What are the types of HTML tags?

HTML tags are classified into the following types:

1. **Structural Tags** – `<div>`, `<header>`, `<footer>`, `<section>`, `<article>`

2. **Formatting Tags** – `<b>`, `<i>`, `<u>`, `<strong>`, `<em>`

3. **Form Tags** – `<form>`, `<input>`, `<button>`, `<select>`, `<textarea>`

4. **Media Tags** – `<img>`, `<audio>`, `<video>`, `<iframe>`

5. **Table Tags** – `<table>`, `<tr>`, `<th>`, `<td>`

6. **List Tags** – `<ul>`, `<ol>`, `<li>`, `<dl>`, `<dt>`, `<dd>`

7. **Hyperlink and Navigation Tags** – `<a>`, `<nav>`

8. **Metadata Tags** – `<title>`, `<meta>`, `<link>`, `<style>`, `<script>`

What are the types of HTML elements?

HTML elements are categorized into:

1. **Block-level Elements** – Take up the full width of their container.
   Examples: `<div>`, `<p>`, `<h1>` to `<h6>`, `<section>`, `<article>`

2. **Inline Elements** – Only take up as much width as necessary.
   Examples: `<span>`, `<a>`, `<b>`, `<i>`, `<u>`

3. **Self-closing (Void) Elements** – Do not require a closing tag.
   Examples: `<img>`, `<input>`, `<br>`, `<hr>`, `<meta>`

4. **Semantic Elements** – Provide meaning to the structure.
   Examples: `<header>`, `<footer>`, `<main>`, `<nav>`, `<article>`, `<section>`

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5. **Non-Semantic Elements** – Do not provide meaning, only structure.
   Examples: `<div>`, `<span>`

What is the difference between One-dimensional (1D) elements and Two-dimensional (2D) elements?

Aspect	1D Elements	2D Elements
Definition	Elements that structure content in a single direction (horizontal/vertical).	Elements that structure content in both horizontal and vertical directions.
Examples	`<p>`, `<h1>`, `<ul>`, `<a>`, `<span>` (mostly linear content)	`<table>`, `<canvas>`, `<grid>` (tabular or graphical content)
Usage	Used for text, inline elements, and lists.	Used for creating tables, graphics, or layouts.
Layout Control	Basic structure, mainly controlled by CSS properties like `display: block;` or `display: inline;`.	Uses grid-based layout or coordinate-based positioning.

Examples:

1D Element (Linear):

```html
<p>This is a paragraph.</p>
```

2D Element (Tabular/Graphical):

```html
<table border="1">
  <tr>
    <th>Name</th><th>Age</th>
  </tr>
  <tr>
    <td>John</td><td>25</td>
  </tr>
```

```
</table>
```

What is HTML?
 HTML (HyperText Markup Language) is the standard language for creating web pages.

What are HTML elements?
 HTML elements are the building blocks of a web page, defined by start and end tags.

What is the difference between HTML and HTML5?
 HTML5 is the latest version with new features like `<canvas>`, `<video>`, and `<audio>`, better semantics, and improved browser support.

What is a DOCTYPE in HTML?
 A DOCTYPE declaration (`<!DOCTYPE html>`) tells the browser the HTML version to use.

What are HTML attributes?
 Attributes provide additional information about an element, e.g., `<a href="https://example.com">`.

What is the difference between block-level and inline elements?
 Block-level elements (`<div>`, `<p>`) take up the full width, while inline elements (`<span>`, `<a>`) only take up the necessary space.

What are semantic elements in HTML?
 Semantic elements (`<article>`, `<section>`, `<nav>`, `<header>`) provide meaning to web content.

What is the difference between `<div>` and `<span>`?
 `<div>` is a block-level container, while `<span>` is an inline container.

What is the purpose of the `<meta>` tag?
 The `<meta>` tag provides metadata like character encoding, viewport settings, and SEO descriptions.

What is the difference between absolute, relative, and fixed URLs?

- Absolute: Full URL (`https://example.com/page`).

- Relative: Path from the current page (`/page`).

- Fixed URLs do not change with the viewport.

What is the `<header>` element?
It represents the introductory content of a webpage or section.

What is the `<footer>` element?
It represents the footer of a page, usually containing copyright or links.

What is the `<main>` element?
It holds the primary content of a document.

What are the `<section>` and `<article>` elements?

- `<section>` groups related content.

- `<article>` represents self-contained, reusable content like blog posts.

What is the `<nav>` element?
It defines a navigation section containing links to other pages.

What is the `<aside>` element?
It defines content indirectly related to the main content, like sidebars.

What is the purpose of the `<form>` element?
The `<form>` element is used to collect user input and submit it to a server.

What are the different input types in HTML?
Common types: `text`, `password`, `email`, `number`, `date`, `radio`, `checkbox`, `file`, `submit`, etc.

What is the difference between GET and POST methods?
GET sends data in the URL, while POST sends data in the request body, making it more secure.

What does the `placeholder` attribute do?
It provides a hint inside input fields before users type.

What is the purpose of the `<label>` element?
It associates text labels with form controls, improving accessibility.

What is the difference between `name` and `id` attributes?
`id` is unique within a page, while `name` is used to group form elements.

What is the `required` attribute?
It makes form fields mandatory before submission.

How can you create a dropdown list in HTML?
Using `<select>` and `<option>` elements:

```
<select>
  <option value="1">Option 1</option>
  <option value="2">Option 2</option>
</select>
```

What is the difference between radio buttons and checkboxes?
Radio buttons allow only one selection, while checkboxes allow multiple.

What is the difference between `<button>` and `<input type="submit">`?
`<button>` allows custom content inside, while `<input type="submit">` only submits the form.

How do you embed a video in HTML?
Using the `<video>` tag:

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

How do you embed an audio file?
Using the `<audio>` tag:

```
<audio controls>
  <source src="audio.mp3" type="audio/mpeg">
</audio>
```

What is the `<canvas>` element used for?
 It is used to draw graphics and animations with JavaScript.

What is the `<iframe>` element?
 It embeds another webpage inside the current page.

What is the `<svg>` element used for?
 It defines scalable vector graphics in XML format.

How do you autoplay a video?
 Use the `autoplay` attribute in `<video>`.

How do you make an image responsive?
 Use CSS `max-width: 100%; height: auto;`.

How do you create a table in HTML?
 Using `<table>`, `<tr>` (row), `<th>` (header), and `<td>` (data cell).

What are the types of lists in HTML?
 Ordered (`<ol>`), unordered (`<ul>`), and definition (`<dl>`) lists.

How do you create an anchor link in HTML?
 Using `<a href="https://example.com">Click here</a>`.

How do you open a link in a new tab?
 Use `target="_blank"` in the `<a>` tag.

What is the purpose of `rel="noopener noreferrer"` in links?
 It prevents security risks when opening links in a new tab.

How do you link an email address?
 Using `mailto:` in the `<a>` tag:

```
<a href="mailto:example@example.com">Email Us</a>
```

What is the `<details>` and `<summary>` elements used for?
 They create expandable/collapsible content sections.

What is the difference between `id` and `class`?
`id` is unique; `class` can be shared among multiple elements.

What is lazy loading?
It loads images and iframes only when they are needed.

What is the `<noscript>` tag?
It provides alternative content if JavaScript is disabled.

What is the `contenteditable` attribute?
It makes an element editable by the user.

What is the difference between `innerHTML` and `textContent`?
`innerHTML` includes HTML tags, while `textContent` only includes text.

How do you make an element draggable?
Add `draggable="true"` to an element.

What is the difference between `<script>` in the `<head>` vs `<body>`?
In `<head>`, it loads before rendering; in `<body>`, it loads after content.