**HTML Learning Roadmap:**

**1. Introduction to HTML**

* **What is HTML?** 
  + **HTML (HyperText Markup Language) is the standard language for creating web pages.**
* **Basic structure of an HTML document:**
* **<!DOCTYPE html>**
* **<html>**
* **<head>**
* **<title>My First HTML Page</title>**
* **</head>**
* **<body>**
* **<h1>Welcome to HTML</h1>**
* **</body>**
* **</html>**
* **Understanding HTML elements and tags** 
  + **HTML is made up of elements enclosed in tags.**
  + **Example: <p>This is a paragraph.</p>**

**2. Text Formatting and Headings**

* **Headings: <h1> to <h6> (H1 is the largest, H6 is the smallest).**
* **Paragraphs: <p> is used for text content.**
* **Text formatting:** 
  + **<b>: Bold (non-semantic)**
  + **<i>: Italic (non-semantic)**
  + **<u>: Underline (not commonly used for emphasis)**
  + **<strong>: Bold with semantic meaning**
  + **<em>: Italics with semantic meaning**

**3. Lists in HTML**

* **Ordered lists (<ol>) with numbered items <li>.**
* **Unordered lists (<ul>) with bullet points.**
* **Description lists (<dl>) for terms and descriptions:**
* **<dl>**
* **<dt>HTML</dt>**
* **<dd>HyperText Markup Language</dd>**
* **<dt>CSS</dt>**
* **<dd>Cascading Style Sheets</dd>**
* **</dl>**

**4. Links and Navigation**

* **Creating a link: <a href="https://example.com">Visit Example</a>**
* **Opening links in a new tab: target="\_blank"**

**5. Images and Media**

* **Adding images: <img src="image.jpg" alt="Image description">**
* **Embedding videos and audio: <video>, <audio>**

**6. Tables in HTML**

* **Creating tables with <table>, <tr>, <td>, <th>**
* **Using colspan and rowspan:**
* **<table>**
* **<tr>**
* **<th>Name</th>**
* **<th>Age</th>**
* **</tr>**
* **<tr>**
* **<td>John</td>**
* **<td>25</td>**
* **</tr>**
* **</table>**

**Intermediate Level: Structuring Webpages**

7. HTML Forms

* Basic form structure:
* <form action="submit.php" method="post">
* <label for="name">Name:</label>
* <input type="text" id="name" name="name" required>
* <button type="submit">Submit</button>
* </form>
* Form elements: Text input, radio buttons, checkboxes, dropdowns.

**8. Semantic HTML**

* Semantic tags for better SEO and accessibility: <header>, <nav>, <section>, <article>, <footer>.

**Types of inputs**

**1. Text Input (type="text")**

Used for single-line text input.

html

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<label for="name">Name:</label>

<input type="text" id="name" name="name" placeholder="Enter your name">

✅ **Use case:** Usernames, names, comments.

**2. Password Input (type="password")**

Masks the input for security.

html

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<label for="password">Password:</label>

<input type="password" id="password" name="password">

✅ **Use case:** Login forms.

**3. Email Input (type="email")**

Validates email format automatically.

html

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<label for="email">Email:</label>

<input type="email" id="email" name="email" placeholder="example@email.com">

✅ **Use case:** Contact forms, sign-up pages.

**4. Number Input (type="number")**

Only allows numerical values.

html

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<label for="age">Age:</label>

<input type="number" id="age" name="age" min="1" max="100">

✅ **Use case:** Age, quantity, price input.

**5. Date Input (type="date")**

Opens a date picker.

html

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<label for="dob">Date of Birth:</label>

<input type="date" id="dob" name="dob">

✅ **Use case:** Booking forms, birthdates.

**6. Time Input (type="time")**

Selects a specific time.

html

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<label for="time">Meeting Time:</label>

<input type="time" id="time" name="time">

✅ **Use case:** Scheduling, event booking.

**7. Radio Buttons (type="radio")**

Allows **one selection** from multiple options.

html

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<label>Gender:</label>

<input type="radio" id="male" name="gender" value="male">

<label for="male">Male</label>

<input type="radio" id="female" name="gender" value="female">

<label for="female">Female</label>

✅ **Use case:** Gender, selecting an option from a group.

**8. Checkboxes (type="checkbox")**

Allows **multiple selections**.

html

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<label>Hobbies:</label>

<input type="checkbox" id="sports" name="hobby" value="sports">

<label for="sports">Sports</label>

<input type="checkbox" id="music" name="hobby" value="music">

<label for="music">Music</label>

✅ **Use case:** Selecting multiple hobbies, preferences.

**9. File Upload (type="file")**

Allows users to upload files.

html

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<label for="file">Upload File:</label>

<input type="file" id="file" name="file">

✅ **Use case:** Uploading documents, images, resumes.

**10. Hidden Input (type="hidden")**

Stores hidden data (not visible to users).

html

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<input type="hidden" name="userID" value="12345">

✅ **Use case:** Storing session data.

**11. URL Input (type="url")**

Validates URL format automatically.

html

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<label for="website">Website:</label>

<input type="url" id="website" name="website" placeholder="https://example.com">

✅ **Use case:** Collecting website links.

**12. Search Input (type="search")**

Creates a search box.

html

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<input type="search" name="query" placeholder="Search here...">

✅ **Use case:** Search bars in websites.

**13. Color Picker (type="color")**

Lets users pick a color.

html

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<label for="color">Choose Color:</label>

<input type="color" id="color" name="color">

✅ **Use case:** Choosing colors for themes or designs.

**14. Range Slider (type="range")**

Creates a slider for selecting a numeric range.

html

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<label for="volume">Volume:</label>

<input type="range" id="volume" name="volume" min="0" max="100">

✅ **Use case:** Volume, brightness, ratings.

**15. Telephone Input (type="tel")**

For entering phone numbers (can include pattern validation).

html

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<label for="phone">Phone:</label>

<input type="tel" id="phone" name="phone" pattern="[0-9]{10}" placeholder="1234567890">

✅ **Use case:** Contact forms, phone number input.

**16. Submit Button (type="submit")**

Submits the form.

html

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<input type="submit" value="Submit">

✅ **Use case:** Form submission.

**17. Reset Button (type="reset")**

Clears all form inputs.

html

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<input type="reset" value="Reset">

✅ **Use case:** Clearing form data.

**18. Button (type="button")**

Used for JavaScript-based actions.

html

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<button type="button" onclick="alert('Button Clicked!')">Click Me</button>

✅ **Use case:** Custom interactive buttons.