Welcome to the CoGrammar Tutorial - HTML and CSS

The session will start shortly...

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

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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

- We would love your **feedback** on lectures: **Feedback on Lectures**

Safeguarding & Welfare

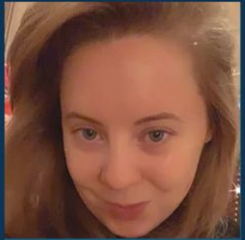
We are committed to all our students and staff feeling safe and happy; we want to make sure there is always someone you can turn to if you are worried about anything.

If you are feeling upset or unsafe, are worried about a friend, student or family member, or you feel like something isn't right, speak to our safeguarding team:

Ian Wyles
Designated Safeguarding Lead

Simone Botes

Rafiq Manan



Charlotte Witcher

Nurhaan Snyman

Ronald Munodawafa

Tevin Pitts

Scan to report a safeguarding concern

or email the Designated Safeguarding Lead:
Ian Wyles
safeguarding@hyperiondev.com

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Skills Bootcamp Progression Overview

To be eligible for a certificate of completion, students must fulfil three specific criteria. These criteria ensure a high standard of achievement and alignment with the requirements for the successful completion of a Skills Bootcamp.

✅ Criterion 1 - Meeting Initial Requirements

Criterion 1 involves specific achievements within the first two weeks of the program. To meet this criterion, students need to:

- Attend a minimum of 7-8 hours per week of guided learning (lectures, workshops, or mentor calls) within the initial two-week period, for a total minimum of 15 guided learning hours (GLH), by no later than 15 September 2024.
- Successfully complete the Initial Assessment by the end of the first 14 days, by no later than 15 September 2024.

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Skills Bootcamp Progression Overview

✅ Criterion 2 - Demonstrating Mid-Course Progress

Criterion 2 involves demonstrating meaningful progress through the successful completion of tasks within the first half of the bootcamp.
To meet this criterion, students should:

- Complete 42 guided learning hours and the first half of the assigned tasks by the end of week 7, no later than 20 October 2024.

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Skills Bootcamp Progression Overview

✅ Criterion 3 - Demonstrating Post-Course Progress

Criterion 3 involves showcasing students' progress after completing the course. To meet this criterion, students should:

- Complete all mandatory tasks before the bootcamp's end date. This includes any necessary resubmissions, no later than 22 December 2024.
- Achieve at least 84 guided learning hours by the end of the bootcamp, 22 December 2024.

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Tutorial - HTML and CSS

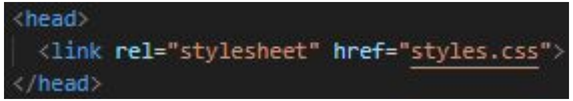
May2024

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 correct syntax to link a CSS file in HTML?



```html
<head>
  <link rel="stylesheet" href="styles.css">
</head>
```

- 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 is the correct HTML element for inserting a line break?

- <break>
- <br>
- <line>

Introduction

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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.

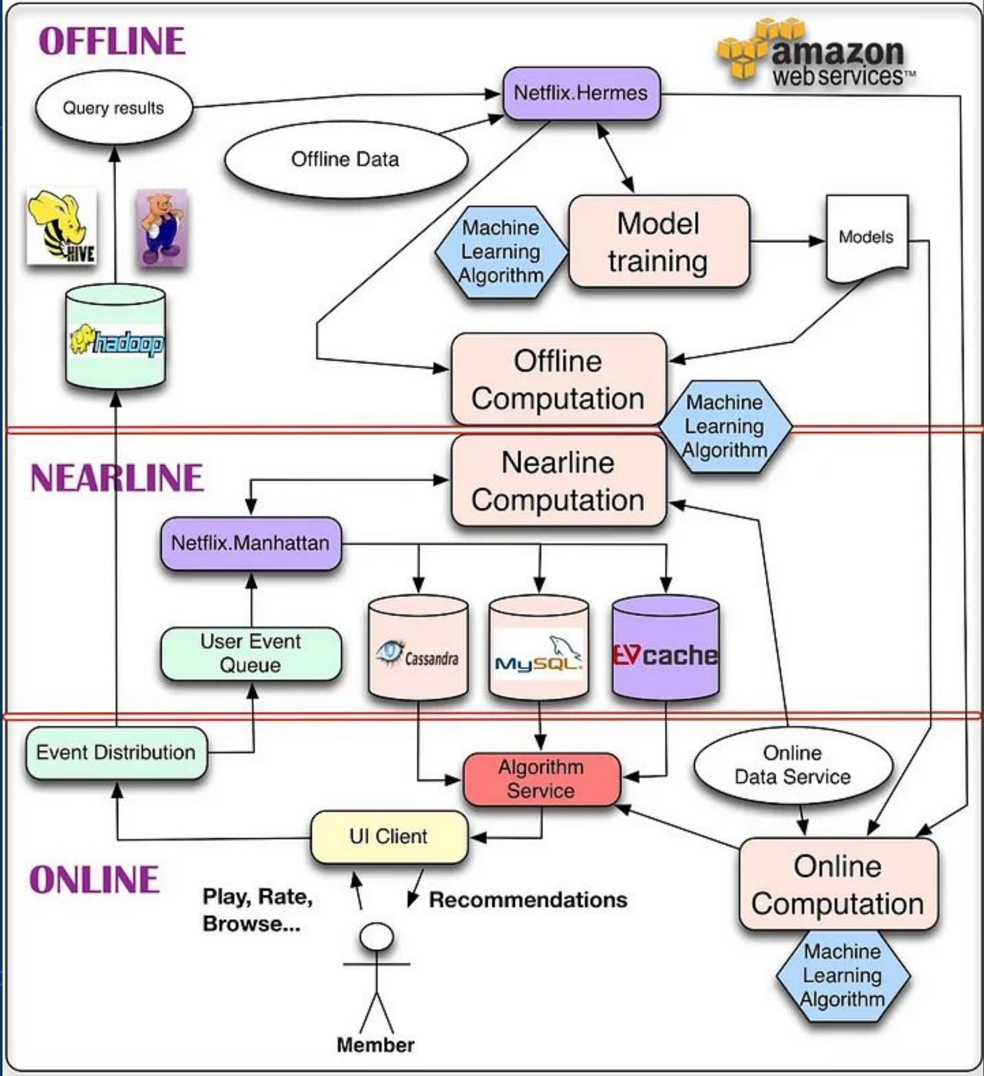
Similarities and Differences Between Python and HTML/CSS

- 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



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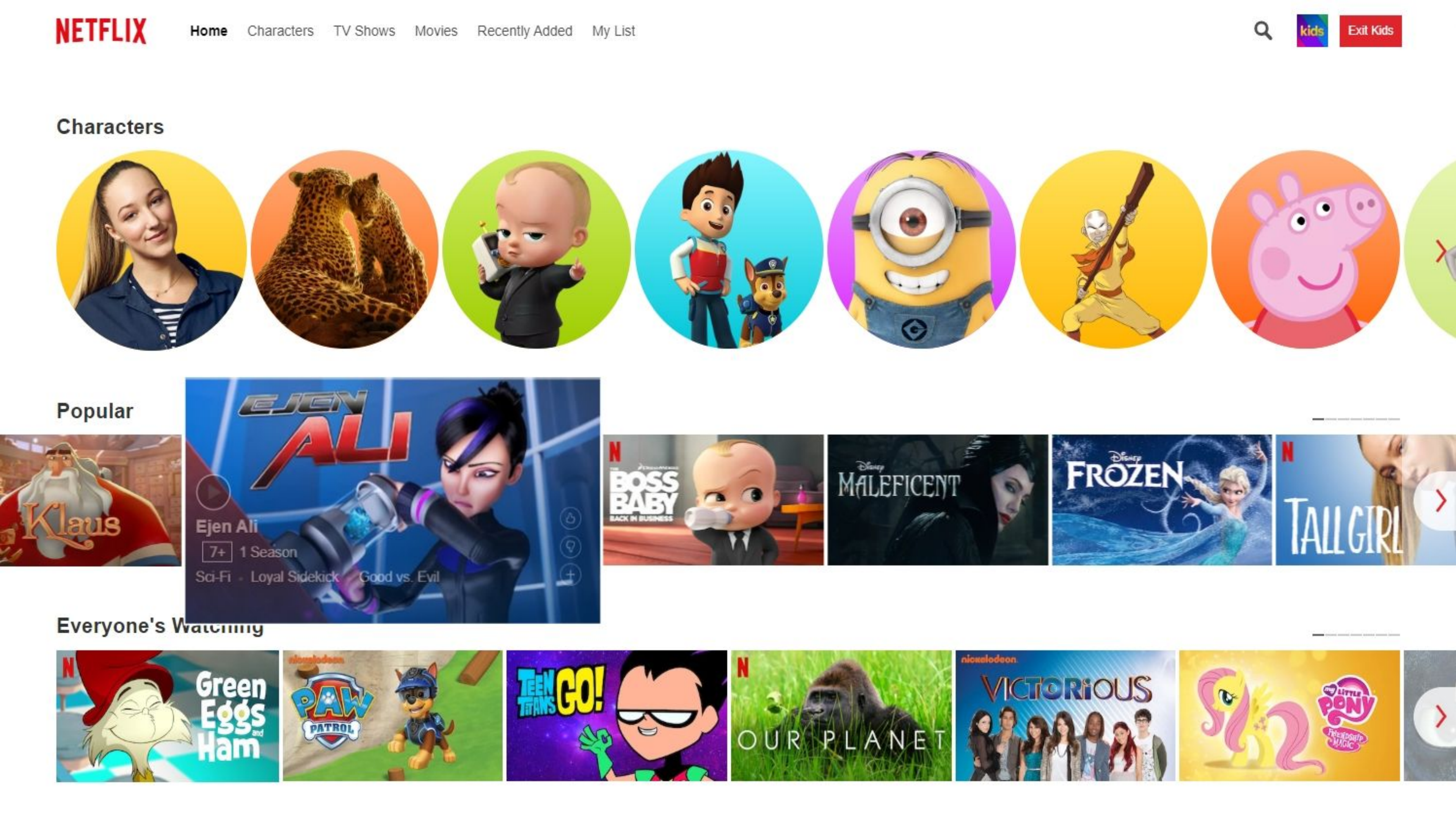
NETFLIX
Home
Characters
TV Shows
Movies
Recently Added
My List
kids
Exit Kids
Characters
Popular
Klaus
EJEN ALI
Ejen Ali
7+
1 Season
Sci-Fi
Loyal Sidekick
Good vs. Evil
BOSS BABY
BACK IN BUSINESS
Disney MALEFICENT
Disney FROZEN
TALL GIRL
Everyone's Watching
Green Eggs and Ham
nickelodeon
PAW PATROL
TEEN TITANS GO!
OUR PLANET
nickelodeon
VICTORIOUS
my little PONY
FRIENDSHIP IS MAGIC

HTML Basics

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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.

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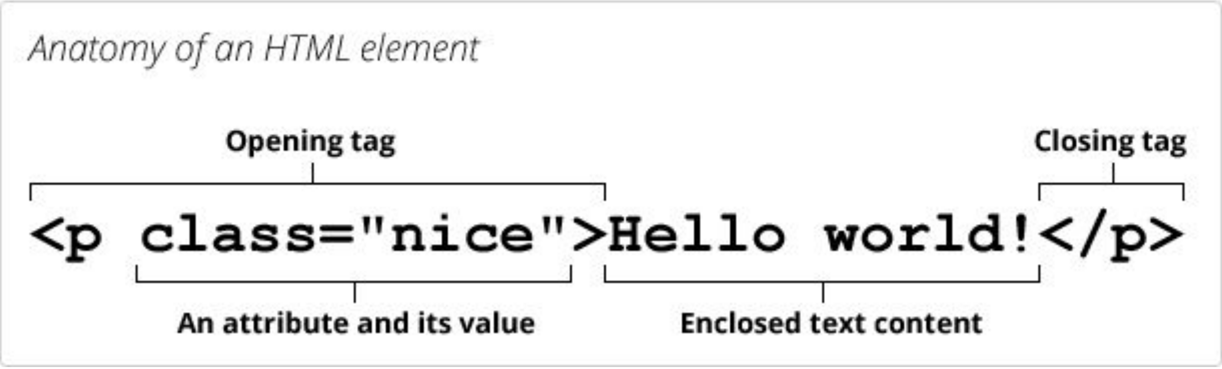
Decoding the Language: HTML Tags & Attributes



Anatomy of an HTML element

Opening tag

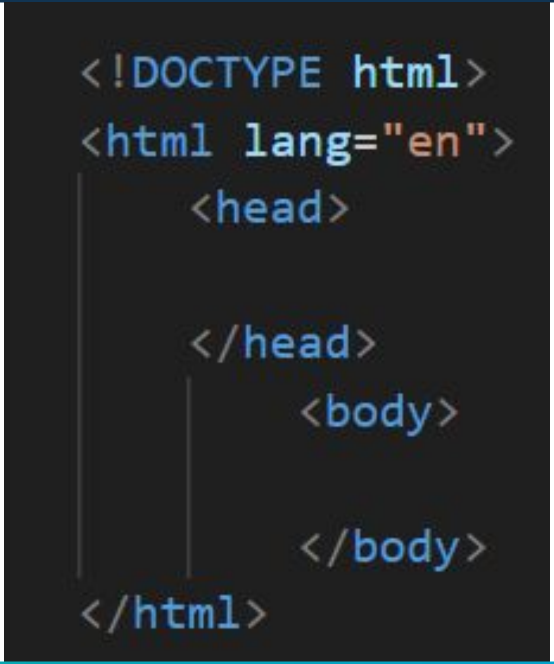
Closing tag

```
<p class="nice">Hello world!</p>
```

An attribute and its value

Enclosed text content

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** (<ul> for unordered, <ol> for ordered): Create bulleted or numbered lists.
- **Images** (<img>) 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 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.

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CSS Fundamentals

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Unveiling CSS: The Stylist for Your Webpages

- **CSS** (Cascading Style Sheets) is a styling language specifically designed for web pages.
- 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!

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Practical Session

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Final Assessment

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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

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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

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- https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/HTML_basics
- https://developer.mozilla.org/en-US/docs/Glossary/Element
- https://html.com/#What_are_Tags_and_Attributes
- https://www.codewizardshq.com/html-for-kids/
- https://netflixtechblog.com/system-architectures-for-personalization-and-recommendation-e081aa94b5d8