

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
 -

 - 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

- `this is a span`

- formatting tags

- bold

- used to make the content bold

- `<div>India is my country.</div>`
`<div>India 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>x₂</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">
this is list item 1
this is list item 2
this is list item 3

```

- unordered

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

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

```

- 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.

```



```

- hr

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

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

- &nbsp;

- used to add a space
- e.g.

```

```

- 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