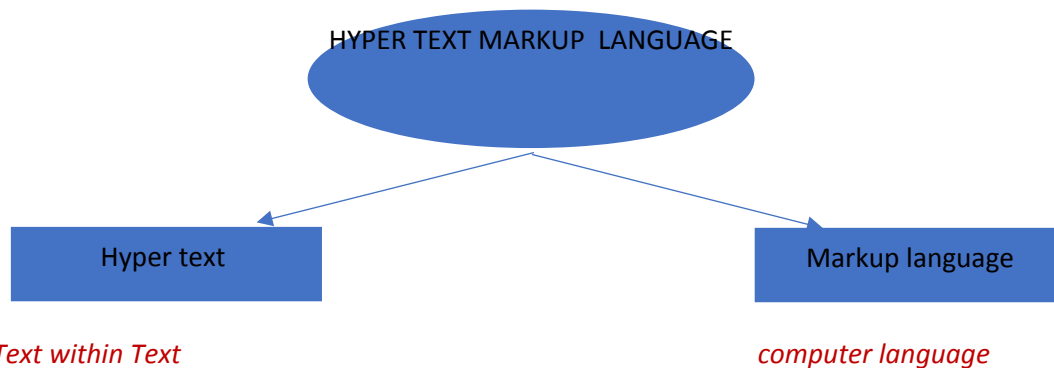# HTML

**HTML** stands for **Hyper Text Markup** Language which is used for creating web pages and web applications developed by TIM BERNERS LEE in 1991. It is used by the browser to manipulate text, images and other content to display it in required format.

*HTML documents are plain-text files saved with an **.html extension**.*

*It is the standard language used to create and design web pages on the internet.*

HYPER TEXT MARKUP  LANGUAGE

Hyper text

Markup language

*Text within Text*

*computer language*

- ○ We can create a static website by html only.
- ○ HTML sets up the basic structure of a website.
- ○ **Not a Programming Language**: technically html is a **markup language**, not a programming language, meaning it structures content but doesn't perform logic like JavaScript.
- ○ **Uses Tags**: HTML consists of **tags** enclosed in angle brackets (< >). Most tags come in pairs (opening & closing). But the tradition is to write tags in lowercase letters.
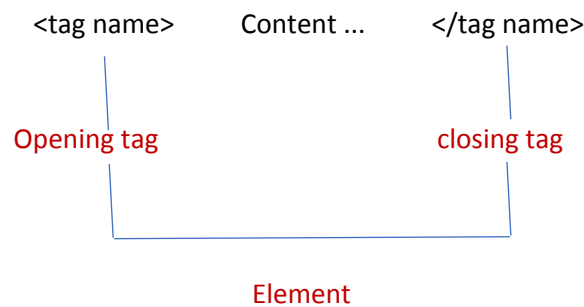
    Example <p>…</p>

- ○ **Case Insensitive**: HTML tags are **not case-sensitive.**
- ○ **Attributes**: attributes to provide additional information
- ○ **No Compilation Needed**: HTML is **interpreted** by web browsers and does not require compilation.

- ○ HTML describes the structure of a Web page.
- ○ It is basic building block for creating any website.

```
<!DOCTYPE html>

<html>
<head>
<title>Web Page</title>
</head>
<body>
<h1>Welcome to HTML</h1>
<p>paragraph</p>
</body>
```

<span style="color:red">&lt;/html&gt;</span>

○ HTML consists of a series of elements.

- ➢ The HTML **element** is everything from the start/opening tag to the end/closing tag
- ➢ A HTML element is complete structure including the opening tag, content and closing tag.
- ➢ HTML elements tell the browser how to display the content.

&lt;tag name&gt;     Content ...     &lt;/tag name&gt;

<span style="color:red">Opening tag</span>          <span style="color:red">closing tag</span>

<span style="color:red">Element</span>

**Hypertext:** Text within Text." A text has a link within it, is a hypertext.
The &lt;a&gt; tag is essential for creating hyperlinks, allowing users to interact efficiently with web content.

**Markup language**: A markup language is a computer language that is uses tags to define element or used to apply layout and formatting conventions to a text document

**Key Features of a Markup Language**:

1. **Uses Tags**: tags are actual keyword which is enclosed in &lt; &gt; (angle brackets), Most tags come in pairs (opening & closing). It is pre define. like &lt;p&gt;, &lt;h1&gt;, &lt;a&gt;, etc.
2. **No Programming Logic**: HTML does not have functions, loops, or conditions like JavaScript or Python.
3. **Defines Structure:** It organizes content into headings, paragraphs, lists, tables, forms, etc.
4. **Human-Readable**: HTML is easy to read and understand.
5. **Works with Other Technologies:** HTML is used with CSS (for styling) and JavaScript (for interactivity).

**Web page:** A web page is a document which is written in html and translated by web browser. A web page can be identified by entering an URL (uniform resource locator).

**URL** is the address of a unique resource on the internet.

**web browser** (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.
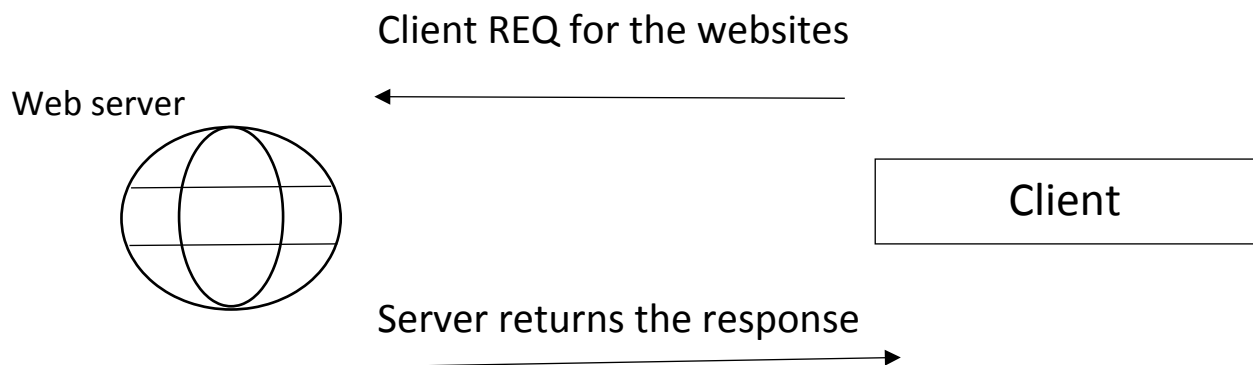
A browser does not display the HTML tags, but uses them to determine how to display the document

**Attributes**: Used within the opening tag of an html element. they provide addition information about html element.

**Html editors**
**Vs code, notepad, notepad ++ etc.**

# HOW TO WORK

—

Client REQ for the websites

Web server

Client

Server returns the response

**HTML comments**
**Ctrl + /**
< --comment -->
to add notes for developers, which are not displayed on the webpage.

**Why is HTML not a Programming Language?**
- No Logic or Computation
- HTML Only Structures a Web Page (Only Defines Structure)
- No Decision Making (If-Else, Loops)
- No Variables or Data Storage

Advantage of html

HTML (**Hyper Text Markup Language**) is the foundation of web development and offers many benefits. Here are some key advantages:

❖ Easy to Learn & Use

HTML has a **simple** and **clear** syntax.

❖ Supported by all web browsers, Websites created with HTML can be **viewed on any device** without compatibility issues.
❖ Platform-independent
❖ Easy Integration with Other Technologies
HTML works smoothly with:
- **CSS** → For styling and layout.
- **JavaScript** → For interactivity and animations.
- **Backend Technologies (PHP, Python, Node.js)** → For dynamic content.

❖ Lightweight and fast loading

<!DOCTYPE html **>**

With the help of this tag, we can declare the version of the markup language to the web browser.

<html **>**

Defines the root of an HTML document

<body**>**

Defines the document's body

<Style**>**

Defines style information for an HTML document

<link**>**

Defines a link between a document and an external resource

❖ **HTML Tag**

# Syntax

<span style="color:red"><tag> content </tag></span>

*HTML Tags are always written in lowercase letters.*

**<br> Tag**: br stands for break line, it breaks the line of the code.
**<hr> Tag**: hr stands for Horizontal Rule. used to put a line

**HTML Text Tags**

| | |
|---|---|
| <p> | Defines a paragraph (always starts on a new line) |
| <h1>...<h6> | HTML headings are defined with the <h1> to <h6> tags. |
| <strong> | |
| <em> | |
| <abbr> | Defines an abbreviation or acronym |
| <acronym> | |
| <address> | Defines contact information for the author/owner of a document |
| <bdo> | override the current text direction (reverse the text) |
| <blockquote> | Defines a section that is quoted from another source |
| <cite> | title of a work |
| <q> | short inline quotation (Bi-Directional Override) |
| <code> | |
| <ins> | |
| <del> | |
| <dfn> | |
| <kbd> | |
| <pre> | Defines pre-formatted text |
| <samp> | |
| <var> | |
| and <br> | |

**HTML Link Tags**

           \<a\>                 \<a\> tag is hyperlink with href attribute, which indicates the link's destination. target attribute specifies where to open the linked document.

- _self - Default. Opens the document in the same window/tab as it was clicked
- _blank - Opens the document in a new window or tab
- _top - Opens the document in the full body of the window.

**NOTE** To use an image as a link, just put the \<img\> tag inside the \<a\> tag

**Link to an Email address:** Use mailto: inside the href attribute to create a link that

opens the user's email program

\<a href="mailto:someone@example.com"\>Send email\</a\>


           \<base\>

**HTML Image and Object Tags**

           \<img\>         an image
                        src attribute to define the URL of the image
                        alt attribute to define an alternate text for an image, if it cannot be displayed
                        width and height attributes

           \<area\>         Defines a clickable area inside an image map.

- rect - defines a rectangular region
- circle - defines a circular region
- poly - defines a polygonal region
- default - defines the entire region

           \<map\>         Defines an image map.
           \<object\>

**HTML List Tags**

      \<ul\>

      \<ol\>

      \<li\>

      \<dl\>

      \<dt\>

      \<dd\>

**HTML Table Tags**

<Table>

< Tr >

<Td >

<Th>

<Tbody>

<Thead>

<Tfoot>

<Col>

<Colgroup>

and <caption>

**HTML Form Tags**

<form>

< input>

< textarea>

< select>

< option>

< optgroup>

< button>                To use an HTML button as a link

<button onclick="document.location='default.asp'">HTML Tutorial</button>

< label>

<fieldset>

<legend>


**HTML Formatting Elements**

Formatting elements were designed to display special types of text:

- <b> - Bold text
- <strong> - Important text
- <i> - Italic text
- <em> - Emphasized text
- <mark> - Marked text
- <small> - Smaller text
- <del> - Deleted text
- <ins> - Inserted text
- <sub> - Subscript text

- <sup> - Superscript text
- <u> - underline text
- <big> - larger text
- <small> - smaller text
- 

# Html style

The HTML **style attribute** is used to add styles to an element, such as colour, font, size, and more.

- Use the style attribute for styling HTML elements

    *<tag name* style="*property*: *value;*">

  - background colour
        Use background-color for background color
        <body style="background - color: blue;">

  - text color
        Use color for text colors
        <h1 style="color: blue;">HTML</h1>

  - font
        font-family property defines the font to be used for an HTML element.
        Use font-family for text fonts
        <p style="font-family: courier;">paragraph</p>

  - text size
        defines the text size for an HTML element.

Use font-size for text sizes

`<p style="font-size:160%;">paragraph</p>`

- text alignment

    text-align property defines the horizontal text alignment for an HTML element.

    Use text-align for text alignment

    `<h1 style="text-align: center;">Center </h1>`

- Border colour

    Set the colour of borders using border attribute.

    `<h1 style="border:2px solid Tomato;"> Hello </h1>`

- Padding

    defines a padding (space) between the text and the border

    `padding: 30px;`

- Margin

    defines a margin (space) outside the border.

    `margin: 50px;`

- background image

    To add a background image on an HTML element, use the HTML style attribute and the CSS background-image property:

    `<p style="background-image: url('img_girl.jpg');">`

- Background repeat

    If the background image is smaller than the element, the image will repeat itself, horizontally and vertically, until it reaches the end of the element

    To avoid the background image from repeating itself, set the background-repeat property to no-repeat

    `background-repeat: no-repeat;`

- Background cover

    If you want the background image to cover the entire element, you can set the background-size property to cover

    `background-size: cover;`

    `background-attachment: fixed;`

    `background-size: 100% 100%;`