🔷 HTML (HyperText Markup Language)

✅ Basics

Q1. What is HTML?
HTML (HyperText Markup Language) is the standard markup language used to create and structure content on the web.

Q2. What is the basic structure of an HTML document?

<!DOCTYPE html>

<html>

<head>

 <title>Page Title</title>

</head>

<body>

 <h1>Hello</h1>

</body>

</html>

Q3. What are tags in HTML?
Tags define the beginning and end of an element. Example: <p>, <div>.

Q4. What are attributes in HTML?
Attributes provide additional information to elements. Example: href, src, alt.

Q5. What is an element in HTML?
An element is everything from the start tag to the end tag including the content.

Q6. What is the difference between HTML and XHTML?

- HTML is more lenient and doesn't require elements to be properly closed.

- XHTML is stricter and must follow XML syntax rules.

✅ Tags, Elements, and Structure

Q7. What is a block-level element?
An element that starts on a new line and takes the full width (e.g., <div>, <p>, <section>).

Q8. What is an inline element?
An inline element does not start on a new line and only takes as much width as necessary (e.g., <span>, <a>, <img>).

Q9. Difference between block-level and inline elements?

- Block-level elements occupy the entire width and start on a new line.

- Inline elements stay in-line with the text and only occupy necessary width.

Q10. What is the <div> tag?
A generic container used to group and style elements using CSS.

Q11. What is the <span> tag?
An inline container used to style part of a text or inline content.

Q12. Difference between <div> and <span>?

- <div> is block-level, used for layout and containers.

- <span> is inline, used for text styling.

Q13. What is a self-closing tag?
A tag that does not require a closing tag. Example: <br>, <hr>, <img>.

Q14. List some self-closing (void) HTML tags.

, <hr>, <img>, <meta>, <input>, <link>

Q15. What is a semantic element?
An element that clearly describes its meaning to both browser and developer. Examples: <article>, <header>, <footer>

Q16. What is a non-semantic element?
Elements like <div> and <span> which don't convey any meaning about the content.

Q17. Difference between semantic and non-semantic elements?

- Semantic elements describe the content (e.g., <section>, <article>).

- Non-semantic elements don't give any context (e.g., <div>, <span>).

Q18. What is the purpose of <!DOCTYPE html>?
It tells the browser to use HTML5 rendering mode.

✅ Forms and Inputs

Q19. What are common form elements in HTML?
<form>, <input>, <textarea>, <select>, <option>, <label>, <button>

Q20. What are different type values for <input>?
text, password, email, number, date, file, checkbox, radio, submit, reset, etc.

Q21. What is the use of <label>?
It defines a label for an input element. Clicking the label focuses the input.

Q22. Difference between readonly and disabled?

- readonly: Field is non-editable but sent on form submit.

- disabled: Field is non-editable and not sent on submit.

Q23. What is a placeholder in input fields?
It is a short hint that describes the expected value of the input field.

Q24. What is autocomplete attribute?
Enables or disables browser-based auto-filled input suggestions.

Q25. What is the purpose of action and method attributes in <form>?

- action: URL where the form data will be submitted

- method: HTTP method (GET or POST)

✅ **Multimedia and Links**

Q26. How to embed images in HTML?

<img src="image.jpg" alt="Description" width="300" height="200">

Q27. How to embed audio and video?

<audio controls src="audio.mp3"></audio>

<video controls><source src="video.mp4"></video>

Q28. Difference between <embed>, <object>, and <iframe>?

- <embed>: Embeds multimedia files (PDF, etc.)

- <object>: Embeds any external resource

- <iframe>: Embeds external HTML pages

Q29. What is the alt attribute in <img> tag?
Provides alternative text for the image if it fails to load. Improves accessibility.

Q30. What is the target="_blank" in anchor tag?
Opens the link in a new tab or window.

Q31. Difference between <a> tag and <button> tag?

- <a> is used to navigate (hyperlinks).

- <button> is used to trigger actions like form submission.

✅ **Lists and Tables**

Q32. What are the types of lists in HTML?

- : Unordered list

- : Ordered list

- <dl>: Description list

Q33. Common table tags?
<table>, <thead>, <tbody>, <tfoot>, <tr>, <td>, <th>

Q34. How to merge table cells?
Use rowspan and colspan attributes on <td> or <th>

✅ Meta and SEO

Q35. What are meta tags used for?
To define metadata: character set, description, keywords, viewport, etc.

Q36. What does the <title> tag do?
Defines the title of the document shown in the browser tab.

Q37. What is the viewport meta tag?
Ensures responsive behavior on mobile devices:

<meta name="viewport" content="width=device-width, initial-scale=1.0">

✅ Accessibility & Best Practices

Q38. What is ARIA?
ARIA (Accessible Rich Internet Applications) enhances accessibility with attributes like aria-label, aria-hidden, etc.

Q39. What are best practices for accessibility in HTML?
Use semantic elements, alt text, labels, keyboard-friendly interactions, and ARIA roles.

✅ Advanced Concepts

Q40. What is localStorage and sessionStorage?

- localStorage: Stores data with no expiration.

- sessionStorage: Data lasts for session duration.

Q41. What are data attributes in HTML5?
Allow custom data to be stored on elements using data-* attributes.

Q42. What is the <template> tag?
Used to define reusable HTML chunks hidden until rendered via JavaScript.

Q43. What is the difference between <script> and <noscript>?

- <script> loads JavaScript.

- <noscript> displays fallback if JS is disabled.

Q44. What is the <marquee> tag? Is it still used?
It creates scrolling text. Deprecated and not recommended.

✅ Logical Differences (with both sides)

Q45. Difference between <section> and <article>?

- <section>: Groups related content

- <article>: Represents independent, self-contained content

Q46. Difference between <thead>, <tbody>, <tfoot>?

- <thead>: Contains heading rows

- <tbody>: Contains main data rows

- <tfoot>: Contains summary/footer rows

Q47. Difference between <strong> and <b>?

- <strong>: Has semantic meaning for importance

- <b>: Just styling (bold)

Q48. Difference between <em> and <i>?

- <em>: Emphasizes meaning

- <i>: Italic style only

Q49. Difference between <input type="button"> and <button>?

- <input> is void (no inner text)

- <button> supports inner HTML and more flexible

Q50. Difference between HTML and HTML5?

- HTML5 is the latest version of HTML with new semantic tags, APIs, and multimedia support.

Tag	Description	Common Attributes	Example Usage
<a>	Defines a hyperlink	href, target, rel, download	Visit
<abbr>	Abbreviation/acronym	title	<abbr title="HyperText Markup Language">HTML</abbr>
<address>	Contact information	–	<address>Contact us at ...</address>
<area>	Defines an area inside an image map	shape, coords, href, alt	<area shape="rect" coords="34,44,270,350" href="link.html" />
<article>	Self-contained content	–	<article> News </article>
<aside>	Secondary content	–	<aside>Related links</aside>

`<audio>`	Embed audio	src, controls, autoplay, loop, muted	`<audio controls src="song.mp3"></audio>`
`<b>`	Bold text (no semantic meaning)	–	`<b>Bold</b>`
`<base>`	Base URL for relative URLs	href, target	`<base href="https://example.com/">`
`<bdi>`	Isolates text direction	–	`<bdi>مرحبا</bdi>`
`<bdo>`	Overrides text direction	dir	`<bdo dir="rtl">Text</bdo>`
`<blockquote>`	Long quotation	cite	`<blockquote cite="source.html">Quote</blockquote>`
`<body>`	Body section	onload, onunload	`<body>Content</body>`
` `	Line break	–	`Line Break`
`<button>`	Clickable button	type, disabled, name, value	`<button type="submit">Send</button>`
`<canvas>`	Drawing area	width, height	`<canvas id="myCanvas"></canvas>`
`<caption>`	Table caption	–	`<caption>Monthly Report</caption>`
`<cite>`	Title of a work	–	`<cite>Book Title</cite>`
`<code>`	Displays code	–	`<code>let x = 5;</code>`
`<col>`	Column in table	span, width, style	`<col span="2" style="background-color:yellow">`
`<colgroup>`	Group of table columns	span	`<colgroup><col span="2"></colgroup>`
`<data>`	Machine-readable data	value	`<data value="123">Product #123</data>`
`<datalist>`	Autocomplete options	–	`<datalist id="browsers">...</datalist>`
`<dd>`	Description in list	–	`<dd>Definition</dd>`

<del>	Deleted content	cite, datetime	~~Old Text~~
<details>	Toggle element	open	<details><summary>More</summary>Details...</details>
<dfn>	Definition term	–	<dfn title="Cascading Style Sheets">CSS</dfn>
<dialog>	Dialog popup	open	<dialog open>This is a dialog</dialog>
<div>	Generic container	class, id, style	<div class="box">Content</div>
<dl>	Description list	–	<dl><dt>Term</dt><dd>Definition</dd></dl>
<dt>	Term in list	–	<dt>HTML</dt>
	Emphasized text	–	Important
<embed>	External resource	src, type, width, height	<embed src="file.pdf" type="application/pdf">
<fieldset>	Group of form elements	disabled, form, name	<fieldset><legend>Info</legend></fieldset>
<figcaption>	Caption for figure	–	<figcaption>Image description</figcaption>
<figure>	Groups visual content	–	<figure><img src="img.png"><figcaption>Caption</figcaption></figure>
<footer>	Page footer	–	<footer>Copyright</footer>
<form>	Form container	action, method, target, autocomplete	<form action="submit.php" method="post"></form>
<h1>-<h6>	Headings	–	Main Heading
<head>	Document metadata	–	<head><title>Page</title></head>
<header>	Page header	–	<header>Logo</header>
<hr>	Thematic break	–	<hr>
<html>	Root element	lang	<html lang="en">...</html>
<i>	Italic text	–	<i>Italic</i>

<iframe>	Inline frame	src, height, width, title, loading	<iframe src="page.html"></iframe>
<img>	Image element	src, alt, width, height, loading	<img src="logo.png" alt="Logo">
<input>	User input field	type, name, value, placeholder, required	<input type="text" placeholder="Enter name">
<ins>	Inserted text	cite, datetime	<ins>New</ins>
<kbd>	Keyboard input	–	<kbd>Ctrl</kbd>
<label>	Label for input	for	<label for="name">Name</label>
<legend>	Fieldset caption	–	<legend>Info</legend>
	List item	value (for)	Item
<link>	External resource	rel, href, type	<link rel="stylesheet" href="style.css">
<main>	Main content	–	<main>Core content</main>
<map>	Image map	name	<map name="map">...</map>
<mark>	Highlighted text	–	<mark>Important</mark>
<marquee>	Scrolling text (deprecated)	direction, behavior, scrollamount	<marquee>Scroll</marquee>
<meta>	Metadata	charset, name, content	<meta name="viewport" content="width=device-width">
<meter>	Scalar measurement	min, max, value, low, high, optimum	<meter value="6" min="0" max="10">6/10</meter>
<nav>	Navigation section	–	<nav> ... </nav>
<noscript>	Alt content for no JS	–	<noscript>Enable JavaScript</noscript>

`<object>`	Embeds content	data, type, height, width	`<object data="file.swf"></object>`
`<ol>`	Ordered list	type, start, reversed	`<ol><li>Item</li></ol>`
`<optgroup>`	Group of options	label, disabled	`<optgroup label="Group"><option>One</option></optgroup>`
`<option>`	Dropdown option	value, selected	`<option value="1">One</option>`
`<output>`	Output result	for, form, name	`<output name="x" for="a b"></output>`
`<p>`	Paragraph	–	`<p>This is a paragraph</p>`
`<picture>`	Responsive images	–	`<picture><source srcset="img.webp" type="image/webp"><img src="img.jpg"></picture>`
`<pre>`	Preformatted text	–	`<pre> Indented</pre>`
`<progress>`	Progress bar	value, max	`<progress value="70" max="100"></progress>`
`<q>`	Short inline quote	cite	`<q cite="source.html">Quote</q>`
`<s>`	Strikethrough	–	`<s>Old price</s>`
`<samp>`	Sample output	–	`<samp>Error message</samp>`
`<script>`	JavaScript code	src, type, async, defer	`<script src="script.js"></script>`
`<section>`	Thematic section	–	`<section><h2>Blog</h2></section>`
`<select>`	Dropdown menu	name, multiple, disabled	`<select><option>One</option></select>`
`<small>`	Smaller text	–	`<small>Note</small>`
`<source>`	Media source	src, type, media	`<source src="movie.mp4" type="video/mp4">`
`<span>`	Inline container	–	`<span class="highlight">Text</span>`
`<strong>`	Important text	–	`<strong>Do this</strong>`
`<style>`	Internal CSS	type, media	`<style>body { color: red; }</style>`

Tag	Description	Attributes	Example
<sub>	Subscript	–	H₂O
<summary>	Summary of <details>	–	<summary>Click to expand</summary>
<sup>	Superscript	–	x²
<svg>	Vector graphics	–	<svg width="100" height="100"></svg>
<table>	Table container	–	<table>...</table>
<tbody>	Table body	–	<tbody>...</tbody>
<td>	Table data cell	colspan, rowspan	<td rowspan="2">Cell</td>
<template>	Template content	–	<template> Hidden </template>
<textarea>	Multi-line input	rows, cols, placeholder, maxlength	<textarea rows="4"></textarea>
<tfoot>	Table footer	–	<tfoot>...</tfoot>
<th>	Table header cell	colspan, rowspan, scope	<th scope="col">Name</th>
<thead>	Table head	–	<thead>...</thead>
<time>	Date/time	datetime	<time datetime="2024-07-14">Today</time>
<title>	Page title	–	<title>Page Title</title>
<tr>	Table row	–	<tr>...</tr>
<track>	Media subtitles	src, kind, label, srclang	<track kind="subtitles" src="subs.vtt">
<u>	Underlined text	–	<u>Underline</u>
	Unordered list	–	Item
<var>	Variable name	–	<var>x</var>
<video>	Embeds video	src, controls, autoplay, loop, muted	<video controls src="video.mp4"></video>
<wbr>	Line break opportunity	–	word<wbr>break