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# HTML

## Introduction

## What is HTML?

Hypertext Markup Language — describes the structure of a web page.

Elements describe how to render content; elements are enclosed in tags.

Tags surround and describe content: start tag `<tag>` and end tag `</tag>`.

Nesting: Tags must be properly nested.

Attributes inside tags refine behavior (format: `<tag attr1=value attr2=value>`).

## Brief history of HTML

1989: Tim Berners-Lee proposed an Internet hypertext system.

1991: Berners-Lee released the first HTML, browser, and server ( $\approx 18$  tags).

1995: HTML 2.0 published as RFC 1866.

RFCs are publications from the Internet Society (ISOC).

1997: HTML 3.2 published as a W3C Recommendation.

W3C founded in 1994 to standardize the Web.

1997: HTML 4.0 published; 2001: HTML 4.01.

2014: HTML5 published as a W3C Recommendation.

## XHTML and HTML5

XHTML: reformulation of HTML 4.01 using XML; XHTML 1.0 published in 2000; no longer developed separately.

HTML5: initial release 2008; W3C Recommendation 2014; now maintained as a living standard by WHATWG and browser vendors.

## HTML Intro

**Body (paste as preformatted/code block if deck supports it):**

```
<!DOCTYPE html>
<html>
<head>
  <title>My Page Title</title>
</head>
<body>
  <h1>Introduction</h1>
  <p>This is a simple HTML web page. The content here is part of a paragraph.</p>
</body>
</html>
```

## HTML structure

**Body (paste as preformatted/code block if deck supports it):**

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<head>
  <title>My Page Title</title>
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  <h1>Introduction</h1>
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</body>
</html>
```

## HTML tags

`<html>` — surrounds entire document.

`<head>` — header material (title, meta, CSS).

`<body>` — main page content.

`<p>` — paragraph.

`<h1>`, `<h2>`, ... — headings for sections.

## HTML links

Format: `<a href="URL" target="_blank">Link text</a>`.

href can be absolute URI or relative path.

target="\_self" (default) or target="\_blank" (new tab).

title attribute shows hover text.

Right Body (example):

```
<a href="http://example.com" target="_blank" title="Example">Visit Example</a>
```



## HTML links

Use id on an element: `<h2 id="MoreStyles">More Styles</h2>`.

Link to fragment: `<a href="#MoreStyles">Go to MoreStyles</a>`.

Cross-page fragment: `page.html#MoreStyles`.

## Images

Format: ``.

Use common formats: .gif, .jpg, .png, .svg.

Always include alt text for accessibility.

## Lists

Unordered list: `<ul> <li>Item</li> </ul>`.

Ordered list: `<ol> <li>Item</li> </ol>`.

Use `<li>` for each item.

## Text formatting tags

`<b>` / `<strong>` — bold / important.

`<i>` / `<em>` — italic / emphasized.

`<mark>` — highlighted text.

`<small>`, `<del>`, `<ins>`, `<sub>`, `<sup>` — other inline formats.

## Comments

HTML comments: `<!-- comment -->` (not rendered).

Preformatted: `<pre>` preserves whitespace and line breaks.

Line break: `<br>`; horizontal rule: `<hr>`.

## Forms

`<form action="URL" method="GET|POST">` encloses form.

Inputs: `<input type="text">`, radio, submit, etc.

action points to server script; method sets HTTP method.

## Tables

`<table>` encloses table.

`<tr>` rows; `<th>` header cells; `<td>` data cells.

Use `<caption>` for table title; `colspan/rowspan` for spanning..

## Other tags

`<pre>` preformatted text.

`<br>` line break.

`<hr>` horizontal rule.

Use semantic tags (e.g., `<header>`, `<nav>`, `<main>`, `<footer>`) where appropriate.



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# CSS

# Cascading Style Sheets

## Introduction

## CSS brief history

Proposed 1994; CSS1 (1996), CSS2 (1998), CSS2.1 (2011).

CSS3 split into modules (backgrounds, box, selectors, media queries, etc.).

No single CSS4; working group publishes module snapshots..

## Lists Styling with CSS

list-style-type values: disc, circle, square, none.

list-style-position: inside or outside.

Use CSS to control appearance rather than inline markup.

## CSS rules, selectors and styles

Rule format: selector { property: value; }.

Selectors: tag, #id, .class.

Group selectors with commas for shared styles.

**p { color: blue; }, #C4 { color: red; }, .center { text-align:center; }.**

## CSS internal and external

External stylesheet (recommended for sites).

Internal `<style>` in `<head>` for single page.

Inline `style=` for one-off overrides (least preferred).

Right Body (example):

```
<link rel="stylesheet" href="my_site_style.css">
```

## Box Model

Content → Padding → Border → Margin.

Padding is inside border; margin is outside border.

Use box-sizing to control sizing behavior.

## Common CSS properties

Colors: named colors, hex #rrggbb, rgb(r,g,b).

Backgrounds: background-color, background-image, background-position, background-repeat.

Borders: border-width, border-style, border-color; shorthand border: 5px solid orange;

## Spacing and Sizing

Margin: outside spacing; supports 1–4 value shorthand and auto.

Padding: inside spacing; supports shorthand.

Width/Height: auto default; can use px, %, em, etc.



## Links and Styling blocks

Link states: a:link, a:visited, a:hover, a:active (order matters).

List styles: list-style-type (disc, circle, square, none) and list-style-position (inside/outside).

## Formatting

Practice: build a simple HTML page with headings, lists, images, and a form.

Style it with an external CSS file: colors, spacing, and a responsive layout.

Next lecture: responsive design and media queries.

## A1-2

### HTML & CSS Project Page (Based on A1 Research)

This assignment applies Intro to HTML and CSS concepts to present and organize your A1 research. You will translate your website and AI Module (AIM) research, audio content, and synthesis into a clear, structured HTML web page. The focus is on content structure, clarity, and basic styling, not advanced coding.

#### Assignment Description

Create a single-page website using HTML and CSS that presents the key outcomes of Assignment A1, including: Your project topic and goals Website and AI Module research insights AI Module concept and synthesis Audio content produced in A1 (embedded or linked) This page should function as a research and concept presentation page that could later evolve into a project website.

#### Required Content (From A1)

Your webpage must include:

- Project title and brief description

- Research summary

- Key findings from website and AIM research AI Module (AIM) concept & synthesis

- What your AI does and who it serves

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