HTML (Hypertext Markup Language)

What is HTML :- It is a standard markup language used for creating the structure and presentation of web pages. HTML uses a set of tags and attributes to define the elements and content within a web page. It provides a way to format text, add images, create links, embed multimedia, and more. HTML is the backbone of the World Wide Web and is essential for building websites and web applications.

1) Basic HTML Structure:

-> Document type declaration

-> HTML, head, and body elements

-> Meta tags

2) HTML Elements:

-> Heading tags (h1, h2, etc.)

-> Paragraphs (p)

-> Links (a)

-> Images (img)

-> Lists (ul, ol, li)

-> Tables (table, tr, td)

-> Forms (form, input, select, textarea, button)

-> Divisions (div, span)

-> Semantic elements (header, nav, main, article, section, aside, footer)

3) HTML Attributes:

-> ID and class attributes

-> Style attribute

-> Event attributes (onclick, onsubmit, etc.)

4) HTML Forms:

-> Input types (text, password, checkbox, radio, etc.)

-> Form validation

5) HTML Multimedia:

-> Embedding images

-> Embedding videos

-> Audio playback

-> HTML Links and Navigation:

6) Internal and external links

-> Anchor tags

-> Link Tag

8) HTML5 Features:

Semantic Elements: HTML5 introduced a set of semantic elements that provide better structure and meaning to web content. These include <header>, <nav>, <article>, <section>, <footer>, <aside>, <main>, <figure>, <figcaption>, and more.

Multimedia Support: The <audio> and <video> elements allow easy embedding of audio and video content, with support for different codecs and formats.

Canvas: The <canvas> element introduced in HTML5 provides a 2D drawing API, allowing developers to draw graphics, animations, and interactive visualizations directly on the webpage using JavaScript.

Scalable Vector Graphics (SVG): SVG allows for the creation of high-quality graphics that can be styled and manipulated using CSS and JavaScript.

Geolocation: HTML5 introduced the Geolocation API, which allows web applications to request and obtain the user's geographical location information (with user permission). This enables location-aware web applications and services.

Offline Web Applications: Developers can store resources locally, allowing users to continue accessing and interacting with web applications even when offline.

Web Storage: HTML5 provides the Local Storage and Session Storage APIs, allowing web applications to store data on the client-side.

Web Workers: HTML5 introduced the Web Workers API, which enables the execution of JavaScript code in the background, separate from the main browser thread. This allows for parallel processing and improves performance by offloading resource-intensive tasks to dedicated worker threads.

Drag and Drop: HTML5 added native support for drag and drop functionality, allowing users to drag elements on a webpage and drop them into designated areas.

Form Enhancements: HTML5 introduced several new form input types and attributes, such as <input type="email">, <input type="url">, <input type="number">, <input type="date">, and more.

CSS3 Integration: Although not specific to HTML5, CSS3 features were developed in parallel and are closely tied to HTML5. CSS3 introduced new styling capabilities like gradients, rounded corners, box shadows, and animations, which can be applied to HTML5 elements to enhance the visual presentation of web content.

Types of HTML Tags :-

1) <a>: Creates a hyperlink. Example: Example

2) <abbr>: Defines an abbreviation or acronym. Example: <abbr title="World Health Organization">WHO</abbr>

3) <address>: Represents contact information for the author or owner of a document. Example: <address>123 Example St, City</address>

4) <area>: Defines an area within an image map. Example: <area shape="rect" coords="0,0,100,100" href="example.html">

5) <article>: Represents an independent, self-contained content. Example: <article><h2>Article Title</h2><p>Article content...</p></article>

6) <aside>: Defines content aside from the main content. Example: <aside>Additional information or related content...</aside>

7) <audio>: Embeds audio content. Example: <audio src="audio.mp3" controls></audio>

8) : Displays text in a bold style. Example: This text is bold

9) <base>: Specifies the base URL and target for all relative URLs in a document. Example: <base href="https://www.example.com/">

10)   <bdi>: Isolates a span of text that might be formatted in a different direction. Example: <bdi>Text in a different direction</bdi>

11) <bdo>: Overrides the current text direction. Example: <bdo dir="rtl">Right-to-left text</bdo

12)   <blockquote>: Represents a section that is quoted from another source. Example: <blockquote><p>Quoted text...</p></blockquote>

13)   <body>: Contains the visible content of the HTML document. Example: <body>Content of the web page</body>

14)
: Inserts a single line break. Example: <p>This is a paragraph.
This is a line break.</p>

15)   <button>: Creates a clickable button. Example: <button>Click me</button>

16)   <canvas>: Creates an area for graphics rendering. Example: <canvas id="myCanvas" width="200" height="100"></canvas>

17)   <caption>: Represents the title or caption for a table. Example: <caption>Table Caption</caption>

18)   <cite>: Defines the title of a work. Example: <cite>Book Title</cite>

19)   <code>: Represents a fragment of computer code. Example: <code>console.log("Hello, World!");</code>

20)   <col>: Specifies column properties for each column within a <colgroup> element. Example: <col span="2" style="background-color: yellow;">

21)   <colgroup>: Specifies a group of one or more columns in a table. Example: <colgroup><col span="2"><col span="2" style="background-color: yellow;"></colgroup>

22) <data>: Associates a machine-readable value with the content. Example: <p>The population of <data value="10000">Townville</data> is 10,000.</p>

23) <datalist>: Specifies a list of pre-defined options for an <input> element. Example: <input list="fruits"><datalist id="fruits"><option value="Apple"><option value="Banana"><option value="Orange"></datalist>

24) <dd>: Defines a description or value in a description list. Example: <dl><dt>Term</dt><dd>Description</dd></dl>

25) <del>: Represents deleted or removed text. Example: <p>This ~~text~~ has been deleted.</p>

26) <details>: Creates a disclosure widget to show or hide additional content. Example: <details><summary>Click me</summary><p>Hidden content</p></details>

27) <dfn>: Represents the defining instance of a term. Example: <dfn>Definition</dfn>

28)   <dialog>: Represents a dialog or conversation box.
Example: <dialog open>Dialog content</dialog>

29)   <div>: Defines a division or a container for other HTML
elements. Example: <div>Content inside a division</div>

30)   <dl>: Defines a description list. Example:
<dl><dt>Term</dt><dd>Description</dd></dl>

31)   <dt>: Defines a term in a description list. Example:
<dl><dt>Term</dt><dd>Description</dd></dl>

32)   : Emphasizes text and typically displays it in italics.
Example: Emphasized text

33)   <embed>: Embeds external content or media. Example:
<embed src="video.mp4" width="300" height="200">

34)   <fieldset>: Groups related form elements together.
Example: <fieldset><legend>Group Name</legend><input
type="text"><input type="submit"></fieldset>

35)   <figcaption>: Represents a caption or legend for a figure. Example: <figure><img src="image.jpg"><figcaption>Image caption</figcaption></figure>

36)   <figure>: Represents self-contained content, such as an illustration or diagram. Example: <figure><img src="image.jpg"><figcaption>Image caption</figcaption></figure>

37)   <footer>: Represents the footer content or a group of closing elements. Example: <footer>Footer content</footer>

38)   <form>: Creates a form for user input. Example: <form action="submit.php" method="post"><input type="text"><input type="submit"></form>

39)   <h1> to <h6>: Headings of different levels, with <h1> being the highest and <h6> being the lowest. Example: <h1>Heading 1</h1>

40)   <head>: Contains meta-information about the HTML document. Example: <head><title>Page Title</title></head>

41)   <header>: Represents the introductory content or a group of navigational links. Example: <header>Header content</header>

42)   <hr>: Inserts a horizontal rule or line. Example: <hr>

43)   <html>: Defines the root of an HTML document. Example: <html><head></head><body>Content</body></html>

44)   <i>: Displays text in italics. Example: <i>Italic text</i>

45)   <iframe>: Embeds another document within the current HTML document. Example: <iframe src="page.html" width="300" height="200"></iframe>

46)   <img>: Inserts an image into the web page. Example: <img src="image.jpg" alt="Image">

47)   <input>: Defines an input field within a form. Example: <input type="text" name="username">

48)   <ins>: Represents inserted text. Example: <p>This <ins>text</ins> has been inserted.</p>

49)   <kbd>: Represents keyboard input. Example: <kbd>Ctrl + C</kbd>`

50)   <label>: Represents a caption or label for an <input> element. Example: <label for="username">Username:</label><input type="text" id="username">

51)   <legend>: Represents a caption or title for a <fieldset> element. Example: <fieldset><legend>Group Name</legend><input type="text"><input type="submit"></fieldset>

52)   : Represents an item in a list. Example: Item 1
Item 2

53)   <link>: Defines a relationship between the current document and an external resource. Example: <link rel="stylesheet" href="styles.css">

54)   <main>: Represents the main content of the document. Example: <main>Main content</main>

55)   <map>: Defines an image map. Example: <img src="image.jpg" usemap="#map"><map name="map"><area shape="rect" coords="0,0,100,100" href="example.html"></map>

56)   <mark>: Highlights or marks text. Example: <p>This is <mark>highlighted</mark> text.</p>

57)   <meta>: Provides metadata about the HTML document. Example: <meta charset="UTF-8">

58)   <meter>: Represents a scalar measurement within a known range. Example: <meter value="0.6">60%</meter>

59)   <nav>: Defines a section for navigation links. Example: <nav>HomeAbout</nav>

60)   <noscript>: Defines alternative content to be displayed if a script is not supported or enabled. Example: <noscript>Please enable JavaScript to view this page.</noscript>

61)   <object>: Represents an external resource, such as an image, a video, or a plugin. Example: <object data="image.svg" type="image/svg+xml"></object>

62)   : Defines an ordered (numbered) list. Example: Item 1
Item 2

63)   <optgroup>: Groups related <option> elements within a <select> element. Example: <select><optgroup label="Group 1"><option value="1">Option 1</option></optgroup></select>

64) <option>: Represents an option within a <select> element. Example: <select><option value="1">Option 1</option><option value="2">Option 2</option></select>

65) <output>: Represents the result of a calculation or user action. Example: <output for="x y">Result</output>

66) <p>: Defines a paragraph. Example: <p>This is a paragraph.</p>

67) <param>: Specifies parameters for an object. Example: <object><param name="autoplay" value="true"></object>

68) <picture>: Defines a container for multiple image sources. Example: <picture><source srcset="image.jpg" media="(min-width: 800px)"><img src="image-small.jpg" alt="Image"></picture>

69) <pre>: Defines preformatted text, preserving both spaces and line breaks. Example: <pre> Preformatted text </pre>

70)   <progress>: Represents the progress of a task. Example: <progress value="50" max="100"></progress>

71)   <q>: Represents a short inline quotation. Example: <p>Here is a <q>quotation</q> within a paragraph.</p>

72)   <rp>: Provides fallback parentheses for browsers that do not support ruby annotations. Example: <ruby>漢<rp>(</rp><rt>Kan</rt><rp>)</rp></ruby>

73)   <rt>: Defines an explanation or pronunciation of characters in a ruby annotation. Example: <ruby>漢<rp>(</rp><rt>Kan</rt><rp>)</rp></ruby>

74)   <ruby>: Represents a ruby annotation, used for phonetic pronunciation or translation. Example: <ruby>漢<rp>(</rp><rt>Kan</rt><rp>)</rp></ruby>

75)   <s>: Represents text that is no longer accurate or relevant. Example: <p>This <s>text</s> is no longer relevant.</p>

76) <samp>: Represents sample or output from a computer program. Example: <samp>Output: Hello, World!</samp>

77) <script>: Embeds or references an external JavaScript code or script. Example: <script src="script.js"></script>

78) <section>: Represents a standalone section of content. Example: <section><h2>Section Title</h2><p>Section content...</p></section>

79) <select>: Creates a drop-down list. Example: <select><option value="1">Option 1</option><option value="2">Option 2</option></select>

80) <small>: Renders text in a smaller font size. Example: <p>This is <small>smaller text</small> within a paragraph.</p>

81) <source>: Specifies alternative media resources for media elements, such as <video> or <audio>. Example: <video><source src="video.mp4" type="video/mp4"></video>

82)   : Inline container used for grouping elements or applying styles. Example: Text within a span

83)   : Represents strong importance, typically displayed in bold. Example: Strong text

84)   <style>: Contains CSS style rules. Example: <style>body { background-color: yellow; }</style>

85)   <sub>: Renders text in a subscript style. Example: <p>H₂O</p>

86)   <summary>: Represents a summary, caption, or legend for a <details> element. Example: <details><summary>Click me</summary><p>Hidden content</p></details>

87)   <sup>: Renders text in a superscript style. Example: <p>E = MC²</p>

88)   <svg>: Embeds scalable vector graphics. Example: <svg><circle cx="50" cy="50" r="40" fill="red"></circle></svg>

89)   <table>: Defines a table. Example: <table><tr><td>Cell 1</td><td>Cell 2</td></tr></table>

90)   <tbody>: Groups the body content in a table. Example: <table><tbody><tr><td>Cell 1</td></tr></tbody></table>

91)   <td>: Defines a table cell. Example: <table><tr><td>Cell 1</td><td>Cell 2</td></tr></table>

92)   <template>: Declares a template that can be cloned to create instances of content. Example: <template><p>Template content</p></template>

93)   <textarea>: Defines a multi-line text input control. Example: <textarea rows="4" cols="50">Enter text here...</textarea>

94)   <tfoot>: Groups the footer content in a table. Example: <table><tfoot><tr><td>Footer</td></tr></tfoot></table>

95)	<th>: Defines a table header cell. Example:
<table><tr><th>Header 1</th><th>Header
2</th></tr></table>

96)	<thead>: Groups the header content in a table. Example:
<table><thead><tr><th>Header
1</th></tr></thead></table>

97)	<time>: Represents a specific date and/or time. Example:
<time datetime="2023-07-07T09:00">July 7, 2023 at 9:00
AM</time>

98)	<title>: Specifies the title of the HTML document. Example:
<title>Page Title</title>

99)	<tr>: Defines a table row. Example: <table><tr><td>Cell
1</td><td>Cell 2</td></tr></table>

100)	<track>: Specifies text tracks for media elements, such as
subtitles or captions. Example: <video><track src="subtitles.vtt"
kind="subtitles" srclang="en" label="English"></video>

101)   <u>: Renders text with an underline. Example:
<u>Underlined text</u>

102)   : Defines an unordered (bulleted) list. Example:
Item 1
Item 2

103)   <var>: Represents a variable or placeholder. Example:
<p>The value of x is <var>x</var>.</p>

104)   <video>: Embeds video content. Example: <video
src="video.mp4" controls></video>

<wbr>: Represents a line break opportunity within a word. Example:
<p>This is a longword that can be broken by <wbr> a line
break.</p>