
HTML = HyperText Markup Language

HTML is the syntax used to structure data using markup language – represented as tags.

It describes and defines the content of a webpage.

HTML Basics

Most people think HTML is programming — it's not!



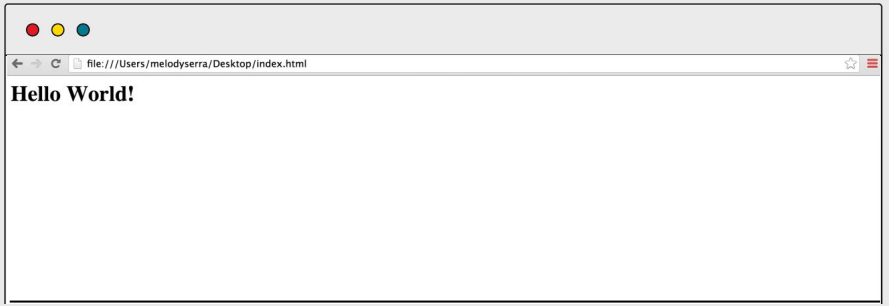
```
C068: 9D 01 D0 A9 E3 8D FF 07 F9
C070: AE 83 C1 AD 15 D0 5D 6F C4
C078: C1 8D 15 D0 A9 01 8D FC E2
C080: C8 9D 75 C1 4C 2B C0 A2 F8
C088: 00 BD CF C4 9D 83 06 A9 AB
C090: 01 9D 83 DA E8 E0 21 D0 49
C098: F0 60 60 EE FA C8 AD FA A5
C0A0: C8 C9 02 D0 F5 A9 00 8D 33
C0A8: FA C8 AD FC C8 F0 25 AE A4
C0B0: 83 C1 BD 69 C1 AA DE 01 69
C0B8: D0 FE 00 D0 FE 00 D0 EE 18
C0C0: FB C8 AD FB C8 C9 06 D0 98
C0C8: 08 A9 00 8D FC C8 8D FB 57
C0D0: C8 4C 18 C1 AE 83 C1 BD 71
C0D8: 69 C1 AA DE 01 D0 DE 00 3E
C0E0: D0 DE 00 D0 EE FB C8 AD C2
C0E8: FB C8 C9 06 D0 2A A9 00 22
C0F0: 8D FB C8 8D FD C8 AE 83 C9
C0F8: C1 A9 01 9D 7B C1 A9 E0 CA
C100: 8D FF 07 AD 7C 05 8D 81 D2
C108: C1 20 84 C1 AD 20 89 8D 15
C110: F8 89 AD 21 89 8D F9 89 FB
C118: AE 83 C1 FE F8 07 BD F8 C1
C120: 07 C9 E6 D0 05 A9 E4 9D D9
C238: E0 8D FF 07 AD 19 D0 29 6E
C240: 01 F0 42 8D 19 D0 20 2C 38
C248: C1 CE 16 D0 AD 16 D0 C9 1E
C250: D0 D0 2F EE F9 C1 AD F9 73
C258: C1 C9 D8 D0 1A 20 AB C1 35
C260: 20 88 C2 AD FE C8 C9 0C 17
C268: 90 03 EE 82 C1 A9 FF 8D 66
C270: 83 C1 A9 00 8D F9 C1 20 C8
C278: E5 C1 20 2C C1 A9 D7 8D 3D
C280: 16 D0 4C BC FE 4C 31 EA D7
C288: A2 00 BD 75 C1 D0 03 20 14
C290: 94 C1 E8 E0 06 D0 F3 A2 1E
C298: 00 8A 9D 75 C1 9D 7B C1 D2
C2A0: E8 E0 06 D0 F5 8D FD C8 8B
C2A8: A9 80 8D 15 D0 60 AD 11 65
C2B0: D0 09 80 8D 11 D0 78 A9 9C
C2B8: 31 8D 14 03 A9 EA 8D 15 C5
C2C0: 03 58 20 87 C0 A2 07 8E BC
C2C8: 03 D4 8E 94 DA 8E 95 DA 9D
C2D0: 8E 96 DA 8E 97 DA 20 E4 D6
C2D8: FF F0 03 4C EE C2 20 CD B8
C2E0: C1 20 FB C2 CA E0 00 D0 FD
C2E8: DE A2 07 4C C7 C2 20 14 7C
C2F0: C5 20 81 C3 4C 28 C0 00 51
```

HTML in the editor

```
<!DOCTYPE html>
<html>
    <head>
        <title>Coding for Spatial Practices</title>
    </head>

    <body>
        <h1>Hello World</h1>
    </body>
</html>
```

```
<h1>Hello World</h1>
```



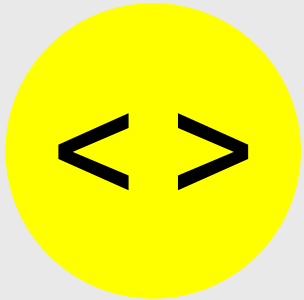
Markup Representation

<>

Within the world wide web, instructional information of “marking up“ is represented in the form of tags.

<body> </body>

instructional words are placed within <> tags



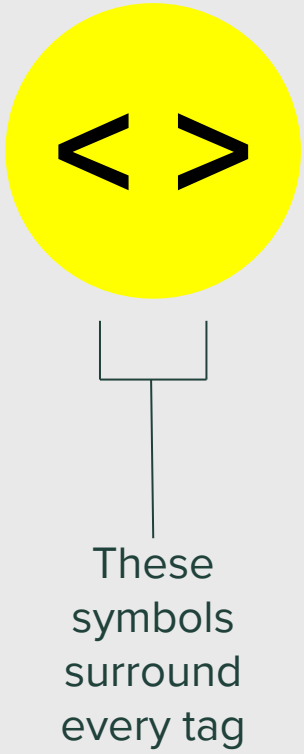
These symbols surround every tag

Markup Representation

<>

...also known as HTML elements

<head> </head>



These symbols surround every tag

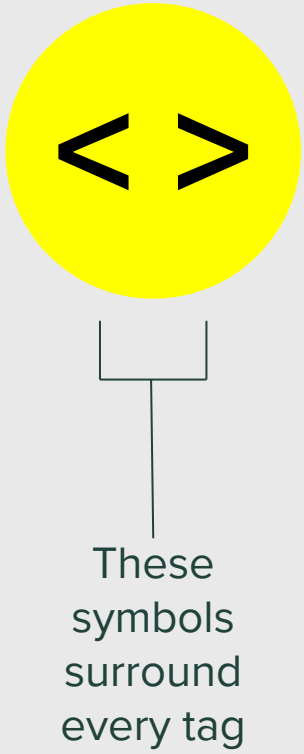
Markup Representation

<>

Most HTML elements have an:

<head> </head>

opening tag closing tag

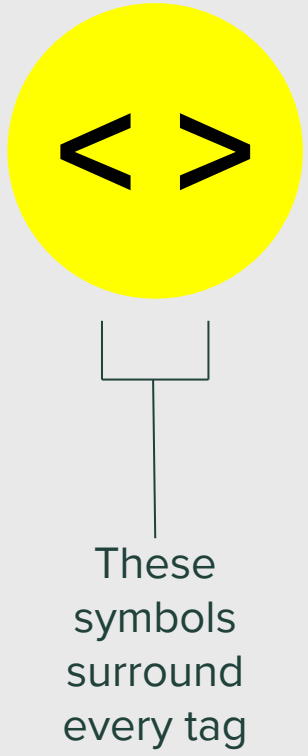


Markup Representation

```
<>
```

However, some tags do not need a closing tag

```
<img>
<input>
<br>
```



The Anatomy of HTML

Regular Tags	`<p>Hello GSAPP</p>` Opening Tag — Content — Closing Tag

Self-closing Tags	`<img src="picture.jpg" />`
	`<img src="picture.jpg" alt="A picture">`
	Tag — Attribute

Structure

```
<!doctype html>
<html>
<head>
     <title>HTML Document</title>
</head>
<body>
     <h1>This is a heading</h1>
     <p>This is a paragraph</p>
</body>
</html>
```

doctype

The doctype for all HTML documents is the same:

<!DOCTYPE html>
It is ALWAYS the first item on a page.

Structure

```
<!doctype html>
<html>
<head>
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<body>
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```

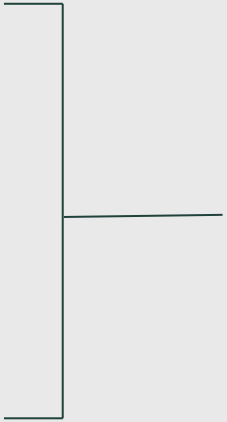

html

root element, declaration of HTML document

It ALWAYS encloses the entire document

Structure

```
<!doctype html>
<html>
<head>
     <title>HTML Document</title>
</head>
<body>
     <h1>This is a heading</h1>
     <p>This is a paragraph</p>
</body>
</html>
```

head

metadata, information about the page, SEO

this is what machines can see

Structure

```
<!doctype html>
<html>
<head>
     <title>HTML Document</title>
</head>
<body>
     <h1>This is a heading</h1>
     <p>This is a paragraph</p>
</body>
</html>
```

title

Structure

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     <title>HTML Document</title>
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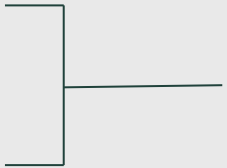


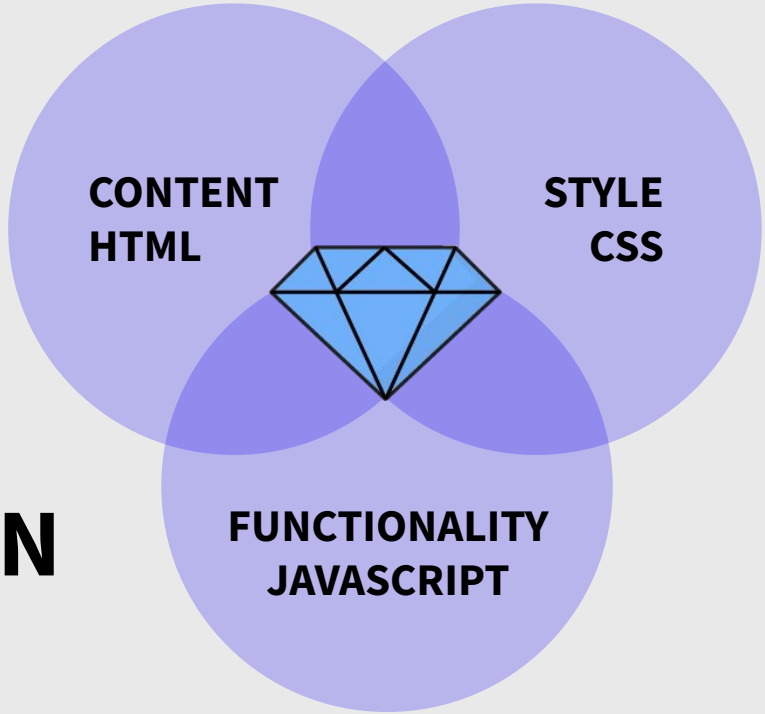
body

contains content of HTML document

this is what people can see

Front End Trifecta

BONES



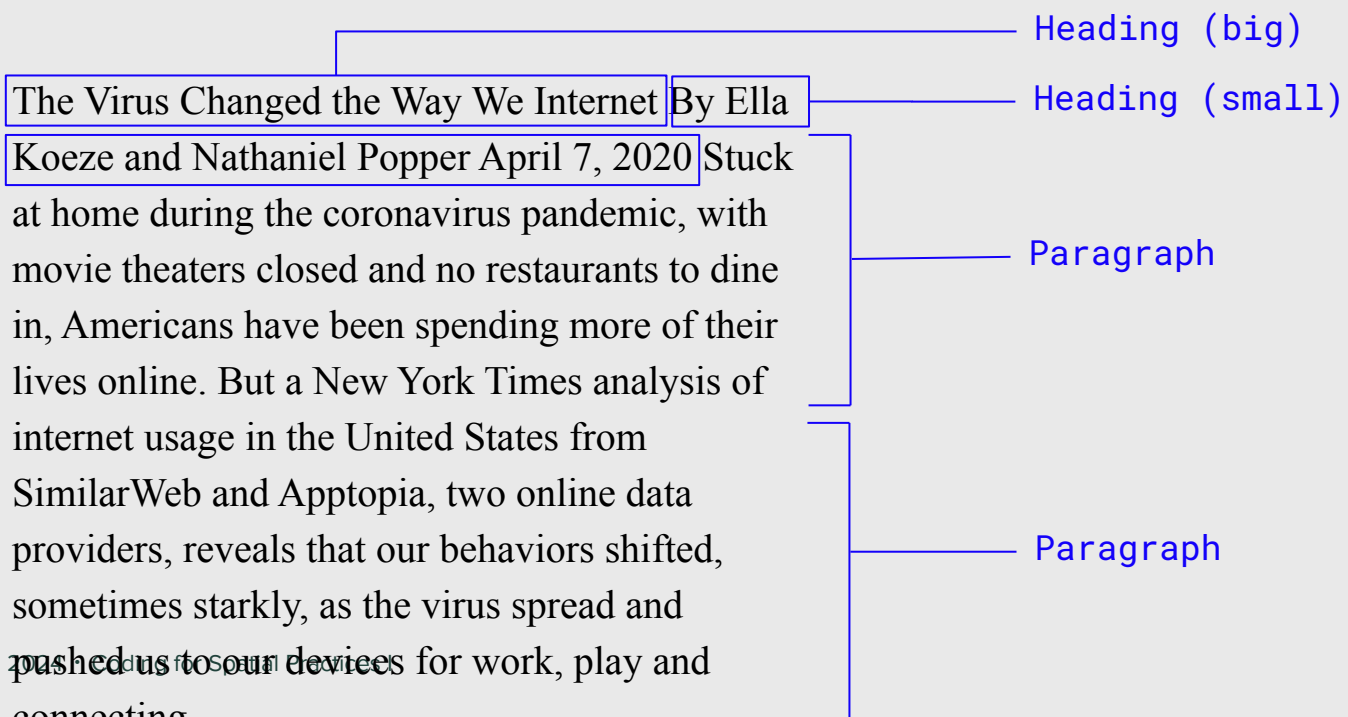
SKIN

BRAIN

Content

The Virus Changed the Way We Internet By Ella Koeze and Nathaniel Popper April 7, 2020 Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online. But a New York Times analysis of internet usage in the United States from SimilarWeb and Apptopia, two online data providers, reveals that our behaviors shifted, sometimes starkly, as the virus spread and pushed us to our devices for work, play and connecting

Content



The Virus Changed the Way We Internet By Ella Koeze and Nathaniel Popper April 7, 2020 Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online. But a New York Times analysis of internet usage in the United States from SimilarWeb and Apptopia, two online data providers, reveals that our behaviors shifted, sometimes starkly, as the virus spread and pushed us to our devices for work, play and connecting

Content

<h1>The Virus Changed the Way We Internet </h1>
<h3>By Ella Koeze and Nathaniel Popper </h3>
<h3>April 7, 2020</h3>
<p>Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online. </p>
<p>But a New York Times analysis of internet usage in the United States from SimilarWeb and Apptopia, two online data providers, reveals that our behaviors shifted, sometimes starkly, as the virus spread and pushed us to our devices for work, play and

The Virus Changed the Way We Internet

By Ella Koeze and Nathaniel Popper
April 7, 2020

Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online.

But a New York Times analysis of internet usage

Structural Tags

ELEMENT	DESCRIPTION
`<h1>`	Main headings
`<h2> to <h6>`	Subheadings

EXAMPLE

```
<h1>The Virus Changed the Way We Internet </h1>
<h3>By Ella Koeze and Nathaniel Popper </h3>
<h3>April 7, 2020</h3>
```

The Virus Changed the Way We Internet

By Ella Koeze and Nathaniel Popper
April 7, 2020

Structural Tags

ELEMENT	DESCRIPTION
`<p>`	Paragraph of text

EXAMPLE

```
<p>Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online. </p>
```

Stuck at home during the coronavirus pandemic, with movie theaters closed and no restaurants to dine in, Americans have been spending more of their lives online.

Structural Tags

ELEMENT	DESCRIPTION
`<ul>`	Unordered list
`<li>`	List item

EXAMPLE

```
<ul>
    <li>Coco Gauff wins the U.S. Open</li>
    <li>LIRR Station at Grand Central</li>
    <li>Megan and Harry quit the royals</li>
</ul>
```

- Coco Gauff wins the U.S. Open
- LIRR Station at Grand Central
- Megan and Harry quit the royals

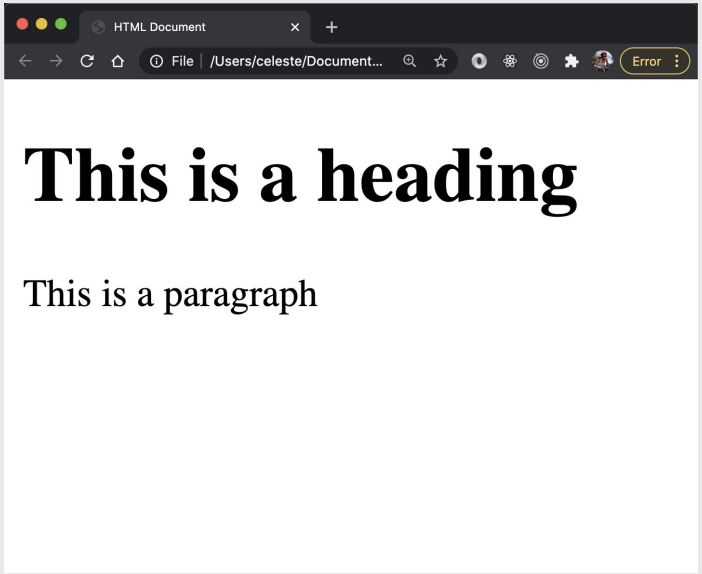
Structural Tags

```
<h1>This is a heading</h1>
<h2>This is a subheading</h2>

<p>Paragraph of text</p>

<ul>
     <li>List item</li>
     <li>List item</li>
</ul>
```

HTML in the editor

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>HTML Document</title>
</head>
<body>
  <h1>This is a heading</h1>
  <p>This is a paragraph</p>
</body>
</html>
```

HTML in the browser



Presentational Markup

ELEMENT	DESCRIPTION
`<strong>`	Strong Importance
`<em>`	Emphasis

EXAMPLE

I *think* John was there.

I think *John* was there.

HTML Tag Anatomy

```
<a href="index.html">home</a>
```

HTML element
content + markup

HTML Tag Anatomy

```
<a href="index.html">home</a>
```

opening tag

closing tag

HTML Tag Anatomy

```
<a href="index.html">home</a>
```

page the link takes you to

text to display

HTML Tag Anatomy

```
<a href="index.html">home</a>
```

Attributes

HTML attributes are modifiers of HTML elements. They give specific directives to HTML elements and are located inside of opening tags.

HTML Tag Anatomy

```
<a href="index.html" target="_blank">home</a>
```

Multiple Attributes for one element

HTML Tag Anatomy

```
<p>
    Hello, World!
    <a href="index.html">home</a>
</p>
```

Tags can be inside of other tags

HTML Tag Anatomy

```
<img
    src="images/camera.png"
    alt="Nikon">
```

path to the image file

text description

void elements do not need closing tags

Solo Exercise:

Hello, Inspector

5 minutes

Visit one of your favorite websites and **identify three HTML tags** used within it.

To view the HTML structure of a page using Google Chrome, simply **right-click** or **⌘-click** on any element on the page and choose "Inspect." You can also go to **View > Developer > Developer Tools**.

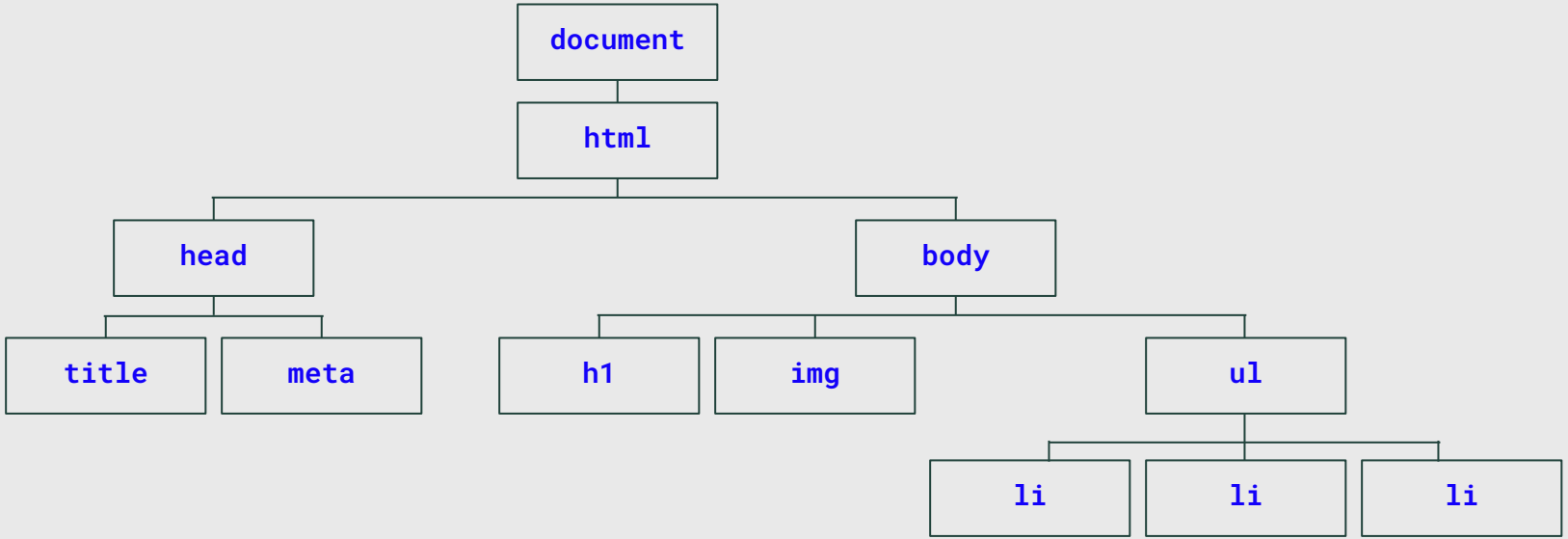
This will open the DevTools panel (this is your new world!) and allow you to view and edit the HTML structure underlying the page. You can also troubleshoot issues, observe the applied styling of various elements and preview new ones.

Then, you might use resources such as MDN Documentation to get a sense of what the tag means and its most common use cases.

Visualize Your HTML Tags as a Tree

Elements Can Have Parents, Children, and Siblings

Document Object Model



Common HTML Tags

Element	Description	Example
`<h1>`	Main Headings	`<h1>New York</h1>`
`<h2> to <h6>`	Subheadings	`<h2>Articles</h2>`
`<p>`	Paragraph of text	`<p>This is a website</p>`
`<a>`	Anchor tag for links	`<a href=”google.com”>Search</a>`
`<img>`	Images	`<img src=”photo.jpg”>`

Common HTML Tags: Lists

Element	Description	Example
`<li>`	List item	
`<ul>`	Unordered list	
`<ol>`	Ordered list	

```
<ul>
  <li>apples</li>
  <li>pears</li>
</ul>

<ol>
  <li>First</li>
  <li>Second</li>
</ol>
```

Tags in the Document Head

Element	Description	Example
`<link>`	Links a CSS style sheet	`<link href=”css/style.css”>`
`<title>`	Title shows up in browser tab	`<title>Hello World!</title>`

Linking to other sites

```
<a href="http://www.nytimes.com">New York Times</a>

<img src="http://gph.is/2xFd3Qd" alt="Guess who?">
```

You can link to another site using the full web address for the site. This is called the **absolute path**.

Linking to local assets

```
<a href="about.html">Amazon</a>

<img src="images/logo.png" alt="logo">
```

You can link to another web page or file on the same site. This is called the **relative path** because it indicates where pages are in relation to the current page.

Guided Walk-Through:

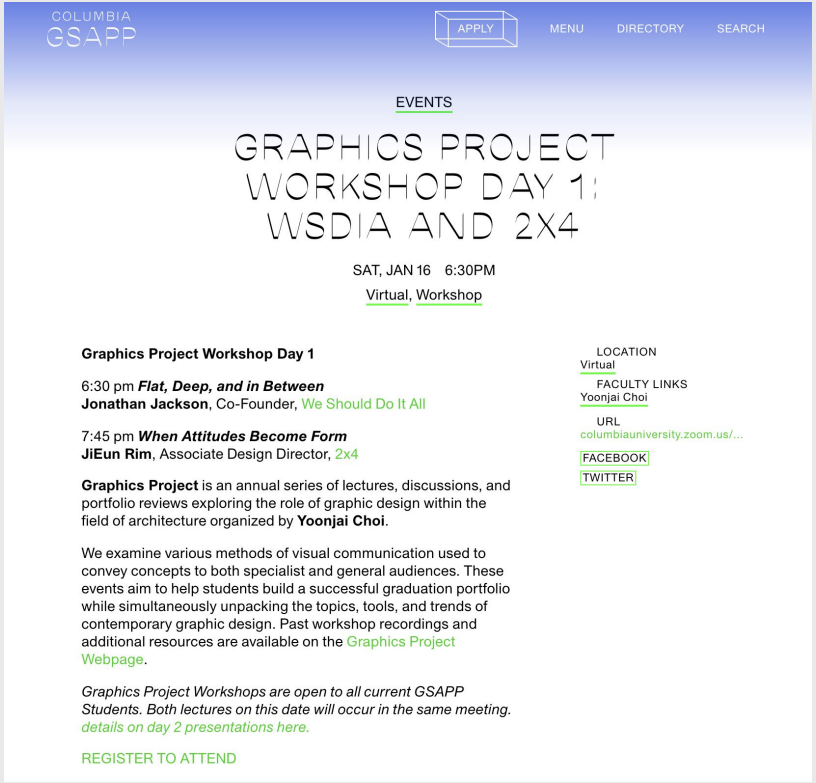
GSAPP Event Page

20 minutes

Let's make a GSAPP event page **together**! We'll take plain text and apply HTML tags to define certain sections according to their role in the document.

Instructions:

Go to the Google Drive course folder, **Week-02: HTML Basics** and download **starter_code_week_02** into your course folder.



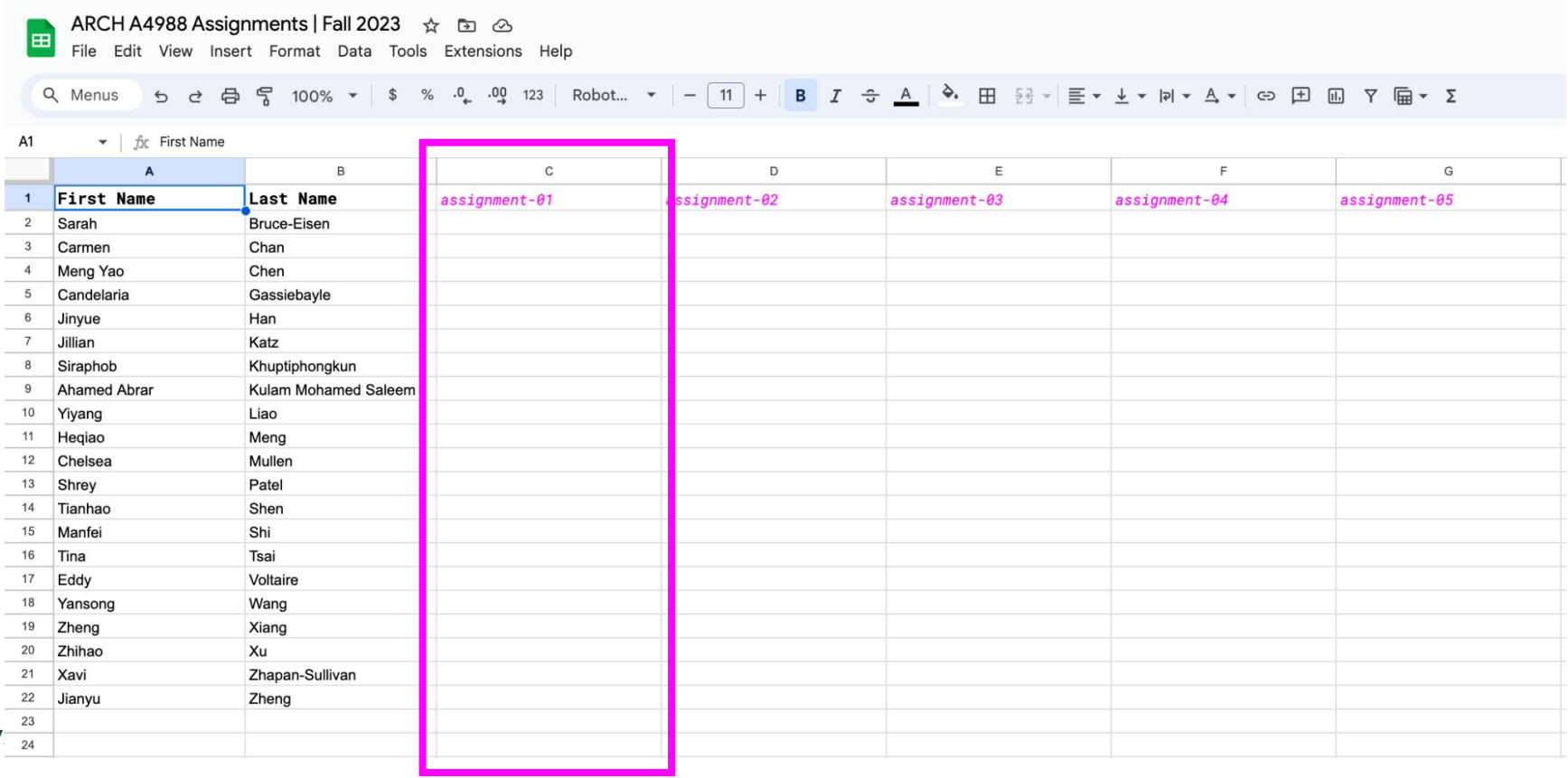
Assignments

Assignment 01

Semantically markup the essay *Houses or Museums?* (1958) By Lina Bo Bardi. To begin, open up the HTML template document in your text editor, and copy and paste the content from the essay into the template at the appropriate location. Mark-up the document by keeping in mind which HTML tags are appropriate for which types of content.

Test your results by opening the HTML file in Chrome. Use an HTML validator to check for mistakes. Upload your HTML file to your Github repository, and post the link in the shared document under the **#assignment-01** tab.

Assignment 01



	A	B	C	D	E	F	G
1	**First Name**	**Last Name**	*assignment-01*	*assignment-02*	*assignment-03*	*assignment-04*	*assignment-05*
2	Sarah	Bruce-Eisen					
3	Carmen	Chan					
4	Meng Yao	Chen					
5	Candelaria	Gassiebayle					
6	Jinyue	Han					
7	Jillian	Katz					
8	Siraphob	Khuptiphongkun					
9	Ahamed Abrar	Kulam Mohamed Saleem					
10	Yiyang	Liao					
11	Heqiao	Meng					
12	Chelsea	Mullen					
13	Shrey	Patel					
14	Tianhao	Shen					
15	Manfei	Shi					
16	Tina	Tsai					
17	Eddy	Voltaire					
18	Yansong	Wang					
19	Zheng	Xiang					
20	Zhihao	Xu					
21	Xavi	Zhapan-Sullivan					
22	Jianyu	Zheng					
23							
24							

As you explore...learn Chrome DevTools

It's the main tool we will use in class to examine the HTML/CSS of our own projects as well as the web sites we all know and love. It will also be the tool we use to make subtle changes to apply and test CSS.

In order to get more familiar with Chrome's Developer Tools you should watch the following video:

- Google Chrome's Developer Tools for beginners

Then, read the following article to learn how to manipulate a page:

- Inspect and Edit Pages and Styles

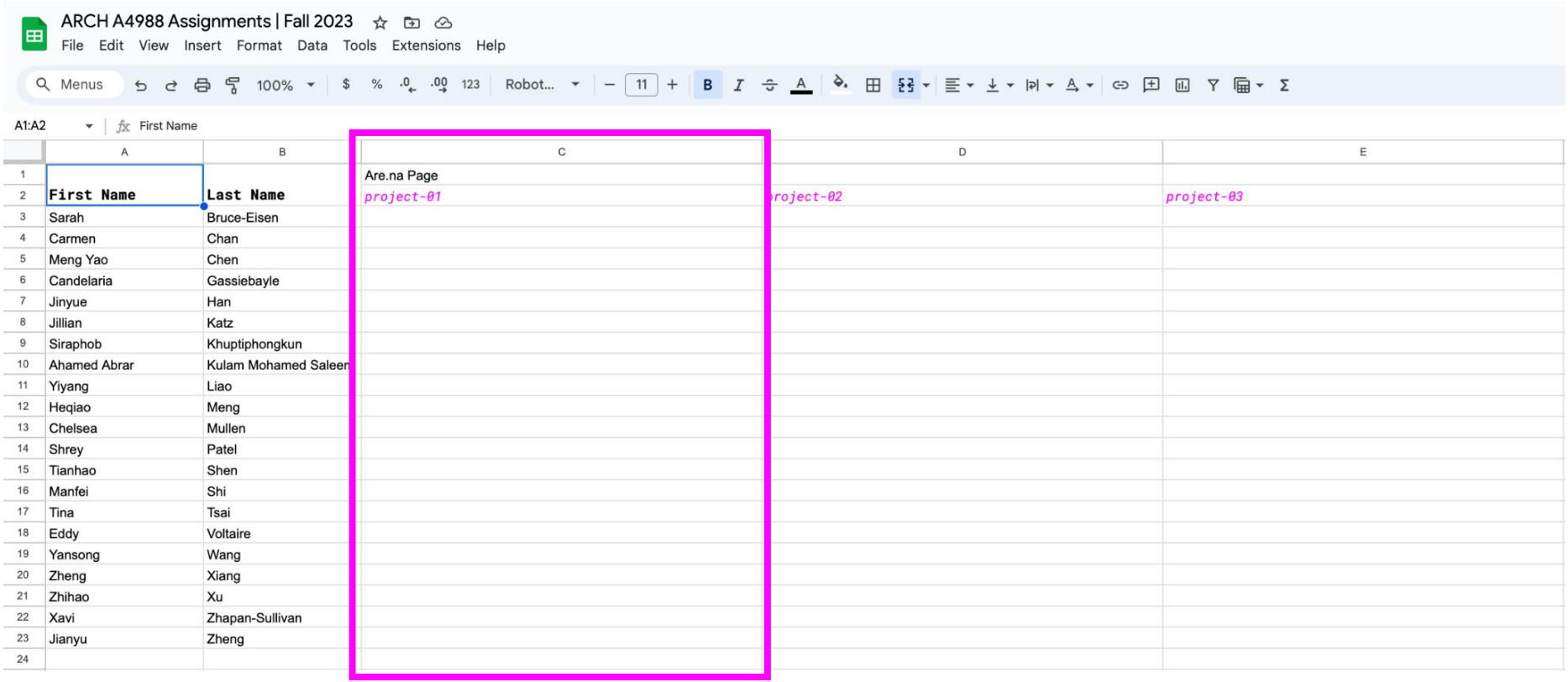
Project 01

Project 01

Throughout the semester, you will keep an image journal in the form of an Are.na channel. If you do not already have one, create an Are.na account and a brand new channel for this project. You can download the Are.na mobile app here. Observe and document at least five things a week and upload the images/videos to this channel.

The purpose of this exercise is to observe and document anything around you that sparks an idea for a possible online interaction. A painting that lends an interesting color palette for a website, a swinging door that could lead to a CSS animation, a sign that could be translated to a clickable button.

Project 01



ARCH A4988 Assignments | Fall 2023

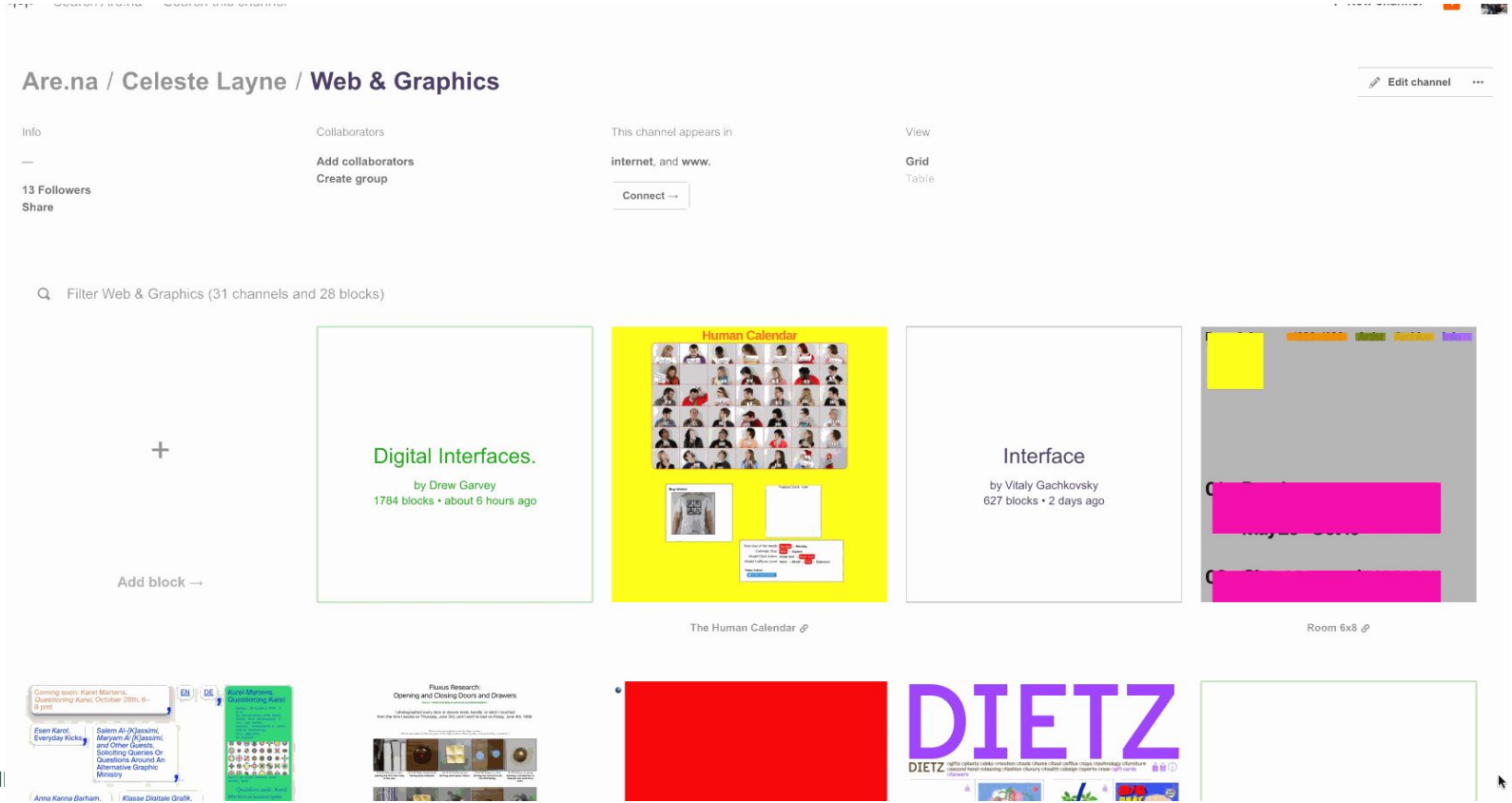
File Edit View Insert Format Data Tools Extensions Help

Menus 100% $ % .0 .00 123 Robot... 11 B I

A1:A2 First Name

	A	B	C	D	E
1			Are.na Page		
2	**First Name**	**Last Name**	*project-01*	*project-02*	*project-03*
3	Sarah	Bruce-Eisen			
4	Carmen	Chan			
5	Meng Yao	Chen			
6	Candelaria	Gassiebayle			
7	Jinyue	Han			
8	Jillian	Katz			
9	Siraphob	Khuptiphongkun			
10	Ahamed Abrar	Kulam Mohamed Saleen			
11	Yiyang	Liao			
12	Heqiao	Meng			
13	Chelsea	Mullen			
14	Shrey	Patel			
15	Tianhao	Shen			
16	Manfei	Shi			
17	Tina	Tsai			
18	Eddy	Voltaire			
19	Yansong	Wang			
20	Zheng	Xiang			
21	Zhihao	Xu			
22	Xavi	Zhapan-Sullivan			
23	Jianyu	Zheng			
24					

Project 01


Are.na / Celeste Layne / Web & Graphics
Edit channel
Info
—
13 Followers
Share
Collaborators
Add collaborators
Create group
This channel appears in
internet, and www.
Connect →
View
Grid
Table
Filter Web & Graphics (31 channels and 28 blocks)
Add block →
Digital Interfaces.
by Drew Garvey
1784 blocks • about 6 hours ago
Human Calendar
Interface
by Vitaly Gachkovsky
627 blocks • 2 days ago
The Human Calendar
Room 6x8
Fluxus Research:
Opening and Closing Doors and Drawers
DIETZ
DIETZ