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Today IWT class note(BKP)

HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications.

Hyper Text: A text has a link within it, is a hypertext. Hyper Text is a way to link two or more web pages (HTML documents) with each other.

Markup Language describes how HTML works. With a markup language, you simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

It is used to apply layout and formatting conventions to a text document.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser.

A Web page can be of the static or dynamic type. **With the help of HTML only, we can create static web pages.**

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser.

An HTML document is made of many HTML tags and each HTML tag contains different content.

Every HTML page contains 2 parts

1) Head

2) Body

Head contains meta data like title of the page, keywords etc. CSS files and Java Script files information we have to specify in the Head Part only.

Body contains actual content.

Example:

<!DOCTYPE html>// to indicate that it is HTML page

<html>

<head>

<title>Web page title</title>

</head>

<body>

<h1>Write Your First Heading</h1>

<p>Write Your First Paragraph.</p>

</body>

</html>

Description of HTML Example

<!DOCTYPE>: It defines the document type or it instruct the browser about the version of HTML.

<html >: This tag informs the browser that it is an HTML document. Text between html tag describes the web document. It is a container for all other elements of HTML except <!DOCTYPE>

<head>: It should be the first element inside the <html> element, which contains the metadata(information about the document). It must be closed before the body tag opens.

<title>: As its name suggested, it is used to add title of that HTML page which appears at the top of the browser window. It must be placed inside the head tag and should close immediately. (Optional)

<body> : Text between body tag describes the body content of the page that is visible to the end user. This tag contains the main content of the HTML document.

<h1> : Text between <h1> tag describes the first level heading of the webpage.

<p> : Text between <p> tag describes the paragraph of the webpage.

Note: **<!-- Anything here is considered as Comment -->**

HTML versions:

Tim Berners-Lee is known as the father of HTML. The first available description of HTML was a document called "HTML Tags" proposed by Tim in late 1991.

Year	Version
1989	Tim Berners-Lee invented www
1991	Tim Berners-Lee invented HTML
1993	Dave Raggett drafted HTML+
1995	HTML Working Group defined HTML 2.0
1997	W3C Recommendation: HTML 3.2
1999	W3C Recommendation: HTML 4.01
2000	W3C Recommendation: XHTML 1.0
2008	WHATWG HTML5 First Public Draft
2012	WHATWG HTML5 Living Standard
2014	W3C Recommendation: HTML5
2016	W3C Candidate Recommendation: HTML 5.1
2017	W3C Recommendation: HTML5.1 2nd Edition
2017	W3C Recommendation: HTML5.2

HTML Versions description

Since the time HTML was invented there are lots of HTML versions in market, the brief introduction about the HTML version is given below:

HTML 1.0: The first version of HTML was 1.0, which was the barebones version of HTML language, and it was released in 1991.

HTML 2.0: This was the next version which was released in 1995, and it was standard language version for website design. HTML 2.0 was able to support extra features such as form-based file upload, form elements such as text box, option button, etc.

HTML 3.2: HTML 3.2 version was published by W3C in early 1997. This version was capable of creating tables and providing support for extra options for form elements. It can also support a web page with complex mathematical equations. It became an official standard for any browser till January 1997. Today it is practically supported by most of the browsers.

HTML 4.01: HTML 4.01 version was released on December 1999, and it is a very stable version of HTML language. This version is the current official standard, and it provides added support for stylesheets (CSS) and scripting ability for various multimedia elements.

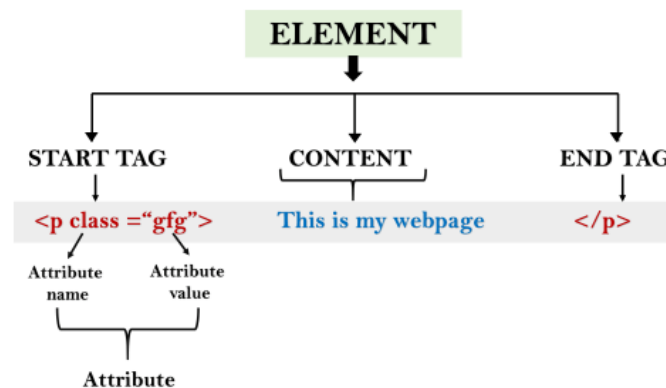
HTML5 : HTML5 is the newest version of HyperText Markup language. The first draft of this version was announced in January 2008. There are two major organizations one is W3C (World Wide Web Consortium), and another one is WHATWG(Web Hypertext Application Technology Working Group) which are involved in the development of HTML 5 version, and still, it is under development.

Features of HTML

- It is a very **easy and simple language**. It can be easily understood and modified.
- It is very easy to make an **effective presentation** with HTML because it has a lot of formatting tags.
- It is a **markup language**, so it provides a flexible way to design web pages along with the text.
- It facilitates programmers to add a **link** on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.
- It is **platform-independent** because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.
- It facilitates the programmer to add **Graphics, Videos, and Sound** to the web pages which makes it more attractive and interactive.
- HTML is not case sensitive language, which means we can use tags either in lower-case or upper-case.

Building blocks of HTML

Elements: An HTML element is an individual component of an HTML file. In an HTML file, everything written within tags are termed as HTML elements.



- **Tags:** An HTML tag surrounds the content and apply meaning to it. It is written between
 - < and > brackets.
- **Attribute:** An attribute in HTML provides extra information about the element, and it is applied within the start tag. An HTML attribute contains two fields: name & value.

e.g To insert image in the html page, src attribute specify location of the image to the tag.

Syntax

`<tag name attribute_name= " attr_value"> content </ tag name>`

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <title>The basic building blocks of HTML</title>
  </head>
  <body>
    <h2>The building blocks</h2>
    <p>This is a paragraph tag</p>
    <p style="color: red">The style is attribute of paragraph tag</p>
    <span>The element contains tag, attribute and content</span>
  </body>
</html>
```

Types of elements

- **Void elements**
[area](#), [base](#), [br](#), [col](#), [command](#), [embed](#), [hr](#), [img](#), [input](#), [keygen](#), [link](#), [meta](#), [param](#), [source](#), [track](#), [wbr](#)
 - **Raw text elements:** [script](#), [style](#)
 - **RCDATA elements:** [textarea](#), [title](#)
 - **Foreign elements** Elements from the [MathML namespace](#) and the [SVG namespace](#).
 - **Normal elements** All other allowed [HTML elements](#) are normal elements.
- ✓ [Raw text](#), [RCDATA](#), and [normal](#) elements have a [start tag](#) to indicate where they begin, and an [end tag](#) to indicate where they end. The start and end tags of certain [normal elements](#) can be [omitted](#)
- ✓ [Void elements](#) only have a start tag
- ✓ [Foreign elements](#) must either have a start tag and an end tag, or a start tag that is marked as self-closing, in which case they must not have an end tag

HTML Tags

HTML tags are defines that how web browser will format and display the content.

With the help of tags, a web browser can distinguish between an HTML content and a simple content.

HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.

When a web browser reads an HTML document, browser reads it from top to bottom and left to right.

HTML tags are used to create HTML documents and render their properties.

Each HTML tags have different properties.

An HTML file must have some essential tags so that web browser can differentiate between a simple text and HTML text. You can use as many tags you want as per your code requirement.

- All HTML tags must enclosed within <> these brackets.
- Every tag in HTML perform different tasks.
- If you have used an open tag <tag>, then you must use a close tag </tag> (except some tags which are called as unpaired tags like
, <hr> etc.

Syntax

`<tag> content </tag>`

Types of Tags

HTML Meta Tags

DOCTYPE, title, link, meta and style

HTML Text Tags

<p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, , , <abbr>, <acronym>, <address>, <bdo>, <blockquote>, <cite>, <q>, <code>, <ins>, , <dfn>, <kbd>, <pre>, <samp>, <var> and
 etc

HTML Link Tags

<a> and <base>

HTML Image and Object Tags

, <area>, <map>, <param> and <object>

HTML List Tags

, , , <dl>, <dt> and <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, label, fieldset and legend

HTML Scripting Tags

script and noscript

HTML Attribute

- HTML attributes are special words which provide additional information about the elements or attributes are the modifier of the HTML element.
- Each element or tag can have attributes, which defines the behaviour of that element.
- Attributes should always be applied with start tag.
- The Attribute should always be applied with its name and value pair.
- The Attributes name and values are case sensitive, and it is recommended by W3C that it should be written in Lowercase only.
- You can add multiple attributes in one HTML element, but need to give space between two attributes.

Syntax

<element **attribute_name="value">**content**</element>**

Example

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
  <h1> This is Style attribute</h1>
  <p style="height: 50px; color: blue">It will add style property in element</p>
  <p style="color: red">It will change the color of content</p>
</body>
</html>
```

HTML Paragraphs <p> element

The <p> element is among the most common of elements.

<p>This is my first paragraph</p>

The <p> element defines a new paragraph in the HTML document.

The element has a start tag <p> and an end tag </p>.

The <body> element

The <body> element defines the body of the HTML document.

<body>

<p>This is my first paragraph</p>

</body>

The element has a start tag <body> and an end tag </body>.

The element content is another HTML element (one or more paragraphs).

There are usually dozens of elements within the body element.

The <html> element

The <html> element defines the entire HTML document.

<html>

<body>

<p>This is my first paragraph</p>

</body>

</html>

The element has a start tag <html> and an end tag </html>.

The element content is another HTML element (the body).

Empty HTML Elements

HTML elements without content are called empty elements. Empty elements can be closed within the start tag.

**
 is an empty element without a closing tag. It defines a line break.**

<hr> is an empty element without a closing tag This tag is used to put a line across the webpage.

In XML and future versions of HTML, all elements must be closed. Adding a slash to the end of start tag, like
, is the proper way of closing empty elements, accepted by HTML, and XML.

Even if
 works in all browsers, writing
 instead is more future proof.

HTML Heading

HTML heading or HTML h tag can be defined as a title or a subtitle which you want to display on the webpage. When you place the text within the heading tags <h1>.....</h1>, it is displayed on the browser in the bold format and size of the text depends on the number of heading.

There are six different HTML headings which are defined with the <h1> to <h6> tags, from highest level h1 (main heading) to the least level h6 (least important heading). h1 is the largest heading tag and h6 is the smallest one. So h1 is used for most important heading and h6 is used for least important.

HTML Formatting

HTML Formatting is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS. There are many formatting tags in HTML. These tags are used to make text bold, italicized, or underlined. There are almost 14 options available that how text appears in HTML and XHTML.

In HTML the formatting tags are divided into two categories:

Physical tag: These tags are used to provide the visual appearance to the text.

Logical tag: These tags are used to add some logical or semantic value to the text.

NOTE: There are some physical and logical tags which may give same visual appearance, but they will be different in semantics.

Here, we are going to learn some HTML formatting tags text.

Element name	Description
	This is a physical tag, which is used to bold the text written between it.
	This is a logical tag, which tells the browser that the text is important.
<i>	This is a physical tag which is used to make text italic.
	This is a logical tag which is used to display content in italic.
<mark>	This tag is used to highlight text.
<u>	This tag is used to underline text written between it.
<tt>	This tag is used to appear a text in teletype. (not supported in HTML5)
<strike>	This tag is used to draw a strikethrough on a section of text. (Not supported in HTML5)
<sup>	It displays the content slightly above the normal line.
<sub>	It displays the content slightly below the normal line.
	This tag is used to display the deleted content.
<ins>	This tag displays the content which is added in underline
<big>	This tag is used to increase the font size by one conventional unit.
<small>	This tag is used to decrease the font size by one unit from base font size.

More tags

TAG	DESCRIPTION
<s>	Deprecated. Use instead
<u>	Deprecated. Use styles instead
<code>	Defines computer code text
<kbd>	Defines keyboard text
<samp>	Defines sample computer code
<var>	Defines a variable
<pre>	Defines preformatted text
<listing>	Deprecated. Use <pre> instead
<plaintext>	Deprecated. Use <pre> instead
<xmp>	Deprecated. Use <pre> instead
<abbr>	Defines an abbreviation
<acronym>	Defines an acronym
<address>	Defines an address element
<bdo>	Defines the text direction
<blockquote>	Defines a long quotation
<q>	Defines a short quotation
<cite>	Defines a citation
<dfn>	Defines a definition term

Example:

```
<!DOCTYPE html>
<html>
<head>
<title>my first html page</title>
</head>
<body>
<p>
<h1> I am in h1</h1><br>
<h2> I am in h2</h2><br>
<h3> I am in h3</h3><br>
<h4> I am in h4</h4><br>
<h5> I am in h5</h5><br>
<h6> I am in h6</h6><br>

<br>
<big> I am in big</big><br>
<small> I am in small</small><br>
```

```
<em> I am in em</em><br>
<I> I am in Itallics</I><br>
<b> I am in bold</b><br>
<strong> I am in strong</strong><br>
</p>
<p>Hello
<sub> I am in sub</sub><br> Hello
<sup> I am in sup</sup><br>
<del> I am in del</del><br>
<s> I am in s</s><br>
<strike> I am in strike</strike><br>
<ins> I am in ins</ins><br>
<u> I am in u</u><br>
<pre> I am
      in pre
          formatted </pre><br>
<!-- comment the folowing is hor. Line-->
<hr color="red">
<abbr title="World Wide Web">WWW</abbr><br>

<bdo dir="rtl">Hello world</bdo><br>
<blockquote>I in blockquote</blockquote><br>
<q>I am in q</q><br>
<tt> I am tt</tt>
</p>
<p style="font-family:verdana ; text-align:center;color:red; fontsize:20px"><u>I am in font-family:verdana ; text-align:center;color:red;
fontsize:20px  </p> <br>
</body>
</html>
```

Output

I am in h1

I am in h2

I am in h3

I am in h4

I am in h5

I am in h6

I am in big

I am in small

I am in em

I am in Itallics

I am in bold

I am in strong

Hello I am in sub

Hello ^{I am in sup}

~~I am in del~~

~~I am in s~~

~~I am in strike~~

I am in ins

I am in u

```
I am
      in pre
          formatted
```

WWW

Hello world

I in blockquote

“I am in q”

I am tt

I am in font-family:verdana ; text-align:center;color:red; fontsize:20px