Welcome to this CoGrammar Q&A: 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** throughout this session, should you wish to ask any follow-up questions.

- 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](#)

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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

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Enhancing Accessibility: Activate Browser Captions

Why Enable Browser Captions?

- Captions provide **real-time text for spoken content**, ensuring inclusivity.

- Ideal for individuals in noisy or quiet environments or for those with **hearing impairments**.

How to Activate Captions:

1. YouTube or Video Players:

   - Look for the CC (Closed Captions) icon and click to enable.

2. Browser Settings:

   - Google Chrome: Go to *Settings > Accessibility > Live Captions* and toggle ON.

   - Edge: Enable captions in *Settings > Accessibility*.

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

Nurhaan Snyman

Rafiq Manan

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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Stay Safe Series.

Mastering Online Safety One Week or Step at a Time

While the digital world can be a wonderful place to make education and learning accessible to all, it is unfortunately also a space where harmful threats like online radicalisation, extremist propaganda, phishing scams, online blackmail and hackers can flourish.

As a component of this BootCamp the *Stay Safe Series* is designed to guide you through essential measures in order to protect yourself & your community from online dangers, whether they target your privacy, personal information or even attempt to manipulate your beliefs.

Trustworthy Websites:
How to Spot Secure Sites

- Look for the padlock.
- Check if there is a valid SSL/TLS certificate.
- Look for a site seal.
- Check if the URL is legitimate.
- **Pop-up and Redirection ads are a red flag.**

Skills Bootcamp
Progression Overview

✓ Criterion 1 - Initial Requirements

Specific achievements within the first two weeks of the program.

To meet this criterion, students need to, by no later than 01 December 2024:

- **Guided Learning Hours** (GLH): Attend a minimum of 7-8 GLH per week (lectures, workshops, or mentor calls) for a total minimum of 15 GLH.

- **Task Completion:** Successfully complete the first 4 of the assigned tasks.

✓ Criterion 2 - Mid-Course Progress

Progress through the successful completion of tasks within the first half of the program.

To meet this criterion, students should, by no later than 12 January 2025:

- **Guided Learning Hours** (GLH): Complete at least 60 GLH.

- **Task Completion :** Successfully complete the first 13 of the assigned tasks.

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Skills Bootcamp Progression Overview

✓ Criterion 3 – End-Course Progress

Showcasing students' progress nearing the completion of the course.

To meet this criterion, students should:

- Guided Learning Hours (GLH): Complete the total minimum required GLH, by the support end date.
- Task Completion : Complete all mandatory tasks, including any necessary resubmissions, by the end of the bootcamp, 09 March 2025.

✓ Criterion 4 - Employability

Demonstrating progress to find employment.

To meet this criterion, students should:

- Record an Interview Invite: Students are required to record proof of invitation to an interview by 30 March 2025.
  - South Holland Students are required to proof and interview by 17 March 2025.
- Record a Final Job Outcome : Within 12 weeks post-graduation, students are required to record a job outcome.

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Learning Outcomes

- Interact

- Have fun!

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Polls

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Poll

1. Which of the following is the correct order for an HTML document structure?

   a. <html>, <body>, <head>, <title>
   b. <html>, <head>, <body>
   c. <body>, <html>, <head>
   d. <head>, <title>, <html>, <body>

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2. Which CSS selector targets all <p> elements inside a <div>?

   a.   p div
   b.   div p
   c.   p > div
   d.   div, p

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Poll

3. In the CSS box model, which part comes directly outside the content?

   a. Margin
   b. Border
   c. Padding
   d. Width

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Poll

4. Which HTML tag is used to link an external CSS file to a document?

   a. <script>
   b. <style>
   c. <link>
   d. <css>

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Poll

5. Which attribute specifies an alternate text for an image if it cannot be displayed?

    a.   title
    b.   src
    c.   alt
    d.   description

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Poll

6. What attribute specifies where to open the linked document in an <a> tag?

   a. href
   b. rel
   c. target
   d. type

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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.
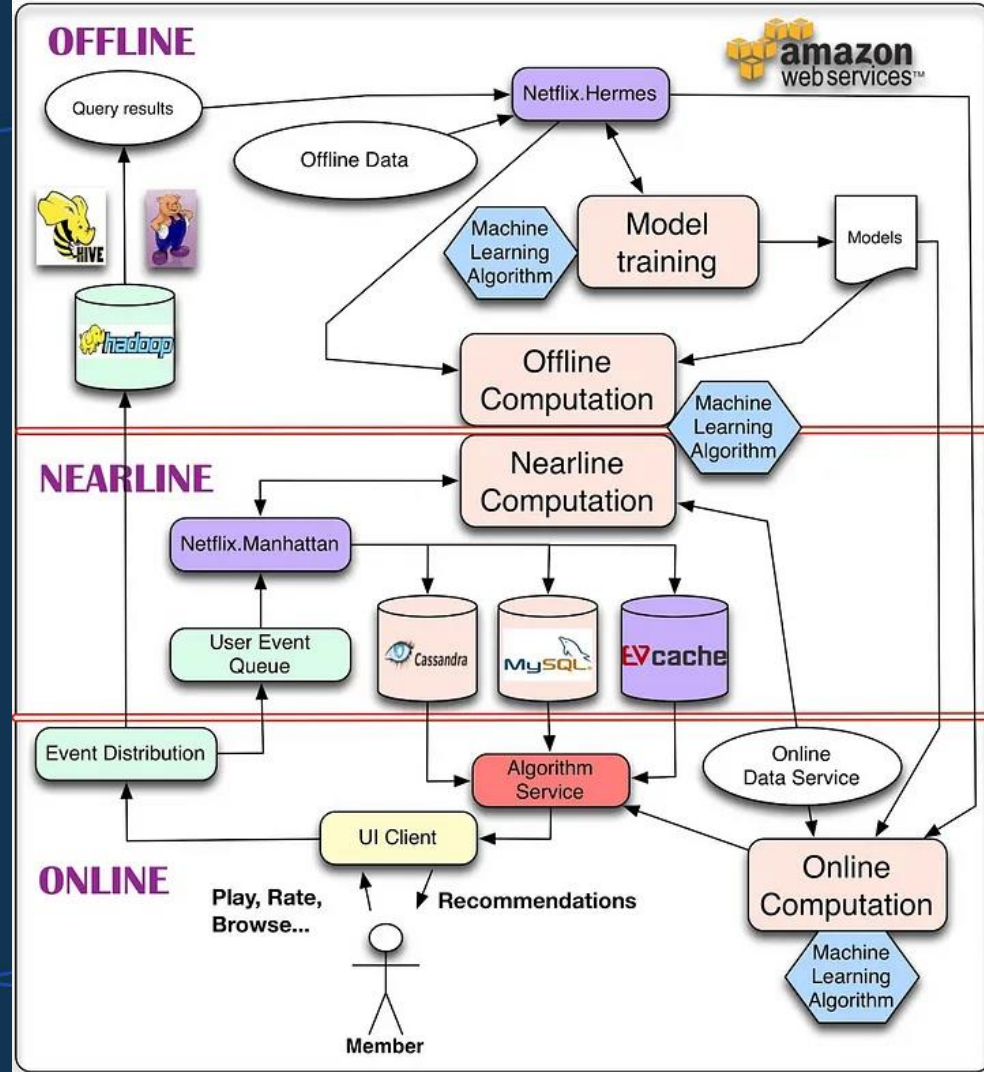
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Similarities and Differences Between Python and HTML/CSS

- 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.

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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

Ejen Ali

`7+` 1 Season

Sci-Fi · Loyal Sidekick · Good vs. Evil

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** (HyperText Markup Language) 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

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

    </head>
        <body>

        </body>
</html>
```

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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 grouping related HTML elements

- **Organisation 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

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.

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Targeting Elements with Selectors

- Selectors are used to target specific HTML elements within your webpage for styling.

- Common types of selectors include:

  o Tag/Element Selectors: target elements by their HTML tag (e.g., h1, p, img).

  o Class Selectors: target elements with a specific class attribute (e.g., .important, .highlight).

  o ID Selectors: target a unique element with a specific ID attribute (e.g., #banner, #footer).

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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 <u>four layers</u>:

  - o Content: The actual content of the element (text, image, etc.).

  - o Padding: The space between the content and the border (optional).

  - o Border: The decorative line around the element (optional, can have width and style).

  - o Margin: The space around the border of the element (can be used for spacing).

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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).
    - `<h1 style="color: blue; text-align: center;">Welcome to Inline Styling</h1>`
  - **Internal Styles**: Styles are defined within the <head> section of the HTML document using a <style> tag (more organised approach).
    - `<style> h1 { color: blue; text-align: center; } </style>`
  - **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).
    - `<link rel="stylesheet" href="styles.css">`

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Let's take a short break

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Let's get coding!

Learner Challenge

Create a responsive webpage using Bootstrap that includes the following elements:

- Include a responsive Bootstrap navbar with a brand name and at least three navigation links.
  - The navbar should collapse into a "hamburger menu" on smaller screens.
- Create a hero section using a large header area with a background image.
  - Include a headline and a call-to-action button with Bootstrap button classes (e.g., btn-primary).
- Add a section with a 3-column layout for medium and larger screens, and a single-column layout for small screens using the Bootstrap grid system.
  - Each column should contain an image, a heading, and some text.
- Create a section with three Bootstrap cards, each with:
  - An image, A card title, A description, A button
- Add a contact form with: Fields for name, email, and message
  - A submit button styled with btn-success and Validation using Bootstrap's was-validated class.
- Include a responsive footer with:
  - Links arranged in a grid or flex layout.
  - Social media icons using Bootstrap icons or placeholders.

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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.

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Thank you for attending

Further Resources

- 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

- 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

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