

Explorin Academy

Master Dev

Day 2 Notes

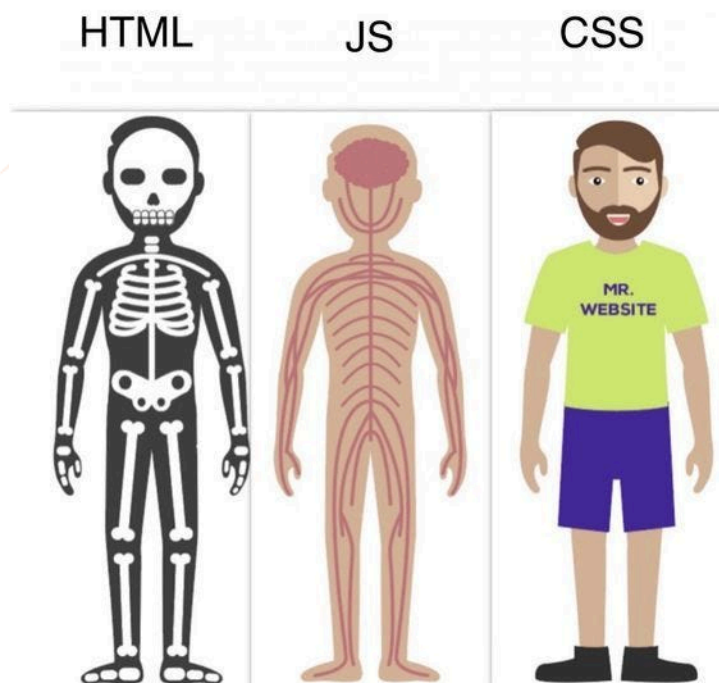
Building Blocks of Web Dev

HTML is the foundation of web pages, defining the structure using elements like headings, paragraphs, images, and links. It provides a semantic layout, enabling browsers to render and interpret content correctly for users and search engines.

- It structures content on the web.
- Not a programming language, but a markup language.
- Web browsers interpret HTML to display content.

CSS controls the design and layout of web pages, managing colors, fonts, spacing, animations, and responsiveness.

JavaScript is a programming language that adds interactivity to web pages, handling user events, animations, API communication, and DOM manipulation for a dynamic browsing experience.



Is HTML a programming language?

No, HTML (HyperText Markup Language) is not considered a programming language because it primarily defines the structure and content of a web page, lacking the ability to perform calculations, manipulate data, or execute complex logic, which are key features of a programming language; instead, HTML is classified as a markup language.

Role of HTML in Web Development

- Defines Structure – Provides the fundamental layout of a webpage.
- Semantic Markup – Enhances readability and accessibility for users and search engines.
- Works alongside CSS (Styling) and JavaScript (Functionality).
- Forms the Document Object Model.
- Every web page you see is built with HTML.

Basic Structure of HTML

- **<!DOCTYPE html>** – Declares the document as HTML5.
- **<html>** – The root element of an HTML document.
- **<head>** – Contains metadata like title, character set, and linked styles/scripts.
- **<title>** – Defines the page title displayed in the browser tab.
- **<meta>** – Provides metadata (data about data).
- **<link>** – Links external resources like CSS files.
- **<body>** – Contains all visible content on the page.

```
<html>
  <head>
    <meta ..... >
    <title> Page Heading </title>
    <link rel="icon" href="path" >
  </head>
  <body>

    </body>
</html>
```

Tags in HTML

1. HTML

The HTML tag is the root element of an HTML document, enclosing all other elements. It is written as `<html>...</html>` and contains the `<head>` and `<body>` sections, defining the structure of a webpage.

2. Head

The head tag contains metadata (data about the document) and links to external resources like stylesheets, scripts, and icons. It does not display content directly on the webpage but plays a crucial role in SEO, performance, and accessibility.

3. Body

The `<body>` tag contains all the visible content of a webpage, including text, images, links, videos, forms, and other interactive elements. Everything inside `<body>` is displayed in the browser window. Only the content inside the body tag is displayed on our webpage.

4. Favicon

A favicon (short for "favorite icon") is a small icon displayed in the browser tab, bookmarks, and history, representing a website's identity. It is added using the `<link>` tag in the `<head>` section.

Ex: `<link rel="icon" href="image_path_or_url">`

5. Title

The `<title>` tag defines the title of a webpage, displayed on the browser tab and used by search engines. It is placed inside the `<head>` section.

Ex: `<title>Explorin Academy</title>`

6. Meta tags

Meta tags are HTML elements placed inside the `<head>` section to provide metadata about a webpage, such as description, keywords, and responsiveness. They help with SEO, social sharing, and browser behavior.

→ **`<meta charset="UTF-8">`**

Charset defines the character encoding for the webpage, ensuring proper display of special characters and symbols.

→ **`<meta name="viewport" content="...">`**

Viewport controls how a webpage is displayed on different devices, especially for mobile responsiveness. It ensures the page adapts to different screen sizes and prevents zoomed-out views on mobile devices.

→ **<meta name="description" content="...">**

Provides a brief summary of the webpage, which search engines display in search results. It also improves SEO rankings by helping search engines understand the page content and enhances click-through rate (CTR) by showing a relevant description in search results.

→ **<meta name="keywords" content="...">**

Specifies keywords relevant to the webpage. However, nowadays this tag is ignored by search engines for SEO. It helps in internal site search if used properly.

→ **<meta name="author" content="...">**

Specifies the author of the webpage content. It ensures proper rendering of text in multiple languages. It prevents encoding-related display issues (e.g., broken characters).

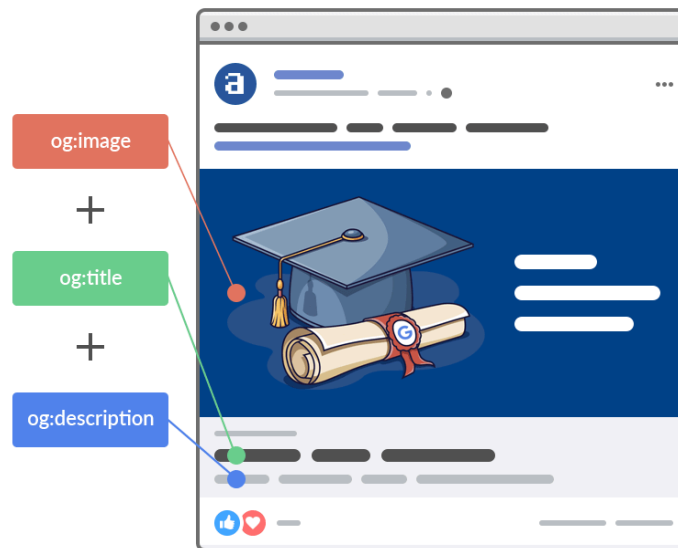
HTML vs HTML5

HTML	HTML5
Requires 3rd party plugins like Flash for audio and video	Introduced <audio>, <video>, <iframe> tags
Uses <div> for structure	Introduced semantic tags for better readability
Limited input types	New types like <email>, <date>, <number> for better validation
No native support, required external tools like Flash	Supports <canvas> and <svg> for graphics and animations
Lacks responsive design support	Improved support for mobile and responsive design
Only cookies for storing small data	LocalStorage, SessionStorage, IndexedDB for better storage
No built-in APIs	New APIs like Geolocation, WebSockets, Web Workers, and Drag & Drop

Open Graph (OG) Tags

Open Graph (OG) tags are meta tags that control how a webpage appears when shared on social media platforms like Facebook, Twitter, and LinkedIn. They define the title, description, image, and URL of the shared content.

Post on Facebook with OG Tags



Example :

```
<meta property="og:title" content="Your Page Title">
<meta property="og:description" content="Your Page Description">
<meta property="og:image" content="https://example.com/image.jpg">
<meta property="og:url" content="https://example.com">
<meta property="og:type" content="website">
<meta property="og:site_name" content="Your Website Name">
<meta property="article:author" content="Author Name">
```

How to Increase Accessibility Using HTML

1. Use Semantic HTML Tags

Semantic tags like `<header>`, `<nav>`, and `<article>` provide meaning to content, improving readability for screen readers and search engines. They enhance accessibility by helping assistive technologies understand the page structure properly.

2. Provide Alternative Text for Images (alt Attribute)

The alt attribute describes images for visually impaired users using screen readers. It also improves SEO and ensures content remains meaningful even if images fail to load on slow networks.

3. Use ARIA Attributes for Accessibility

ARIA (Accessible Rich Internet Applications) attributes enhance dynamic content and interactivity for users relying on assistive technologies. They help define roles, states, and properties for elements, improving usability in complex web applications.

4. Ensure Keyboard Navigability

Web pages should be navigable using only a keyboard, allowing users to interact via Tab, Enter, and Arrow keys. Focus indicators, logical tab order, and event handling improve accessibility for all users.

Semantic HTML

Semantic HTML refers to the use of HTML tags that convey meaning about the content they contain, making webpages more accessible, readable, and SEO-friendly. It helps the browsers and assistive technologies to understand the webpage's purpose and layout.

Example :- <article>, <aside>, <details>, <figcaption>, <figure>, <footer>, <header>, <main>, <mark>, <nav>, <section>, <summary>, <time>.

