99 HTML INTERVIEW QUESTIONS

In these notes, we will cover all the important questions from basic to advanced levels. Here are the important topics to be discussed

Topics	Number of Questions
Basic HTML	10
Text Formatting	10
Lists	5
Links and Navigation	5
Images	5
Tables	5
Forms	10
Semantic HTML	10
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HTML5 New Features	5
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Total	**99**

BASIC HTML

Q.1] What is **HTML**?

- HTML stands for ***HyperText Markup Language***
- Markup means it is used to structure the content of the webpage.
- HTML contains the set of elements or tags which are used to define the ***structure*** and ***semantics*** of a webpage.

Q.2] What is the purpose of the `<!DOCTYPE html>` declaration?

- It informs the browser about the version of HTML being used and ensures proper rendering

Q.3] What are the main sections of an HTML document?

- The main sections are **`<html>`**, **`<head>`**, and **`<body>`**.

Q.4] How do you write a **comment** in HTML?

```
<!-- comment -->
```

Starting tag : `<!–`

Ending tag: `–->`

Remember the Structure of the web page

```
<!DOCTYPE html>
<html lang="en">
<head>
    <!-- meta charset -->
    <!-- meta viewport -->
    <!-- title -->
</head>
<body>
    <!-- Main content goes here -->
</body>
</html>
```

Q.5] What is the purpose of the `<head>` element?

It holds the below information

- Metadata
- Links to stylesheets
- Scripts

In general, it contains information that is not displayed directly on the page.

Q.6] What is the purpose of the `<title>`element?

- It sets the title of the web page, which is displayed on the browser tab.

Q.7] What is the purpose of the `<body>` element?

- It **contains the content of the HTML** document that is displayed in the browser.

Q.8] How do you create a hyperlink in HTML?

- Use the **`<a>`** tag with the **`href`** attribute

```
<a href="URL">Link text</a>
```

Q.9] What is the difference between an **absolute URL** and a **relative URL?**

- An absolute URL includes the full path (e.g., https://www.example.com/page)
- Relative URL is relative to the current page's location (e.g., /page).

Q.10] What is the difference between an **element** and a **tag**?

- An **element** includes the ***opening tag***, **content**, and **closing tag** ** **`content`** **
- while a **tag** is the **part inside angle brackets** `<p>`

TEXT FORMATTING

Q.11] How do you create a **paragraph** in HTML?

- The ** ** element defines a paragraph of text
- It is a block-level element that automatically adds some space above and below the text

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

Q.12] How do you create a **line break** in HTML?

- The **
** element inserts a line break within the text
- It is an ***empty (void) element***, meaning it doesn't have a closing tag

Q.13] How do you make **text bold** in HTML?

- The **** element is used to indicate that the text is of strong importance
- It is a semantic element, meaning it conveys meaning in addition to the styling

```
<strong>This text is bold.</strong>
```

Q.14] How do you make **text italic** in HTML?

- The **** element is used to emphasize text
- Tt is a semantic element.

```
<em>This text is italic.</em>
```

Q.15] How do you create a **heading** in HTML?

- The **<h1>** to **<h6>** elements define headings
- `<h1>` being the highest (most important) level and **<h6>** the lowest.

Q.16] What is the `<blockquote>` element used for?

- The **<blockquote>** element is used to define a section that is quoted from another source.
- It is typically displayed as an indented block of text.

Q.17] How do you **create a horizontal line** in HTML?

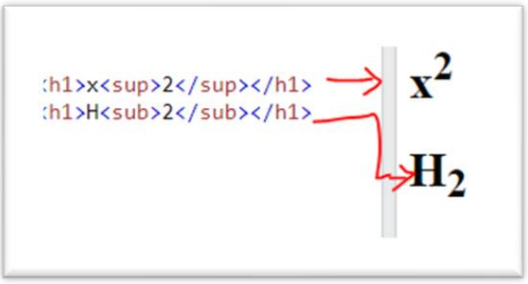
- A horizontal line is created using the **<hr>** tag
- This tag is an **empty tag** and is used to insert a horizontal rule or divider

Q.18] What is the **<pre>** element used for?

- The **<pre>** element is used to define preformatted text.
- Text within this element is displayed in a fixed-width font, and both spaces and line breaks are preserved.

Q.19] How do you create a **superscript** and **subscript** text in HTML?

- **Superscript :** The **<sup>** tag is used to define superscript text, which is text that appears slightly above the normal line of text.
- **Subscript :** The **<sub>** tag is used to define subscript text, which is text that appears slightly below the normal line of text.



Q.20] How many **levels of headings** are there in HTML?

- There are six levels of headings in HTML, ranging from **<h1>** to **<h6>.**

LISTS

Q.21] How do you **create an unordered list** in HTML?

- An unordered list **(<ul>)** uses bullet points for its list items **<li>**

```
<ul>
    <li>Item 1</li>
    <li>Item 2</li>
    <li>Item 3</li>
</ul>
```

Q.22] How do you **create an ordered list** in HTML?

- An ordered list **(<ol>)** uses numbers for its list items **(<li>)**

```
<ol>
    <li>Item 1</li>
    <li>Item 2</li>
    <li>Item 3</li>
</ol>
```

Q.23] How do you **create a list item** in HTML?

- A list item (<li>) is used inside **<ul>** or **<ol>** to define each item in the list.

Q.24] What is the difference between the **<ul>** and **<ol>** elements?

- **<ul>** creates a bulleted list, while **<ol>** creates a numbered list.

Q.25] How do you create a nested list in HTML?

- A nested list is created by placing a **<ul>** or **<ol>** inside a **<li>** of another list.

```
<ul>
    <li>Item 1
        <ul>
            <li>Subitem 1.1</li>
            <li>Subitem 1.2</li>
        </ul>
    </li>
    <li>Item 2</li>
</ul>
```

LINKS AND NAVIGATION

Q.26] How do you **create an anchor link** that **jumps to a specific section** within the same page?

- Use the **href** attribute with a **#** followed by the **id** of the target section.

```
<a href="#section1">Go to Section 1</a>
...
<h2 id="section1">Section 1</h2>
```

Q.27] How do you open a link in a new tab or window?

- Use the **target="_blank"** attribute in the anchor tag.

```
<a href="https://example.com"
target="_blank">Visit Example</a>
```

Q.28] What is the purpose of the target attribute in an anchor tag?

- The **target** attribute specifies where to open the linked document (e.g., **_blank** for a new tab/window).

Q.29] How do you link to an email address in HTML?

- Use the **`mailto:`** protocol in the **`href`** attribute.

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

Q.30] How do you create a navigation menu in HTML?

- Use a **<nav>** element containing an unordered list **(<ul>)** with list items **(<li>)** and anchor tags **(<a>)** for each menu link.

```
<nav>
    <ul>
        <li><a href="#home">Home</a></li>
        <li><a href="#about">About</a></li>
        <li><a href="#services">Services</a></li>
        <li><a href="#contact">Contact</a></li>
    </ul>
</nav>
```

IMAGES

Q.31] How do you embed an image in an HTML page?

- Use the **<img>** tag with the **`src`** attribute to specify the image file path
- Add the **`alt`** attribute for alternative text.

```
<img src="image.jpg" alt="Description of image">
```

Q.32] What is the purpose of the **alt** attribute in an image tag?

- The **`alt`** attribute provides ***alternative text*** for the image, which is ***displayed if the image cannot be loaded***
- Also it is ***used by screen readers for accessibility***.

Q.33] How do you make an image a clickable link?

- Wrap the **<img>** tag inside an **<a>** tag.

```
<a href="https://example.com">
    <img src="image.jpg" alt="Description of image">
</a>
```

Q.34] What is the difference between **inline** and **block-level elements**?

Inline Elements	Block-Level Elements
Do not start on a new line	Always start on a new line
Only takes up as much width as necessary	Takes up the full width available
Only as high as its content	Can have a specified height
Example: `<span>`, `<a>`, `<img>`, `<strong>`	`<div>`, `<p>`, `<h1>`, `<section>`
Top and **bottom** margins/padding not respected	Margins and padding respected on all sides
Can be nested inside block elements	Can contain both inline and block elements
Does not cause a line break before and after	Causes a line break before and after

Q.35] What is the difference between **semantic** and **non-semantic** HTML

Semantic HTML Elements	Non-Semantic HTML Elements
Elements that clearly describe their meaning in a human- and machine-readable way	Elements that do not provide clear meaning or context about their content
To provide meaningful structure to the content and ***improve accessibility, SEO, and maintainability***	To define sections of a page without any inherent meaning
`<header>`, `<nav>`, `<article>`, `<section>`, `<footer>`, `<aside>`, `<main>`	`<div>`, `<span>`
Easier to read and maintain due to clear meaning and structure	Harder to read and maintain as they require class or id attributes to convey meaning
Better support for assistive technologies, making content more accessible	Poor support for assistive technologies as they lack semantic meaning

Improved search engine optimization as search engines better understands the content structure	Lesser SEO benefits as search engines cannot infer the meaning of the content easily

TABLES

Q. 36] How do you create a table in HTML?

- Use the **<table>** tag to define the table, with **<thead>**, **<tbody>**, and optionally **<tfoot>** for structuring the table's **header**, **body**, and **footer**.

```
<table>
    <thead>
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>Data 1</td>
            <td>Data 2</td>
        </tr>
    </tbody>
</table>
```

Q. 37] How do you create a **table row** in HTML?

- Use the **<tr>** tag to define a table row
- It contains the table cells **<td>** and **<th>**

```
<tr>
    <td>Data 1</td>
    <td>Data 2</td>
</tr>
```

Q. 38] How do you create a **table cell** in HTML?

- Use the **<td>** tag for a **data cell** or the **<th>** tag for a **header cell** within a **<tr>** (table row).

Q. 39] *What is the purpose of the <thead>, <tbody>, and <tfoot> elements?*

- **<thead>:** Groups the header content of a table.
- **<tbody>:** Groups the body content of a table.
- **<tfoot>:** Groups the footer content of a table.

Q. 40] How do you **merge cells** in a table?

- Use the **colspan** attribute to merge cells horizontally
- Use the **rowspan** attribute to merge cells vertically.

```
<td colspan="2">Merged Cell</td>
<td rowspan="2">Merged Cell</td>
```

FORMS

Q.41] How do you create a form in HTML?

- To create a form in **HTML**, use the **<form>** element

```
<form action="/submit-form" method="post">
  <!-- form elements go here -->
</form>
```

Q.42] What is the purpose of the **<form>** element?

- The **<form>** element is used to create an HTML form for user input.
- It can contain various input elements like **text fields, checkboxes**, **radio buttons**, and **submit buttons**.
- It also defines where and how the data should be submitted.

Q.43] How do you create a text input field in HTML?

- To create a text input field, use the **<input>** element with **type="text"**

```
<input type="text" name="username">
```

Q.44] How do you **create a password input field** in HTML?

- To create a password input field, use the **<input>** element with **type="password"**

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

Q.45] How do you **create a radio button** in HTML?

- To create a radio button, use the **`<input>`** element with **`type="radio"`**
- The name value must be the same

```
<input type="radio" name="gender" value="male"> Male
<input type="radio" name="gender" value="female"> Female
```

Q.46] How do you **create a checkbox** in HTML?

- To create a checkbox, use the **`<input>`** element with **`type="checkbox"`**

Q.47] How do you **create a dropdown list** in HTML?

- To create a dropdown list, use the **`<select>`** element with **`<option>`** elements

```
<select name="country">
  <option value="usa">USA</option>
  <option value="canada">Canada</option>
  <option value="uk">UK</option>
</select>
```

Q.48] How do you **create a submit button** in HTML?

- To create a submit button, use the **`<input>`** element with **`type="submit"`**
- Use the **`<button>`** element with **`type="submit"`**

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

OR

<button type="submit">Submit</button>
```

Q.49] What is the purpose of the **`action`** attribute in a form?

- The **`action`** attribute specifies the **URL** to which the form data should be submitted.
- It tells the browser where to send the form's data upon submission.

Q.50] What is the purpose of the `method` attribute in a form?

- The `method` attribute specifies the **HTTP** method (**GET** or **POST**) to use when submitting the form data.
- **`GET`** appends the form data to the URL, while **`POST`** sends the form data in the request body, which is more secure for sensitive information.

😍 Remember

- Traditional **HTML** form submission with **`action`** and **`method`** attributes typically involves a **server-side request** and **page reload**
- Hence form submission are handled programmatically in React like frameworks

SEMANTIC HTML

Q.51] What is **semantic HTML**?

- Semantic HTML refers to using HTML tags that clearly describe their meaning in a **human- and machine-readable way**.
- These tags convey the structure of the content rather than just its appearance.

Q.52] Why is semantic HTML important?

- Semantic HTML enhances **accessibility**, **SEO**, and **maintainability**
- It helps ***screen readers*** and **search engines** understand the content better

😍 Remember

What are Screen readers?

- A screen reader is a special tool ***that reads aloud what's on a computer screen***.
- It helps people who can't see well or at all to use computers and mobile devices by speaking out text and describing what's happening on the screen.
- This way, they can navigate websites, use apps, and access digital content like everyone else.

Q.53] What is the **`<article>`** element used for?

- **<article>** is used to define an **independent, self-contained piece** of content that can be distributed and reused independently, such as blog posts, articles, or news items.

Q.54] What is the **<section>** element used for?

- **<section>** defines a thematic grouping of content, typically with a heading.
- It's used to organize content into meaningful sections on a page.

Q.55] What is the **<nav>** element used for?

- **<nav>** represents a section of **navigation links**, such as menus or tables of contents.
- It's used to define navigation blocks within a page or site.

Q.56] What is the **<aside>** element used for?

- **<aside>** is used for content that is tangentially related to the main content of the page, such as **sidebars**, pull quotes, or **advertisements**.

Q.57] What is the **<header>** element used for?

- **<header>** typically contains introductory content or elements at the top of a page or section.
- It often includes **headings**, **logos**, **navigation links**, or **search forms**.

Q.58] What is the **<footer>** element used for?

- **<footer>** is used to contain information that appears at the bottom of a webpage or section.
- This can include **copyright notices, contact information**, or **links to related content**.

Q.59] What is the **<main>** element used for?

- **<main>** specifies the main content of a ***webpage*** or ***section***.
- It **excludes** content like navigation menus that are repeated across multiple pages.

Q.60] What are the **<figure>** and **<figcaption>** elements used for?

- **<figure>** is used to encapsulate media content like images, videos, or charts.
- **<figcaption>** provides a caption or description for the content inside the **<figure>**

Multimedia

Q.61] How do you **embed a video** in HTML?

- To embed a video in HTML, you use the **<video>** element.

```
<video width="320" height="240" controls>
  <source src="video.mp4" type="video/mp4">
  Your browser does not support the video tag.
</video>
```

- The **<video>** element defines a video player on your webpage.
- **width** and **height** attributes specify the dimensions of the video player.
- The **<source>** element inside **<video>** provides different formats of the video (**src** attribute) and their **MIME** types (**type** attribute).
- The **controls** attribute adds playback controls (play, pause, volume, etc.).

Q.62] How do you **embed an audio file** in HTML?

- Embedding an audio file is similar to embedding a video.
- You use the **<audio>** element

```
<audio controls>
  <source src="audio.mp3" type="audio/mpeg">
  Your browser does not support the audio tag.
</audio>
```

Q.63] What is the purpose of the **<source>** element in multimedia?

- The **<source>** element is used inside **<audio>** and **<video>** elements to ***specify multiple media resources***.
- It allows the browser to choose the most suitable file to play based on the media type and **codec support** of the user's device.
- This ensures compatibility across different browsers and devices.

Q.64] How do you **embed a YouTube video** in HTML?

- To embed a YouTube video, you use an **<iframe>** element provided by YouTube

```
<iframe width="560" height="315"
src="https://www.youtube.com/embed/VIDEO_ID" frameborder="0"
allowfullscreen></iframe>
```

- Replace **VIDEO_ID** with the actual ID of the YouTube video you want to embed.

Q.65] What is the **<canvas>** element used for?

- The **<canvas>** element in HTML is **used to draw graphics**, **animations**, or any other **visual images** on the fly using JavaScript
- It provides a drawing space on which you can programmatically create and manipulate graphics, such as graphs, animations, games, or interactive visualizations.

```
<canvas id="myCanvas" width="200" height="100"></canvas>
```

- Content inside `<canvas>` is rendered dynamically and can be updated in response to user actions or other events.

HTML5 NEW FEATURES

Q.66] How do you **embed a YouTube video** in HTML?

HTML5 introduced a range of new features and improvements.

- **New Semantic Elements** : `<header>`, `<footer>`, `<article>`, `<section>`, and `<nav>`
- **Multimedia Support:** `<audio>` and `<video>`
- **Form Enhancements**: New input types (`date`, `email`, `url`, `number`, `range`, etc.) and elements (`<datalist>`, `<output>`, `<progress>`).
- **Canvas and SVG** :The `<canvas>` element for drawing graphics via JavaScript and native support for SVG for vector graphics.
- **Local Storage**: `localStorage` and `sessionStorage` for client-side data storage that persists across sessions.
- **Geolocation API** : Enables web applications to access the geographical location of a user.

Q.67] How to Create a Date Input Field in HTML5

- To create a date input field, use the `type="date"` attribute in an `<input>` element

Q.68] What is the `<datalist>` Element Used For?

- The **<datalist>** element provides a list of predefined options for an **<input>** element, often used for autocomplete functionality.

```
<input list="browsers" name="browser">
<datalist id="browsers">
  <option value="Chrome">
  <option value="Firefox">
  <option value="Safari">
  <option value="Edge">
  <option value="Opera">
</datalist>
```

- Users can either type a custom value or select from the predefined options.

Q.69] What is the **<output>** Element Used For?

- The **<output>** element is used to display the result of a calculation or user action, commonly within a form.

```
<form oninput="result.value=parseInt(a.value)+parseInt(b.value)">
  <input type="number" id="a" value="0"> +
  <input type="number" id="b" value="0">
  = <output name="result" for="a b">0</output>
</form>
```

- The `for` attribute links the `<output>` to the input elements, and the `name` attribute can be used in JavaScript to reference it.

Q.70] What is the **<progress>** Element Used For?

- The **<progress>** element represents the completion progress of a task, such as a download or file upload.
- The **value** attribute specifies the current progress, and the **max** attribute defines the total value, rendering a visual progress bar.

```
<progress value="70" max="100"></progress>
```

HTML ATTRIBUTES

Q.71] What are **Attributes in HTML?**

- Attributes in HTML are used to ***provide additional information*** about HTML elements.
- They ***are always included in the opening tag*** of an element and typically come in name/value pairs like **name="value".**
- Attributes help control the behavior and appearance of elements.

Q.72] How to Specify an Attribute in an HTML Tag

- To specify an attribute in an HTML tag, you include it in the opening tag of the element.
- The attribute consists of a name followed by an equals sign and the attribute value enclosed in quotes.

```
<a href="https://www.example.com">Visit Example</a>
```

Q.73] What is the purpose of the **id attribute**?

- The `id` attribute is used to uniquely identify an HTML element
- The `id` attribute can be used for
  - **CSS Styling**
  - **JavaScript Manipulation**
  - **Anchor Links**: Create links that jump to specific sections within the page

Q.74] What is the purpose of the **class attribute**?

- The `class` attribute is used to assign one or more class names to an **HTML** element.
- These class names can be used to apply CSS styles to multiple elements or to select multiple elements in JavaScript

Q.75] What is the purpose of the **style attribute**?

- The `style` attribute is used to apply inline CSS styles directly to an HTML element.
- This attribute allows you to specify CSS properties and their values directly within the HTML tag, which affects the appearance of the element.

RESPONSIVE DESIGN

Q.76] What is Responsive Design?

- Responsive design is a web design approach that ensures a website's layout and content adapt seamlessly to various screen sizes and devices.
- The goal is to provide an optimal user experience regardless of whether the site is accessed on a desktop, tablet, or mobile phone.
- This approach involves using flexible grids, flexible images, and CSS media queries to adjust the design according to the user's device.

Q.77] How to Make an Image Responsive in HTML

- To make an image responsive in HTML, you use **CSS** to ensure the image scales with the size of its containing element.
- The most common method is to set the image's width to 100% and height to auto.

```
<img src="image.jpg" alt="Sample Image" style="width: 100%; height: auto;">
```

Q.78] What is the **Viewport Meta Tag**, and Why is it Important?

- The viewport meta tag is an HTML tag used to control the layout of the web page on different devices by setting the viewport's dimensions and scaling
- It is crucial for responsive design because it tells the browser how to adjust the page's scaling and dimensions to fit the screen properly.

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

Q.79] How to **Use Media Queries** in HTML?

- Media queries are used in CSS to apply styles based on the conditions like screen size, orientation, resolution, etc
- They help make a website responsive by applying different styles at different breakpoints.

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta name="viewport"
content="width=device-width, initial-
scale=1.0">
  <style>
    body {
      background-color: lightblue;
    }
    @media (max-width: 600px) {
      body {
        background-color: lightcoral;
      }
    }
  </style>
</head>
<body>
  <h1>Hello World!</h1>
  <p>Resize the browser window to see
the background color change.</p>
</body>
</html>
```

ACCESSIBILITY

Q.80] How to **Use Media Queries** in HTML?

- Web accessibility ensures that websites, tools, and technologies are designed and developed so that people with disabilities can use them effectively.
- This includes providing equal access and opportunities to people with various impairments, such as visual, auditory, physical, speech, cognitive, and neurological disabilities.

Q.81] How to Make an HTML Page Accessible?

To make an HTML page accessible, you can follow these best practices:

- Use Semantic HTML
- Provide Text Alternatives
- Ensure Keyboard Accessibility
- Use ARIA Attributes
- Provide Proper Labels
- Maintain High Contrast between text and background
- Use Descriptive Link Texts

Q.82] What is the Purpose of the `alt` Attribute in Images for Accessibility?

- The `alt` attribute provides a textual description of an image for screen readers, which helps visually impaired users understand the content and context of the image.
- It also serves as a fallback if the image fails to load.

```html
<img src="example.jpg" alt="A scenic
view of the mountains during sunrise">
```

Q.83] How to Use ARIA (Accessible Rich Internet Applications) in HTML

- **ARIA** enhances the accessibility of interactive elements that do not have native support in HTML.
- **ARIA** attributes include **roles**, **states**, and **properties**

```html
<button aria-label="Close"
role="button">X</button>
```

- `aria-label` provides an accessible name for the button.
- `role="button"` defines the element's role, making it recognizable as a button by assistive technologies.

Q.84] What is the Purpose of the `role` Attribute in HTML?

- The `role` attribute defines the specific role of an element, especially when the element does not use a native semantic HTML element.
- This helps assistive technologies understand the purpose of the element.

```html
<div role="navigation">
  <ul>
    <li><a href="#home">Home</a></li>
    <li><a href="#about">About</a></li>
    <li><a href="#contact">Contact</a>
</li>
  </ul>
</div>
```

BEST PRACTICES

Q.85] What are some best practices for writing HTML?

- Use Semantic HTML
- Keep Code Clean and Indented
- Use Descriptive Titles and Headings
- Include Alt Attributes for Images
- Use External CSS and JavaScript
- Minimize Inline Styles
- Ensure Accessibility : Use ARIA roles and labels, and ensure keyboard navigability.

ADVANCED TOPICS

Q.86] What is the DOM (Document Object Model)?

- The **Document Object Model (DOM)** is a programming interface for web documents.
- It represents the structure of a document as a tree of objects, where each node is an object representing a part of the document.
- The DOM allows programming languages, such as JavaScript, to manipulate the content, structure, and styles of a webpage dynamically.

Q.87] How to Manipulate the DOM Using JavaScript

- You can manipulate the **DOM** using JavaScript by selecting elements and modifying their properties, content, or structure.

Here are some common methods

Selecting Elements:

```
document.getElementById("elementId"); // Selec
document.getElementsByClassName("className");
document.getElementsByTagName("tagName"); // S
document.querySelector("selector"); // Selects
selector
document.querySelectorAll("selector"); // Sele
```

Modifying Elements

```
var element = document.getElementById("elementId");
element.textContent = "New Content"; // Changes the
element.style.color = "red"; // Changes the style
element.setAttribute("attribute", "value"); // Sets
```

Creating and Inserting Elements

```
var newElement = document.createElement("div");
newElement.textContent = "Hello World";
document.body.appendChild(newElement); // Adds
```

Removing Elements

```
var element = document.getElementById("elementId");
element.parentNode.removeChild(element); // Removes
```

Q.88] What is the Purpose of the **`data-*`** Attributes?

- The **`data-*`** attributes are used to store custom data private to the page or application.
- They provide a way to embed custom data attributes on all HTML elements.
- The attributes are accessible via JavaScript and can be used to store extra information that doesn't have any visual representation.

```
<div id="myDiv" data-user-id="123" data-role="admin">User Information</div>
```

- Accessing `data-*` attributes in JavaScript:

```
var element = document.getElementById("myDiv");
var userId = element.getAttribute("data-user-id");
var role = element.dataset.role;
console.log(userId); // Output: 123
console.log(role); // Output: admin
```

PERFORMANCE

Q.89] How Do You Optimize the Performance of an HTML Page?

To optimize the performance of an HTML page, consider the following best practices

- Minimize HTTP Requests
- Optimize Images
- Enable Caching
- Minify and Compress Files
- Optimize CSS and JavaScript : Place CSS in the `<head>` and JavaScript at the end of the `<body>` or use attributes like `async` and `defer`.

Q.90] What is **Lazy Loading**, and How Do You Implement It in HTML?

- Lazy loading is a technique that defers the loading of non-essential resources (like images and iframes) until they are needed, typically when they come into the viewport.
- This improves page load times and reduces initial load size.
- To implement lazy loading for images in HTML, you can use the `loading` attribute

```
<img src="image.jpg"
alt="Sample Image"
loading="lazy">
```

Q.91] What is **Lazy Loading**, and How Do You Implement It in HTML?

- To defer the loading of JavaScript files, you can use the `defer` attribute in the `<script>` tag.
- The `defer` attribute ensures that the script is executed after the HTML document has been parsed completely
- Scripts with the `defer` attribute are executed in the order they appear in the document.

```
<script src="script.js"
defer></script>
```

Q.92] What is the Purpose of the `async` Attribute in Script Tags?

- The **`async`** attribute in script tags allows the script to be downloaded asynchronously without blocking the HTML parsing.
- When the script is downloaded, it executes immediately, potentially out of order with other scripts.

```
<script src="script.js"
async></script>
```

OTHER QUESTIONS

Q.93] How do you include an external CSS file in an HTML document?

```
<link rel="stylesheet"
href="styles.css">
```

Q.94] What is the purpose of the `lang` attribute in the `<html>` tag, and how do you use it?

- The `lang` attribute specifies the language of the document for accessibility and SEO purposes.

```
<html lang="en">
```

Q.95] How do you create a tooltip in HTML?

- Use the `title` attribute to create a tooltip.

```
<p title="This is a tooltip">Hover over this text</p>
```

Q.96] What is the purpose of the `<template>` element in HTML?

- The `<template>` element is used to declare HTML fragments that are not rendered until they are cloned and inserted into the document using JavaScript.

```
<template id="my-template">
  <p>This is a template</p>
</template>
```

Q.97] What is the difference between `innerHTML` and `textContent` in manipulating DOM elements?

- `innerHTML` sets or gets the HTML markup inside an element, while `textContent` sets or gets only the text content of an element, ignoring HTML tags.

Q.98] How do you implement a file upload control in an HTML form?

```
<form action="/upload" method="post" enctype="multipart/form-data">
  <input type="file" name="file">
  <input type="submit" value="Upload">
</form>
```

Q.99] What is the difference between the `defer` and `async` attributes in script tags?

- `defer` ensures the script is executed after the HTML is fully parsed, in order
- `async` executes the script as soon as it is downloaded, without waiting for the HTML to be fully parsed, out of order.

```
<script src="script.js" defer></script>
<script src="script.js" async></script>
```