**HTML**

**1. What is HTML?**

- Answer: HTML stands for HyperText Markup Language. It is the standard markup language used to create and design web pages.

**2. What is the purpose of HTML tags?**

- Answer: HTML tags are used to define and structure the content of a web page. They indicate how the content should be displayed in a browser.

**3. Explain the difference between HTML and XHTML.**

- Answer: XHTML is a stricter and more XML-based version of HTML. It enforces stricter syntax rules and is designed to be compatible with XML.

**4. What is the DOCTYPE declaration in HTML?**

- Answer: The DOCTYPE declaration defines the document type and version of HTML being used. It helps browsers to render the page correctly.

- Example:

<!DOCTYPE html>

<html>

<!-- Rest of the HTML document -->

</html>

**5. What is the purpose of the `alt` attribute in the `img` tag?**

- Answer: The `alt` attribute provides alternative text for an image, displayed if the image cannot be loaded, and assists users with screen readers.

- Example:

<img src="image.jpg" alt="A descriptive text about the image">

**6. Explain the difference between `div` and `span` tags.**

- Answer: `<div>` is a block-level element used for grouping and applying styles to a section of content. `<span>` is an inline element used for applying styles or scripting to a small piece of content.

- Example:

<div>This is a block of content</div>

<span>This is an inline element</span>

**7. What is semantic HTML?**

- Answer: Semantic HTML involves using tags that carry meaning about the structure of the page content, such as `<header>`, `<nav>`, `<article>`, `<footer>`, etc.

- Example:

<header>

<h1>Website Title</h1>

<p>Subtitle or tagline</p>

</header>

**8. What is the purpose of the `href` attribute in the `a` tag?**

- Answer: The `href` attribute in the `<a>` (anchor) tag specifies the URL to which the link points. It is used to create hyperlinks.

- Example:

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

**9. Explain the difference between `GET` and `POST` methods in a form.**

- Answer: The `GET` method is used for requests where the parameters are appended to the URL. The `POST` method sends the data in the HTTP request body. `POST` is more secure and suitable for sensitive information.

- Example:

<!-- Using GET method -->

<form action="/submit" method="GET">

<!-- Form fields -->

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

</form>

<!-- Using POST method -->

<form action="/submit" method="POST">

<!-- Form fields -->

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

</form>

**10. How can you create a hyperlink that opens in a new tab or window?**

- Answer: Add the `target="\_blank"` attribute to the `<a>` tag.

- Example:

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

**11. What is the purpose of the `meta` tag in HTML?**

- Answer: The `<meta>` tag is used to provide metadata about the HTML document, such as character set, viewport settings, and keywords.

- Example:

<head>

<meta charset="UTF-8">

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

<!-- Other meta tags for keywords, description, etc. -->

</head>

**12. Explain the difference between `<strong>` and `<b>` tags, and `<em>` and `<i>` tags.**

- Answer: `<strong>` and `<em>` carry semantic meaning for strong importance and emphasized text, respectively, while `<b>` and `<i>` are used for bold and italic styling, without conveying specific meaning.

- Example:

<p><strong>This text is strongly emphasized</strong> and <em>this is emphasized</em>.</p>

**13. What is the purpose of the `DOCTYPE` declaration in HTML5?**

- Answer: In HTML5, the `DOCTYPE` declaration is simplified to `<!DOCTYPE html>`. It informs the browser that the document is written in HTML5, and it helps ensure proper rendering.

- Example:

<!DOCTYPE html>

<html>

<!-- Rest of the HTML document -->

</html>

**14. Explain the difference between `<section>`, `<article>`, and `<div>` tags.**

- Answer: `<section>` is used to group related content, `<article>` is for standalone content that makes sense on its own, and `<div>` is a generic container for grouping content without conveying any specific meaning.

- Example:

<section>

<h2>Section Title</h2>

<p>Section content...</p>

</section>

<article>

<h2>Article Title</h2>

<p>Article content...</p>

</article>

<div>

<p>Generic content...</p>

</div>

**15. What is the purpose of the `role` attribute in HTML?**

- Answer: The `role` attribute is used to define the purpose or category of an element in accessibility. It helps assistive technologies understand the intended role of an element.

- Example:

<button role="button" onclick="myFunction()">Click me</button>

**16. How can you embed a video in HTML?**

- Answer: Use the `<video>` element.

- Example:

<video width="320" height="240" controls>

<source src="movie.mp4" type="video/mp4">

Your browser does not support the video tag.

</video>

**17. Explain the difference between the `<script>` tag placed in the `<head>` and `<body>` of an HTML document.**

- Answer: Placing the `<script>` tag in the `<head>` section allows the script to be loaded before rendering the page, while placing it in the `<body>` allows the page to render first before loading the script.

- Example:

<head>

<script src="

myscript.js"></script>

</head>

<body>

<!-- Rest of the HTML content -->

</body>

**18. What is the purpose of the `colspan` and `rowspan` attributes in a table?**

- Answer: `colspan` defines the number of columns a table cell should span, and `rowspan` defines the number of rows a table cell should span. They are used to merge cells horizontally or vertically.

- Example:

<table>

<tr>

<td colspan="2">Merged cells</td>

</tr>

<tr>

<td>Cell 1</td>

<td>Cell 2</td>

</tr>

</table>

**19. How can you create a numbered list in HTML?**

- Answer: Use the `<ol>` (ordered list) element along with `<li>` (list item) elements.

- Example:

<ol>

<li>Item 1</li>

<li>Item 2</li>

<li>Item 3</li>

</ol>

**20. What is the purpose of the `placeholder` attribute in an input field?**

- Answer: The `placeholder` attribute provides a short hint that describes the expected value of an input field. It is displayed in the field before the user enters a value.

- Example:

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

**21. What is the purpose of the `charset` attribute in the `<meta>` tag?**

- Answer: The `charset` attribute defines the character encoding for the HTML document.

- Example: <meta charset="UTF-8">

**22. How can you create a comment in HTML?**

- Answer: Use the `<!-- This is a comment -->` syntax to create comments in HTML. Comments are not displayed in the browser but can be useful for documentation.

- Example: <!-- This is a comment -->

**23. What is the significance of the `<doctitle>` tag in HTML?**

- Answer: There is no `<doctitle>` tag in HTML. The document title is set using the `<title>` tag within the `<head>` section.

- Example:

<head>

<title>Document Title</title>

</head>

**24. Explain the purpose of the `disabled` attribute in a form input element.**

- Answer: The `disabled` attribute is used to make a form input element uneditable and prevents user interaction.

- Example:

<input type="text" disabled>

**25. How can you create a horizontal line in HTML?**

- Answer: Use the `<hr>` tag to create a horizontal line.

- Example:

<hr>

**26. What is the difference between `<em>` and `<strong>` tags and when to use each?**

- Answer: `<em>` is used for emphasizing text, and `<strong>` is used for indicating strong importance. Use `<em>` when emphasizing for emphasis only, and `<strong>` when the importance is strong.

- Example: <p><strong>This text is strongly emphasized</strong> and <em>this is emphasized</em>.</p>

**27. How do you include external CSS in an HTML document?**

- Answer: Use the `<link>` tag within the `<head>` section.

- Example:

<head>

<link rel="stylesheet" type="text/css" href="styles.css">

</head>

**28. What is the purpose of the `target` attribute in the `<a>` tag?**

- Answer: The `target` attribute specifies where to open the linked document.

- Example:

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

**29. How can you create a responsive design in HTML?**

- Answer: Use media queries in your CSS to adapt the styling based on the device characteristics like screen width.

- Example : css

@media only screen and (max-width: 600px) {

/\* styles for screens up to 600px wide \*/

}

**30. What is the purpose of the `srcset` attribute in the `<img>` tag?**

- Answer: The `srcset` attribute allows you to provide multiple image sources and their sizes, enabling the browser to choose the most appropriate image based on the user's device and screen size.

- Example:

<img src="image.jpg" srcset="image-400w.jpg 400w, image-800w.jpg 800w" sizes="(max-width: 600px) 400px, 800px" alt="Responsive Image">