



Welcome to the **Co**Grammar Tutorial - HTML and CSS

The session will start shortly...

Questions? Drop them in the chat. We'll have dedicated moderators answering questions.



Software Engineering Session Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
(Fundamental British Values: Mutual Respect and Tolerance)
- No question is daft or silly - **ask them!**
- There are **Q&A sessions** midway and at the end of the session, should you wish to ask any follow-up questions. Moderators are going to be answering questions as the session progresses as well.
- If you have any questions outside of this lecture, or that are not answered during this lecture, please do submit these for upcoming Academic Sessions. You can submit these questions here: [Questions](#)

Software Engineering Session Housekeeping cont.

- For all **non-academic questions**, please submit a query:
www.hyperiondev.com/support
- Report a **safeguarding** incident:
www.hyperiondev.com/safeguardreporting
- We would love your **feedback** on lectures: [Feedback on Lectures](#)



Skills Bootcamp 8-Week Progression Overview

Fulfil 4 Criteria to Graduation



Criterion 1: Initial Requirements

- **Timeframe:** First 2 Weeks
- **Guided Learning Hours (GLH):**
Minimum of 15 hours
- **Task Completion:** First four tasks



Criterion 2: Mid-Course Progress

- **Guided Learning Hours (GLH):** 60
- **Task Completion:** 13 tasks

Skills Bootcamp Progression Overview

✓ Criterion 3: Course Progress

- **Completion:** All mandatory tasks, including Build Your Brand and resubmissions by study period end
- **Interview Invitation:** Within 4 weeks post-course
- **Guided Learning Hours:** Minimum of 112 hours by support end date (10.5 hours average, each week)

✓ Criterion 4: Demonstrating Employability

- **Final Job or Apprenticeship Outcome:** Document within 12 weeks post-graduation
- **Relevance:** Progression to employment or related opportunity

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Tutorial - HTML and CSS

May2024

Learning Objectives

- Construct a Basic HTML Structure
- Implement Basic Layouts with CSS
- Explain the Box Model Concept
- Describe the difference between static and responsive design
- Link an External CSS Stylesheet

Poll

Which of the following is the primary function of HTML in web development?

- Adding interactivity to web pages
- Defining the overall visual style of a webpage
- Setting up server-side logic and databases
- Communicating with web browsers using high-level commands

Poll

What happens to a webpage if it is not responsive?

- It will not display any content at all
- Images and text might appear blurry
- The layout might not adapt properly to different screen sizes
- It will only work on specific web browsers
- The website will load very slowly

Introduction



Similarities and Differences Between Python and HTML/CSS

- Both Python and HTML/CSS are fundamental building blocks for web development.
- **Python:** A high-level, general-purpose programming language used for various tasks like data analysis, automation, and back-end web development logic.
- **HTML/CSS:** Focus on web development presentation. HTML defines the structure and content of a webpage, while CSS styles its visual appearance.

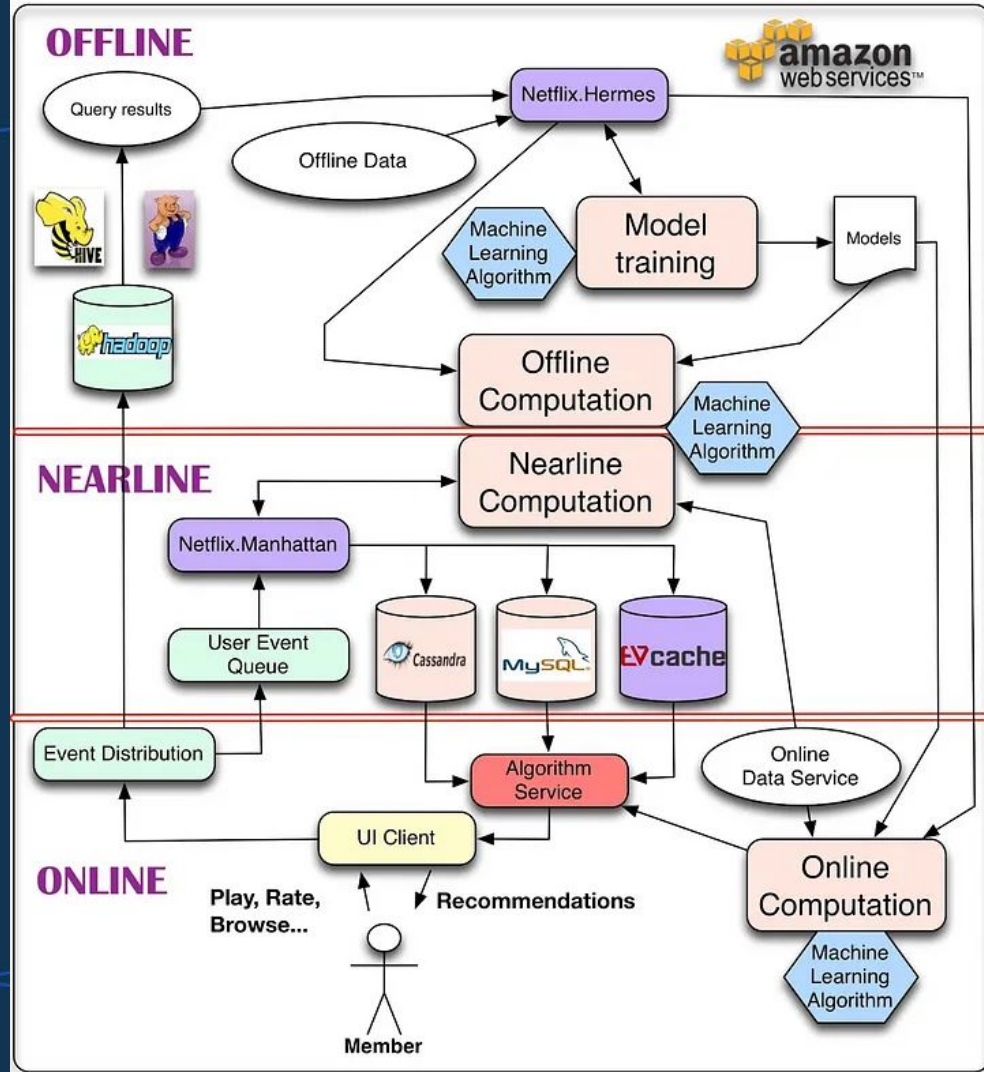
Similarities and Differences Between Python and HTML/CSS

- Both require writing code, but Python has a more complex syntax compared to HTML/CSS.
- **They work together:** Python code can generate dynamic HTML content or interact with data displayed on a webpage styled with CSS.

Front-End vs. Back-End Development

- **Front-End Development:** Deals with the user interface (UI) and user experience (UX) of a website, including HTML, CSS, and JavaScript for interactivity. (This session focuses on front-end development)
- **Back-End Development:** Handles server-side logic, databases, and application functionality, often using languages like Python.

Software Design Example



Characters



Popular



Everyone's Watching



HTML Basics



Dive into HTML: The Language of the Web

- What is the Web?
 - The **Web** or **World Wide Web** is a system of interconnected documents and resources (software) that are accessed over the internet using web browsers.
- What is HTML?
 - **HTML** (**H**yper**T**ext **M**arkup **L**anguage) is the code that is used to structure a web page and its content.
- Why is HTML important?
 - HTML is the fundamental language for structuring and defining the content of webpages.

Decoding the Language: HTML Tags & Attributes

Anatomy of an HTML element

The diagram illustrates the structure of an HTML element using the example `<p class="nice">Hello world!</p>`. Brackets and labels identify the following components:

- Opening tag:** A bracket above the `<p` portion of the code.
- Closing tag:** A bracket above the `</p>` portion of the code.
- An attribute and its value:** A bracket below the `class="nice"` portion of the code.
- Enclosed text content:** A bracket below the `Hello world!` text within the element.

Organizing Your Content: Basic HTML Structure

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

  </head>
  <body>

  </body>
</html>
```


Building Blocks of Your Webpage

- **Headings** (<h1> to <h6>): Define different heading levels for titles and subtitles.
- **Paragraphs** (<p>): Used for the main body text content.
- **Lists** (for unordered, for ordered): Create bulleted or numbered lists.
- **Images** (): Embed images with proper alt text for accessibility.
- **Links** (<a>): Create hyperlinks for navigation or external references.

The Versatile *div* : A Powerful Container

- The **<div>** tag defines a division or a section in an HTML document.
- The **<div>** tag is used as a container for grouping related HTML elements
- **Organization Power:** Improves webpage structure and simplifies styling later.
- **CSS Makes it Shine:** Paired with CSS, div lets you control layout and appearance.

CSS Fundamentals



Unveiling CSS: The Stylist for Your Webpages

- CSS (Cascading Style Sheets) is a styling language specifically designed for webpages.
- It controls the presentation of HTML elements, including font styles, colours, backgrounds, and layout.
- This separation of concerns keeps HTML focused on structure and CSS focused on styling, promoting cleaner and more maintainable code.

Targeting Elements with Selectors

- Selectors are used to target specific HTML elements within your webpage for styling.
- Common types of selectors include:
 - **Tag Selectors:** target elements by their HTML **tag** (e.g., h1, p, img).
 - **Class Selectors:** target elements with a specific **class** attribute (e.g., .important, .highlight).
 - **ID Selectors:** target a unique element with a specific **ID attribute** (e.g., #banner, #footer).

The Box Model: Understanding Element Size and Positioning

- The box model is a concept in CSS that defines how elements are sized and positioned.
- It consists of four layers:
 - **Content:** The actual content of the element (text, image, etc.).
 - **Padding:** The space between the content and the border (optional).
 - **Border:** The decorative line around the element (optional, can have width and style).
 - **Margin:** The space around the border of the element (can be used for spacing).

Applying Styles: Inline, Internal, and External Stylesheets

- There are three ways to apply CSS styles to HTML elements:
 - **Inline Styles:** Styles are added directly to the HTML element using the style attribute (less preferred, can make code messy).
 - **Internal Styles:** Styles are defined within the <head> section of the HTML document using a <style> tag (more organized approach).
 - **External Stylesheets:** Styles are placed in a separate CSS file (.css) that is linked to the HTML document (preferred method for larger projects, promotes code reusability).



BREAK!

Practical Session



Final Assessment



Poll

What is the correct way to link an external CSS stylesheet to an HTML document?

- A. By embedding CSS code directly within HTML tags
- B. Including a `<css>` element within the `<head>` section
- C. Using a `<link>` element with the `rel="stylesheet"` attribute in the `<head>` section
- D. Saving both HTML and CSS files with the same name
- E. Referencing the CSS file using a script tag

Lesson Conclusion and Recap



Lesson Conclusion and Recap

- **HTML:** The Web's Content Backbone: We learned HTML, the language that structures website content like headings, paragraphs, lists, images, and links.
- **CSS:** Styling the Web Experience: We explored CSS, which controls the visual presentation of web pages with properties like fonts, colours, layouts, and spacing.
- **Separation of Concerns:** We emphasised the importance of separating HTML's structure from CSS's styling for cleaner and more maintainable code.
- **The Box Model in Play:** We delved into the box model, a key concept in CSS, which determines how elements are positioned and spaced.
- **Responsive Design:** We briefly introduced responsive design, ensuring websites adapt to different screen sizes for optimal viewing.

Homework or Follow-up Activities



Homework or Follow-up Activities

Choose one of the following:

- **E-commerce Product Catalogue:** Design a catalogue page for an online store, featuring product images, descriptions, prices, and add-to-cart buttons.
- **Blog Archive:** Design an archive page for a blog, listing posts by category, date, or author, with links to individual post pages.
- **Survey Form:** Develop a survey form with various types of input fields (text, radio buttons, checkboxes) to gather feedback or data on a specific topic.
- **Music Player Page:** Create a music player interface with play, pause, skip buttons, and a tracklist displaying song titles and durations.
- **Your dream project**

Thank you for attending



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References

- <https://learnlearn.uk/edexcel-igcse-computer-science/components-of-the-world-wide-web/>
- https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/HTML_basics
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