

Module 1: HTML



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Is HTML a programming language?

HTML is called as a markup language that is different from a programming language. Its full form is Hypertext Markup Language.

Hypertext: Hypertext means, text with a link embedded in it. If you click on that link, it will open a new webpage. Apart from text, hypertext may contain HTML tables, HTML lists, HTML forms, HTML images, etc.

Markup language: Markup language uses tags to define elements within a document. It contains familiar words that are human-readable like forms, tables, links, titles, etc. Every tag in a markup language has a special meaning of its own and performs a particular operation.



- Sir Tim Berners-Lee developed HTML in late 1989, and he is considered as the Father of HTML.
- In 1996, the World Wide Web Consortium (W3C) became the authority to maintain the HTML specifications.
- It became an international standard (ISO) in 2000.



Features of HTML

- It develops the structure of a webpage. All the blocks and elements present in a website, exist because of HTML.
- Simple human-readable tags represent elements in a webpage. Hence, they are easy to remember.
- It is universally supported by all browsers. It is a standard markup language for website development.
- HTML 5 can give support in enhancing the experience in gaming arena.
- It is easy to learn and implement.
- It is platform independent, i.e., it works on all the operating systems.



Advantages of Learning HTML

- Originally, HTML was developed to define the structure of webpages.
- It has tags that optimize the website for search engine and boost performance.
- These tags are <meta> tags, <heading> tags, <title> tag, etc.
- It is the base of designing and developing web pages.
- Once you get its basics right, other related technologies like JavaScript, CSS, etc. become easier to understand.



First HTML code example:

```
<!DOCTYPE html>
<html lang="en">
<HTML>
<head>
<title> Page Title </title>
</head>
<body>
<h1> This is a Heading </h1>
<p> This is a Paragraph </p>
</body>
</html>
```



<!DOCTYPE>- The doctype declaration indicates the document type and version of HTML used on the webpage. Each version has a different doctype declaration.

<html>- It is the root tag that describes the whole webpage. It is a paired tag, i.e., it has a closing tag also, </html>. Everything will be written inside these tags.

<head>- Head tag contains information about the document like its title, author information, description of the webpage, and so on. It has different tags to perform these functions. It is also a paired tag.



<title>- Title tag is used inside <head>, and it specifies the title of the document.

<body>- The body tag contains all the information which will be displayed on the webpage. If you want anything to be displayed on the webpage, you have to write it within these tags.

<h1>- Heading tag is used to define headings. <h1> is the largest heading, followed by <h2>, <h3>, to <h6>.



What is an HTML Tag?

- HTML Tags are pre-defined elements in HTML, enclosed within these brackets `< >` signs. For example: `<html>`, `<table>`, etc. All HTML tags has a particular function associated with them.
- Each tag has a special function and a combination of various tags develops a website. For example, a `<p>` tag defines a paragraph in the website and a `<table>` tag displays a table.
- All HTML Tags are predefined, i.e., you cannot create new tags. Look at the example below, this is an example of a paired tag. Observe that there are two tags of same name, but the latter one has a slash `/` before it, it is a closing tag.
- Example: `<p> FSD </p>`



Types of tags in HTML

- The types of tags in HTML are categorized on the basis of their appearance.
- Some tags comes in pairs and others are single.
- There are two types of tags in HTML that are used by the Website Designers:
 - Paired Tags (Opening and Closing Tags)
 - Unpaired Tags (Singular Tag)



List of some paired tags in HTML:

Open Tag	Close Tag
----------	-----------

<html>	</html>
--------	---------

<table>	</table>
---------	----------

<form>	</form>
--------	---------

	
------	-------

<p>	</p>
-----	------

<head>	</head>
--------	---------

<div>	</div>
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Unpaired Tags - Singular Tags

Unpaired tags are single tags with no closing tag. These tags are also called Singular Tags. These are also called non-container tags because they do not contain any content.

It is recommended to close the unpaired/singular tags also. But unfortunately, we do not have the closing tag for those. So, an unpaired tag is closed after adding a slash(/) just before the greater than > sign. For example:
.

Some Unpaired Tags are:

<hr>

<meta>

<input>

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HTML Heading Tags - H1 tag to H6 tag

- Heading tag is used to give headings of different sizes in a document.
- There are six different HTML heading tags, which gives different heading sizes and are defined by `<h1>` to `<h6>` tags.
- `<h1>` gives the largest heading and `<h6>` gives the smallest one.
- So `<h1>` can be used for most important headings and `<h6>` can be used for a least important one.



```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title> HTML Heading Tag </title>
</head>
<body>
<h1> This is Heading 1 </h1>
<h2> This is Heading 2 </h2>
<h3> This is Heading 3 </h3>
<h4> This is Heading 4 </h4>
<h5> This is Heading 5 </h5>
<h6> This is Heading 6 </h6>
</body>
</html>
```



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HTML p tag - Paragraph tag

- The <p> tag is used to define a paragraph in a document.
- HTML paragraph or HTML <p> tag gives the text inside it, a paragraph like finishing.
- It is a notable point that a browser itself add a line break before and after a paragraph.

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```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title> HTML Paragraph Tag </title>
</head>
<body>
<p> This is First Paragraph </p>
<p> This is Second Paragraph </p>
<p> This is Third Paragraph </p>
</body>
</html>
```



HTML a tag - Anchor Tag

- HTML Hyperlink is defined with the <a> tag (Anchor tag).
- It is used to give a link to any file, webpage, image etc.
- This tag is called anchor tag and anything between the opening <a> tag and the closing tag becomes part of the link, and a user can click that part to reach to the linked document.

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```
<!DOCTYPE html>
<HTML lang="en">
<head>
<meta charset="UTF-8">
<title> HTML Anchor Tag </title>
</head>
<body>
<a target="_blank" href="https://www.talentbattle.in"> This is a link </a>
</body>
</html>
```

The logo is a shield-shaped emblem. The top half is purple with a white fist icon. The bottom half is yellow with green wavy lines. The word 'TalentBattle' is written in a stylized font across the bottom of the shield.

Note : Use 'target = _blank' as an attribute in <a> tag to open the link in a new tab.



HTML img tag - Image Tag

- The Image Tag is used to add Images in HTML documents.
- The HTML img tag is used to add image in a document.
- The 'src' attribute is used to give source(address) of the image. The height and width of the image can be controlled by the attributes - height="px" and width="px".
- The alt attribute is used as an alternative in a case if the image is not shown. Anything written as a value of this attribute will be displayed. It will give information about the image.

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```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title> HTML Image Tag </title>
</head>
<body>

</body>
</html>
```



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HTML Attributes

- HTML attribute defines the characteristics of any HTML element.
- These attributes provide additional information to the browser about the element like, its size, color, behavior, etc.
- Attributes are always specified in the start tag.
- Attributes usually come in name/value pairs like: name="value".
- Ex.- 'src' in tag OR 'href' in <a> tag, etc..

