Your First Website: From Code to Live on the Web

A step-by-step guide to building and launching a complete front-end project.

1. Plan & Structure
Wireframes & Content

2. Write HTML
Semantic Markup

3. Style with CSS
Visual Design & Layout

4. Add Interactivity (JS)
Dynamic Functions

5. Deploy & Launch
Live on the Web

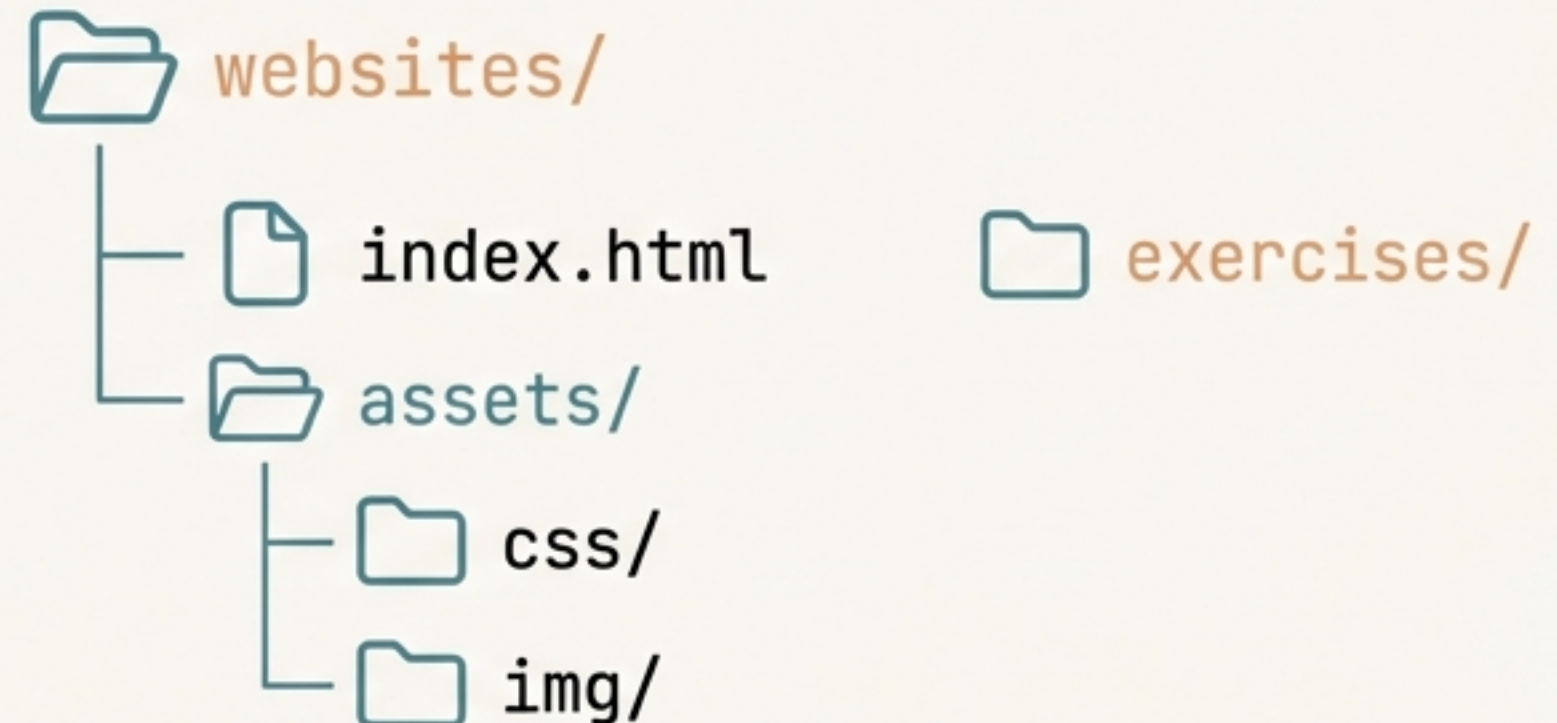# First, We Prepre Our Tools and Workspace

Your Primary Tool: Visual Studio Code

Professional web development starts with a text editor built for the job. We will use Visual Studio Code (VS Code), a free and powerful editor. It includes features like 'Emmet' that automate common tasks, saving you time.

Pin VS Code to your taskbar for quick access.

A Logical Folder Structure is Essential

A well-organised project is easier to manage, share, and troubleshoot. We will create one main folder, websites, to hold everything. All file and folder names must be lowercase with no spaces to prevent broken links.

```
📂 websites/
  ├── 📄 index.html        📁 exercises/
  └── 📂 assets/
      ├── 📁 css/
      └── 📁 img/
```

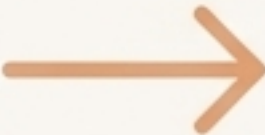# Every Website Begins with the HTML Blueprint

HTML (HyperText Markup Language) provides the core structure, or 'skeleton,' of a web page. It tells the browser **what the content *is***—a heading, a paragraph, an image—but not how it should look.

Core Tags	General Sans
`<h1>...</h1>`	The main heading for the page. Use only one per page for clarity and search engine optimisation.
`<p>...</p>`	A paragraph of text.
`<b>...</b>` `<i>...</i>`	For making text bold or italic.

Code & Result

```
<body>
    <h1>A Tale of Two Cities</h1>
    <p>It was the best of times...</p>
</body>
```

→

A Tale of Two Cities

It was the best of times...

We Organise the Blueprint with Semantic 'Containers'

Instead of a single block of content, modern websites are organised into logical sections using semantic tags. These tags describe the *purpose* of the content they contain, like 'Containers'.

```
<header>

<main>

  <section>

  <section>

<footer>
```

For Accessibility

Screen readers use these tags to help visually impaired users navigate directly to key sections like the main content or footer.

For Maintenance

A logical structure makes the code easier for you and others to understand and update later.

A Website is a Network of Connected Pages

The **anchor** tag (`<a>`) creates hyperlinks, allowing users to navigate between pages. The `href` attribute specifies the destination.

Absolute URL

Links to a different website. It contains the full address, including `https://`. Use this for external resources.

```
<a href="https://www.moma.org/...">The
Museum of Modern Art</a>
```

Relative URL

Links to another page *within your own website*. You only need to specify the path from the current file.

```
<a href="exercises/page-1.html">A Tale
of Two Cities</a>
```

Pro Tip

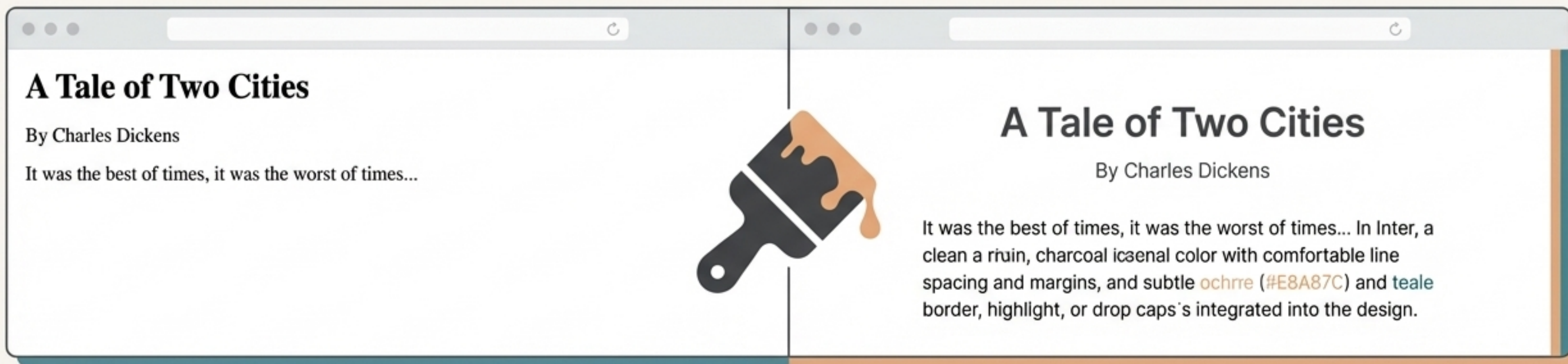For links to external websites, add `target="_blank"` inside the `<a>` tag. This opens the link in a new browser tab, keeping the user on your site.

Now, We Bring the Structure to Life with CSS

CSS (Cascading Style Sheets) controls the visual presentation of your HTML.
If HTML is the skeleton, CSS is the skin, hair, and clothing.

Raw HTML

A Tale of Two Cities

By Charles Dickens

It was the best of times, it was the worst of times...

With CSS

A Tale of Two Cities

By Charles Dickens

It was the best of times, it was the worst of times... In Inter, a clean a riuin, charcoal icaenal color with comfortable line spacing and margins, and subtle ochrre (#E8A87C) and teale border, highlight, or drop caps´s integrated into the design.

The Three-Step Process

1. Create a separate stylesheet file (e.g., global.css).

2. Link it within the `<head>` of your HTML file using
`<link rel="stylesheet" href="assets/css/global.css">`.

3. Write style rules in the CSS file to target HTML elements.

Anatomy of a CSS Rule

```
p { color: #333; }
```

Selector (what to style)

Declaration Block

Property (what aspect to change)

Value (how to change it)

Typography is the Foundation of Good Design

Key CSS Properties

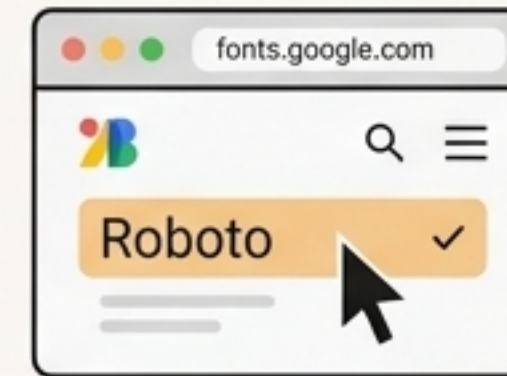`font-family`: The typeface (e.g., serif, sans-serif).

`font-weight`: The thickness (e.g., `normal`, `bold`).

`font-size`: The size of the text.

`line-height`: The vertical space between lines of text (a value of `1.6` is recommended for paragraphs for readability).
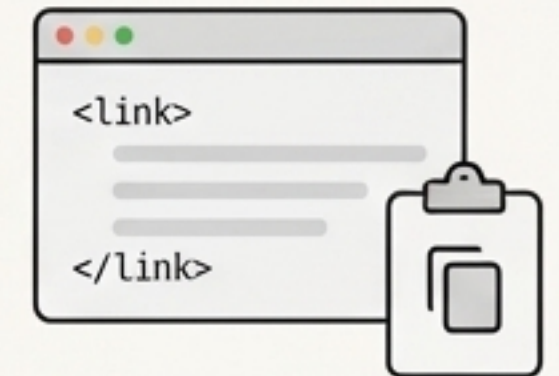
```css
/* This rule applies the 'Lato' font to all paragraphs.
   If Lato is unavailable, it falls back to a generic sans-serif font. */
p {
  font-family: 'Lato', sans-serif;
  line-height: 1.6;
}
```
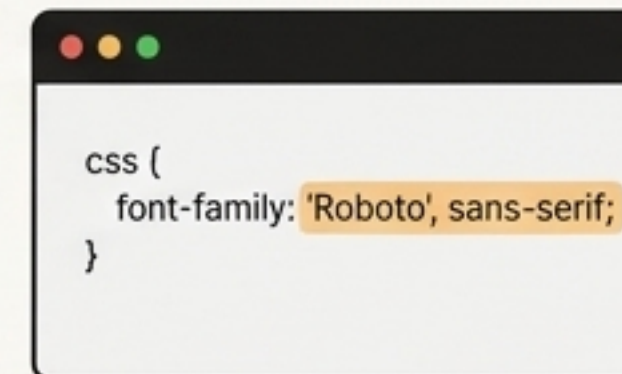
Using Google Fonts

1. Select

Choose your font on `fonts.google.com`.

2. Embed

Copy the provided `<link>` code into your HTML `<head>`.

3. Apply

Use the font name in your CSS `font-family` rule.

We Define a Personality with a Colour Palette

Core Properties

- `color`: Sets the colour of text.
- `background-color`: Sets the background colour of an element.

Accessibility is Non-Negotiable

The contrast between text and background colour is crucial. The WebAIM guidelines recommend a minimum contrast ratio of **4.5:1** for normal text to ensure it's readable for users with visual impairments.

Good Contrast

✓ Good Contrast

Poor Contrast

✗ Poor Contrast

Modern Technique: CSS Custom Properties

Introduce CSS variables for creating a reusable and easily updatable colour palette. This is how professionals manage colours in large projects.

1. Define colours in one place

```css
:root {
    --brand-primary: #1e266d;
    --background-light: #fef1ef;
}
```

2. Use them throughout the stylesheet

```css
body {
    background-color: var(--background-light);
}
h2, p {
    color: var(--brand-primary);
}
```

NotebookLM

Images and Videos Make the Experience Richer

Adding Images

The `<img>` tag is used to embed images.

Essential Attributes

- `src`: The path to the image file (e.g., `"assets/img/starry-night.jpg"`).
- `alt`: Alternative text that describes the image. **This is critical for accessibility**; it's what screen readers announce to visually impaired users.

Making Media Responsive

Problem: Fixed-size images and videos will break the layout on smaller screens.

CSS Solution:

```
img {
    max-width: 100%;
    height: auto;
}
```

A similar technique using a wrapper `div` makes embedded videos responsive.

Crafting a Powerful First Impression with a 'Hero' Block

A "hero block" is the large, prominent section at the top of a webpage, designed to grab the user's attention immediately.

The Layering Technique

To place text *on top* of a background image or video, we use CSS positioning to stack elements like layers of glass.

- Parent Container (<header>): Set to position: relative;. This creates a new "stacking context".

- Child Elements:
  - Background Image/Video: position: absolute; z-index: 0; (Bottom layer).
  - Tinted Overlay (optional): position: absolute; z-index: 1; (Middle layer).
  - Text Container: position: relative; z-index: 2; (Top layer).

Text Layer (z-index: 2) →

Welcome to Our City

Overlay Layer (z-index: 1) →

Background Layer (z-index: 0)

Welcome to Our City

Result

The Small Details That Signal Professionalism

Interactive Hyperlinks

Links should provide visual feedback when a user interacts with them. We use CSS pseudo-classes to style these different states.
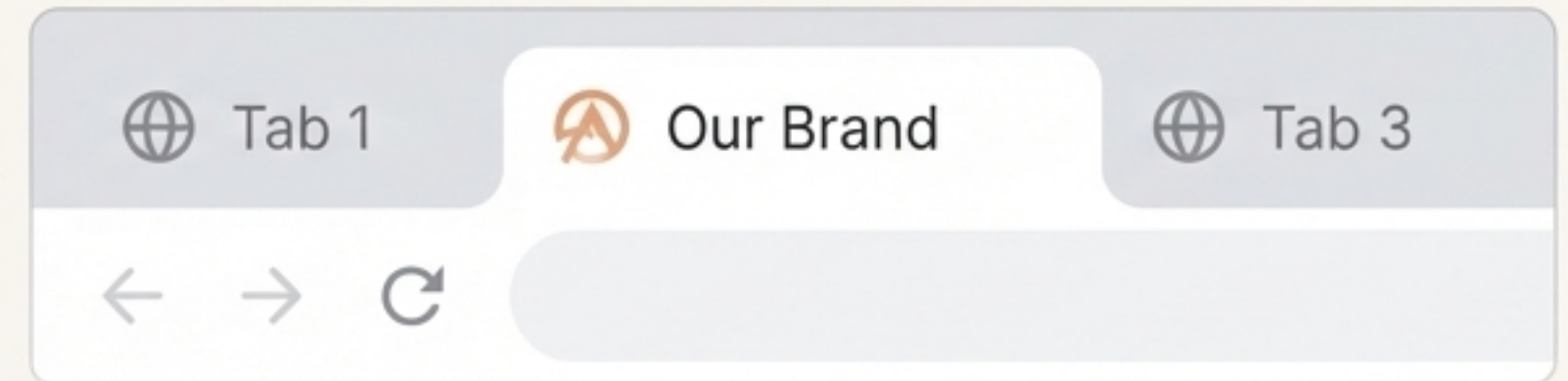
- `:link` (default), `:visited`, `:hover` (mouse over),
- `:active` (being clicked).

Read More → Read More

```css
a {
  color: var(--brand-primary);
  transition: color 0.3s ease; /* Smooth transition */
}
a:hover {
  color: var(--brand-accent); /* Change colour on hover */
}
```
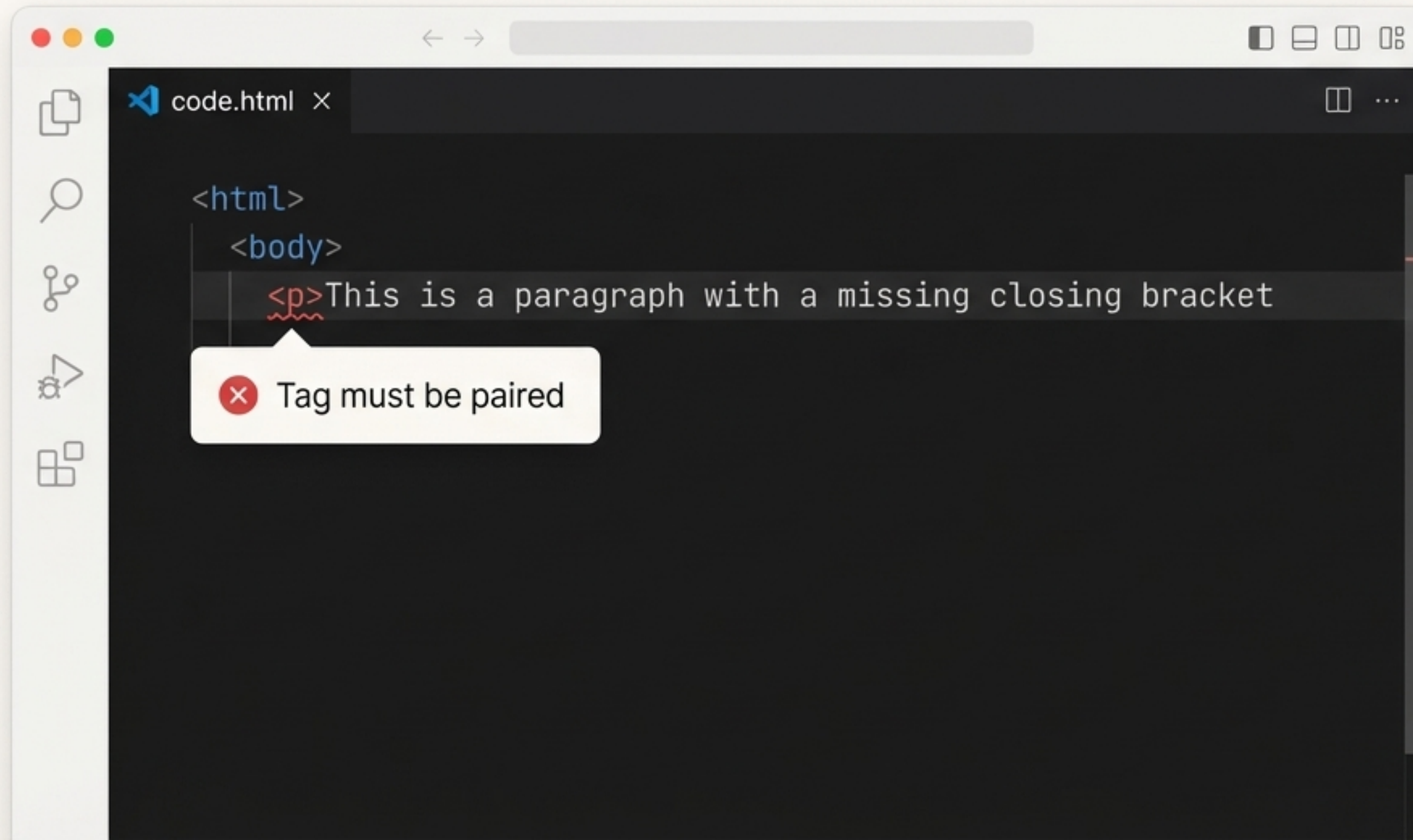
The Favicon

A favicon is the small icon in the browser tab. It reinforces brand identity and makes your site easily identifiable in a sea of open tabs.

Use an online tool like favicon.io to generate the necessary files from a single square image, then add the provided **<link>** tags to your HTML **<head>**.

Good Developers Write Clean, Error-Free Code

HTML has rules. Breaking them can cause your page to display incorrectly or be inaccessible. Finding and fixing these errors is called "debugging".

```html
<html>
  <body>
    <p>This is a paragraph with a missing closing bracket
```

❌ Tag must be paired

Common Error Source

Mismatched or forgotten closing tags (e.g., opening a <p> but forgetting to close it with </p>).

Your Assistant: HTMLHint

Install the HTMLHint extension in VS Code. It automatically scans your code and flags potential errors, showing you exactly where the problem is and what's wrong.

We Prepare for Launch on GitHub

What is GitHub?

A Code Repository

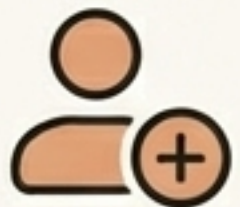A place to store and manage your project's files safely in the cloud.

A Web Host

A service (called GitHub Pages) that makes your website publicly accessible on the internet, for free.
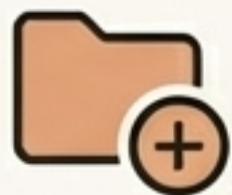
The Most Important Step: Your Username

Your GitHub username becomes part of your website's **permanent address**. Choose it carefully. It should be professional and easy to remember.

https://username.github.io

Visual: Creating Your Host

Sign up at github.com → Create a New Repository →

Create a new repository

Owner *

Repository name *

username.github.ic

Creat repository name mades a new cootia flee, who are now tla: repository name?

Description (optiona)

Public
Aetioate a new scnoru postwaee tliot shie repository.

Name this **exactly**
username.github.io

Going Live: Publishing Your Site to the World

The Process: Uploading your project files to the GitHub repository you just created.

Step-by-Step Guide

1. Navigate to your `username.github.io` repository on GitHub.
2. Click the **Add file** button and select **Upload files**.
3. Drag your entire project folder (`websites`) directly into the browser window.
4. Add a short description (e.g., "Initial site launch") in the "Commit changes" box.
5. Click the green **Commit changes** button.

The Result

After a few moments, your website will be live for anyone in the world to see at your personal URL:

🔍 **https://username.github.io** LIVE

Upload files

Drag files here to add them to your repository

websites initial site launch

You've Built a Website. The Journey is Just Beginning.

Recap of Your New Skills

Structure

You can build organised, accessible web pages with semantic HTML

Style

You can design beautiful, responsive experiences with CSS.

Launch

You can deploy your projects live to the web using GitHub Pages.

You now have a complete, practical understanding of how a web project moves from a simple idea to a live, public reality. This is the fundamental cycle of all web development.

NotebookLM