

Chapter 0 - Introduction

HTML → Hyper Text Markup Language

HTML is the language of the web. It is used to create websites

We use HTML tags to define look & feel of a website

With understanding of these tags and how to put them together, we can create beautiful websites easily!

Then why CSS & JavaScript

HTML is used for defining layout of a page - A barebone page structure

CSS is used to add styling to that barebone page created using HTML

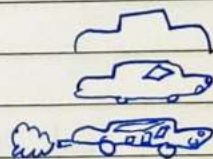
JavaScript is used to program logic for the page layout eg. what happens when a user hovers on a text, when to hide or show elements etc.

A Beautiful analogy

HTML = Car body (only metal)

CSS = Car paint, decoration etc.

JavaScript = Car engine + Interior logic



We will start learning how to build beautiful layouts in this course.

Installing VS Code

We can use any text editor of our choice. Here I am using VS Code because it is light weight, opensource & from Microsoft.

Go to google, type VS Code & install it

Note : You can write HTML even in Notepad. Text editors like VS Code just makes these things easier

Chapter 1 - Creating our first website

We start building a website by creating a file named index.html. index.html is a special filename which is presented when the website root address is typed.

A Basic HTML Page

`<!DOCTYPE html >` → specifies this is an HTML5 doc

`<html >` → root of an HTML page

`<head >` → contains page metadata

`<title > Harry's Website </title >` → contains title

`</head >`

`<body >` → The main body of the page (rendered by the browser)

`<h1 > This is a heading </h1 >` → heading tag

`<p > My paragraph </p >` → paragraph tag

`</body >` → closing body tag

`</html >` →

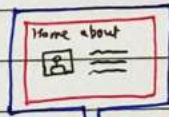
A tag is like a container for either content or other HTML tags.



HTML Document



Browser



Rendered page

Imp Notes

- Head & body tags are children of HTML tag.
- HTML is the parent of Head & Body tags
- Most of the HTML elements have opening & closing tag with content in between opening & closing tags.
- Some HTML tags have no content. These are called Empty elements eg `
`

- We can either use .htm or .html extension
- You can use "Inspect Element" or "View Page Source" option from chrome to look into a website's HTML Code.

HTML element = Start tag + Content + End tag

Comments in HTML

Comments in HTML are used to mark text which should not be parsed. They can help document the source code:

```
<!-- HTML Comment -->
```

Case Sensitivity

HTML is a case insensitive language. `<H1>` and `<h1>` tags are the same.

Chapter 1 - Practice Set

- 1 Inspect your favorite website and change something on the page which is displayed.
- 2 Go to your favorite website and try to view the page source and write the exact lines of code. Does it clone the website? why?
- 3 Write any HTML code inside a text file. Does it work if you write it using notepad?

Chapter 2 - Basic HTML Tags

We can add elements inside the body tag to define the page layout.

HTML Element

Everything from starting to the ending tag.

`<body >` → Opening tag

→ Content ←

`</body >` → Closing tag

HTML Attributes

Used to add more information corresponding to an HTML tag.

Example : ` Harry `
 ↑ anchor tag
 href attribute

We can either use single or double quotes in attributes

The Heading Tag

Heading tag is used to mark headings in HTML. From `h1` to `h6`, we have tags for the most important to the least least important heading.

`<h1 >` Most Important heading `</h1 >`

`<h2 >` Another heading `h2 </h2 >`

`<h3 >` Another heading `h3 </h3 >`

`<h4 >` Another heading `h4 </h4 >`

`<h5 >` Another heading `h5 </h5 >`

`<h6 >` Another heading `h6 </h6 >`

Note: We should not use HTML headings to make text thick or bold.

The Paragraph Tag

Paragraph tags are used to add paragraphs to an HTML page.

```
<p> This is a paragraph </p>
```

The Anchor Tag

The Anchor tag is used to add links to an existing content inside an HTML page.

```
<a href="https://google.com"> Click me </a>
```

The img Tag

img tag is used to add images in an HTML page

```

```

↳ relative url of an image

Bold, italic and underline tags

We can use bold, italic and underline tags to highlight the text as follows:

```
<b> This is bold </b>
```

```
<i> This is italic </i>
```

```
<u> This is underline </u>
```

br tag

The br tag is used to create line breaks in an HTML document.

big and small tags

We can make the text a bit larger and a bit smaller using big and small tags respectively.

hr tag

`<hr>` tag in HTML is used to create a horizontal ruler often used to separate the content.

Subscript & superscript

We can add subscript and superscripts in HTML as follows:

`_{` this `}` is subscript

`^{` this `}` is superscript

pre tag

HTML always ignores extra spaces and newlines. In order to display a piece of text as is, we use pre tag

`<pre>`

This is written
using pre
tag

`</pre>`

⇒ Rendered as-is

Chapter 2 - Practice Set

- 1 Create an HTML page with a heading (title heading), a primary heading and a sub-heading.
Which tags did you use?
- 2 Create a page with 5 wallpaper images taken from the internet
- 3 Use br and hr tags to display a piece of text with linebreaks.
- 4 Try to write the following chemical equation using HTML.
$$\text{C} + \text{O}_2 \longrightarrow \text{CO}_2$$
- 5 Try to write a wikipedia article using HTML.

Chapter 3 - Creating a page layout

When we use the right tag in right place, it results in a better page layout, better indexing by search engines and better user experience.

We use the following tag to get the job done

<header>	} Website layout	→ Contains nav tag
<main>		
<footer>		

Inside the main tag we insert the following tags:

<main> → The main opening tag

<section> → A page section

<article> → a self contained content

<aside> → content aside from the content (eg Ads etc.)

</main> → The main closing tag

Creating a page like this is not necessary but it creates a readable & structured layout.

Also they are useful for SEO.

Link attributes

 Contact us → Contact page opens in same tab

 Contact us

↳ opens in a new tab

We can put any content inside an anchor tag (images, headings etc are all allowed)

If the page is inside a directory, we need to make sure that we link to the correct page.

↳ Same applies to img tag as well

We can add links to images like this

```
<a href="/about"><img src='a.jpg' width="120"></a>
```

↳ Height will be set automatically

The Div tag

div tag is often used as a container for other elements
div is a block level element.

↳ Always takes full width

The span tag

span is an inline container.

↳ Takes as much width as necessary

Chapter 3 - Practice Set

- 1 Create an SEO friendly website using HTML.
- 2 Create an HTML page which opens google when clicked on an image.
- 3 Create a website which has your 5 top used websites bookmarked. The links should open in a new tab.

Chapter 4 - Lists, tables & forms

Lists

Lists are used to display content which represents a list

Unordered list: used to list unordered items

```
<ul>
```

```
<li> Home </li>
```

```
<li> About </li>
```

```
⋮
```

```
</ul>
```

Ordered list: used to list ordered items

```
<ol>
```

```
<li> Phone </li>
```

```
<li> PC </li>
```

```
<li> Laptop </li>
```

```
</ol>
```

Tables

The `<table>` tag is used to define tables in HTML. It is used to format & display tabular data.

`tr` tag: used to display table row

`td` tag: used to display table data

`th` tag: used in place of table data for displaying table headers

We can define as many table rows as we want.

To add a caption to the table, we use `<caption>` tag inside table.

`thead` tag: Used to wrap table head (caption & `tr` with `th`)
`tbody` tag: Used to wrap the table body.

Colspan attribute

This attribute is used to create cells spanning multiple columns.

```
<th colspan = "3" > Harry </th>
```

↳ Spans 3 columns

HTML Forms

An HTML form is used to collect input from the user
`form` tag is used for the same

```
<form >
```

-- Element of the form --

```
</form >
```

There are different form elements for different kinds of user input

- `input` element: Can be of type text, checkbox, radio, button and submit. We also have a 'file' type
- `textarea` element: Defines a multi line text input. `cols` and `rows` attributes can be used to size the `textarea`.
- `select` element: Defines a drop down list

Note : you dont have to remember all the tags, you will automatically memorize them with practice

Embedding Videos

Video tag is used to play videos in HTML

```
<Video src = 'harry.mp4' > Error </video>
```

Attributes for video

We can use :

- Width : To adjust width of a video (Height automatically adjusts)
- We can use autoplay/loop to autoplay or loop the video.

Chapter 4 - Practice Set

- 1 Create an HTML page with video embedded inside it.
- 2 Replace this video in 1 with a YouTube video.
- 3 Create an HTML form for a travel website to book a vacation.
- 4 Create a table displaying score of cricket players in a match using HTML.

Chapter 5 - SEO

We will focus only on HTML standpoint of SEO. We will not be looking into keyword building and content optimization aspect of SEO.

Types of SEO

- On page SEO → can be done by HTML developers
- Off page SEO

HTML SEO

HTML developers can implement SEO using the following techniques:

- 1> Set the title very nice & to the point
- 2> Set the meta description

```
<meta name="description" content="...">
```

- 3> Set a nice URL slug
- 4> Set the meta keywords tag.
- 5> Set the meta author tag.

```
<meta name="author" content="Harry">
```

- 6> Set a favicon

- 7 Compress images & other resources
- 8 Remove unused HTML/CSS & Js files + Compress them
- 9 Add alt text to images