

# HTML

- hypertext markup language
- used to designing the web ui
- invented by sir Tim Bernerse Lee on a NextStep Workstation
- **markup language**
  - which is made up of
    - tag
      - word enclosed by < and >
      - also known as element
      - e.g.
        - <p>: paragraph
        - <table>: table
      - used as an instruction to perform some operation
      - types
        - opening
          - used to start an instruction
          - also known as starting tag
          - e.g.
            - <p>
        - closing
          - used to end the instruction
          - also known as ending tag
          - e.g.
            - </p>
        - empty
          - tag without having any data
          - e.g.
            - <p></p>
          - shorthand
            - <br/>
        - root
          - which starts and ends the document
          - e.g.
            - in html, the <html> is the root tag`
      - attribute
        - more information about the tag
        - attributes are optional
        - if used then attribute must be used in the name = value format

- e.g.
    - `<input type="text" >`
    - where
      - input is a tag
      - type is an attribute
      - text is the value for attribute type
  - for html5 attributes
    - if attribute name and value is same then one can use the shorthand attribute
    - e.g.
      - `<input required="required">`
      - `<input required>`
  - every html tag has following attributes
    - **id:** used to identify the tag uniquely
    - **name:**
      - used to add the name for a tag
      - used while submitting the form
    - **style:**
      - used to inline style to a tag
    - **class:**
      - used to add css class to a tag
- data
  - also known as content
  - information enclosed by opening and closing tags
  - e.g.
    - `<p>This is my paragraph</p>`
    - where
      - `<p>`: starting tag
      - this is my paragraph: data
      - `</p>`: closing tag
- is not a programming language

## dev environment

- editor: Visual Studio Code
  - extensions
    - html snippets (<https://marketplace.visualstudio.com/items?itemName=abusaidm.html-snippets>)
    - html boilerplate (<https://marketplace.visualstudio.com/items?itemName=sidthesloth.html5-boilerplate>)
    -

## html tags

- comment

- ignored while rendering the html
- used to write single or multi line comments
- e.g.
  - `<!-- this is the head section -->`
  - `<!--`  
this is the comment 1  
this is the comment 2  
this is the comment 3  
this is the comment 4  
`-->`

- **head section**

- contains the meta data of the page
- the tags are not meant to display any output
- tags
  - **title**: used to change the tab title
  - **style**: used to add internal CSS code
  - **script**: used to add javascript code
  - **meta**: used to add meta (extra) information
  - **link**: used to link external documents
  - **base**: used for setting the base url for the website

- **body section**

- **text tags**

- heading tags

- used to add headings
    - block tags
    - types

- h1:

- `<h1>this is heading 1 </h1>`

- h2

- `<h2>this is heading 2 </h2>`

- h3

- `<h3>this is heading 3 </h3>`

- h4

- `<h4>this is heading 4 </h4>`

- h5

- `<h5>this is heading 5 </h5>`

- h6

- `<h6>this is heading 6 </h6>`

- paragraph

- used to add a paragraph
  - a block tag

- `<p>this is para </p>`

- div

- division used to group the contents
  - can be also used for grouping the tags
  - adds new line character after finishing the data
  - a block tag

- `<div>this is div 1</div>`

- span

- used to add textual information
  - does not add new line character after finishing the data
  - an inline tag

- `<span>this is a span</span>`

- **formatting tags**

- bold

- used to make the content bold

- `<div><b>India</b> is my country.</div>`  
`<div><strong>India</strong> is my country.</div>`

- italic

- used to make the content italic

- `<div><i>India</i> is my country.</div>`

- underline

- used to make the content underline

- `<div><u>India</u> is my country.</div>`

- strike

- used to make the content strike through

- `<div><strike>China</strike> is spreading Covid-19.</div>`

- monospaced

- used to create a monospaced content

- ```
<div><tt>China</tt> is spreading Covid-19.</div>
```

- superscript

- used to add the content above the line

- ```
<div>x<sup>2</sup></div>
```

- subscript

- used to add the content below the line

- ```
<div>x<sub>2</sub></div>
```

- pre

- used to add pre-formatted text

- e.g.

```
<pre>
```

this is already formatted text

```
</pre>
```

- marquee

- used to show the moving text

- e.g.

- **lists**

- ordered

- used to create an ordered list

- types

- 1: latin numbers
- A: upper case letter
- a: lower case letter
- I: upper case roman numbers
- i: lower case roman numbers

- e.g.

```
<ol type="1">
<li>this is list item 1</li>
<li>this is list item 2</li>
<li>this is list item 3</li>
</ol>
```

- unordered

- used to create unordered list
- types
  - disc: filled circle
  - circle: empty circle
  - square: square
- e.g.

```
<ul type="disc">
<li>this is list item 1</li>
<li>this is list item 2</li>
<li>this is list item 3</li>
</ul>
```

- definition
  - used to add the definitions along with the information about them
  - dt: definition term
  - dd: definition definition
  - e.g.

```
<dl>
<dt>HTML</dt>
<dd>Hyper Text Markup Language</dd>
</dl>
```

## ○ resources

- images
  - used to render images in the web page
  - e.g.

```

```

- audio
  - used to play audio
  - e.g.

```
<audio src="audio.mp3">
```

- video
  - used to play video files
  - e.g.

```
<video src="movie.mov">
```

## ○ table

## ○ anchor

## ○ white space

- br

- used to add a line break
- e.g.

```
<br>
<br/>
```

- hr

- used to add line break with a horizontal ruler
- e.g.

```
<hr>
<hr/>
```

- &nbsp;

- used to add a space
- e.g.

```
&nbsp;
```

#### ○ form tags

- used for getting input values from user
- tags
  - input
    - used to get single line input from user
    - types
      - **text**: get textual (characters + numbers) input from user
      - **date**: get date input from user (browser may show a calendar control to select the date)
      - **time**: get time input from user
      - **number**: get only number input from user
      - **submit**
        - converts the input tag to a button
        - used to send the information filled by user to the server
      - **reset**:
        - converts the input tag to a button
        - resets every tag inside the form
      - **button**
        - converts the input tag to a button
        - used to perform an action locally (form will not be submitted or reset)
      - **radio**
        - used to get one of the options from user
      - **checkbox**
        - used to get multiple options from user
      - **file**:
        - used to select a file
      - **password**:

- used to accept password from user
  - masks the characters (displays \* instead of real characters)
- **tel:**
  - used to get telephone number input from user
- **email:**
  - used to get email address from user
- attributes
  - **readonly:** makes the input readonly
  - **required:** user must enter the value in the input tag
  - **placeholder:** shows a hint to the user
  - **maxlength:** used to limit the number of characters entered by user
  - **value:** used to show the tag's title
  - **checked:**
    - use to select an option by default
    - only used along with radio and checkbox
  - **accept:**
    - used to allow certain type of files
    - used only with type = file
- textarea
  - used to get multi-line input from user
- select
  - used to get one or more options from the given list of options