

Introduction to HTML and CSS

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Getting Started

Have you downloaded the following?:

- Virtual Studio (VS) Code
- HTML & CSS Cheat Sheet
- The starter code file “index.html”
- The final file cheat sheets “indexfinal.html” and “stylefinal.css”
- Optional: a .jpeg file of yourself

Welcome to a GCDI Workshop!

Graduate Center Digital Initiatives brings together the work of scholars and technologists at the CUNY Graduate Center to pioneer new modes of inquiry that integrate digital tools and methods into the research, teaching, and service missions of the university. We do so by fostering communities of creative and critical practice among students, faculty, and staff through programs, events, workshops, grant-funded projects, consultations, and more.

GCDI Resources

Led by GC Digital Fellows, we offer support for digital scholarship through

- Workshops
- Consultations
- Working Groups
- Online Resources

What are HTML and CSS?

Hypertext Markup Language (HTML)

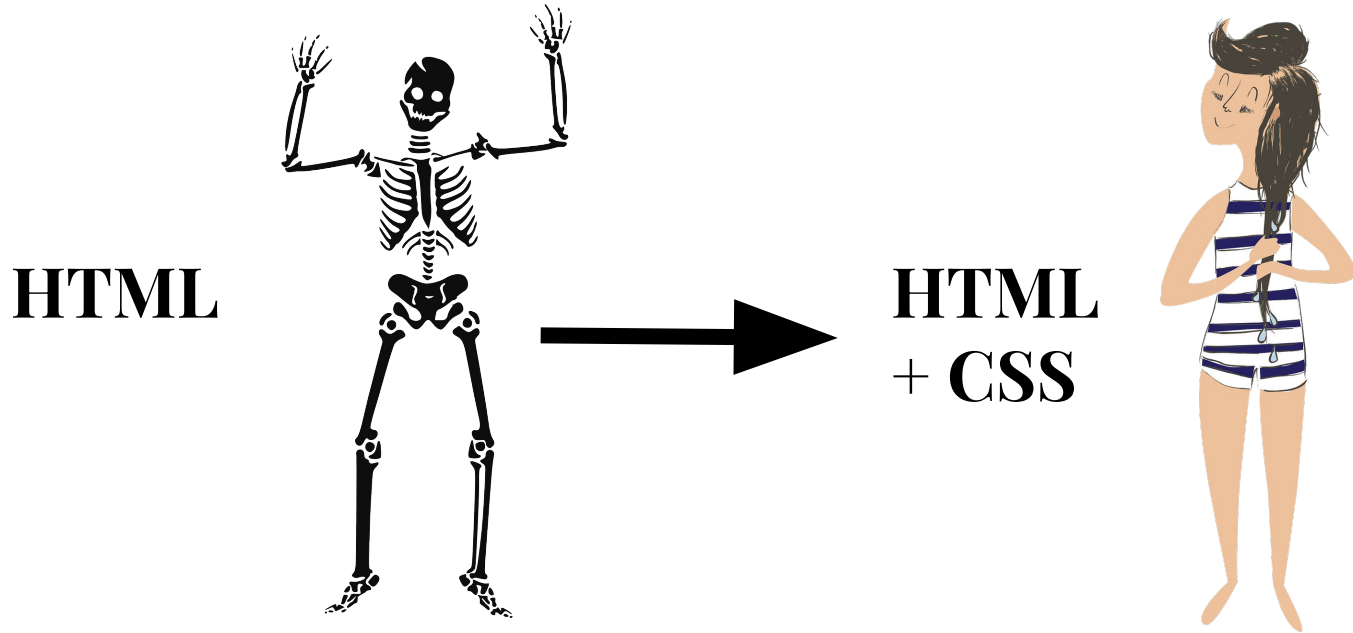
- HTML is a markup language used to write web-based documents. It enables us to provide web browsers with information about the content of a document. We can, for example, indicate that some part of our document is a paragraph, image, heading, or link. The browser uses this information when displaying the document for users.

Cascading Styling Sheets (CSS)

- CSS is usually used in conjunction with HTML. HTML tells the browser what the different parts of a document are. CSS tells the browser what the parts of the document should look like. It is essentially a set of rules that are applied when rendering an HTML document. Its name—Cascading Style Sheets—refers to the fact that there is an order of precedence in how the browser applies CSS rules to a document. More specific rules overwrite less specific rules.

To provide a metaphor...

If HTML is the bones of your webpage, CSS is the skin. HTML gives structure to a webpage, and CSS makes it pretty.



Where Does the Internet Come In?

- Together, these languages can be used to write and style a website using a text editor (such as Visual Studio Code) directly from your computer. No internet access needed.
- However, internet access is necessary if you plan on making your website available to the public.
- Today, we will focus on building locally-hosted websites. These are websites that you can open on your web browser, however, they only exist on your own device and are only accessible to you. Locally-hosted websites are not yet on the internet.

Basic Template for HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
    ...
  </head>
  <body>
    ...
  </body>
</html>
```



Tells the browser how to read the code



Root Element: all content goes inside



Head contains basic info: title, authors, description, & link to CSS stylesheet



Body contains the content of the page (paragraphs, images, links, and more)

Tags and Elements

Tags and elements are the structuring components of html webpages.

Elements identify the different parts of a page, such as paragraphs, headings, titles, body text, images and more. Elements are demarcated by **tags**, which enclose the content of an element (ex. `<head>` and `</head>` are tags that denote the head element of your page).

Tags demarcate elements in one of two ways

1. An element can have an opening and a closing tag, with the content in between, e.g.:

```
<p>This is a paragraph.</p>
```

2. Other elements have self-closing tags, e.g.:

```

```

Paragraphs and Headings

Paragraphs and headings are the main textual elements of the body of your webpages. Because these contain content that you want to organize and display on your webpage, these are entered in the body element. The `<h1>`, `<h2>`, `<h3>`, etc. tags denote headings and subheadings, with `<h1>` being the largest and `<h6>` the smallest. The `<p>` tags denote paragraphs, or blocks of text.

Paragraphs and Headings cont.

```
<!DOCTYPE html>
<html lang="en">
  <head>
  </head>
  <body>
    <h1>This is an h1 heading</h1>
    <h2>This is an h2 heading</h2>
    <h3>This is an h3 heading</h3>
    <h4>This is an h4 heading</h4>
    <h5>This is an h5 heading</h5>
    <h6>This is an h6 heading</h6>
    <p>This is what paragraph text looks like.</p>
  </body>
</html>
```

This is an h1 heading

This is an h2 heading

This is an h3 heading

This is an h4 heading

This is an h5 heading

This is an h6 heading

This is what paragraph text looks like.

Links

The `<a>` tag, or anchor tag, creates a link to another document. You can use the `<a>` tag to link to other documents or webpages you created for the same site or to documents located elsewhere on the web. You can also use it to link to a particular location on a page.

Relative Link Example:

`About` → [About](#)

Absolute Link Example:

`Google` → [Google](https://www.google.com)

Images

Images are created with the `` tag. Similar to the `<a>` tag, `` requires an attribute, in this case **src**. The **src** attribute stands for “source” and communicates secondary information to your browser that identifies and locates the image. The `` tag does not need to be closed.

Local image ex:

```

```

External image ex:

```

```

Lists

To make a list, you open and close it with the `` tags (for unordered lists) or `` tags (for ordered lists), and each item is an enclosed `` tag:

Unordered List Example:

```
<h3>Here is a list of my favorite things:</h3>
<ul>
  <li>Grilled cheese sandwichses</li>
  <li>Long walks</li>
  <li>Snuggling with my cat</li>
</ul>
```

Here is a list of my favorite things:

- Grilled cheese sandwichses
- Long walks
- Snuggling with my cat

Lists cont.

Ordered List Example:

```
<h3>Here is a recipe to my world-famous cookies:</h3>
<ol>
  <li>Mix together flour, milk, and eggs</li>
  <li>Bake at 425 degrees F for 30 minutes </li>
  <li>Enjoy!</li>
</ol>
```

Here is a recipe to my world-famous cookies:

1. Mix together flour, milk, and eggs
2. Bake at 425 degrees F for 30 minutes
3. Enjoy!

Line Breaks

To make a line break or give space between different elements, use **
**.

Before:

```
<a href="https://www.google.com">Google</a>  
<a href="about.html">About</a>
```



Google About

After:

```
<a href="https://www.google.com">Google</a>  
<br>  
<a href="about.html">About</a>
```



Google
About

Let's get started!

- Create a folder on your Desktop entitled “htmlpractice”
- Save the started file “index.html” in the folder “htmlpractice”, then open it with VS Code.
- You should see a basic html structure:

```
<!DOCTYPE html>
<html lang="en">
|   <head>
|   </head>
|   <body>
|   </body>
</html>
```

To this basic structure, let's add (in this order)...

1. A `<title></title>` to your `<head>` section, “My Personal Website”
2. An `<h1></h1>` heading to your `<body>` section, “About me”
3. An image of yourself or of a stock person `` , using relative or absolute links to your `<body>` section
4. A paragraph `<p></p>` to your `<body>` section, with a sentence or two about yourself (or your bio)
5. An `<h2></h2>` heading to your `<body>` section, “Publications” OR “Articles I like”
6. A link `` to a publication of yours (or an article you like)
7. Challenge: an unordered list `` with various publications (or articles you like) hyperlinked

Now, let's make your webpage pretty...

Examples of what CSS can help you determine include:

- What background color you want to use for the page or a paragraph.
- What font or font size you want for your headings or your normal text.
- How large you want the images, and whether you want them aligned center, left, or right.
- Where elements appear on the page.
- Whether elements are visible to a user or not.

CSS Integration

CSS can be integrated into your HTML in several ways (inline, internal, and external), but we will focus on external integration.

External styling creates a completely separate document for your CSS that will be linked to your HTML in the head section of your HTML document using the code below:

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

Why should we use external styling?

1. It helps us remember what each language focuses on: HTML is for content, CSS is for styling.
2. It helps us maintain consistency across the various pages of our site as multiple HTML files can link to the same stylesheet.
3. Because multiple HTML files can link to the same CSS file, it's not necessary to write the same CSS code multiple times. Once suffices.

Rule Sets

CSS is based on selectors and declarations, which together form rule sets (or just “rules”). Rule sets comprise an external styling file with a .css extension. Here are the contents of a sample .css file:

```
h1 {  
  color: ■orange;  
  font-style: italic;  
}  
p {  
  font-family: sans-serif;  
  font-style: normal;  
}  
#navbar {  
  background-color: ■yellow;  
  padding: 80px;  
}  
.intro {  
  font-family: arial;  
  background-color: ■grey;  
  color: dark-grey;  
}
```

Filtering

The most specific rule in CSS always takes precedence, regardless of where it appears in the stylesheet.* In order of most to least specific:

ID selectors (e.g. #navbar) > Class selectors (e.g. .intro) > Type selectors (e.g. h1)

Some useful properties

color determines text color, and **background-color** sets background color of an element. These can be a word or a hex value, like #FFFFFF:

font-family sets the font of your text:

text-align aligns text to the left, center, or right:

```
h1 {  
  color: orange;  
  background-color: blue;  
  font-family: 'Lato', sans-serif;  
  text-align: center;  
}
```

This is an h1 heading

Let's get started (part 2)!

First, create a new file in VS code called “style.css”, and save it in your “htmlpractice” folder on your Desktop.

Linking your CSS file to your HTML file

After creating a stylesheet, you must link it to all HTML documents that you want this styling to apply to. You can do so with the <link> tag:

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

Adding to your style.css file

1. Use “text-align” to center your h1, and use “font-family” to change its font to “Tahoma”
2. Use “background-color” to make the background color of your paragraph green.
3. Use “color” to make the color of your h2 text red.
4. Bonus: center your image

Now what?

With your newfound knowledge of HTML and CSS you can...

- Get your website online!
- Make edits to a pre-existing website (e.g. on Wordpress or Squarespace)
- Add interactivity and functionality to your website by incorporating programming languages such as Javascript, SQL, and Python

Evaluations

cuny.is/GCDI-webevals

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GC Digital Initiatives at the CUNY Graduate Center

Public Group active 3 days ago


This group accompanies the the GCDI website (<http://gcdi.commons.gc.cuny.edu/>). Here, members of the GC community can share news of recent events and new projects and can begin to build connections between projects.

Quick Link: <http://cuny.is/group-gcdi>


Recent group activity

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Inés Vañó García started the topic CFP – Special Issue – Journal of Interactive Technology and Pedagogy (11/30/19) in the forum



Digital Initiatives at the CUNY Graduate Center 3 days ago

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Special Issue: