INTERVIEW QUESTION BANK

1. What does HTML stand for and what is its purpose?

HTML stands for **HyperText Markup Language**. It is the standard language used to create and design web pages and web applications. HTML structures content on the web, such as text, images, and links, to be displayed in a web browser.

2. Describe the basic structure of an HTML document.

An HTML document typically follows this basic structure:

- <!DOCTYPE html>: Declares the document type and version of HTML.
- <html>: Root element containing the entire HTML document.
- <head>: Contains metadata, links to stylesheets, and the document's title.
- <body>: Contains the content of the HTML document, such as text, images, and links.

3. What do DOCTYPE and html lang attributes do?

DOCTYPE: <! DOCTYPE html> informs the web browser about the version of HTML the document is written in, which helps with proper rendering and validation.

html lang attribute: <html lang="en"> specifies the language of the document's content (e.g., "en" for English). This aids in accessibility and search engine optimization.

4. What is the difference between head and body tags?

- <head>: Contains meta-information about the document, such as title, character set, linked stylesheets, and scripts that should be loaded before the content.
- **<body>**: Contains the main content of the document that is displayed in the browser, such as text, images, and interactive elements.

5. Can you explain the purpose of meta tags in HTML?

Meta tags are used within the <head> section to provide metadata about the HTML document. This can include:

- Character encoding: <meta charset="UTF-8">
- **Viewpoint settings**: <meta name="viewport" content="width=device-width, initial-scale=1.0">
- Page description: <meta name="description" content="Description of the page">
- Author: <meta name="author" content="Author Name">
- **Keywords**: <meta name="keywords" content="HTML, CSS, JavaScript">

6. How do you link a CSS file to an HTML document?

To link a CSS file, use the link a css file, use the link rel="stylesheet" href="styles.css">

7. How do you link a JavaScript file to an HTML document?

To link a JavaScript file, use the <script> tag, usually before the closing </body> tag: <script src="script.js"></script>

8. How do you add a comment in HTML and why would you use them?

To add a comment in HTML, use <!-- and -->: <!-- This is a comment -->

Comments are used to leave notes or explanations within the code that are not displayed in the browser. They help developers understand the purpose of sections of code and are useful for documentation and debugging.

9. How do you serve your page in multiple languages?

Use the lang attribute in the <html> tag to specify the language. For different language versions, you can create separate HTML files for each language or dynamically change content based on user preferences.

Example: <html lang="en">

10. What are data-* attributes and when should they be used?

data-* attributes are custom attributes used to store extra information on HTML elements without affecting the element's functionality or appearance.

Example

<div data-user-id="1234">User Info</div>

Use case: Storing data that JavaScript can later access or manipulate.

11. What is the difference between b and strong tags?

- **:** Bold text without conveying additional importance.
- : Bold text with added emphasis, indicating that the content is of strong importance.

Example

Bold text
Strongly emphasized text

12. When would you use em over i, and vice versa?

- : Emphasizes text, generally rendering it in italics and indicating importance or stress in content.
- <i>: Italicizes text without adding any emphasis.

Example:

Emphasized text

13. What is the purpose of small, s, and mark tags?

- <small>: Displays text in a smaller font size.
- <s>: Strikethrough text, indicating that it is no longer correct or relevant.
- <mark>: Highlights text to indicate it is important or relevant.

Example:

```
<small>Smaller text</small>
<s>Strikethrough text</s>
<mark>Highlighted text</mark>
```

14. What are semantic HTML tags and why are they important?

Semantic HTML tags clearly describe their meaning in a way that both the browser and developers can understand. Examples include <header>, <footer>, <article>, and <section>.

Importance:

- Improves accessibility.
- Enhances SEO.
- Makes code easier to read and maintain.

15. How do you create a paragraph or a line break in HTML?

• Paragraph: Use the tag.

```
This is a paragraph.
```

Line break: Use the
 tag.

Line one.

tine two.

16. How do you create a hyperlink in HTML?

```
Use the <a> tag with the href attribute:
```

Visit Example

17. What is the difference between relative and absolute URLs?

Relative URL: Relative to the current page or domain.

```
<a href="/about">About Us</a>
```

Absolute URL: Full path, including the protocol, domain, and file path.

About Us

18. How can you open a link in a new tab?

```
Add the target="_blank" attribute to the <a> tag:
<a href="https://www.example.com" target="_blank">Visit Example</a>
```

19. How do you create an anchor to jump to a specific part of the page?

Use the id attribute to create a target, and link to it with a # followed by the id value:

```
<!-- Target -->
<h2 id="section1">Section 1</h2>
<!-- Link -->
<a href="#section1">Go to Section 1</a>
```

20. How do you link to a downloadable file in HTML?

Use the <a> tag with the href attribute and add the download attribute:

Download PDF

21. How do you embed images in an HTML page?

```
Use the <img> tag with the src attribute specifying the image URL:
```


src: Source of the image.

alt: Text description of the image (important for accessibility).

22. What is the importance of the alt attribute for images?

The **alt** attribute provides alternative text for images, which:

- Improves accessibility for visually impaired users using screen readers.
- Displays text if the image fails to load.
- Helps search engines understand the content of the image.

23. What image formats are supported by web browsers?

Commonly supported formats include:

- **JPEG** (.jpg, .jpeg): Good for photos and images with many colors.
- **PNG** (.png): Supports transparency, good for logos and icons.
- **GIF** (.gif): Supports animation.
- **SVG** (.svg): Scalable vector graphics, ideal for graphics and icons.
- WebP (.webp): Modern format providing high compression and quality.

24. How do you create image maps in HTML?

```
Image maps allow clickable areas on an image. Use the <map> and <area> tags: <img src="image.jpg" usemap="#imagemap"> <map name="imagemap"> <area shape="rect" coords="34,44,270,350" href="link1.html" alt="Link 1"> <area shape="circle" coords="180,210,75" href="link2.html" alt="Link 2"> </map> <map>: Defines the map.</map>: Defines the clickable areas.
```

25. What is the difference between svg and canvas elements?

 <svg>: Used for defining vector-based graphics. Graphics in SVG are XML-based and scalable.

 <canvas>: Used for drawing graphics via scripting (usually JavaScript). Good for dynamic, bitmap-based graphics.

```
<canvas id="myCanvas" width="100" height="100"></canvas>
<script>
  var canvas = document.getElementById('myCanvas');
  var ctx = canvas.getContext('2d');
```

```
ctx.fillStyle = 'red';
ctx.fillRect(10, 10, 80, 80);
</script>
```

26. What are the different types of lists available in HTML?

HTML supports three main types of lists:

- 1. **Ordered List** (<o1>): Numbered list.
- 2. Unordered List (): Bulleted list.
- 3. **Description List** (<d1>): List of terms and descriptions.

27. How do you create ordered, unordered, and description lists in HTML?

Ordered List:

```
    First item
    Second item
```

• Unordered List:

```
    First item
    Second item
```

• Description List:

```
<dl>
<dt>Term 1</dt>
<dd>Description 1</dd>
<dd>Description 1</dd>
<dd>Description 2</dd>
<dd>Description 2</dd>
</dl>
```

28. Can lists be nested in HTML? If so, how?

Yes, lists can be nested by placing one list inside a list item of another:

```
            Item 1

                Subitem 1a
               Subitem 1b

                Item 2
```

21. How do you embed images in an HTML page?

Use the tag with the src attribute specifying the image URL:

html

Copy code

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

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Copy code

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html

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Description List:

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29. What attributes can you use with lists to modify their appearance or behavior?

- type: Changes the marker type in ordered lists () or unordered lists ().
- start: Specifies the starting number for an ordered list ().
- reversed: Reverses the numbering of an ordered list ().

30. What are HTML forms and how do you create one?

```
HTML forms collect user input. Use the <form> element:

<form action="submit.php" method="post">

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

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

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

</form>

action: URL to send form data.

method: HTTP method (get or post).
```

31. Describe the different form input types in HTML5.

HTML5 introduced several input types:

- text: Single-line text.
- password: Masked text input.
- email: Email address input.
- number: Numeric input with arrows.
- date: Date picker.
- color: Color picker.
- range: Slider for a range of values.
- **file**: File upload.
- checkbox: Checkbox input.
- radio: Radio button input.

32. How do you make form inputs required?

```
Use the required attribute:
```

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

33. What is the purpose of the label element in forms?

The <label> element improves accessibility by associating labels with form controls. Clicking a label focuses or activates the associated input:

```
<a href="label">Lsername:</a></abel>
```

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

34. How do you group form inputs and why would you do this?

Use the <fieldset> and <legend> elements to group related form controls, improving structure and accessibility:

```
<fieldset>
```

```
<legend>Personal Information</legend>
<label for="name">Name:</label>
<input type="text" id="name" name="name">
<label for="email">Email:</label>
```

```
<input type="email" id="email" name="email"> </fieldset>
```

35. What is new in HTML5 compared to previous versions?

HTML5 introduced:

- New semantic elements: <header>, <footer>, <article>, <section>, etc.
- Multimedia support: <audio>, <video>.
- New input types: email, date, range, etc.
- APIs: Geolocation, Web Storage, etc.
- **Graphics**: <canvas>, <svg>.

36. How do you create a section on a webpage using HTML5 semantic elements?

```
Use <section> for a thematic grouping of content:
<section>
    <h2>Section Title</h2>
    Content for this section.
</section>
```

37. What is the role of the article element in HTML5?

The <article> element represents a self-contained piece of content that can be independently distributed or reused, such as blog posts or news articles:

```
<article>
<h2>Article Title</h2>
Article content goes here.
</article>
```

38. Can you explain the use of the nav and aside elements in HTML5?

<nav>: Defines navigation links.

<nav>

```
    <a href="#home">Home</a>
    <a href="#about">About</a>

</nav>
```

 <aside>: Represents content related to the main content, such as sidebars or callouts.

```
<aside>
<h3>Related Content</h3>
Links to related articles.
</aside>
```

39. How do you use the figure and figcaption elements?

```
Use <figure> to group media content with a caption using <figcaption>:

<figure>
    <img src="image.jpg" alt="Description of image">
        <figcaption>Caption for the image</figcaption>
</figure>
```

40. How do you create a table in HTML?

```
Use the , , , and  elements:    Header 1
```

```
Header 2

Data 1
```

41. What are thead, tbody, and tfoot in a table?

```
• <thead>: Contains the table's header.
```

• : Contains the main body of the table.

• <tfoot>: Contains the footer of the table.

```
<thead>
Header
</thead>

Data

<tfoot>
Footer

Footer
```

42. What is a colspan and rowspan?

• colspan: Merges cells horizontally.

```
Merged Cell
```

• rowspan: Merges cells vertically.

```
Merged Cell
```

43. How do you make a table accessible?

- Use headers: > elements for row and column headers.
- Add scope: Use scope="col" or scope="row" for headers.
- Caption: Provide a <caption> for the table.
- Summarize: Use aria-describedby for additional context.

```
<thead>
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44. How can tables be made responsive?

• Wrap table in a container: Use CSS to make the table scrollable.

```
Css
.table-container {
  overflow-x: auto;
  }
HTML
<div class="table-container">

<!-- table content -->
```

• Use media queries: Adjust table display for different screen sizes.

45. How do you add audio and video to an HTML document?

Audio:

```
Use the <audio> tag.

<audio controls>

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

Your browser does not support the audio element.

</audio>

• Video: Use the <video> tag.

<video controls width="320">

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

Your browser does not support the video element.

</video>
```

46. What are the attributes of the video and audio elements?

- src: Specifies the media file.
- controls: Adds play, pause, and volume controls.
- autoplay: Plays the media automatically.
- **loop**: Repeats the media continuously.
- muted: Mutes the audio by default.
- preload: Hints how much data to preload (none, metadata, or auto).

47. How do you provide subtitles or captions for video content in HTML?

```
Use the <track> element within <video>:

<video controls>

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

```
<track src="subtitles.vtt" kind="subtitles" srclang="en" label="English"> </video>
```

48. What's the difference between embedding and linking media?

- **Embedding**: Directly integrates media within the HTML document (<audio>, <video>, <iframe>).
- **Linking**: Provides a link to media files, which are opened or downloaded when clicked.

49. What is a viewport and how can you set it?

The **viewport** is the visible area of a web page in a browser. Set it using the <meta> tag:

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

This tag sets the width of the viewport to the device's width and the initial zoom level to 1.

50. Can you describe the use of media queries in HTML?

Media queries allow you to apply different styles for different devices or screen sizes.
 They are written in CSS and look like this:

```
@media (max-width: 600px) {
  body {
  background-color: lightblue;
  }
}
```

This applies the background-color style to the body only if the viewport width is 600 pixels or less.

51. How do you create responsive images with different resolutions for different devices?

You can use the <picture> element or the srcset attribute in the tag. For example:

```
<picture>
    <source srcset="image-800.jpg" media="(min-width: 800px)">
    <source srcset="image-500.jpg" media="(min-width: 500px)">
```

```
<img src="image-300.jpg" alt="Description of the image">
</picture>
Or using srcset:
<img src="image-300.jpg" srcset="image-500.jpg 500w, image-800.jpg 800w"
sizes="(max-width: 600px) 100vw, 50vw" alt="Description of the image">
```

52. What is responsive web design?

 Responsive web design is an approach to web design that makes web pages render well on a variety of devices and window or screen sizes. It uses fluid grids, flexible images, and CSS media queries.

53. How do flexbox and grids help in creating responsive layouts?

- Flexbox and CSS Grid are layout modules in CSS that provide a more efficient way to lay out, align, and distribute space among items in a container.
 - Flexbox is one-dimensional and helps with arranging items in rows or columns.
 - o **Grid** is two-dimensional and helps with laying out items in rows and columns.

54. What is accessibility and why is it important in web development?

• Accessibility ensures that websites are usable by people with disabilities. It's important because it promotes inclusivity and is often a legal requirement.

55. How do you make a website accessible?

• Use semantic HTML, provide alt attributes for images, ensure keyboard navigability, use ARIA roles where appropriate, and follow WCAG guidelines.

56. What are ARIA roles and how do you use them?

 ARIA (Accessible Rich Internet Applications) roles define how elements should be interpreted by screen readers. For example:

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

57. Explain how to use the tabindex attribute.

The tabindex attribute specifies the tab order of elements. For example

```
<div tabindex="1">First</div>
<div tabindex="2">Second</div>
```

58. How do you ensure your images are accessible?

 Provide descriptive alt text, use meaningful filenames, and avoid using images of text.

59. How do you make a navigation bar in HTML?

• Use the <nav> element and list items

```
<nav>

<a href="#home">Home</a>
<a href="#services">Services</a>
<a href="#contact">Contact</a>

</nav>
```

60. What's the significance of breadcrumb navigation?

 Breadcrumbs help users understand their location within the site hierarchy and provide links back to previous pages.

61. How do you create a dropdown menu in HTML?

Use nested lists and CSS for styling

```
    <a href="#">Menu</a>
    <a href="#">Submenu 1</a>
    <a href="#">Submenu 2</a>
    <a href="#">Submenu 2</a>
```

62. Explain the use of the target attribute in a link.

• The target attribute specifies where to open the linked document. For example

Open in new tab

64. How do you create a slidedown menu?

• Use JavaScript to toggle the display property of the menu on click. CSS transitions can create the sliding effect.

65. What are Web Components and how are they used?

• Web Components are a set of APIs that allow you to create reusable custom elements. They include Custom Elements, Shadow DOM, and HTML Templates.

66. What is Shadow DOM and how do you use it?

 Shadow DOM provides encapsulation for DOM and CSS. It allows you to keep the styles and scripts for a component separate from the main document. For example:

```
<div id="shadow-host"></div>
<script>
const shadowHost = document.querySelector('#shadow-host');
const shadowRoot = shadowHost.attachShadow({ mode: 'open' });
shadowRoot.innerHTML = `Shadow DOM content`;
</script>
```

67. How do you create a custom HTML element?

 Use the customElements.define method. For example: html

```
class MyElement extends HTMLElement {
  connectedCallback() {
    this.innerHTML = `Custom element content`;
  }
}
customElements.define('my-element', MyElement);
```

68.Explain HTML templates and their use cases.

• HTML templates are used to define reusable chunks of HTML that are not rendered when the page loads. For example:

```
<template id="my-template">
    <div class="template-content">Hello, World!</div>
</template>
<script>
    const template = document.querySelector('#my-template');
    document.body.appendChild(template.content.cloneNode(true));
</script>
```

69. How do you use server-sent events?

• Server-sent events allow a server to push updates to the client. For example

```
<script>
const eventSource = new EventSource('server-endpoint');
eventSource.onmessage = function(event) {
  console.log(event.data);
};
</script>
```

70. How do you optimize HTML for search engines?

 Use semantic HTML, optimize meta tags, include alt text for images, use proper heading structure, and ensure fast load times.

71. What is semantic HTML and how does it relate to SEO?

Semantic HTML uses meaningful tags (like <article>, <section>, <header>,
etc.) that help search engines understand the structure and content of the page,
improving SEO

72. Explain the significance of heading tags for SEO.

• Heading tags (<h1> to <h6>) indicate the hierarchy and importance of content. Proper use helps search engines understand the structure and relevance of content.

73. How do structured data and schemas enhance SEO?

 Structured data and schemas provide additional context to search engines about the content, enabling rich snippets in search results. They use the schema.org vocabulary.

74. What are the best practices for using HTML with SEO?

• Use semantic tags, optimize loading speed, ensure mobile-friendliness, use descriptive URLs, include meta descriptions, and use structured data.

75. What is the Geolocation API and how is it used?

 The Geolocation API allows web applications to access the user's location. For example

```
<script>
navigator.geolocation.getCurrentPosition((position) => {
  console.log(position.coords.latitude, position.coords.longitude);
});
</script>
```

76. How do you utilize local storage and session storage in HTML?

 Local storage and session storage provide ways to store data in the browser. Local storage persists data until explicitly deleted, while session storage lasts only for the session:

```
// Local Storage
localStorage.setItem('key', 'value');
let value = localStorage.getItem('key');
// Session Storage
sessionStorage.setItem('key', 'value');
let value = sessionStorage.getItem('key');
```

77. Can you describe the use of the Drag and Drop API?

The Drag and Drop API allows for drag-and-drop functionality. For example

<div draggable="true" ondragstart="event.dataTransfer.setData('text/plain', 'Dragged Element')">Drag me</div> <div ondrop="event.preventDefault(); console.log(event.dataTransfer.getData('text/plain'))"
ondragover="event.preventDefault()">Drop here</div>

78. What is the Fullscreen API and why would you use it?

• The Fullscreen API allows you to display elements in fullscreen mode. It can enhance user experience for media content or web applications. For example:

<button onclick="document.documentElement.requestFullscreen()">Go Fullscreen</button>

79. How do you handle character encoding in HTML?

• Use the <meta charset="UTF-8"> tag to specify character encoding. UTF-8 is recommended because it supports all characters.

80. What is the lang attribute and its importance in HTML?

• The lang attribute specifies the language of the document. It helps search engines and assistive technologies. For example:

<html lang="en">

81. How do you accommodate left-to-right and right-to-left language support in HTML?

• Use the dir attribute to specify text direction. For example

<html lang="ar" dir="rtl">

82. How do you validate HTML?

 Use tools like the W3C Markup Validation Service to check your HTML for errors and compliance with web standards.

83. What are the benefits of using an HTML preprocessor like Pug (Jade)?

• HTML preprocessors simplify writing HTML by using a more concise syntax, enabling reuse of templates, and improving maintainability.

84. How does a templating engine work with HTML?

• Templating engines like Handlebars or EJS generate HTML by combining templates with data. They allow for dynamic content generation and code reuse.

85.What are browser developer tools, and how do you use them with HTML?

Browser developer tools help inspect and debug HTML, CSS, and JavaScript. They
provide features like the DOM inspector, console, network monitor, and performance
tools.

86. What are some common bad practices in HTML?

Examples include using non-semantic tags, inline styles, excessive use of <div> and , and neglecting accessibility.

87. How can you ensure that your HTML code follows best practices?

• Follow semantic HTML guidelines, validate your code, keep the structure clean, ensure accessibility, and maintain responsive design.

88. What are the benefits of minifying HTML documents?

 Minifying HTML reduces file size by removing unnecessary whitespace and comments, which improves load times and performance.

89. How do you optimize the loading time of an HTML page?

 Minimize resources, use asynchronous loading for scripts, compress files, optimize images, leverage browser caching, and use a content delivery network (CDN).

90. What are some popular CSS frameworks that can be integrated with HTML?

 Bootstrap, Foundation, Bulma, Tailwind CSS, and Materialize are popular CSS frameworks that help with responsive and consistent design.

91. How do frameworks like Bootstrap simplify HTML development?

 Bootstrap provides pre-styled components, a responsive grid system, and utility classes, speeding up development and ensuring a cohesive design

92.Can you name some JavaScript libraries that enhance HTML interactivity?

• jQuery, React, Vue.js, Angular, and D3.js are popular JavaScript libraries that enhance interactivity and provide powerful tools for dynamic content.

93. What are data visualizations in HTML and how can they be implemented?

 Data visualizations represent data graphically using libraries like D3.js, Chart.js, or Plotly. They can be implemented using <canvas> or <svg> elements.

94.Can you explain how progressive enhancement is applied in HTML?

 Progressive enhancement starts with a basic level of user experience and enhances it with more advanced features, ensuring accessibility and functionality for all users

95. How are HTML, CSS, and JavaScript interconnected in web development?

 HTML provides the structure, CSS handles the presentation, and JavaScript adds interactivity. Together, they create dynamic, visually appealing, and responsive web pages.

96.Discuss the importance of documentation in HTML.

• Documentation helps maintain code quality, provides guidance for future development, and ensures consistency and understanding among developers.

97. What updates were introduced in HTML 5.1 and 5.2?

• HTML 5.1 and 5.2 introduced new elements, attributes, and APIs, improved accessibility, and refined existing features to enhance web development.

98. What future updates do you see coming for HTML?

• Future updates may include enhanced multimedia support, better performance optimization features, and new APIs to handle emerging web technologies.

99. How does HTML continue to evolve with web standards?

 HTML evolves through community input and collaboration within standards organizations like W3C and WHATWG, ensuring it meets the needs of modern web development.

100. What is the Living Standard and how does HTML adhere to it?

 The Living Standard is an evolving specification that updates regularly to reflect current best practices and technologies. HTML adheres to it by continuously incorporating new features and improvements.

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