

Unit 2

HTML

(HyperText Mark up Language)

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Starting with HTML

History of HTML

- Is Stand for Hyper Text Markup Language.
- Is invented by Scientist Tim Berners-Lee in 1980.
- HTML was created by Berners-Lee in late 1991 but "HTML 2.0" was the first standard HTML specification which was published in 1995.
- HTML 4.01 was a major version of HTML and it was published in late 1999.
- Though HTML 4.01 version is widely used but currently we are having HTML-5.2 version which is an extension to HTML 4.01, and this version was published after 2016.

What is HTML?

- HTML is a markup language.
- It means that markup language is a set of markup tag to describe web page.
- HTML contains standard codes, or tags that determine how a web page is looks when your browser display it.

- HTML is not only present information but also display images.
- Extension of an HTML file is .htm or .html
- HTML is use to design a static pages.
- **HyperText:** Hyper Text simply means "Text within Text". A text has a link within it, is a hypertext. Every time when you click on a word which brings you to a new webpage, you have clicked on a hypertext.
- **Markup language:** A markup language is a programming language that is used make text more interactive. It can turn a text into images, tables, links etc.
- E.g :

```
<!DOCTYPE>  
<html>  
<body>  
<h1>Write Your First Heading </h1>  
<p>Write Your First Paragraph.</p>  
</body>  
</html>
```

- HTML tags normally come **in pairs** like `<p>` and `</p>`
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- The end tag is written like the start tag, but with a **forward slash** inserted before the tag name
- HTML is a markup language and makes use of various tags to format the content. These tags are enclosed within angle braces `<Tag Name>`. Except few tags, most of the tags have their corresponding closing tags. For example `<html>` has its closing tag `</html>` and `<body>` tag has its closing tag `</body>` tag etc.

Advantages of HTML:

1. First advantage it is widely used.
2. Every browser supports HTML language.
3. Easy to learn and use.
4. It is by default in every windows so you don't need to purchase extra software.

Disadvantages of HTML:

1. It can create only static and plain pages so if we need dynamic pages then HTML is not useful.
2. Need to write lot of code for making simple webpage.
3. Security features are not good in HTML.
4. If we need to write long code for making a webpage then it produces some complexity.

Features of HTML

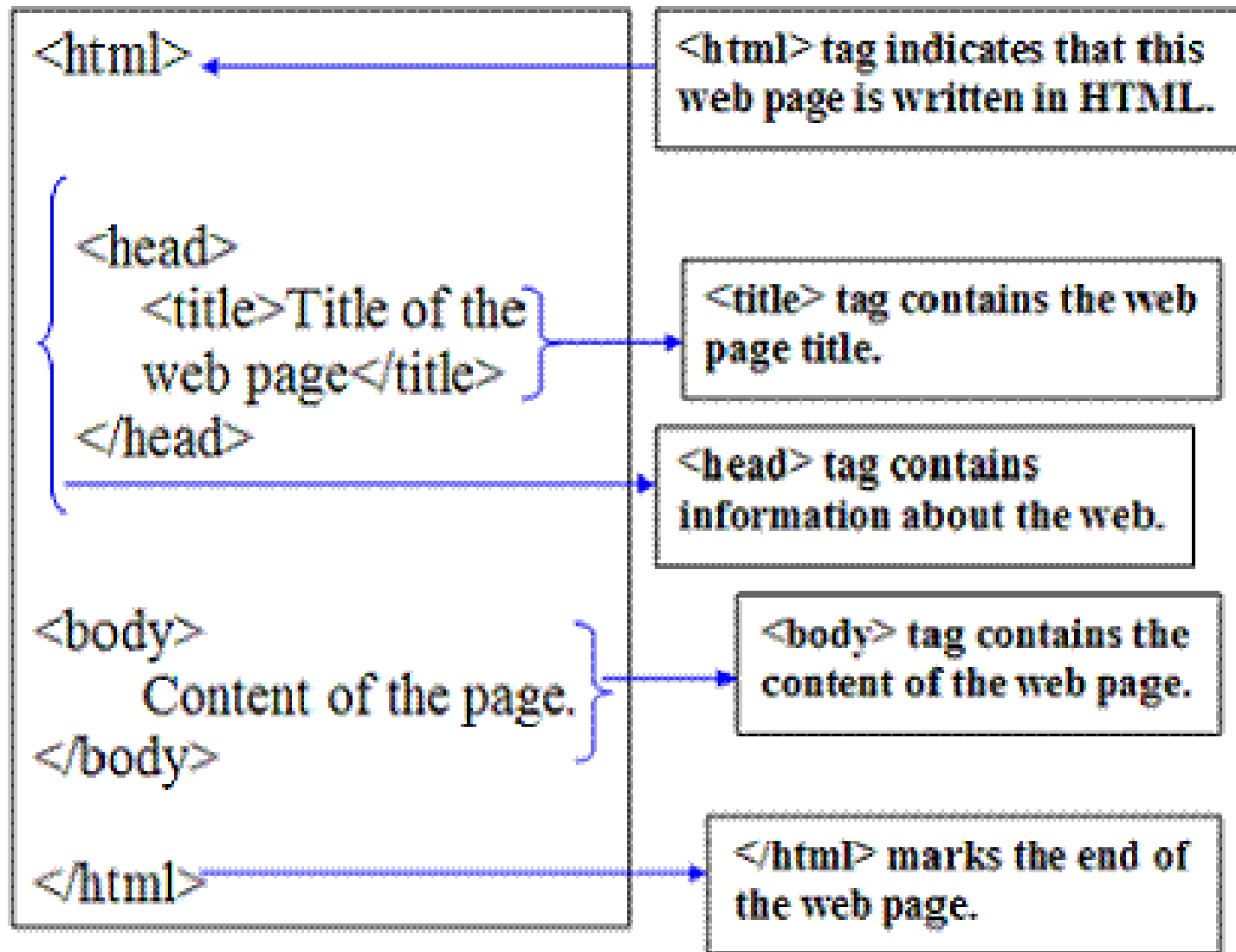
- It is a very **easy and simple** language. It can be easily understood and modified.
- It is very easy to make **effective presentation** with HTML because it has a lot of *formatting tags*.
- It is a **markup language** so it provides a flexible way to design web pages along with the text.
- It facilitates programmers to add **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.

Basic block of HTML

```
<!DOCTYPE html>
<html> <head>
  <title>This is document title</title>
</head>
<body>
  <h1>This is a heading</h1>
  <p>Document content goes here.....</p>
</body> </html>
```

<!DOCTYPE...>	This tag defines the document type and HTML version.
<html>	This tag tells your browser that the file contains HTML coded information. This tag encloses the complete HTML document and mainly comprises of document header which is represented by <head>...</head> and document body which is represented by <body>...</body> tags.
<head>	This tag is not contain any text. Its only contains the <title> tag.This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<title>	This tag contains the your document title and is display in the title bar at the top of the browser window. The <title> tag is used inside the <head> tag to mention the document title.
<body>	This tag represents the document's body which keeps other HTML tags like <h1>, <div>, <p> etc.

Basic structure of html



HTML Document

- Every HTML document has two sections :
 - The Head : Provides the information about the document and will appear in the browser window's title bar.
 - The Body : Contains the web document that browser display in its window.

How to save and run html file?

- HTML file save with .htm or .html extension.
- Write html code using editor like notepad, WordPad, notepad++ and many more.
- Run it by double click or you can open it from browser also. Let's try it.
- 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.

Setting up the Document Structure

- **Specifying the Document Type**
- When creating an HTML5 document, the first line of the document should be this tag:
- `<!DOCTYPE html>`
- The DOCTYPE tag always begins with an exclamation point and is always placed at the beginning of the document, before any other tag.
- Most HTML tags are not case-sensitive, but the word DOCTYPE should always be uppercase.
- When the browser sees the tag `<!DOCTYPE html>`, it assumes you are using HTML5. By using the DOCTYPE tag, you are making a promise to the Web browser that there is nothing but pure HTML code in the page.

Example

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title> Title Name </title>
```

```
</head>
```

```
<body>
```

Some text here !!!!!

```
</body>
```

```
</html>
```

Start with HTML

Body Tag : `<body> </body>`

- The `<body>` element contains all the contents of an **HTML** document, such as text, hyperlinks, images, tables, lists, etc.
- The `<body>` tag defines the document's body.
- Syntax:
- `<BODY [BGCOLOR="Color name"]`
 `[TEXT="Color name"]`
 `[LINK="Color name"]`
 `[ALINK="Color name"]`
 `[VLINK="Color name"] >`
`</BODY>`

Body Tag attribute

1) BGCOLOR="color name"

- This **change the background color** of your page. The default setting may varies with your browser , but is usually **gray or white**.

2) TEXT="color name"

- This **change the default text color** the browser . The default setting for text color is **black**.

3) LINK="color name"

- This change the color of all non-visited links on your page. The default setting for a non-visited link is usually blue.

4) ALINK="color name"

- This change the color of active links on your page, which is a link that has just been clicked by user's mouse. The default setting for a active link is usually red.

5) VLINK="color name"

- This change the color of a visited links on your page. The default setting for a visited link is usually violet.

Formatting Web Page Text by using tags

Heading tag : <h1> </h1>..... <h6></h6>

- HTML 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.
- 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.
- Syntax: <hx ALIGN="Heading alignment"> some text</hx> OR
<hx > some text</hx>

Attribute of h tag :

ALIGN="left/center/right"

Default alignment of text with <hx> tag is left Alignment.

align	left center right	
-------	-------------------------	--

<h1> this is a default left align heading</h1>

<h1 ALIGN="right"> this is a right align heading</h1>

<h1 ALIGN="center"> this is a right align heading</h1>

Bold tag(tag): This tag specifies that the text should be turned into bold face.

Syntax: some text

Example: This tag is Bold effect.

Output: This tag is **Bold** effect.

Italic tag(<i> tag): This tag specifies that the text should be turned into Italic/Emphasis face.

Syntax: <i> some text</i>

Example: This tag is <i>Italic</i> effect.

Output: This tag is *Italic* effect.

Underline tag(<u> tag): This tag specifies that the text should be turned into underline face.

Syntax: <u> some text</u>

Example: This tag is <u>Underline </u> effect.

Output: This tag is Underline effect.

Paragraph tag <p> </p> : is used to define a paragraph in a webpage. The <p> element is used to identify blocks of paragraph text. The closing <p> tag is optional.

- **If you put a lot of spaces inside the HTML p tag, browser removes extra spaces and extra line while displaying the page. The browser counts number of spaces and lines as a single one.**
- **Align attribute** : specify alignment of text within a paragraph.

Html Pre tag : The **HTML <pre> tag** is used *to specify pre formatted texts*. Texts within <pre>.....</pre> tag is displayed in a fixed-width font.

- Usually it is displayed in Courier font. It maintains both space and line break.
- It is widely used to display language examples e.g. Java, C#, C, C++ etc because it displays the code as it is typed.

let's see e.g.

**Line braking tag
** :
 tag or element is used to break line in a paragraph.

- It is generally used in poem or address where the division of line is necessary.
- It is an empty tag, means it does not need a company of end tag.

<p>If you want to break line
in a paragraph,
use the br element.</p>

Strike Text <strike></strike>: any thing written within this element is displayed with strikethrough. It is a thin line which cross the statement.

e.g <strike>Today's Special: Salmon</strike> NO LONGER AVAILABLE

Out Put :

~~Today's Special: Salmon~~ NO LONGER AVAILABLE

SuperscriptText : If you put the content within ^{.....} element, is shown in superscript ; means it is displayed half a character's height above the other characters.

e.g. <p>Hello ^{Write Your First Paragraph in superscript.}</p>

Output : Hello ^{Write Your First Paragraph in superscript.}

SubscriptText : If you put the content within _{.....} element, is shown in subscript ; means it is displayed half a character's height below the other characters.

e.g. <p>Hello _{Write Your First Paragraph in subscript.}</p>

Output : Hello _{Write Your First Paragraph in subscript.}

LargerText : if you want to put your font size larger than the rest of the text then put the content within <big>.....</big>. It increase one font size larger than the previous one.

e.g. : <p>Hello <big>Write the paragraph in larger font.</big></p>

Output : Hello Write the paragraph in larger font.

Smaller Text : If you want to put your font size smaller than the rest of the text then put the content within <small>.....</small>tag. It reduces one font size than the previous one.

e.g. : <p>Hello <small>Write the paragraph in smaller font.</small></p>

Output : Hello Write the paragraph in smaller font .

Big Tag (<big> tag) : this tag make text bigger than normal and bold the text.

E.g. : My name is <big>Himali</big>

Output : My name is **Himali**

Strong () Tag : this tag is use to bold the tag.

E.g. : This is strongeffect.

Out put : This is **strong** effect.

Monospaced Font or fixed width typewriter tag <tt>: If you want that each letter has the same width then you should write the content within <tt>.....</tt> element.

- **Note:** We know that most of the fonts are known as variable-width fonts because different letters have different width. (for example: 'w' is wider than 'i').
- Monospaced Font provides similar space among every letter.

Html comment: <!-- some text --> is use to give html comment in web page or html page. Which is not visible in browser.

Horizontal ruler <hr> : It draw a horizontal line between them. It is also called a Horizontal Rule in HTML.

- It divide text into two parts.

- E.g.

```
<p>HTML is a language for describing web pages.</p>
<hr />
<h2>HR Tag </h2>
<p> HR tag is used to draw a horizontal line within the texts to separte content.<p>
```

- Output :

HTML is a language for describing web pages.

HR Tag

HR tag is used to draw a horizontal line within the texts to separate content.

Font tag ...

- HTML tag to add style, size, and color to the text on your website.
- It is declare in <body> section of the html documents.
- The font tag is having three attributes called **size**, **color**, and **face** to customize your fonts.
- E.g.

```
<html> <head> <title>Setting Font Size</title> </head>
<body>
  <font size = "1">Font size = "1"</font><br />
  <font size = "2">Font size = "2"</font><br />
  <font size = "-1">Font size = "-1"</font><br />
  <font size = "+1">Font size = "+1"</font><br />
  <font face = "Times New Roman" size = "5">Times New      Roman</font><br
/>
  <font face = "Verdana" size = "5">Verdana</font><br />
  <font color = "#FF00FF">This text is in pink</font><br />
  <font color = "red">This text is red</font>
</body>
</html>
```


The <basefont> Element

- The <basefont> element is supposed to set a default font size, color, and typeface for any parts of the document.
- Generally it declared in <head> section.

```
<html>
<head>
    <basefont color="red" size="5">
</head>
<body>
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>

</body>
</html>
```

Base tag : The **<base>** tag specifies the base URL/target for all relative URLs in a document.

- There can be at maximum one **<base>** element in a document, and it must be inside the **<head>** element.
- you can set the base URL once at the top of your page in header section

The HTML **<base>** tag also supports the following additional attributes

Attribute	Value	Description
href	URL	Specifies the URL of a page or the name of the anchor that the link goes to.
target	_blank _parent _self _top	Where to open the target URL. _blank – the target URL will open in a new window. _self – the target URL will open in the same frame as it was clicked. _parent – the target URL will open in the parent frameset _top – the target URL will open in the full body of the window

Example

- `<!doctype html>`
- `<html>`
- `<head>`
- `<title>Example of 'base' Tag</title>`
- `<base href="http://www.html.am/"`
 `target="_blank">`
- `</head>`
- `<body>`
- `<p>See HTML`
 `codes.</p>`
- `</body>`
- `</html>`

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HTML Codes

HTML is the markup language of the web. If you need to add something to your blog or website, chances are you'll need to write some HTML code.

Here are links to free HTML codes. You can copy and paste these codes into your website or blog.

With these HTML codes, the hard work has already been done for you. All you need to do is copy/paste, or copy/modify/paste. Easy!

Text Codes

- [HTML Bold](#)
- [Text Code](#)
- [Font Code](#)
- [Text Color](#)
- [HTML Underline Code](#)

HTML Tables

- [Table Background Color](#)
- [Table Border](#)
- [Table Color](#)
- [Table Text](#)
- [HTML Table Generator](#)

Link Codes

- [HTML Image Link](#)
- [Email Link](#)
- [Open in New Window](#)
- [Remove Underline](#)

Image Codes

- [Background Image Code](#)
- [HTML Image Borders](#)
- [Repeat Image](#)
- [HTML Favicon Code](#)

Adding Images

- **Image Handling(tag):**The image element is used to add image in HTML documents.
- **Syntax:**
- **<IMG SRC="picture file"**
 [ALIGN="left/right"]
 [ALT="Alternative text"]
 [BORDER="pixel value"]
 [WIDTH="pixel value"]
 [HEIGHT="pixel value"]
 [HSPACE="pixel value"]
 [VSPACE="pixel value"] >

Adding image in web page

- `` tag is use.
- You can insert any image in your web page by using `` tag.
- HTML img tag is an empty tag that contains attributes only, closing tags are not used in HTML image element.
- It have total four attribute : 1) src 2) alt 3) width 4) height
- Other attributes are **border** and **align**
- In this we have to pass **URL (path)** of image where it store.

Example

Attribute detail :

Src : have to give path of image

Alt : alternate text if image not display

Width : set width of image

Height : set height of image

Border : can give border to image

Align : set the alignment of image like center, right, left

hspace=value. This is used to specify the number of free space at the left and right hand sides of the image.

vspace=value. This is used to specify the number of pixels of free space at the top and bottom of the image.

Using List

- To display list In html we have total three types.
 - `` : unordered list (using plain bullets)
 - `` : ordered list (using number, roman number, alphabet)
 - `<dl>` : Definition list (This arranges your items in the same way as they are arranged in a dictionary.)

Unordered list

- hello
- how
- fine

Ordered list

1. hello
- A. how
- II. fine

HTML Ordered List or Numbered List

- If you are required to put your items in a numbered list instead of bulleted, then HTML ordered list will be used.
- This list is created by using `` tag.
- The numbering starts at one and is incremented by one for each successive ordered list element tagged with ``.

Type of order

Type	Description
Type "1"	This is the default type. (like 1,2,3,4...)
Type "I"	upper case roman numbers (like I, II, III...)
Type "i"	lower case roman numbers (like i ,ii,iii...)
Type "A"	upper case letters (like A, B, C)
Type "a"	lower case letters like (a, b, c ...)

start attribute

```
<ol type = "1" start = "4"> - Numerals starts with 4.  
<ol type = "I" start = "4"> - Numerals starts with IV.  
<ol type = "i" start = "4"> - Numerals starts with iv.  
<ol type = "a" start = "4"> - Letters starts with d.  
<ol type = "A" start = "4"> - Letters starts with D.
```

Program

HTML unordered list

- An unordered list is a collection of related items that have no special order or sequence.
- This list is created by using HTML `` tag.
- Each item in the list is marked with a bullet.
- The bullet starts at one for each successive unordered list element tagged with ``.

Types of Bullets

Type	Description
Type "disc"	This is the default style. the list items are marked with bullets.
Type "circle"	the list items are marked with circles.
Type "square"	the list items are marked with squares.
Type "none"	the list items are not marked .

program

HTML Description List | HTML Definition List

- **HTML Description List** or Definition List displays elements in definition form like in dictionary.
- The **<dl>**, **<dt>** and **<dd>** tags are used to define description list.

Description of tag	
<dl>	Is use for definition list
<dt>	Is use to give definition title
<dd>	Is use to give definition description

example

Inserting Special Character

Symbol	Character Name	Number	Unicode	Example
Less Than	<	<	<	<
Greater Than	>	>	>	>
Slash	/	/	/	/
Quotation	"	"	"	"
Apostrophe	'	'	'	'
Ampersand	&	&	&	&
Copyright	©	©	©	©
Registered Trademark	®	®	®	®
Degree	°	°	°	°
Left-pointing double angle	«	«	«	«
Right-pointing double angle	»	»	»	»

Creating Hyperlinks and Anchors

- Hyperlinks allow visitors to navigate between Web sites by clicking on words, phrases, and images. Thus you can create hyperlinks using text or images available on a webpage.
- By using this hyperlink you can visit or jump one page to another page.
- For that **<a> (anchor)** tag is use.
- The **HTML anchor tag** defines *a hyperlink that links one page to another page.*
- **The "href" attribute is the most important attribute of the HTML a tag.**
- The **href** attribute is used to define the address of the file to be linked. it points out the destination page.
- E.g. `link text`
 `Click for Second Page`
 ` click here `
- **<a> tag is paired tag.**

- The **href** attribute specifies the destination address (<https://www.w3schools.com/html/>) of the link.
- The **link text** is the visible part (Visit our HTML tutorial).
- Clicking on the link text will send you to the specified address.

Local Links

- The example above used an absolute URL (A full web address).
- A local link (link to the same web site) is specified with a relative URL (without <http://www....>).

E.g. `HTML Images `

Note : if you link your webpage or image or any thing from the same folder than there is no need to give absolute path.

Example :

Image as Link

- It is common to use images as links:
- If want to open some page by clicking on image than use image link

E.g.

```
<a href="default.asp">  
    
</a>
```

External pages can be referenced with a full URL or with a path relative to the current web page.

Example :

Bookmark or Page Section Linking

- HTML bookmarks are used to allow readers to jump to specific parts of a Web page.
- Bookmarks can be useful if your webpage is very long.
- To make a bookmark, you must first create the bookmark, and then add a link to it.
- When the link is clicked, the page will scroll to the location with the bookmark.

- First, create a bookmark with the id attribute:
- `<h2 id="C4">Chapter 4</h2>`
- Then, add a link to the bookmark ("Jump to Chapter 4"), from within the same page:
- `Jump to Chapter 4`
- Second call that name section by using anchor tag using “#” sign and section name.

- `<html>`
- `<body>`
- `<p>Jump to Chapter 4</p>`
- `<h2>Chapter 1</h2>`
- `<p>This is chapter 1 </p>`
- `<h2>Chapter 2</h2>`
- `<p>This is chapter 2 </p>`
- `<h2>Chapter 3</h2>`
- `<p>This is chapter 3 </p>`
- `<h2 id="C4">Chapter 4</h2>`
- `<p>This is chapter 4 </p>`
- `<h2>Chapter 5</h2>`
- `<p>This is chapter 5 </p>`
- `</body>`
- `</html>`

Summery :

Use the **<a>** element to define a link

Use the **href** attribute to define the link address

Use the **target** attribute to define where to open the linked document

Use the **** element (inside **<a>**) to use an image as a link

Use the **id** attribute (**id="value"**) to define bookmarks in a page

Use the **href** attribute (**href="#value"**) to link to the bookmark

Create Hyperlink to Email Address :

Mailto link is a type of HTML link that activates the default mail client on the computer for sending an e-mail.

- E-mail hyperlinks are useful when you want to direct someone to send a message to a particular person.

Syntax:

```
<a href="mailto: name@email.com">Link text</a>
```

- **Mail to email address with subject**
- `Send mail with subject`
- The %20 represents space character

- **Mail to email address with cc, bcc, subject and body**

<a

href="mailto:name1@gmail.com?cc=name2@gmail.com&
bcc=name3@gmail.com

&subject=The%20subject%20of%20the%20email

&body=The%20body%20of%20the%20email">

Send mail with cc, bcc, subject and body

For more :

<https://www.tutorialspoint.com/html>

<https://www.w3schools.com/html/default.asp>

<http://html.com/>

<https://www.javatpoint.com/html-hr-tag>

<http://htmldog.com/guides/html/>

<https://www.programming9.com/programs/html-codes>