TASK 2

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

HTML stands for Hyper Text Markup Language

Hypertext Markup Language, or HTML, is a set of markup symbols or codes inserted into a file intended for display on the internet. The markup tells web browsers how words and images should be displayed on a webpage.

Example :

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<h1>My Page </h1>

Hello this is Bhargavi.S

</body>

</html>

2.Describe the basic structure of an HTML document.

Example:

```
<!DOCTYPE html>
<html>

<head>
    <title>Page Title</title>
</head>

<body>
    <h2>Heading Content</h2>
    <p>Paragraph Content</p>
</body>

</html>
```

An HTML document's basic structure consists of 5 elements:

<!DOCTYPE>

The tag in HTML is used to inform the browser about the HTML version used in the web page. It is referred to as the document type declaration (DTD). It is not really a tag/element but rather an instruction to the browser regarding the document type.

<html>

The <html> tag in HTML is used to specify the root of HTML and XHTML pages. The <html> tag informs the browser that this is an HTML document. It is the second outer container for everything in an HTML document, followed by the tag. The <html> tag requires a beginning and ending tag.

<head>

The head of an HTML document is a section of the document whose content is not displayed in the browser when the page loads. It only contains HTML document metadata, which specifies information about the HTML document.

<title>

This <title> tag in HTML displays the title of a web page and can help in higher rankings in search results if appropriate keywords are included.

<body>

The <body> tag in HTML specifies the main content of an HTML document that appears on the browser. It can contain headings, text, paragraphs, photos, tables, links, videos, etc.

3.What do DOCTYPE and html lang attributes do?

The HTML lang attribute is used to identify the language of text content on the web. This information helps search engines return language specific results, and it is also used by screen readers that switch language profiles to provide the correct accent and pronunciation.

The HTML document type declaration, also known as DOCTYPE , is the first line of code required in every HTML or XHTML document. The DOCTYPE declaration is an instruction to the web browser about what version of HTML the page is written in.

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

Head tag used to contain a title that used to be the title of the webpage. In head tag we do JavaScript programming for validation.

Body tag contains full body text of the entire web page.

We can use different kind of tag in body such as form, p tag, br tag, img tag, bgcolor tag etc

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

The <meta > tag defines metadata about an HTML document. Metadata is data (information) about data.

<meta> tags always go inside the <head> element, and are typically used to specify character set, page description, keywords, author of the document, and viewport settings.

Metadata will not be displayed on the page, but is machine parsable.

Metadata is used by browsers (how to display content or reload page), search engines (keywords), and other web services.

Example :

```
<head>
  <meta charset="UTF-8">
  <meta name="description" content="Free Web tutorials">
  <meta name="keywords" content="HTML, CSS, JavaScript">
  <meta name="author" content="John Doe">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
```

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

To link the CSS to an HTML file, we use the <link> tag inside the HTML <head> section.

```
<!DOCTYPE html>
<html>
<head>
        <title>Link CSS to HTML</title>
        <link rel=”stylesheet” type=”text/css” href=”style.css”>
</head>
<body align=”center”>
```

```
        <h1>welcome all</h1>

</body>

</html>
```

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

To link a JavaScript file to a separate HTML file means to establish a connection between the HTML and JavaScript files. This is typically done using the `<script>` tag in the HTML file, specifying the source (src) attribute as the path to the JavaScript file, allowing execution of JavaScript code within the HTML document.

Example :

```
<!DOCTYPE html>

<html>

<head>

   <title>Link JavaScript file

         to a separate HTML file

     </title>

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

</head>

<body>

   <h1 style="color: green;">GeeksforGeeks</h1>

   <h3>Using src attribute in

       &lt;script&gt; Tag

     </h3

<button onclick="h1ChgFn()">

     Change Heading

 </button>

</body>

</html>
```

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

The comment tag is used to insert comments in the source code. Comments are not displayed in the browsers.

You can use comments to explain your code, which can help you when you edit the source code at a later date. This is especially useful if you have a lot of code.

Example:

<!--This is a comment. Comments are not displayed in the browser-->

This is a paragraph.

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

Server-side rendering: The HTML markup will contain string placeholders and content for the specific language will be fetched from configuration in code or a translation service. The server then dynamically generates the HTML page with content in that particular language.

Client-side rendering: The appropriate locale strings will be fetched and combined with the JavaScript-based views.

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

The data-* attribute is used to store custom data private to the page or application. The data-* attribute gives us the ability to embed custom data attributes on all HTML elements.

Attribute data is defined as a type of data that can be used to describe or quantify an object or entity. An example of attribute data is things like colour, , yes/no, gender, etc. This type of data is typically used in conjunction with other forms of data to provide additional context and insights.

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

*The <b> tag is used for stylistic purposes, primarily to make text visually bold.

* tag is used to indicate strong importance or emphasis, conveying meaning to both sighted and screen readers.

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

When to use the tag over the <i> tag in HTML depends on the purpose of the text. The tag is used to add emphasis or importance to the text, indicating that the content inside is of higher importance or should be stressed when read aloud On the other hand, the <i> tag is used to italicise text for visual purposes, such as indicating a title, a technical term, or a phrase in a different language.

In general, if we want to add semantic meaning to the text, indicating that it should be emphasised or stressed, use the tag. If we simply want to italicise text for visual purposes, use the <i> tag

The tag provides additional semantic meaning that can be useful for screen readers and search engines.

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

The <small> tag is used to define smaller text, typically for side-comments and small print, such as copyright and legal text . The <s> tag is used to define text that should be presented with a strikethrough effect .

The <mark> tag is used to define text that should be marked or highlighted for reference or notation purposes, indicating the marked passage's relevance in the surrounding context.

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

Semantic HTML tags are used to define the meaning of the content they contain. Tags like <header>, <article>, and <footer> are semantic HTML tags, they specify the role of the content present on them.

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

1.Paragraph (tag): The tag is used to define a paragraph of text. It is a block-level element, which means it will automatically create a line break before and after the paragraph.
Example:
Flowers are beautiful in the garden
2.Line Break (
 tag): The
 tag is used to create a single line break. It is an inline element, which means it will not create a block-level break, but rather a single line break within a paragraph or other inline content.
Example:
To force
 line breaks
 in a text,
 use the br
 element.

16.How do you create a hyperlink in HTML?

The <a> tag defines a hyperlink, which is used to link from one page to another. The most important attribute of the <a> element is the href attribute, which indicates the link's destination. By default, links will appear as follows in all browsers: An unvisited link is underlined and blue.

link text

Example:

Visit javapoint!

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

Absolute URL	Relative URL
The complete address of a document on the internet is known as an absolute URL.	The relative URL is a document's online partial address.
All the information needed to locate files online is contained in the absolute URL.	Only file names or file names with folder names are contained in relative URLs.
The browser could not link to the precise line if the four components were missing.	We can use this URL form when the file is on the same server as the original document.

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

To open a link in a new tab using HTML, you can use the target attribute of the <a> (anchor) tag and set its value to _blank. Here's how you can do it:

Open Example in New Tab

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

Add an id attribute to the anchor element to give a name to the section of the page. The value of the attribute may be a word or a phrase when using phrases remember not to have spaces, use dashes or underscores instead.

Example:

The name where you want to jump

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

Adding a download link for a file is as easy as adding the tag sto your HTML code. Enter the URL of the file between the quotation marks to create the download link. Type the text you want the user to click between and .

<!DOCTYPE html>

<html>

```
<head>
   <title>Download File</title>
</head>
<body>
   <a href="example.pdf" download>Download example.pdf</a>
</body>
</html>
```

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

The HTML <img> tag is used to embed an image in a web page. Images are not technically inserted into a web page; images are linked to web pages. The <img> tag creates a holding space for the referenced image. The <img> tag is empty, it contains attributes only, and does not have a closing tag.

Example:

```
<img src="img_girl.jpg" alt="Girl in a jacket">
```

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

The purpose of alt text is to improve accessibility by describing what an image is showing to visitors who do not have the ability to see them. However, it also helps search engine crawlers and so improves SEO.

Example:

```
<img alt="text">
```

23.What image formats are supported by web browsers?

Abbreviation	File format	File extension(s)
JPEG	Joint Photographic Expert Group image	.jpg , .jpeg , .jfif , .pjpeg , .pjp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg
WebP	Web Picture format	.webp

24.How do you create image maps in HTML?

- img : specifies the location of the image to be included in the map.

- map : is used to create the map of clickable areas.
- area : is used within the map element to define the clickable areas.

Example:

```
<img src="workplace.jpg" alt="Workplace" usemap="#workmap">


<map name="workmap">
  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
  <area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">
  <area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">
</map>
```

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

SVG	HTML Canvas
SVG has better scalability. So it can be printed with high quality at any resolution	Canvas has poor scalability. Hence it is not suitable for printing on higher resolution
SVG gives better performance with smaller number of objects or larger surface.	Canvas gives better performance with smaller surface or larger number of objects.
SVG can be modified through script and CSS	Canvas can be modified through script only
SVG is vector based and composed of shapes.	Canvas is raster based and composed of pixel.

26.what are the different types of lists available in html?

There are three types of lists in HTML

- Unordered list or Bulleted list (ul)
- Ordered list or Numbered list (ol)
- Description list or Definition list (dl)

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

An ordered list is created using the <ol> tag, with each list item enclosed in <li> tags.

```
<ol>
  <li>First item</li>
```

```
  <li>Second item</li>
  <li>Third item</li>
</ol>
```

Unordered Lists

An unordered list is created using the <ul> tag, with each list item enclosed in <li> tags.

```
<ul>
  <li>First item</li>
  <li>Second item</li>
  <li>Third item</li>
</ul>
```

Description Lists

A description list is created using the <dl> tag. Each term is enclosed in a <dt> tag, and each description is enclosed in a <dd> tag.

```
<dl>
  <dt>HTML</dt>
  <dd>Hypertext Markup Language</dd>

  <dt>CSS</dt>
  <dd>Cascading Style Sheets</dd>

  <dt>JavaScript</dt>
  <dd>A programming language for the web</dd>
</dl>
```

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

Yes , lists can be nested. This can be done by embedding a <ul> (unordered) or <ol> (ordered) list inside an <li> (list ite) element. The proper way to make a nested HTML list is to use the <ul> or <ol> element as a child of the <li> element it belongs to.

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

List-style-property is used to modify and change the appearance of lists.

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

HTML forms are used to collect user input and submit it to a server for processing. Forms are created using the <form> element, which contains various form elements like text fields, checkboxes, radio buttons, and submit buttons.

31.Describe the different form input types in HTML5.

INPUT TYPE	DESCRIPTION	HTML MARKUP
date	A control for entering the date.	<input type="date">
datetime	Date and time using UTC date and time format	<input type="datetime">

datetime-local	Date and time according to your local time	<input type="datetime-local">
month	Month and year	<input type="month">
time	The time of day	<input type="time">
week	Allows you to pick the week and year.	<input type="week">
color	Allows you to enter a simple color value (which is in hexadecimal color notation)	<input type="">

email	Validates the input using the standard email format	<input type="email">
tel	Gives you the ability to validate telephone numbers format against a pattern	<input type="tel">
search	Searches a data set (like a <datalist> HTML element)	<input type="search">
range	A slider control for picking a number in between two numbers	<input type="range">

number	Accepts numbers only	<input type="number">
url	Accepts URLs only	<input type="url">

32.How do you make form inputs required?

To make form inputs required in HTML, you can use the required attribute on the input elements. This attribute ensures that the user must fill in the field before submitting the form.

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

A <label> is used to create a caption for a form control. The <label> can be associated with a form control either implicitly by placing the control element inside the label element, or explicitly by using the for attribute.

Example:

```
<form action="/action_page.php">
  <input type="radio" id="html" name="fav_language" value="HTML">
  <label for="html">HTML</label><br>
  <input type="radio" id="css" name="fav_language" value="CSS">
  <label for="css">CSS</label><br>
  <input type="radio" id="javascript" name="fav_language" value="JavaScript">
  <label for="javascript">JavaScript</label><br><br>
  <input type="submit" value="Submit">
</form>
```

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

Grouping form inputs in HTML can be useful for organizing related fields, making the form more accessible, and improving the user experience. You can group form inputs using the <fieldset> and <legend> elements.

Using <fieldset> and <legend>

- <fieldset>: This element is used to group related form inputs.
- <legend>: This element provides a caption for the <fieldset>.

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

HTML5 provides native audio and video support. HTML only supports vector graphics if used in conjunction with different technologies like Flash, VML, or Silverlight. HTML5 supports SVG (Scalable Vector Graphics), Canvas, and other virtual vector graphics. HTML allows inline MathML and SVG in text with restricted use.

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

- <header>: Typically contains introductory content or navigation links.
- <nav>: For major navigation blocks.
- <section>: Defines a section of a document, such as chapters, headers, footers, or any other sections of the document.
- <article>: For content that can stand alone, like blog posts or news articles.
- <aside>: Used for content tangentially related to the content around it, like sidebars.
- <footer>: Typically contains authorship information, contact information, and links to legal statements.
-

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

HTML5 Article is a HTML5 semantic element, similar to <section> and <header> . It is most commonly used to contain information that may be distributed independently from the rest of the site or application it appears in.

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

The nav tag is a semantic HTML element used to define a section of a page that links to other pages or to parts within the page: a section with navigation links. It is intended to help with the document's structure and provide a semantic meaning to web navigation areas.

Example:

```
<nav>
  <a href="/html/">HTML</a> |
  <a href="/css/">CSS</a> |
  <a href="/js/">JavaScript</a> |
  <a href="/python/">Python</a>
</nav>
```

The <aside> tag defines some content aside from the content it is placed in. The aside content should be indirectly related to the surrounding content.

Example:

```
<p>My family and I visited The Epcot centre this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!</p>

<aside>

<h4>Epcot Center</h4>

<p>Epcot is a theme park at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks and seasonal special events.</p>

</aside>
```

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

The <figure> and <figcaption> elements in HTML are used to group media content (like images, illustrations, diagrams, etc.) with their corresponding caption. This provides semantic meaning and better structure to your web content.

<figure> Element

The <figure> element is used to wrap the media content and its caption.

<figcaption> Element

The <figcaption> element is used to provide a caption for the content inside the <figure> element.

41.How do you create a table in HTML?

An HTML table is created with an opening <table> tag and a closing </table> tag. Inside these tags, data is organised into rows and columns by using opening and closing table row <tr> tags and opening and closing table data <td> tags. Table row <tr> tags are used to create a row of data

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

The <thead> tag is used to group header content in an HTML table. The <thead> element is used in conjunction with the <tbody> and <tfoot> elements to specify each part of a table (header, body, footer). Browsers can use these elements to enable scrolling of the table body independently of the header and footer.

43.what is a colspan and rowspan?

In HTML, the rowspan attribute specifies how many rows a table cell should span, determining its vertical position. On the other hand, the colspan attribute specifies the number of columns a cell should span, determining its horizontal position.

44.How do you make a table accessible?

Creating an accessible table in HTML involves using various elements and attributes to ensure that the table is understandable and navigable for all users, including those who rely on assistive technologies. Here are some key practices to make a table accessible:

Use Semantic Elements

1. <table>: The container for the table.
2. <caption>: Provides a title or description for the table.
3. <thead>: Groups the header content in the table.
4. <tbody>: Groups the body content in the table.
5. <tfoot>: Groups the footer content in the table.
6. <tr>: Defines a row in the table.
7. <th>: Defines a header cell in the table.
8. <td>: Defines a standard cell in the table.

Use Headers and Scope Attributes

Headers should be marked with <th>, and the scope attribute should be used to define the relationship between header cells and data cells.

Add a Caption

Use the <caption> element to provide a title for the table.

45.How can tables be made responsive?

To create a responsive table, add a container element with overflow-x:auto around the <table>

Example:

```
<div style="overflow-x:auto;">
  <table>
        ...
```

```
  </table>

</div>
```

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

Create a new HTML file in the same directory, called index. html . Add <audio> and <video> elements to the page; make them display the default browser controls. Give both of them <source> elements so that browsers will find the audio format they support best and load it.

Example:

```
<audio>

    <source src="file_name" type="audio_file_type">

</audio>
```

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

The opening <video> and <audio> tags can contain several other attributes including controls , autoplay , loop , mute , preload , and the global attributes. The <video> element also supports the height , width , and poster attributes.

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

To provide subtitles or captions for video content in HTML, you can use the <track> element within the <video> tag. The <track> element specifies text tracks for media elements such as <video>, and it allows you to add subtitles, captions, descriptions, chapters, or metadata

49.What’s the difference between embedding and linking media?

Embedding resources means the document is portable at the expense of a greater file size—all the resources are stored in the document. Linked resources give a much smaller document file size as only link information is stored.

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

A viewport is a region of the screen used to display a portion of the total image to be shown. In virtual desktops, the viewport is the visible portion of a 2D area which is larger than the visualisation device.

A viewport meta tag is HTML (HyperText Markup Language) code that tells browsers how to control viewport dimensions and scaling. It's a key ingredient of responsive web design and ensures your content is easy to view. A viewport is the user's visible area of a webpage

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

Media queries are a key part of responsive web design, as they allow you to create different layouts depending on the size of the viewport, but they can also be used to detect other things about the environment your site is running on, for example whether the user is using a touchscreen rather than a mouse.

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

Creating responsive images with different resolutions for different devices involves using the <picture> element along with the <source> elements that specify different image sources based on media queries or pixel density. This approach ensures that the browser can choose the most appropriate image source depending on the device's capabilities, such as screen size and resolution.

Example:

```
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

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

    <title>Responsive Images with Different Resolutions</title>

    <style>

        /* Optional: CSS for styling */

        .responsive-image {

            width: 100%;

            max-width: 600px; /* Adjust as needed */

        }

    </style>

</head>

<body>


<!-- Using the picture element -->

<picture>

    <!-- High-resolution image for high-density screens (like Retina displays) -->

    <source srcset="image-large.jpg" media="(min-width: 1024px)">
```

```
    <!-- Standard-resolution image for other screens -->
    <source srcset="image-medium.jpg">

    <!-- Default fallback image for browsers that do not support picture element -->
    <img src="image-small.jpg" alt="Description of the image" class="responsive-image">
</picture>
</body>
</html>
```

53.What is responsive web design?

Responsive web design (RWD) or responsive design is an approach to web design that aims to make web pages render well on a variety of devices and window or screen sizes from minimum to maximum display size to ensure usability and satisfaction.

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

CSS Flexbox provides an easy way to create responsive and dynamic designs that adapt to various screen sizes and devices. The responsive layout allows the webpage to reshape and resize based on the size of the screen it's viewed on.

Grids have so many uses, from helping to align and balance your designs, to helping you achieve cool effects like diagonal typography. They're really so much more than just some lines on a page, they structure, guide, and shape your design in a way that helps you to achieve your desired end result.

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

Accessibility is the practice of making your websites usable by as many people as possible.

Online content that meets accessibility requirements is likely to be more user-friendly for everyone. People without disabilities can benefit from accessible design particularly in limiting situations. For example: Reading captions for a video when in noisy or quiet environments.

56.How do you make a website accessible?

Understand the Guidelines and Standards. ...

Colour Contrast Matters. ...

Use Descriptive Headings. ...

Use Alt Text for Images. ...

Include Captions and Transcripts for Multimedia. ...

Ensure Keyboard Accessibility. ...

Use ARIA Roles and Attributes. ...

Make Forms Accessible.

Be sure to explicitly label form fields such as checkboxes, data fields, and radio or option buttons so that people using certain types of assistive technology, such as screen readers, can understand them.

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

ARIA roles provide semantic meaning to content, allowing screen readers and other tools to present and support interaction with an object in a way that is consistent with user expectations of that type of object.

58.Explain how to use the tabindex attribute.

Tabindex is a global attribute that allows an HTML element to receive focus. It needs a value of zero or a negative number in order to work in an accessible way. When tabindex 's value is set to zero or a positive number, the element can be navigated to via the keyboard's Tab key.

Proper use of the tabindex HTML attribute ensures that all important elements on a web page are focusable and accessible in a logical sequence when navigating the website using the tab key on the keyboard.

59.How do you ensure your images are accessible?

- Be accurate. Give your audience a good understanding of what is going on.
- Be short and sweet. Include a few sentences about what is happening in your image.
- Give context. What makes this image important enough to include in your work? ...
- Include text that is part of the image.

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

A *navigation bar* in HTML is a set of buttons and images in either a row or a column that serve as a control site for linking certain portions of the website. It's considered to be one of the basic utilities of web design.

The navigation bar in HTML separates content from the structure as well as provides creativity to the web structure without impacting the information present in the pages.

We build a navigation bar using HTML and make it visually pleasing by using CSS. JavaScript can be used to add further functionality.

61.What’s the significance of breadcrumb navigation?

Convenient for users Breadcrumbs are used primarily to give users a secondary means of navigating a website. By offering a breadcrumb trail for all pages on a large multi-level website, users can navigate to higher-level categories more easily.

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

Step 1: Add a <label> element to your HTML document. This will be the name of your dropdown menu.
Step 2: Add a <select> element. This creates the dropdown menu itself.
Step 3: Create <option> elements and place them inside the <select> element. These are the list items that will appear in the dropdown menu.
Step 4: Add a default value from the dropdown list, if desired.

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

The target attribute specifies where the linked document will open when the link is clicked. The default is the current window. If target="_blank" , the linked document will open in a new tab or (on older browsers) a new window.

64.How do you create a slidedown menu?

Step 1: Add a <label> element to your HTML document. This will be the name of your dropdown menu.
Step 2: Add a <select> element. This creates the dropdown menu itself.
Step 3: Create <option> elements and place them inside the <select> element. These are the list items that will appear in the dropdown menu.
Step 4: Add a default value from the dropdown list, if desired.

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

Web Components is a suite of different technologies allowing you to create reusable custom elements — with their functionality encapsulated away from the rest of your code — and utilise them in your web apps

Example:

Web Components are custom HTML elements such as <hello-world></hello-world> . The name must contain a dash to never clash with elements officially supported in the HTML specification.

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

Shadow DOM works by allowing you to attach a hidden, separate Document Object Model (DOM) to an element.

Using the shadow DOM in React, developers can create isolated components from the rest of the application. This isolation prevents styles from clashing and ensures scripts execute in a controlled environment

67.How do you create a custom HTML element?

A custom element consists of two pieces: a tag name and a class that extends the built-in HTMLElement class. The most basic version of our custom element would look like this: class OneDialog extends HTMLElement { connectedCallback() { this. innerHTML = `<h1>Hello, World

68.Explain HTML templates and their use cases.

The <template> tag in HTML is used to store the HTML code fragments, which can be cloned and inserted in an HTML document. The content of the tag is hidden from clients being stored on the client-side. It is inserted until activated using JavaScript. Use JavaScript to get the content from a template, and add it to the web page.

Syntax:

<template> Contents </template>

Use cases of html templates:

- Add watermarks to HTML invoice templates
- Configure open invoice tables in HTML invoice templates
- Configure payment tables in HTML invoice templates
- Configure subscription tables in HTML invoice templates
- Configure Summary statements in HTML templates
- Configure to display order line item information on invoices
- Configure to display payment sequences on invoices
- Configure to display prepaid balance fund information on invoices
- Configure to display shipping contacts on invoices
- Configure to display subscription notes on invoices
- Configure to display subscription owner information on invoices
- Display invoice information in credit memo templates
- Configure taxation details tables in HTML templates
- Resolve line breaks in HTML invoice template
- Use GroupBy function
- Use Group By configuration in data tables
- Use JavaScript in HTML invoice templates

69.How do you use server-sent events?

Server-Side (Backend):

- Set up a server using a technology that supports SSE (e.g., Node.js with Express).
- Create an SSE endpoint (text/event-stream) that sends data periodically or in response to events.

Client-Side (Frontend):

- Use the EventSource API in JavaScript to connect to the SSE endpoint.
- Handle incoming events (onmessage) to update the UI or respond to server updates.

70.How do you optimise HTML for search engines?

Website optimization for search engines is a crucial aspect of any website's success. It involves making changes to your website's design, content, and structure to make it more attractive to search engines such as Google, Yahoo!, and Bing. By optimising your website for search engines, you can increase the visibility of your website in search engine results pages (SERPs), attract more traffic to your website, and ultimately increase your revenue.

Keywords and Content Optimization

Website Structure Optimization

Link Building

meta Tags optimization

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

Semantic HTML provides explicit meaning to your content structure, making it easier for search engines to understand & index. This enhanced readability can significantly boost your SERP ranking.

HTML SEO tags are bits of code that can be used to describe content to search engines.

72.Explain the significance of heading tags for SEO.

Header tags, also known as heading tags, are used to separate headings and subheadings on a webpage. They rank in order of importance, from H1 to H6, with H1s usually being the title. Header tags improve the readability and SEO of a webpage

73.How do structured data and schemas enhance SEO?

Schema markup positively influences your website's visibility, user experience, and CTR. Here are some crucial advantages: Improved Visibility of Your Website in Search Engine Results Pages (SERPs) – By implementing structured data, search engines can better understand and index your website content.

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

Using HTML effectively for SEO (Search Engine Optimization) involves implementing best practices that help search engines understand and rank your content. Here are some key best practices:

1. Semantic HTML:

- Use Proper Structure: Use HTML5 semantic elements (<header>, <footer>, <article>, <section>, <nav>, <main>, etc.) to organize your content logically.
- Heading Structure: Use <h1> to <h6> tags to create a hierarchical structure for your content. <h1> should be the main heading, followed by <h2> for section headings, and so on.

2. Meta Tags:

- Title Tag: Include a unique, descriptive <title> tag for each page. This tag appears as the clickable headline in search engine results.
- Meta Description: Write a concise and compelling <meta name="description" content="..."> tag that summarizes the page content. Although not a direct ranking factor, it influences click-through rates.

3. URL Structure:

- SEO-Friendly URLs: Use descriptive, readable URLs (example.com/seo-best-practices) rather than complex URLs with query parameters (example.com/page?id=123).

4. Image Optimization:

- Alt Attributes: Use descriptive <img> alt attributes to describe images. This helps search engines understand the content of the image and improves accessibility.
- File Names: Use relevant file names for images (seo-best-practices.jpg) instead of generic names (img001.jpg).

5. Internal Linking:

- Anchor Text: Use descriptive anchor text that clearly describes the destination page. Avoid using generic terms like "click here."
- Hierarchy: Create a logical hierarchy of internal links to guide search engines and users through your site.

6. Mobile-Friendliness:

- Responsive Design: Ensure your website is responsive and works well on different devices and screen sizes. Google considers mobile-friendliness as a ranking factor.

7. Page Speed:

- Optimize Loading Times: Improve page speed by minimizing JavaScript and CSS files, optimizing images, and leveraging browser caching.

8. Structured Data:

- Schema Markup: Implement structured data using Schema.org vocabulary to provide additional context to search engines about your content. This can enhance your search listings with rich snippets.

9. Content Quality and Freshness:

- High-Quality Content: Focus on creating valuable, relevant content that satisfies user intent. Regularly update and refresh content to keep it current and relevant.

10. Accessibility:

- Accessible HTML: Ensure your HTML is accessible by following accessibility guidelines. This improves usability for all users and can indirectly benefit SEO.

11. Avoid Black Hat Practices:

- Keyword Stuffing: Avoid overusing keywords unnaturally within your content.
- Cloaking: Presenting different content or URLs to users and search engines.
- Hidden Text: Hiding text or links using techniques like white text on a white background.

12. Analytics and Monitoring:

- Monitor Performance: Use tools like Google Analytics to track your website's performance and make informed decisions based on data.

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

Geolocation refers to the use of location technologies such as GPS or IP addresses to identify and track the whereabouts of connected electronic devices. Because these devices are often carried on an individual's person, geolocation is often used to track the movements and location of people and surveillance.

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

Local Storage read-only interface property provides access to the document’s local storage object; the stored data is stored across browser sessions. Similar to sessionStorage, except that sessionStorage data gets cleared when the page session ends—that is, when the page is closed. It is cleared when the last “private” tab of a browser is closed (localStorage data for a document loaded in a private browsing or incognito session)

Example:

localStorage.setItem(key, value)

Session Storage objects can be accessed using the sessionStorage read-only property. The difference between sessionStorage and localStorage is that localStorage data does not expire, whereas sessionStorage data is cleared when the page session ends.

Example:

sessionStorage.setItem(key, value)

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

HTML Drag and Drop interfaces enable applications to use drag-and-drop features in browsers. The user may select draggable elements with a mouse, drag those elements to a droppable element, and drop them by releasing the mouse button

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

Fullscreen is a display mode where an application or content is shown in its entirety, without any borders, toolbars, or other user interface elements, taking up the entire screen of the device.

79.How do you handle character encoding in HTML?

The character encoding should be specified for every HTML page, either by using the charset parameter on the Content-Type HTTP response header (e.g.: Content-Type: text/html; charset=utf-8) and/or using the charset meta tag in the file.

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

The HTML lang attribute is used to determine the language of the text used on any webpage. This attribute's primary purpose is to signal the language of the main document.

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

Use the dir attribute in HTML to specify the text directionality:

LTR (Left-to-Right): This is the default direction, so you generally don't need to specify it explicitly.

Example: <html dir="ltr">

RTL (Right-to-Left): Explicitly specify the direction for languages such as Arabic or Hebrew.

Example:

Example: <html dir="rtl">

82.How do you validate HTML?

The simplest HTML validation feature is the required attribute. To make an input mandatory, add this attribute to the element. When this attribute is set, the element matches the :required UI pseudo-class and the form won't submit, displaying an error message on submission when the input is empty.

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

Pug simplifies code structure, making it easier to read and manage. This streamlined approach not only improves load times but also enhances overall performance. Reusable Code: Pug facilitates code reusability through features like mixins, filters, and includes

84.How does a templating engine work with HTML?

A template engine enables you to use static template files in your application. At runtime, the template engine replaces variables in a template file with actual values, and transforms the template into an HTML file sent to the client. This approach makes it easier to design an HTML page.

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

The developer tools usually open by default to the inspector, which looks something like the following screenshot. This tool shows what the HTML on your page looks like at runtime, as well as what CSS is applied to each element on the page.

86.What are some common bad practices in HTML?

Missing Character Encoding

Missing Lang Attribute

Improperly Formatted Tags

Using Unsupported or Deprecated Tags and Attributes

Using Head Tags Outside the Head

Missing Alt Attributes on Image Tags

Making Spaces with Tags

Misusing Tags

Missing Script Type

Not Using Semantic Tags

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

Always Declare a Doctype

HTML Tags Placement

The Root Element

Add Meaningful Metadata

Set Appropriate Title Tags

Images Must Have an Alt Attribute

Descriptive Meta Attributes

88.What are the benefits of minifying HTML documents?

improves site speed and accessibility, directly translating into a better user experience.

Minification works by analysing and rewriting the text-based parts of a website to reduce its overall file size

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

- Leverage browser caching
- Specify image dimensions
- Avoid CSS @import
- Avoid bad requests
- Combine images into CSS sprites
- Defer parsing of JavaScript
- Enable Keep-Alive
- Enable compression
- Inline Small CSS
- Inline Small JavaScript
- Make landing page redirects cacheable
- Minify CSS
- Minify HTML
- Minify JavaScript
- Minimise redirects
- Minimise request size
- Optimise images
- Optimise the order of styles and scripts
- Prefer asynchronous resources
- Put CSS in the document head
- Remove query strings from static resources
- Serve resources from a consistent URL
- Serve scaled images
- Specify a Vary: Accept-Encoding header
- Specify a cache validator
- Specify a character set
- Defer loading of JavaScript
- Remove unused CSS
- Use efficient CSS selectors

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

1. Bootstrap
2. Tailwind CSS
3. Bulma
4. Foundation
5. Materialise
6. Semantic UI
7. Skeleton
8. UIKit

91.How do frameworks like Bootstrap simplify HTML development?

Frameworks like Bootstrap simplify HTML development by providing a collection of predefined components and a responsive grid system that streamline the creation of web interfaces. With ready-to-use elements such as buttons, modals, and navigation bars, developers can quickly assemble layouts without having to design these components from scratch. The responsive grid system ensures that content adjusts seamlessly across various screen sizes, reducing the complexity of building mobile-friendly sites. Bootstrap also offers a set of utility classes for common styling needs, which allows for rapid adjustments without writing extensive custom CSS.

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

- jQuery library.
- React library.
- D3.js library.
- Underscore library.
- Lodash library.
- Algolia Places library.
- Anime.js library.
- Animate On Scroll library.

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

Data visualisations in HTML refer to graphical representations of data designed to enhance understanding and interpretation of complex information through charts, graphs, and interactive elements. They can be implemented using various JavaScript libraries such as D3.js for customizable and intricate visualisations, Chart.js for simpler, responsive charts, or Google Charts for a range of pre-built options. HTML5 features like the `<canvas>` element allow for drawing graphics dynamically with JavaScript, while SVG (Scalable Vector Graphics) can be directly embedded into HTML for vector-based visualisations.

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

Progressive enhancement is a web design strategy that focuses on building a baseline experience that works for all users, regardless of their browser capabilities, and then adding more advanced features for those with better support.

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

HTML, CSS, and JavaScript are fundamental technologies in web development that work together to create dynamic and interactive websites. HTML (HyperText Markup Language) provides the basic structure and content of a webpage, defining elements such as headings, paragraphs, links, and images. CSS (Cascading Style Sheets) is used to style this content, controlling layout, colors, fonts, and overall presentation, ensuring that the webpage is visually appealing and responsive. JavaScript adds interactivity and functionality to the site, enabling dynamic updates, user interactions (like form submissions and button clicks), and asynchronous data retrieval via AJAX. Together, these technologies create a seamless user experience: HTML structures the content, CSS styles it, and JavaScript enhances functionality, allowing developers to build rich, engaging web applications.

96.Discuss the importance of documentation in HTML.

In the world of mobile, web, and desktop applications as well as JavaScript libraries, documentation in Web Development is crucial in determining an app's success. However, if you are a developer, you'll probably agree that it is one of the worst tasks for developers.Documentation has to be readily digested by anybody, which is why it's significantly more difficult than coding for most developers. We must convert a machine language (code) into a readable form; a more difficult undertaking than it may appear.While it might be time-consuming and somewhat overwhelming, documenting is crucial and will provide benefits for your users, but even more so, yourself.

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

HTML 5.1 introduced several updates aimed at refining the HTML5 specification, enhancing compatibility and usability. Key features included the addition of new elements like <dialog> for modal dialogs and improvements in form controls, such as the <input> type attribute for date and time. It also emphasized better support for accessibility and internationalization, as well as defining the concept of "microdata" for embedding metadata in HTML documents.

HTML 5.2 further built on these advancements, focusing on making web applications more robust. Notable updates included the introduction of the <template> element, which allows for reusable chunks of HTML that can be instantiated in the document, and enhancements to the <iframe> element, ensuring better security through improved sandboxing attributes. HTML 5.2 also clarified various parsing rules and made updates to the specification for improved performance and interoperability among web browsers. Overall, these versions aimed to streamline web development practices and improve the user experience across different devices and platforms

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

HTML continues to be a useful content expression language that powers Web growth. It is now time for HTML to mature and grow to support both content driven and layout driven forms in the sensate spaces as well. In an ideal world HTML has a simpler more coherant syntax with well specified content flow semantics.

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

HTML continues to evolve in response to the changing landscape of web standards and technologies, driven by the need for better functionality, accessibility, and user experience. The development is guided by the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG), which collaborate on refining and expanding HTML specifications. This evolution includes the introduction of new elements and attributes that address modern web applications' requirements, such as improved multimedia support, enhanced semantic structures, and better forms handling. Moreover, ongoing updates focus on accessibility enhancements to ensure that web content is usable by everyone, including people with disabilities.

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

The WHATWG organization continues its work with HTML5 as a "living standard". The concept of a living standard is that it is never complete and is always being updated and improved.

HTML adheres to this approach by being updated regularly, ensuring it reflects the latest developments and best practices in web development, which helps developers build more robust and modern web applications.