🧑‍💻 Day 1: Introduction to Web Development & HTML

🌐 1. Introduction to Web Development

Web development is the process of building websites and web apps that run in browsers.

➤ Types of Development:

- **Front-End**: Everything you see on a website (HTML, CSS, JavaScript)
- **Back-End**: Server-side logic (databases, APIs)
- **Database (DB)**: Stores data (e.g., MongoDB, MySQL)

📱 Responsive Design:

- Makes websites look good on all screen sizes (mobile, tablet, desktop)
- Achieved using **media queries** in CSS

🔐 Web Security:

- Involves protecting websites from threats (like XSS, SQL injection)

🚀 Deployment & Hosting:

- **Deployment**: Uploading your site from local to internet
- **Hosting**: The service/platform where your site runs (like Vercel, Netlify)

🌐 2. What is HTML?

🔨 Definition:

HTML (HyperText Markup Language) is the standard language used to create webpages.

☑ Key Uses:

- Structures web content
- Adds text, images, links, tables, forms, and more
- Forms the **skeleton** of every website

💡 Real-life Analogy:

HTML is like the **framework of a building** — it gives structure but no design. (CSS is the design)

🌐 3. HTML Structure

Every HTML document starts with a standard structure:

```
<!DOCTYPE html>
<html>
 <head>
  <title>My First Page</title>
 </head>
 <body>
  Hello World!
 </body>
</html>
```

🔍 Breakdown:

- <!DOCTYPE html> – Declares the document type (HTML5)
- <html> – Root of the webpage

- <head> – Contains metadata, links to CSS/JS, title, etc.
- <title> – Title shown in browser tab
- <body> – Visible content goes here

🔵 4. Common HTML Tags with Examples

☑ Headings

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>

h1 is highest in size and it goes to h6

☑ Paragraph

<p>This is a paragraph of text.</p>

☑ Text Formatting

Bold, <i>Italic</i>, <u>Underline</u>
Important, Emphasized
<mark>Highlighted</mark>, <small>Smaller Text</small>

☑ Line Break & Horizontal Line

Line one
Line two
<hr>

🔵 5. Meta Tags (Inside <head>)

Meta tags provide **information** about the web page (not visible on the page).

Meta Tag	Purpose
<meta charset="UTF-8">	Character encoding
<meta name="viewport" content="width=device-width, initial-scale=1.0">	Makes site responsive
<meta name="description" content="Intro page">	Used in Google results
<meta name="keywords" content="HTML, web">	SEO keywords
<meta name="author" content="Sagar">	Page author
<meta http-equiv="refresh" content="5">	Auto-refresh every 5 seconds

🔵 6. HTML Comments, Nesting, and Self-Closing Tags

☑ Comments:

<!-- This is a comment -->

☑ Tag Nesting:

A tag inside another tag

<p>Bold text inside paragraph</p>

☑ Self-Closing Tags:

-
, <hr>, <img>, <input>
- These don't need a closing tag like <html></html>,<body></body>

🔬 7. Practice Task: Make Your Introduction Page s

🛠 Create a simple web page using everything learned:

```html
<!DOCTYPE html>
<html>
 <head>
  <title>Sagar's Page</title>
  <meta charset="UTF-8">
  <meta name="description" content="My first HTML page">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
 </head>
 <body>
  <h1>Sagar Patil</h1>
  <p>Hello! I'm <b>Sagar</b>, a passionate learner of web development.<br>
  I love <i>coding</i> and <u>designing</u> websites.</p>
  <hr>
  <p>Stay tuned for more content!</p>
 </body>
</html>
```