



# Welcome to this **CoGrammar** Lecture: Getting Started with 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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# CoGrammar

## Getting Started with HTML and CSS

March 2024

# AGENDA

- ❖ Basic terminal commands
- ❖ Setting up dev environments
- ❖ Basics of HTML
- ❖ Introduction to JavaScript

# Terminal

- ❖ A **terminal**, also known as a **command-line interface** or **shell**, is a text-based interface used to communicate with the operating system.
- ❖ It allows users to execute commands by typing them in, instead of relying solely on a graphical user interface (GUI).
- ❖ This is particularly powerful for automation, scripting, and system administration tasks.

# Terminal Commands: PWD

- ❖ Stands for "print working directory."
- ❖ It shows you the current directory you're in.

```
● PS E:\practical> pwd
```

```
○ Path
```

```
----
```

```
E:\practical
```

# Terminal Commands: LS

- ❖ Lists the files and directories in the current directory.

```
PS E:\practical> ls
```

```
Directory: E:\practical
```

Mode	LastWriteTime		Length	Name
----	-----		-----	----
d----	2/22/2024	5:24 PM		Tutorial session
-a----	2/20/2024	1:32 AM	16	example.txt
-a----	2/20/2024	1:13 AM	68	example1.txt
-a----	2/20/2024	1:14 AM	68	example2.txt
-a----	2/19/2024	11:13 PM	683	fileIO.py
-a----	2/22/2024	5:46 PM	3876	oop.py
-a----	3/1/2024	1:45 AM	1971	sandbox.py



# Terminal Commands: CD

- ❖ Stands for "change directory."
- ❖ It allows you to navigate between directories.

```
● PS E:\practical> cd tutorial_session  
○ PS E:\practical\tutorial_session> |
```

# Setting Up Dev Environments

- ❖ **VS Code:** <https://code.visualstudio.com/>
- ❖ **Browsers:**
  - Firefox
  - Chrome
  - Edge
  - Safari



# HTML

- ❖ **HTML (HyperText Markup Language)** is used to structure and format the content of websites on the World Wide Web.
- ❖ In simple words, HTML is the primary building block to create and structure website content.
- ❖ Web Developers use it to create a skeleton of modern websites and web apps.

# HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Hello CoGrammar</title>
  </head>
  <body></body>
</html>
```

# HTML

- ❖ **<html>** is the root element of the DOM, and it contains all of the other elements in the code.
- ❖ The **<head>** tag contains metadata about the web page, such as the title and any linked CSS or JavaScript files.
- ❖ The **<body>** tag contains the main content of the web page, which will be displayed in the web browser's window.

# HTML: DOM

- ❖ The **Document Object Model (DOM)** is a programming interface for web documents. It represents the page so programs can change the document structure, style, and content dynamically.
- ❖ The DOM is a fundamental concept in web development, enabling interaction with web pages.
- ❖ When a web page is loaded, the browser creates a Document Object Model of the page.
- ❖ The DOM tree represents the structure of an HTML document. Each element in the document is a node in the tree, forming a parent-child relationship.

# HTML: Elements

- ❖ HTML elements consist of several parts, including the **opening and closing tags**, the **content**, and the **attributes**.
- ❖ The **opening tag** consists of the element name, wrapped in angle brackets (< or />). It indicates the start of the element and the point at which the element's effect begins.

# HTML: Elements

- ❖ The **closing tag** is the same as the opening tag, but with a forward slash ( / ) before the element name. It indicates the end of the element and the point at which the element's effect stops.
- ❖ The **content** of the element can be text, other elements, or a combination of both.
- ❖ The opening tag, the closing tag, and the content together make up the element.

# HTML: Attributes

- ❖ HTML elements can have **attributes**, which provide additional information about the element.

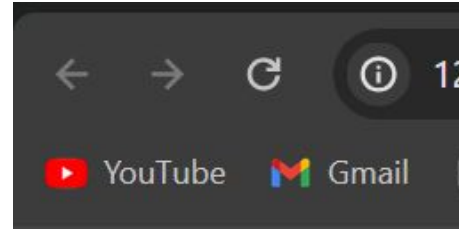
```
<p name="new_paragraph">Hi, I am a paragraph.</p>  
</body>  
</html>
```



# HTML: Paragraphs

- ❖ The HTML `<p>` tag is used to create paragraphs.

```
<body>  
  <p>Hi, I am a paragraph.</p>  
</body>  
</html>
```



Hi, I am a paragraph.

# HTML: Headings

- ❖ The HTML heading tags (<h1> to <h6>) are used to add headings to a webpage.

```
<h1>Heading 1.</h1>
```

```
<h2>Heading 2.</h2>
```

```
<h3>Heading 3.</h3>
```

```
<h4>Heading 4.</h4>
```

```
<h5>Heading 5.</h5>
```

```
<h6>Heading 6.</h6>
```

**Heading 1.**

**Heading 2.**

**Heading 3.**

**Heading 4.**

**Heading 5.**

**Heading 6.**

# HTML: Comments

- ❖ HTML comments are used to insert notes to a web page.

```
<!-- You can't see me -->
<p>
  You cannot see the comment above because it's not supposed to be visible
</p>
</body>
```

Hi, I am a paragraph.

You cannot see the comment above because it's not supposed to be visible

Let's take a  
break



# Intro to JavaScript

- ❖ Scripting language used for both frontend and backend development.
- ❖ Modern browsers like Chrome, Safari and Firefox offer a built-in console that can be used for debugging.
- ❖ You can also run JavaScript code directly in the console as well.

# Variables

- ❖ Variables are used to store the data that we can use for calculations later on.
- ❖ Like a box that holds information.
- ❖ We need to declare it first, meaning that we need to assign a storage space in memory and give it a name.

# Variables

- ❖ Variable declaration:  
let exampleVariable = "Value of the variable";
- ❖ You either use the keyword 'let' or 'const'
- ❖ Then write the name of the variable after leaving a white space.



# Variables

- ❖ Make sure,
  - the variable name contains only letters, number and underscores;
  - follows a consistent convention like the camelCase;
  - the variable is not a reserved keyword like let, const or console; and
  - is understandable.

# Variables

- ❖ To assign a value to the variable, you use the assignment operator (=) and then the value. Finally end the line with a semicolon (;).
- ❖ The value assigned to a variable is called a data type.

# Data Types

- ❖ Numeric → `let gameScore = 100;`
- ❖ String → `let fullName="Muhammad Zahir Junejo";`
- ❖ Boolean → `let gameEnd = true;`
- ❖ Array → `let playerScores= [100, 200, 400];`

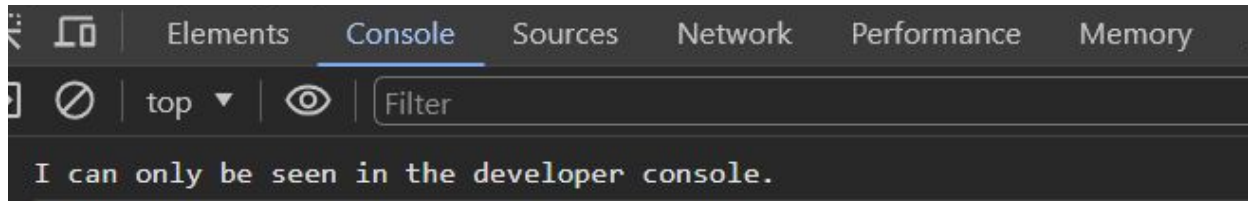
# Data Types

- ❖ Object → `let playerProfileData = {firstName: "Zahir", lastName: "Junejo"};`
- ❖ Arrays are used to store multiple values.
- ❖ An object is a data type that stores a collection of related data.
- ❖ JavaScript infers the data type of the variable from the value.

# Linking scripts

- ❖ The HTML `<script>` tag is used to add JavaScript to the document.

```
<script>  
  console.log("I can only be seen in the developer console.");  
</script>
```



# Linking scripts

- ❖ We can also link HTML documents with external JavaScript files using the src attribute.

```
</script>  
<script src="scripts/hello.js"></script>  
</body>
```

# Questions and Answers





# Thank you for attending



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