



**DOCUMENT  
ENGINEERING**

# CMPSC 104 – Document Engineering

Prof. Hang Zhao



ALLEGHENY COLLEGE

# Overview

## What is HTML?

- HTML (HyperText Markup Language) is the standard language used to structure and display content on the web. It organizes text, images, links, and other elements to create web pages.

## Examples of JAMstack:

- [Google Homepage](#): Simple, HTML-structured layout that loads quickly.
- [BBC News](#): HTML structures news articles, making them accessible and readable on different devices.

# Choosing a Text Editor

## **File Extension**

- .html Extension: Save your HTML files with the .html extension to ensure they are recognized as HTML documents by browsers.

## **Basic Editors**

- Notepad (Windows) and TextEdit (Mac). Basic, pre-installed text editors useful for simple HTML editing.

## **Specialized HTML Editors**

- Some popular programs specially designed to write HTML, such as atom, sublime, brackets, webstorm.

# index.html

```
<html>
<head>
  <meta charset="UTF-8">
  <title>Document</title>
</head>
<body>
  <h1>Hello World</h1>
  <p>This is a paragraph explaining the content of the page.</p>
  <a href="https://github.com/allegHENY-college-cmpsc-104-Fall-2024">Visit DocEng 104</a>
</body>
</html>
```

# HTML Tags

- HTML tags are the building blocks of HTML, used to create and define elements on a web page.
- Most tags come in pairs: an opening tag `<tagname>` and a closing tag `</tagname>`.

## Basic HTML Tags

- `<html>`: Wraps all HTML content on the page. The root of the document.
- `<head>`: Contains metadata, links to CSS, scripts, and the page title.
- `<title>`: Sets the title of the page, displayed in the browser tab.
- `<body>`: Holds all content displayed on the page, such as text, images, and links.

# HTML Tags

## Common Content Tags

- **<h1> to <h6>:** Headings for sections, from largest (<h1>) to smallest (<h6>).
- **<p>:** Paragraph tag, used for blocks of text.
- **<a>:** Anchor tag, used to create hyperlinks (<a href="URL">Link Text</a>).
- **<img>:** Image tag, displays images ().

# Creating an HTML File

```
<!DOCTYPE html>
<html>
  <head>
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <p>Hello World!</p>
  </body>
</html>
```

# Head Tag

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <p>Hello World!</p>
  </body>
</html>
```



# Header

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h1>HTML Website</h1>
  </body>
</html>
```

# Header

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
  </body>
</html>
```

# Paragraph Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <p>This is my paragraph</p>
    <p>This is my paragraph #2</p>
  </body>
</html>
```

# Bold Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <p>This is my <b>paragraph</b></p>
    <p>This is my paragraph #2</p>
  </body>
</html>
```

# Italic Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <p>This is my <b>paragraph</b></p>
    <p>This is my <i>paragraph #2</i></p>
  </body>
</html>
```

# Bold & Italic Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <p>This is my <b>paragraph</b></p>
    <p>This is my <b><i>paragraph #2</i></b></p>
  </body>
</html>
```

# Layout

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <h2>HTML Website</h2>
    <p>This is my <b>paragraph</b></p>
  </body>
</html>
```

# Layout

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>

    <p>This is my <b><i>paragraph #2</i></b></p>
    <h2>HTML Website</h2>
    <p>This is my <b>paragraph</b></p>

  </body>
</html>
```



# Break Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <br/>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <p>This is my <b>paragraph</b></p>
  </body>
</html>
```

# Break Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <br/><br/>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <p>This is my <b>paragraph</b></p>
  </body>
</html>
```

# Horizontal Rule Tag

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <p>This is my <b>paragraph</b></p>
  </body>
</html>
```

# Big & Small Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <p><b><i>This</i></b> is <small>my</small> <b>paragraph</b></p>
  </body>
</html>
```

# Subscripts & Superscripts Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <p>This is my <b><i>paragraph #2</i></b></p>
    <p><b><i>This</i></b> is <small>my</small> <b>paragraph</b></p>
    <p>H<sub>20</sub></p>
    <p>10<sup>2</sup></p>
  </body>
</html>
```

# Comments

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <!-- html comments: TODO -->
  </body>
</html>
```

# Comments

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <!-- Redoing this with error 4785
  <body>
    <h2>HTML Website</h2>
    <hr/>
  -->
</body>
</html>
```

# Style and Colors

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <p style="color: blue;">Style and colors</p>
  </body>
</html>
```



# Style and Colors

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <h2>HTML Website</h2>
    <hr/>
    <p style="color: blue; background-color: red">Style and colors</p>
  </body>
</html>
```

# Style and Colors

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body style="background-color:lightblue">
    <h2 style="color:green">HTML Website</h2>
    <hr/>
    <p style="color:blue; background-color: red">Style and colors</p>
  </body>
</html>
```

## HTML Color Names

# Links

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a href="https://www.google.com"><h1>Google's Homepage</h1></a>
  </body>
</html>
```

# Links – Open in a New Page

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a href="https://www.google.com" target="_blank"><h1>Google's
Homepage</h1></a>
  </body>
</html>
```

# Links

Add a Page2.html, dir1/Page3.html & image1.jpg in the working directory.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a href="page2.html"><h1>Page2</h1></a>
  </body>
</html>
```

# Links

Add a Page2.html, dir1/Page3.html & image1.jpg in the working directory.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a href="page2.html"><h1>Page2</h1></a>
    <a href="dir1/page3.html" "><h1>Page3</h1></a>
  </body>
</html>
```

# Links

Add a Page2.html, dir1/Page3.html & image1.jpg in the working directory.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a href="page2.html"><h1>Page2</h1></a>
    <a href="dir1/page3.html"><h1>Page3</h1></a>
    <a href="image1.jpg"><h1>Image1</h1></a>
  </body>
</html>
```

# Images - Online Resource

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    
  </body>
</html>
```



# Images – Own Machine

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    
  </body>
</html>
```

# Images – Own Machine

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <a
href="https://upload.wikimedia.org/wikipedia/commons/c/c3/Eastern_grey_k
angaroo_dec07_02.jpg">
      
    </a>
  </body>
</html>
```

# Videos & Youtube iFrames

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <video src="video1.mp4" controls></video>
  </body>
</html>
```

# Videos & Youtube iFrames

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <video src="video1.mp4" controls width="300"></video>
  </body>
</html>
```

# Videos & Youtube iFrames

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <video src="video1.mp4" poster="image1.jpg" controls width="300"></video>
  </body>
</html>
```

# Videos & Youtube iFrames

## YouTube Video

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <iframe width="560" height="315"
src="https://www.youtube.com/embed/2ePf9rue1Ao" title="What AI is – and isn't |
Sebastian Thrun" frameborder="0" allow="accelerometer; autoplay; clipboard-write;
encrypted-media; gyroscope; picture-in-picture; web-share" referrerpolicy="strict-
origin-when-cross-origin" allowfullscreen></iframe>
  </body>
</html>
```

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="description" content="This is an awesome website">
    <title>CMPSC104 HTML Website</title>
  </head>
  <body>
    <header>
      <nav></nav>
    </header>
    <main>
      <article>
        <section>
          <h1></h1>
        </section>
        <section>
          <aside></aside>
        </section>
      </article>
    </main>
    <footer>
    </footer>
  </body>
</html>
```

# Formatting with Tags

**Header, Main and Footer**

# Reference and Resources

- Markdown guide (<https://www.markdownguide.org/getting-started/>)
- [John Gruber's Markdown documentation](#). The original guide written by the creator of Markdown.
- [Markdown Tutorial](#). An open source website that allows you to try Markdown in your web browser.
- [Awesome Markdown](#). A list of Markdown tools and learning resources.
- [Typesetting Markdown](#). A multi-part series that describes an ecosystem for typesetting Markdown documents using [pandoc](#) and [ConTeXt](#).