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LECTURE 2 :

2.1 Structure of HTML Web Page

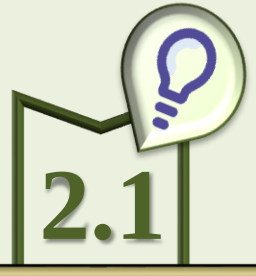
2.2 Usage of HTML Element

2.3 Special Characters & Grouping Elements



https://www.vippng.com/png/full/128-1281866_greenboard-sign.png
https://www.netclipart.com/pp/m/362-3626981_owl-teacher-clipart.png

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Structure of HTML Web Page

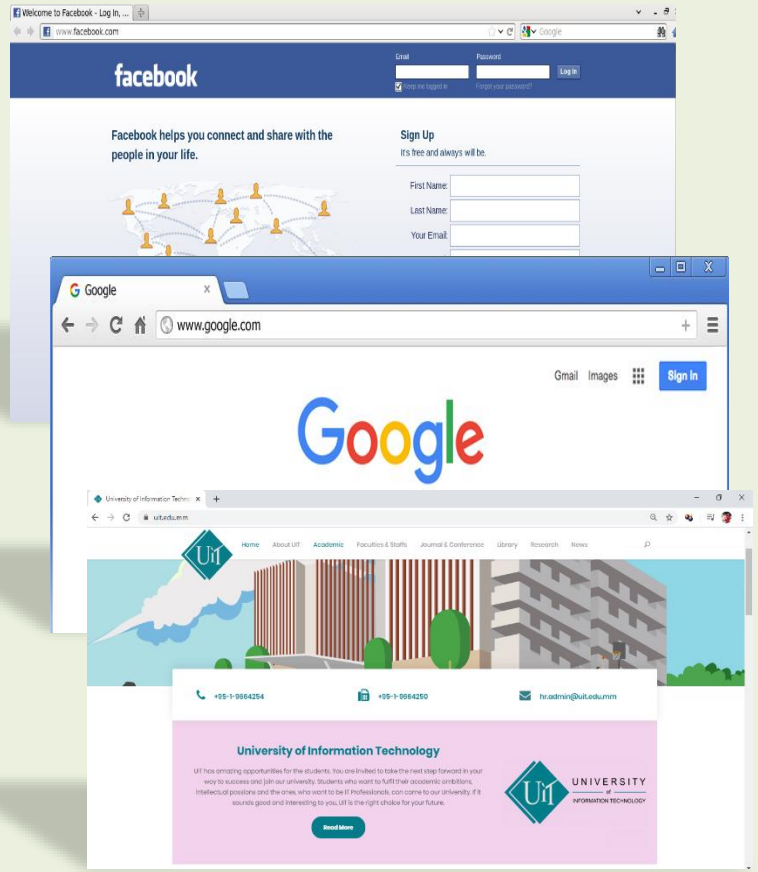
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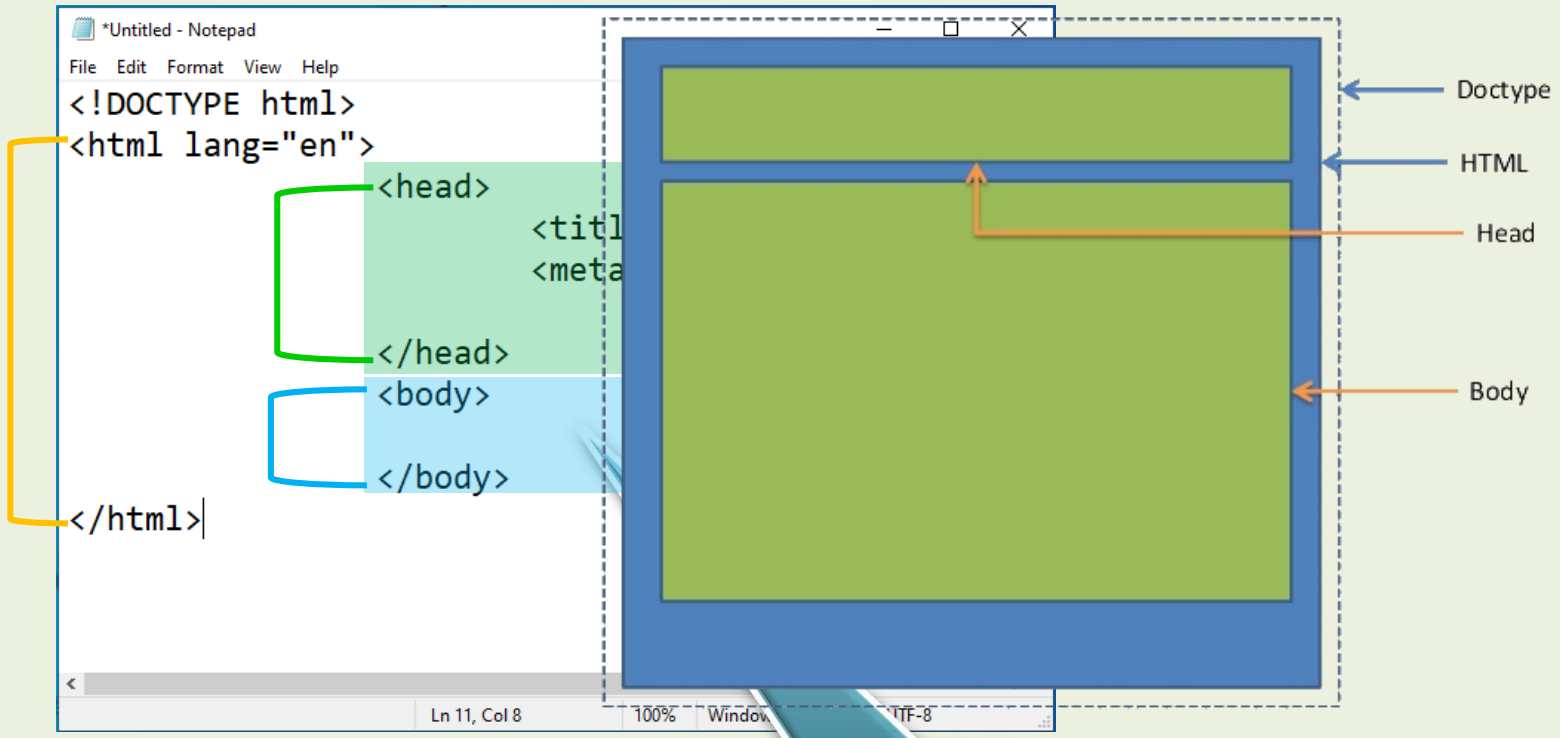
About HTML5 Web Page

- ✓ HTML can be written in any simple editor like *Notepad, Adobe Dreamweaver, etc…*
- ✓ ***.html*** or ***.htm*** are extensions used for saving HTML file.
- ✓ Web browsers (Chrome, Firefox, etc.) are able to read HTML and to display webpage as output.

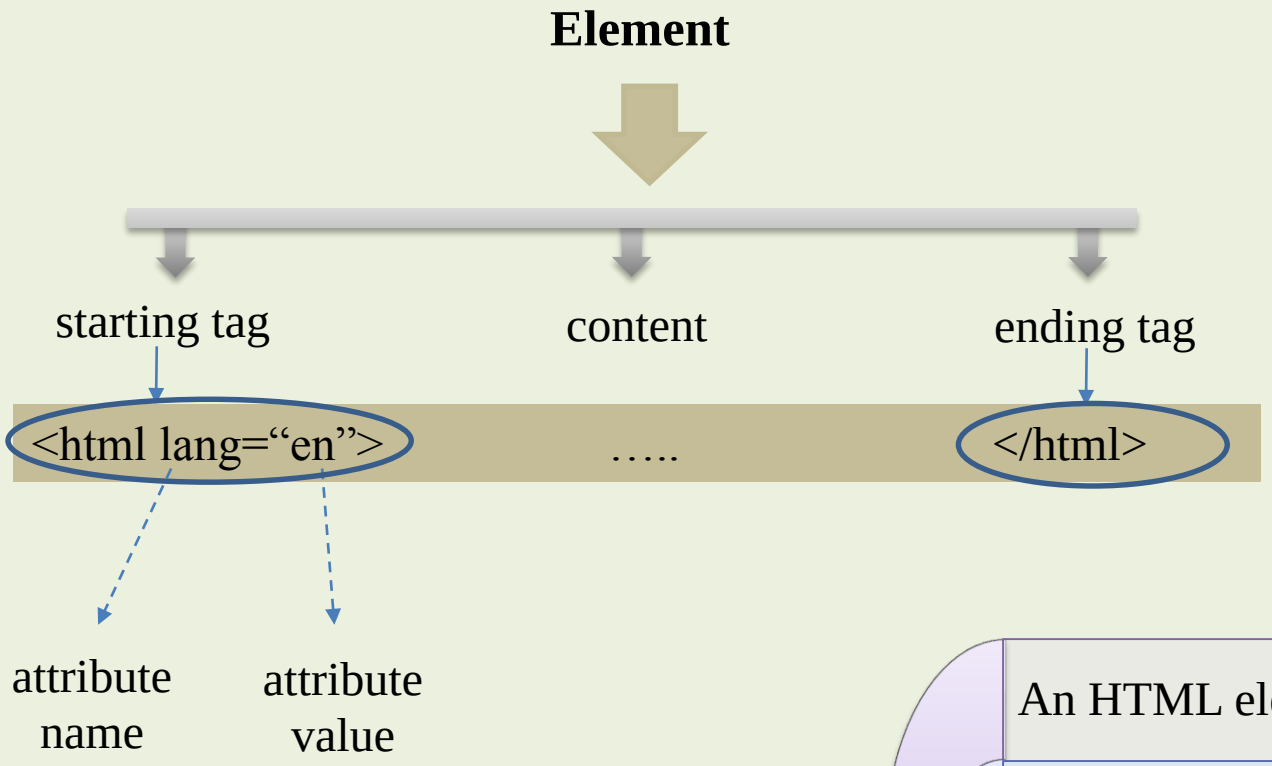
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Basic HTML5 Web Page Template





HTML Elements



<html> … </html>

<head> … </head>

<title> … </title>

<meta>

An HTML element is an individual component of an HTML document.

It is defined by a starting tag with an ending tag if other content contains.

Some HTML elements don't need to be closed (called void elements).

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Basic HTML5 Web Page Template

There are two sections on a web page:

Head Section

1

contains information that describes the web page document

Body Section

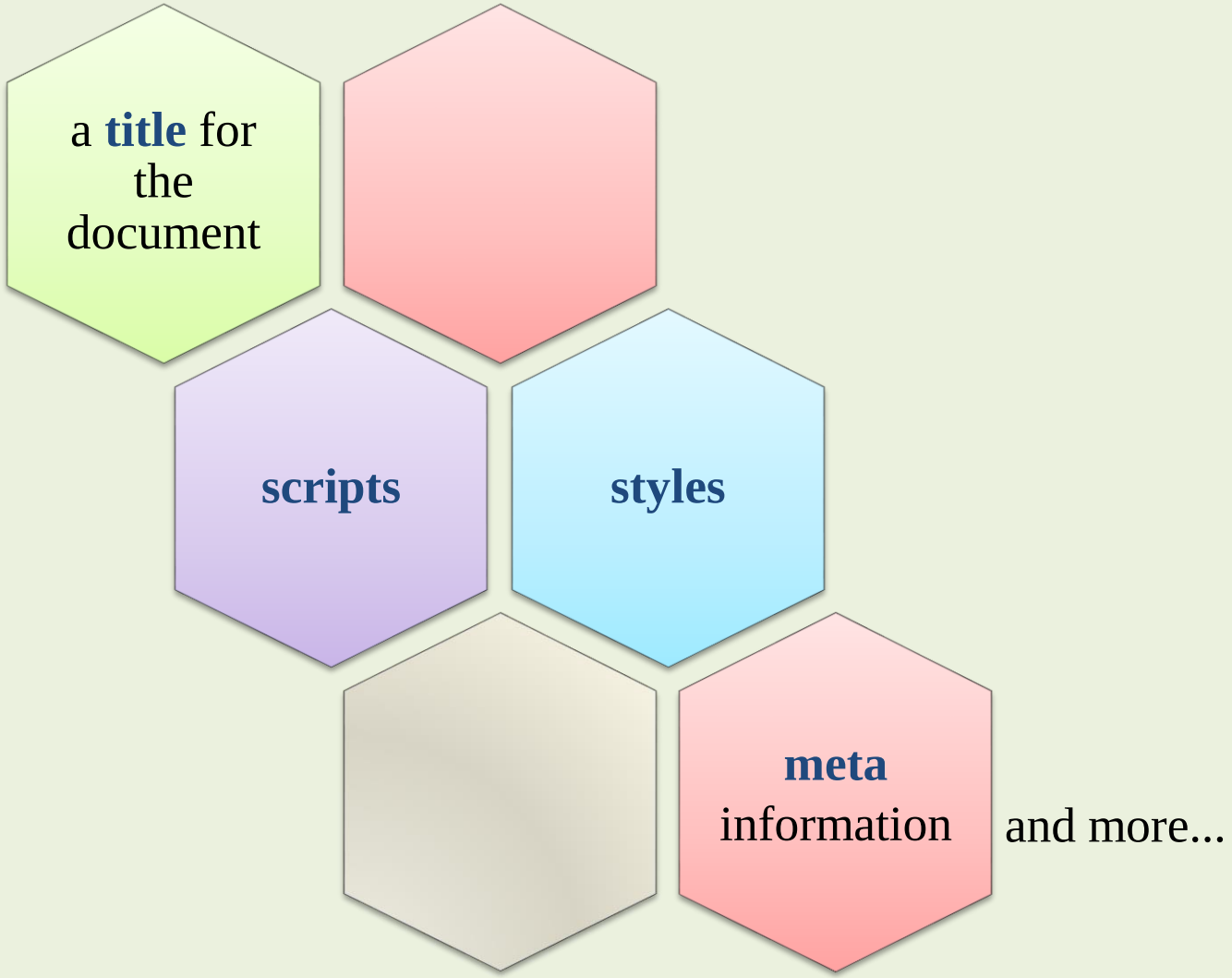
2

contains actual tags, text, images and other objects that are displayed by the browser as a web page

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The HTML <head> Element

It is a container for all the head elements and can include



and more...

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The HTML <title> Element

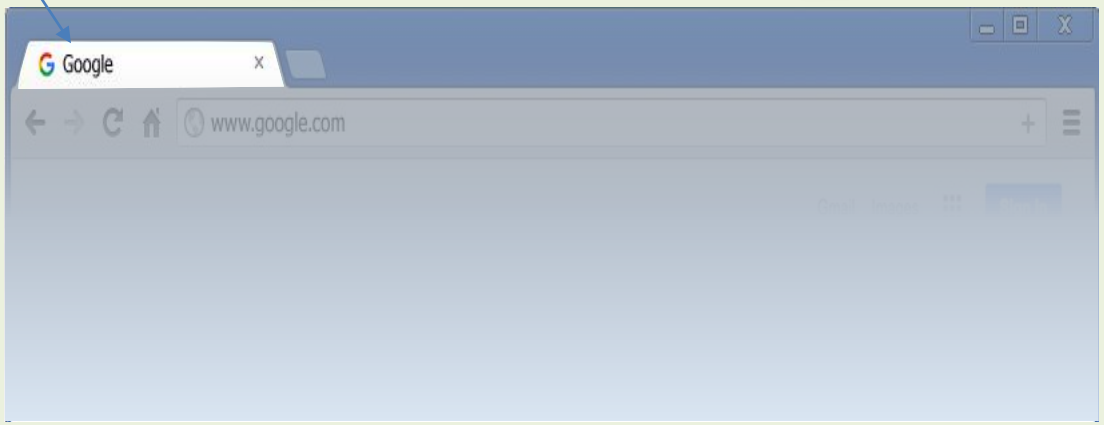
<head>

<title>

It defines a title in the **browser toolbar.**

It provides a title for the page when it is added to **favorites.**

It displays a title for the page in **search-engine results.**



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The HTML <meta> Element

<head>

<meta>

Meta

(called as *data about data*) holds information about other information.

<meta>

allows to provide metadata of HTML page.

<meta>

describes a characteristic of a web page such as description, keywords, **“character encoding”** etc.

<meta>

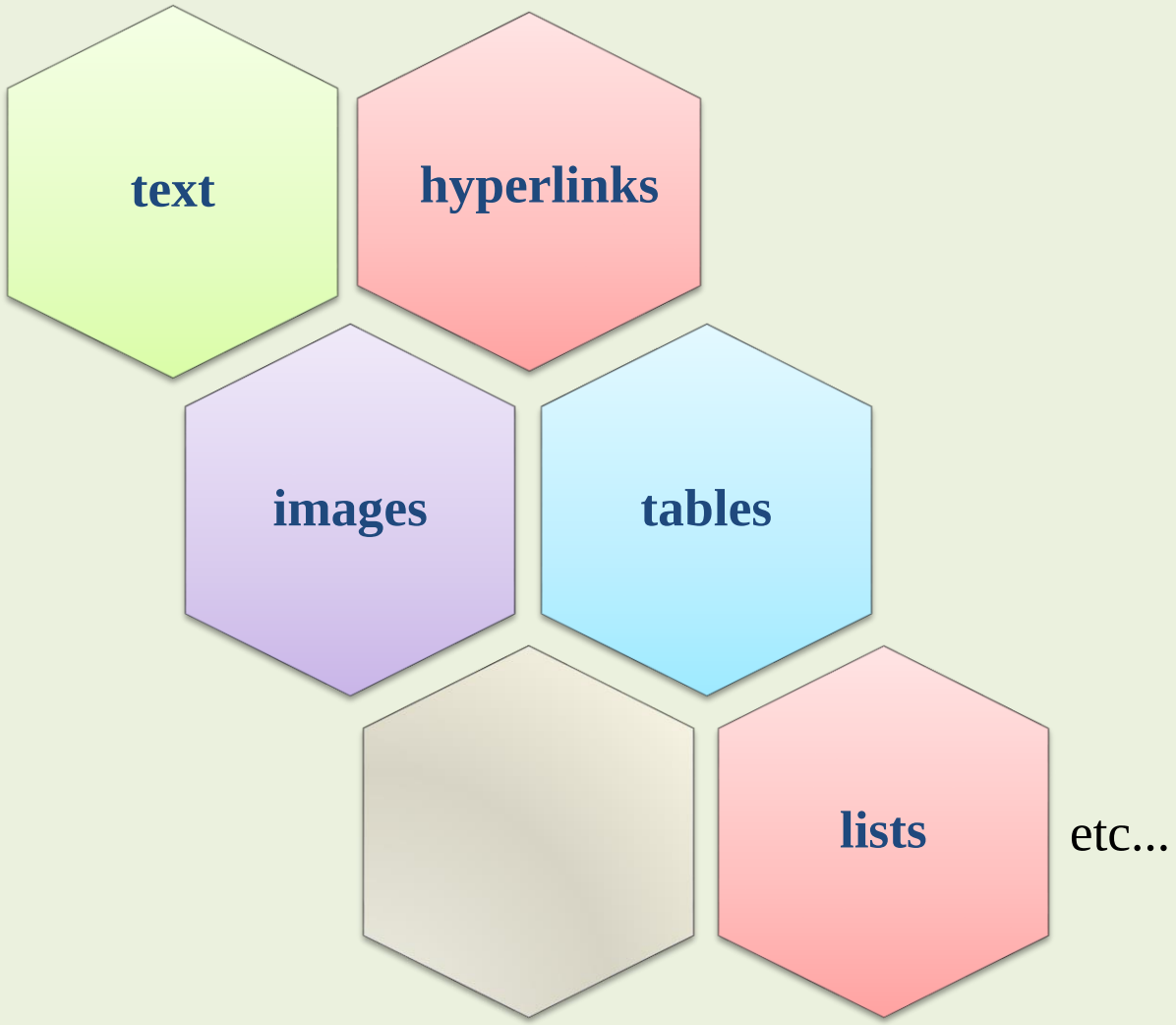
is not used as a pair of opening and closing tags and its' value *do not emerge on the page*.

Internal representation of **letters**, **numbers** and **symbols** in a file

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The HTML <body> Element

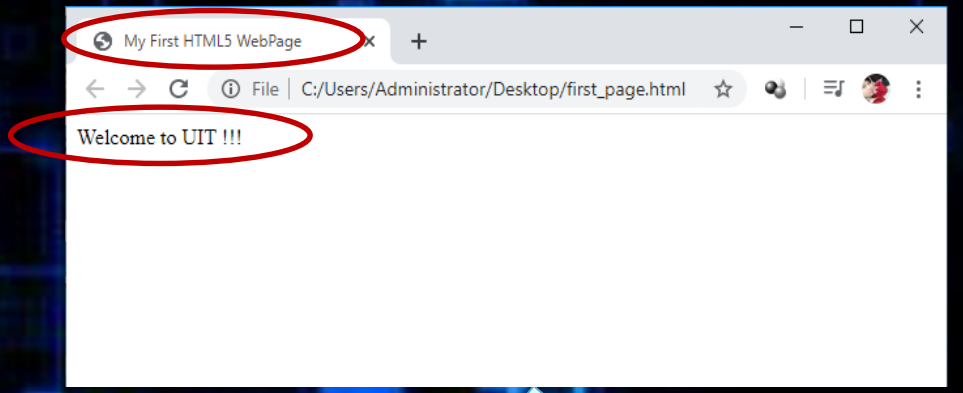
It defines the document's body and contains all contents of an HTML document, such as:



etc...

EXAMPLE

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <title>My First HTML5 WebPage</title>
        <meta charset="utf-8">
    </head>
    <body>
      Welcome to UIT !!!
    </body>
</html>
```



https://www.pinterest.com/pin/499125571202500663/

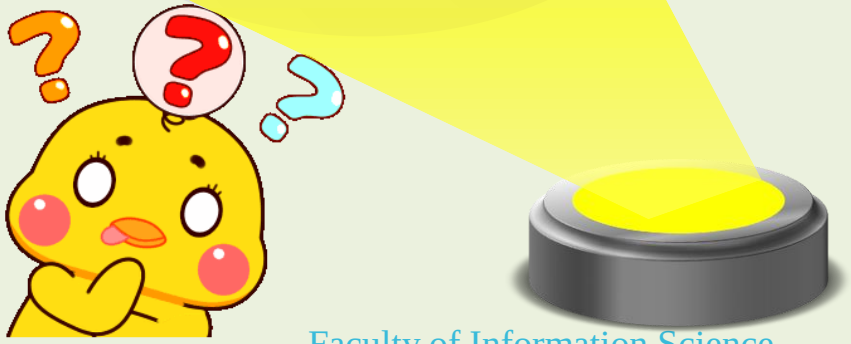
HTML Elements

Elements	Attribute	Description
<!DOCTYPE html>		- To declare which document type of HTML is using (HTML5, in this case). - Note: All HTML documents must start with a <!DOCTYPE>
<html> </html>	lang="en"	- It contains all other HTML elements (except doctype) - lang attribute is to inform the language of the document.
<head> </head>		- It contains all the head elements such as title, metadata, etc.
<title> </title>		- To define the title for the HTML document.
<meta>	charset= "utf-8"	- To declare additional information about the document (Specify the character encoding with charset attribute)
<body> </body>		- To define the document body and contains the contents of an HTML document, such as paragraphs, images, etc.

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Quiz (1)

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <title>My WebPage
         <meta charset="utf-8">
    </head>
    <body> Welcome to UIT !!!
```



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Quiz (2)

Every HTML elements always need to be closed.

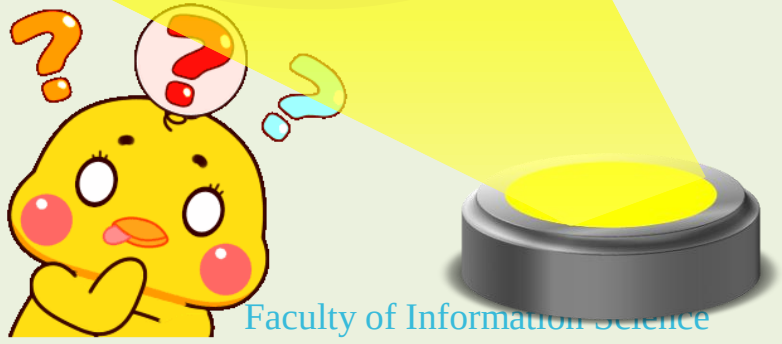
(i) True

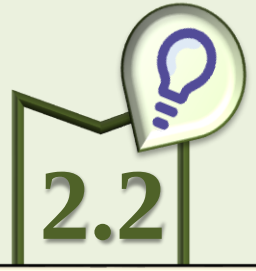
(ii) False

Some HTML elements don't need to be closed.

These are called void elements

e.g., <meta>





Usage of HTML Element

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The HTML heading Element

<body>

<hn>

- defines with the <h1> to <h6> tags

- use opening and closing tags

Syntax,

```
<h1>.....</h1>
<h2>.....</h2>
<h3>.....</h3>
<h4>.....</h4>
<h5>.....</h5>
<h6>.....</h6>
```

Heading Element Example

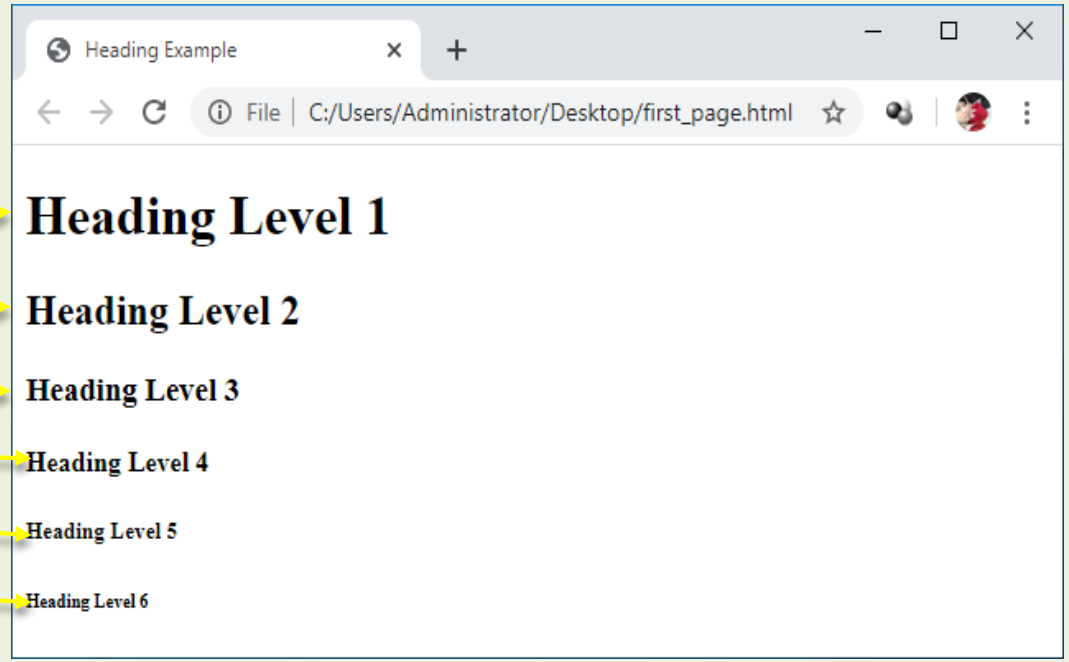
<body>

<hn>

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Heading Example</title>
    <meta charset="utf-8" >
</head>
<body>
    <h1>Heading Level 1</h1>
    <h2>Heading Level 2</h2>
    <h3>Heading Level 3</h3>
    <h4>Heading Level 4</h4>
    <h5>Heading Level 5</h5>
    <h6>Heading Level 6</h6>
</body>
</html>
```



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The HTML paragraph Element

- **tag** defines a paragraph

- displays as a block

- will appear with empty space above and below it

- use opening and closing tags

Syntax,

.....

Paragraph Element Example

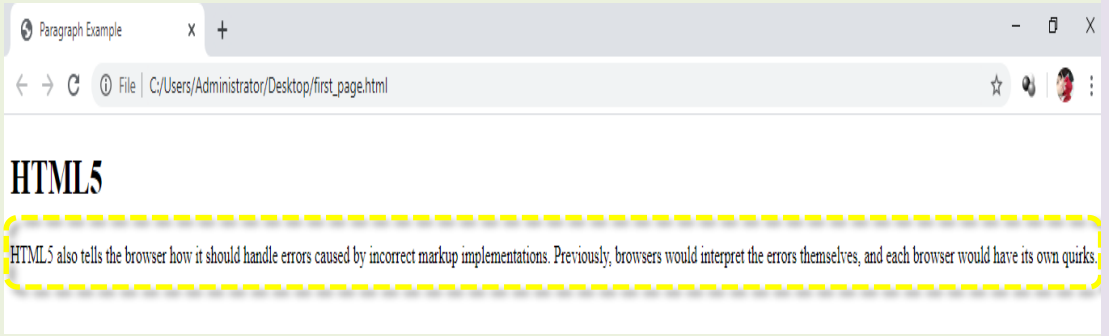
<body>

<p>

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Paragraph Example </title>
    <meta charset="utf-8" >
</head>
<body>
    <h1>HTML5</h1>
    <p>HTML5 also tells the browser how it should
       handle errors caused by incorrect markup
       implementations. Previously, browsers would
       interpret the errors themselves, and each
       browser would have its own quirks.
    </p>
</body>
</html>
```



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The HTML Line break Element

<body>

- **
 tag** inserts a single line break.

- **
 tag** is a void element which means that it has no end tag.

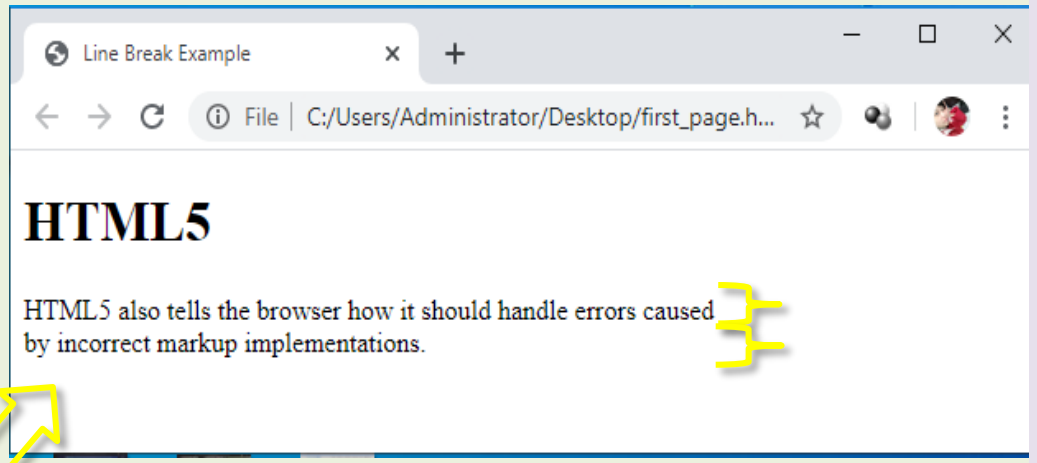
Line Break Element Example

<body>

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title> Line Break Example </title>
    <meta charset="utf-8" >
</head>
<body>
<h1>HTML5</h1>
    <p>HTML5 also tells the browser how it should handle
       errors caused
    <br>
    by incorrect markup  implementations.
    </p>
</body>
</html>
```



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The HTML blockquote Element

- **The <blockquote> tag** specifies a section that is quoted from another source**.**

Syntax,

```
<blockquote>.....</blockquote>
```

Blockquote Element Example

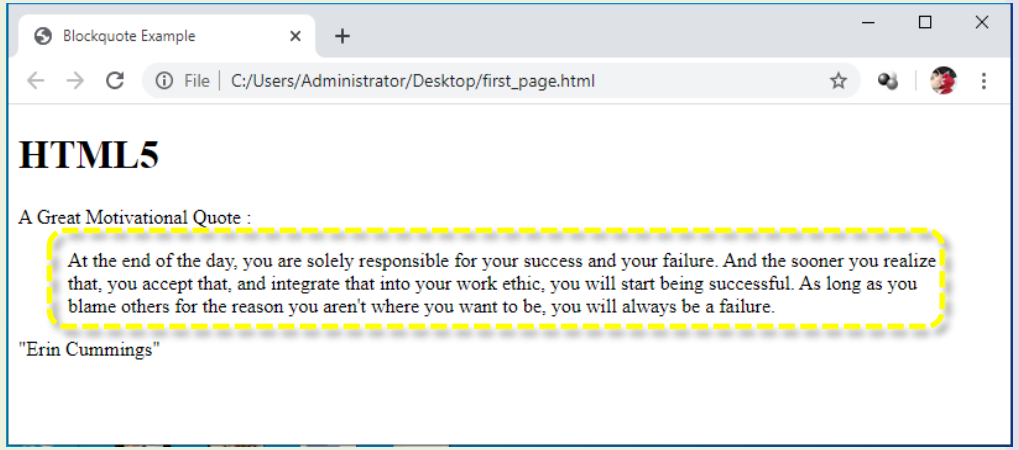
<body>

<blockquote>

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Paragraph Example </title>
    <meta charset="utf-8" >
</head>
<body>
<h1>HTML5</h1>
    <p> A Great Motivational Quote : </p>
    <blockquote> At the end of the day, you are solely
       responsible for your success and your failure. And
       the sooner you realize that, you accept that, and
       integrate that into your work ethic, you will start
       being successful. As long as you blame others for the
       reason you aren't where you want to be, you will
       always be a failure. </blockquote>
    <p> “Erin Cummings” </p>
</body>
</html>
```



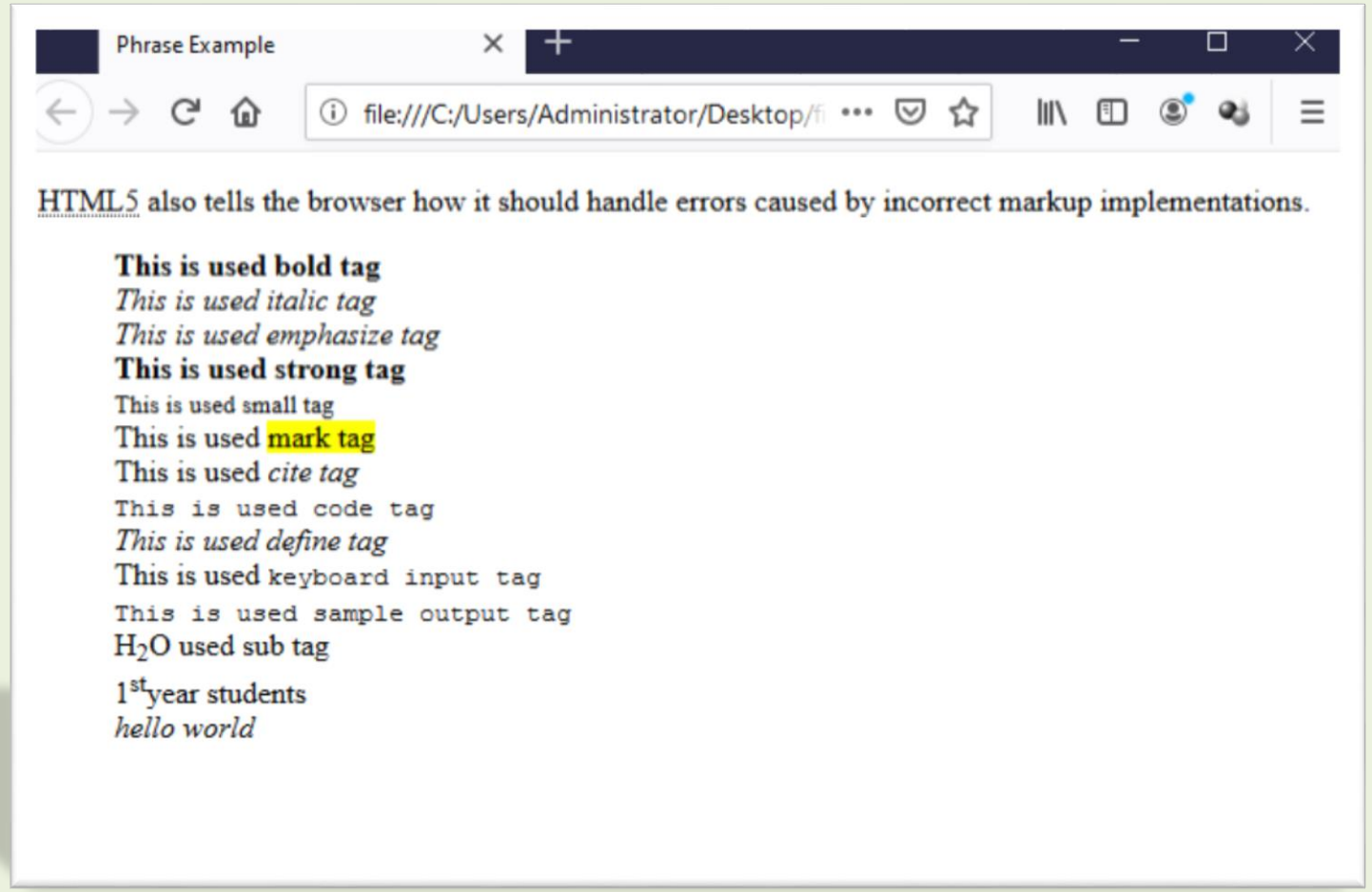
Phrase Elements	Description
	- To display the text in bold
	- To display the text in italic
	- To define emphasized text and the content inside is typically displayed in italic.
	- To define text with strong importance and the content inside is typically displayed in bold.
	- To define smaller text (like copyright and other side-comments).
<mark> </mark>	- To define the text that should be marked or highlighted.
<cite> </cite>	- To define the title of a creative work (e.g. a book, a poem, a song, a movie, etc).
<code> </code>	- To define a piece of computer code and the content inside is displayed in the browser's default monospace font.
<dfn> </dfn>	- “Definition element“ to specify a term that is going to be defined within the content.
<kbd> </kbd>	- To define keyboard input and the content inside is displayed in the browser's default monospace font.
<samp> </samp>	- To define sample output from a computer program and the content inside is displayed in the browser's default monospace font.
	- To define subscript text and appears half a character below the normal line
	- To define superscript text and appears half a character above the normal line

Phrase Elements Example

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Phrase Example </title>
<meta charset="utf-8" >
</head>
<body>
<p><abbr title="Hyper Marked up
   Language">HTML5</abbr> also tells the browser
   how it should handle errors caused by
   incorrect markup  implementations.
 </p>
<blockquote> <b>This is used bold tag</b><br>
   <i>This is used italic tag</i><br>
   <em>This is used emphasize tag</em><br>
   <strong>This is used strong tag</strong><br>
```

```
   <small>This is used small tag</small><br>
   This is used <mark>mark tag</mark><br>
   This is used <cite>cite tag</cite><br>
   <code>This is used code tag</code><br>
   <dfn>This is used define tag</dfn><br>
   This is used <kbd>keyboard input
   tag</kbd><br>
   <samp>This is used sample output tag </samp>
   <br>
   H<sub>2</sub>O used sub tag<br>
   1<sup>st</sup>year students <br>
   <var>hello world</var>
</blockquote>
</body>
</html>
```

Phrase Elements Example



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Unordered List

- ✓ ** tag** defines an unordered (bulleted) list
- ✓ Use the <ul> tag together with the <li> tag to create unordered lists.

Syntax,

```
<ul>
    <li> ... </li>
    <li> ... </li>
    <li> ... </li>
</ul>
```

Unordered List Example

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
<title> Unordered List</title>
<meta charset="utf-8" >
</head>
<body>
<h1> Popular Web Servers</h1>
<ul type=circle>
    <li>Apache </li>  <li>Microsoft</li> <li>Oracle </li>
</ul>
<h1> Computer Brands</h1>
<ul type=square>
    <li>Dell</li>    <li>Toshiba</li>    <li>Acer</li>
</ul>
<h1> Phone Brands</h1>
<ul>
    <li>iPhone</li>    <li>Samsung</li>    <li>Huawei</li>
</ul>
</body>
</html>
```

Circle

Square

Default



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Ordered List

- tag defines an ordered list that can be numerical or alphabetical
- Use the <ol> tag together with the <li> tag to create ordered lists.

Syntax,

```
<ol>
    <li> ... </li>
    <li> ... </li>
    <li> ... </li>
</ol>
```

Ordered List Example

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
<title> Unordered List</title>
<meta charset="utf-8" >
</head>
<body>
<h1> Popular Web Servers</h1>
<ol>
    <li>Apache </li>  <li>Microsoft</li> <li>Oracle </li>
</ol>
<h1> Computer Brands</h1>
<ol type=a>
    <li>Dell</li>    <li>Toshiba</li>    <li>Acer</li>
</ol>
<h1> Phone Brands</h1>
<ol type=i>
    <li>iPhone</li>    <li>Samsung</li>    <li>Huawei</li>
</ol>
</body>
</html>
```

Default

Type=a

Type=i



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Description List

<dl> **tag** defines a description list and used in conjunction with :

- <**dt**> (defines terms/names) and
- <**dd**>(describes each term/name)

Note: Inside a <**dd**> tag you can put paragraphs, line breaks, images, links, lists, etc.

<body>

<dl>

<dt>

<dd>

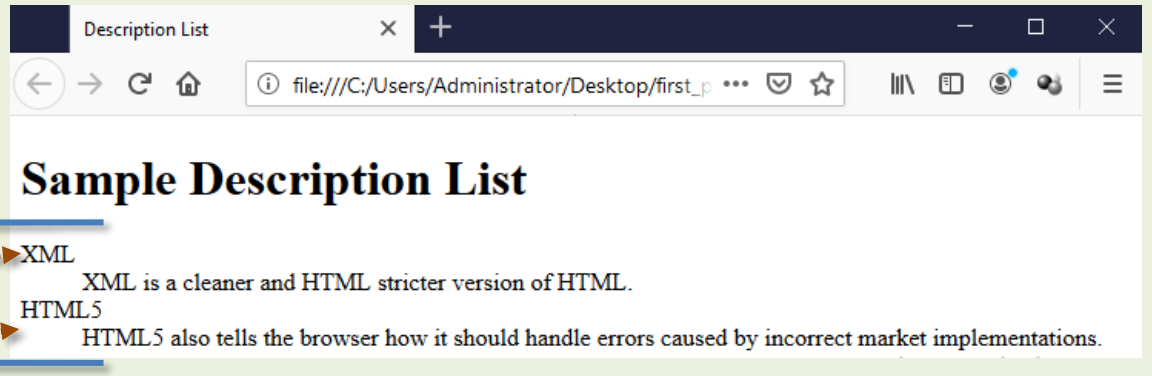
Description List Example

Untitled - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
<title> Description List</title>
<meta charset="utf-8" >
</head>
<body>
<h1> Sample Description List</h1>
<dl>
    <dt> XML</dt>
    <dd> XML is a cleaner and HTML stricter version of HTML.</dd>
    <dt> HTML5</dt>
    <dd> HTML5 also tells the browser how it should handle errors
    caused by incorrect market implementations.</dd>
</dl>
</body>
</html>
```

DL



Elements	Description
 	- Six different HTML headings: <h1><h2><h3><h4><h5><h6> - <h1> defines the most important heading. <h6> defines the least important heading.
	- To define a paragraph. A single blank line is automatically added before and after each element.
  </br>	- To insert a single line break.
<blockquote> </blockquote>	- To specify a section that is quoted from another source.
	- To define (together with the tag) to create unordered/ bulleted lists.
	- To define (together with the tag) to create ordered lists in numerical or alphabetical.
	- To define a list item.
<dl> </dl>	- To define a description list used in conjunction with <dt> and <dd>.
<dt> </dt>	- To define a term/name in a description list.
<dd> </dd>	- To describe a term/name in a description list.

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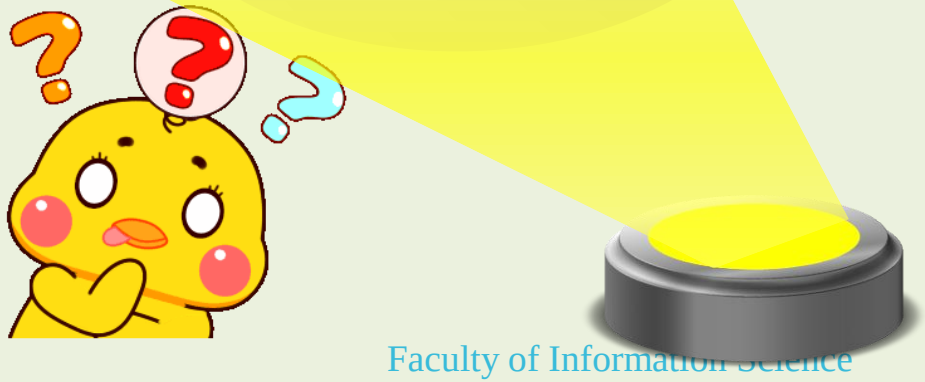
Quiz (1)

*Choose the correct HTML tag for the **smallest** heading:*

(i) <h6>

(ii) <h1>

(iii) <h3>



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Quiz (2)

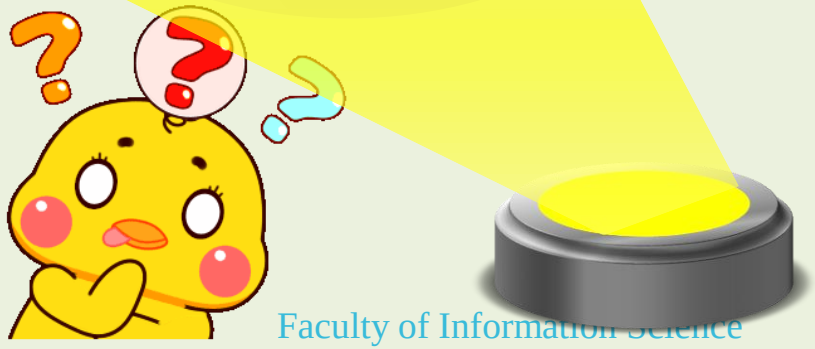
Which of these tags are all ordered list tags?

*(i) *

*(ii) *

(iii) <tr><td></td></tr>

(iv) <dl><dt><dd>



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Assignment (1)

- *To do the html assignment, you firstly need to use a simple editor like Notepad.*
- *Test a simple web page with the basic HTML elements so far.*
- *Then, save it with an .html or .htm extension.*
- *After you finished, open it with your common browser.*
- *Your web page should have the following elements:*

<h1> for a header	Other headers:	 for break
<p> for paragraph	<b> for bold	Italics
Unordered list	Blockquote	<sub> , <sup>
Ordered List	Description List	Some Phrase Elements





Special Characters and Grouping Element

Special Character Example

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```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Special Character</title>
    <meta charset="utf-8" >
</head>
<body>
    <h1>Special Character</h1>
    <p>
      <small> Copyright &copy; 2011 Your name. All Rights
      Reserved.</small>
    </p>
</body>
</html>
```



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Div Element

<body>

A element defines a *division* or a *section* in an HTML document.

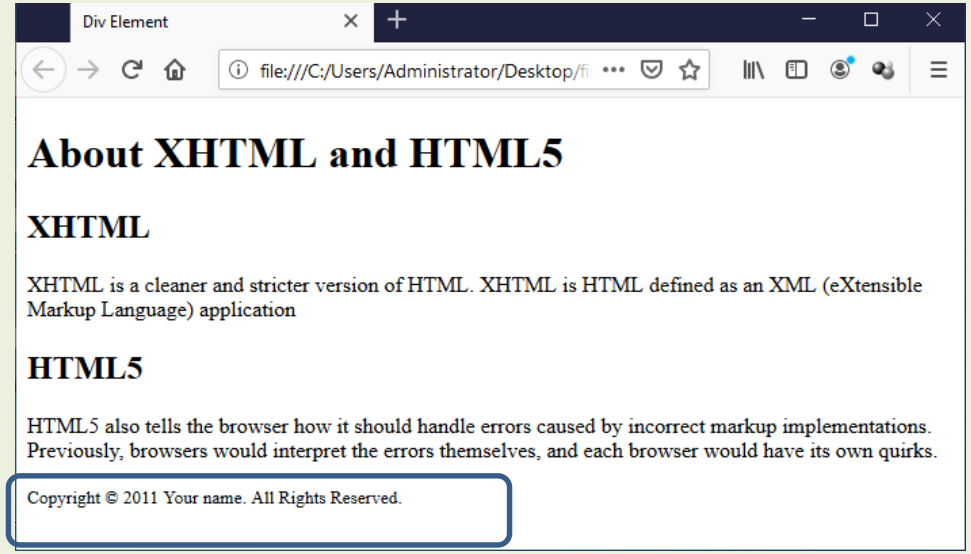
It begins with a ** tag** and ends with a ** tag**

It is used when you need to format an area of a web page, such as a logo, navigation or footer area.

Div Element Example

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Div Element</title>
    <meta charset="utf-8" >
</head>
<body>
    <h1>About XHTML and HTML5 </h1> <h2>XHTML</h2>
    <p>XHTML is a cleaner and stricter version of HTML. XHTML is
    HTML defined as an XML (eXtensible Markup Language)
    application</p>
     <h2>HTML5</h2>
     <p>HTML5 also tells the browser how it should handle errors
    caused by incorrect markup implementations. Previously,
    browsers would interpret the errors themselves, and each
    browser would have its own quirks.</p>
    <div>
    <small>Copyright &copy; 2011 Your name. All Rights Reserved.
    </small>
    </div>
</body>
</html>
```

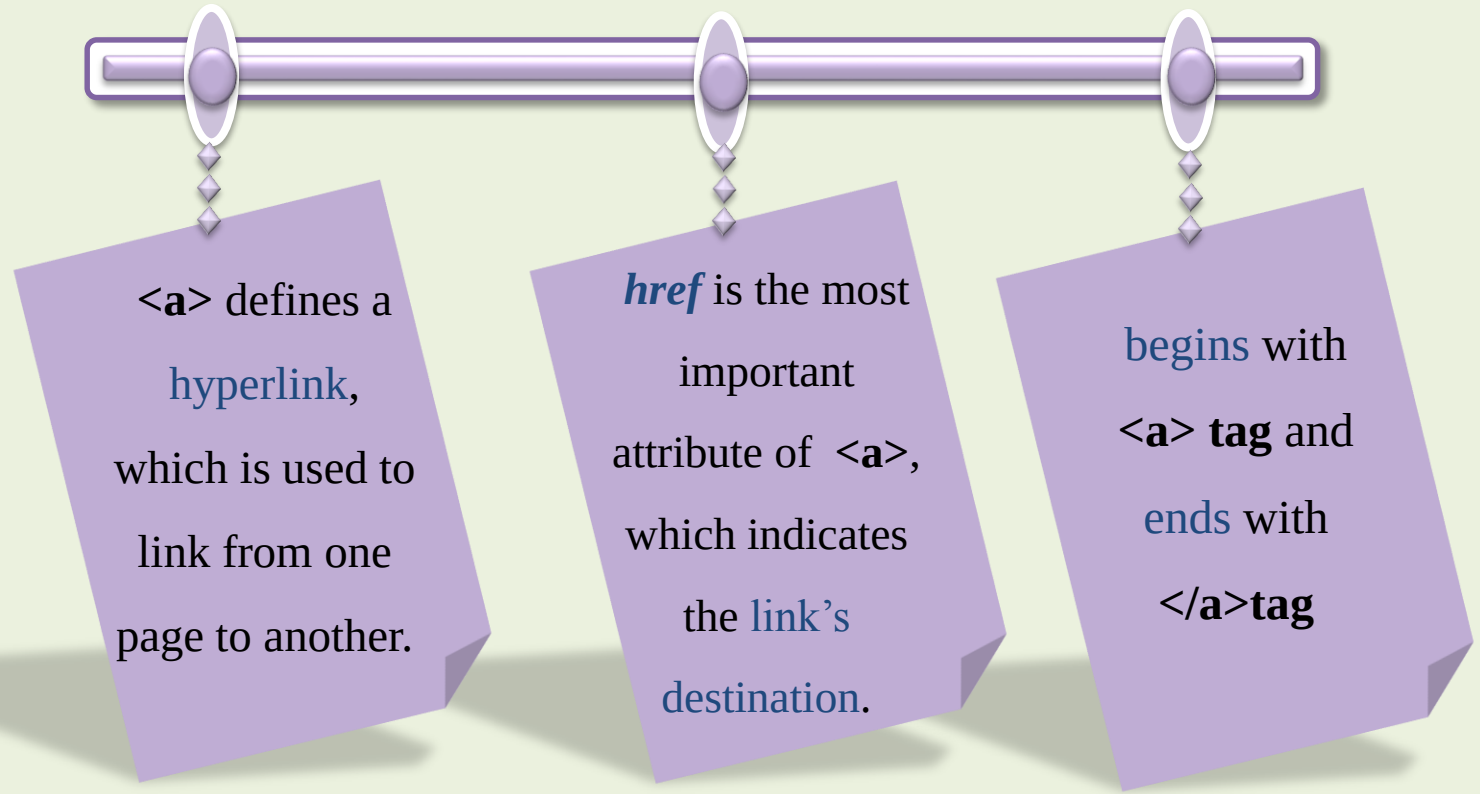


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Anchor Element

<body>

<a>

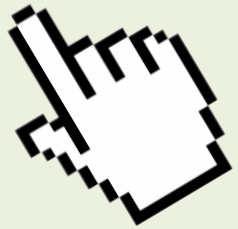


Anchor Element Example

File Edit Format View Help

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Anchor Element</title>
    <meta charset="utf-8" >
</head>
<body>
    <h1>About Anchor Element </h1>
    <a href="first_page.html">Anchor Element Example</a>
</body>
</html>
```





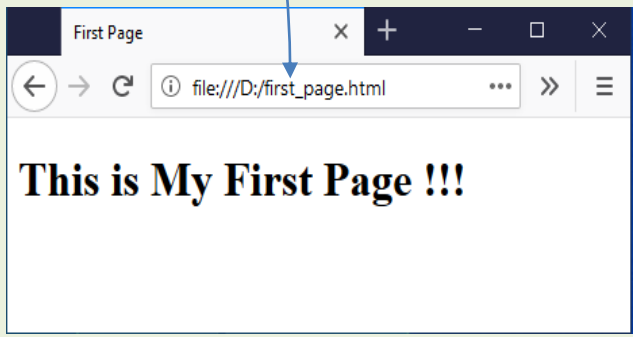


Image Element



- ✓ Configures graphics on a web page.
- ✓ These graphics can be photographs, banners, company logos, navigation buttons, and so on.
- ✓ Use <img> for HTML5 syntax.

```
<img src="logo.gif" height="200"  width="500"  alt="LogoName">
```

any file name of image (.png, .gif , .jpg)

https://axessnet.com/wp-content/uploads/2018/09/enlace-de-internet-satelital-2-1200x500.jpg

Attributes with <img> element and align Attribute Options

Attribute	Description	Example
src	Tells the browser where to find the image	<img src="logo.gif" >
alt	Text description of the image	<img src="logo.gif" alt="AI Logo" >
height	Image's height always shown in pixels	<img src="logo.gif" alt="AI Logo" height="80" width="90">
width	Image's width always shown in pixels	
align	Align an image within the page	<img src="logo.gif" alt="AI Logo" align="left">
border	A border is **a line that can appear around an image** or **other element.**	< img src="images/logo.gif" alt="AI Logo" **border="2"** >
hspace vspace	The **hspace** and **vspace** attributes can be used to control the amount of **white space around an image**.	< img src="images/logo.gif" alt="Wrox Logo" **hspace="10" vspace="14"** >

top	The top of the image is aligned with top of the current line of text.
middle	The middle of the image is aligned with the current text baseline.
bottom	The bottom of the image is aligned with the baseline of the current line of text (the default), which usually results in images rising above the text.
left	The image is aligned to the left side of the containing window or element and any text flows around it.
right	The image is aligned to the right side of the containing window or element and any text flows around it.

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Image Link

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```
<!DOCTYPE html>
<html>
    <head>
    …
    </head>
   <body>
     <a href="../index.html" title="Click here to return to
       the home page" >
       <img src="images/logo.gif" width="338" height="79"
       alt="Wrox Logo"  >
     </a >
   </body>
</html>
```

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Image Map

- Use the <map> tag to define an **image-map**.
- An image-map is an image with clickable areas.

- The name attribute of the <map> tag is associated with the <img>'s **usemap attribute** and creates a relationship between the image and map.

- The <map> element contains a number of **<area> elements**, that defines the **clickable areas** in the image-map.

Usage of Image Map

1. Multiple links can be set up in one image by the use of image map function

```
<img src="image file name" usemap="#name of the map"
  alt="...."      width="..." height="...">
```

... use '#' before map name

2. <map>…</map> used for setting link in the map.

```
<map name="name of the map" >
        <area ..... >
</map>
```

... write the map name

Attribute of <Area>

Attribute	value	Example
shape	rect	<area shape="rect" coords="12, 50, 175, 240" href="anc.html" /> <area shape="circle" coords="290, 90, 75" href="base.html"/>
	circle	
coords	a,b,c,d	
	a,b,c	
href	Specify the link	

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Example image map: map.html with related web pages

Untitled - Notepad

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```
<!DOCTYPE html>
<html>
    <head>…</head>
  <body>
  <h1>The map and area elements</h1>

  <p>Click on the computer, the phone, or the cup of coffee to go to
  a new page and read more about the topic:</p>

  <img src="workplace.jpg" alt="Workplace" usemap="#workmap"
  width="400" height="379">

  <map name="workmap">
    <area shape="rect" coords="34,44,270,350" alt="Computer"
  href="computer.html">
    <area shape="rect" coords="290,172,333,250" alt="Phone"
  href="phone.html">
    <area shape="circle" coords="337,300,44" alt="Coffee"
  href="coffee.html">
  </map>
  </body>
</html>
```

computer.html

```
<html>
    <head>…</head>
  <body>
  <img src="computer.jpg" height="200" width="500" alt="Computer">
  </body>
</html>
```

phone.html

```
<html>
    <head>…</head>
  <body>
  <img src="phone.jpg" height="200" width="500" alt="Phone">
  </body>
</html>
```

coffee.html

```
<html>
    <head>…</head>
  <body>
  <img src="coffee.jpg" height="200"width="500" alt="Coffe">
  </body>
</html>
```


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https://www.w3schools.com/tags/tryit.asp?filename=tryhtml_areamap

Images map and display web page according to the area clicked on the map.

workplace.jpg





Image Map

Web pages



computer.html



phone.html



coffee.html

https://www.w3schools.com/tags/tag_link.asp

HTML <link> Tag and its Attributes

- The **<link> tag** defines the relationship between the current document and an external resource.

- The <link> tag is often used to link to external style sheets.

```
<link rel="stylesheet"
href="styles.css">
```

attribute	Value	Description
href	URL	Specifies the destination of the linked document
rel	stylesheet, alternate, archives, author, bookmark, external, first, help, icon, last, license, next, nofollow, noreferrer, pingback, prefetch, prev, search, sidebar, tag, up	**Required**. Specifies the relationship between the current document and the linked document
sizes	HeightxWidth	Specifies the size of the linked resource. Only for rel="**icon**"
type	media_type	Specifies the media type of the linked document

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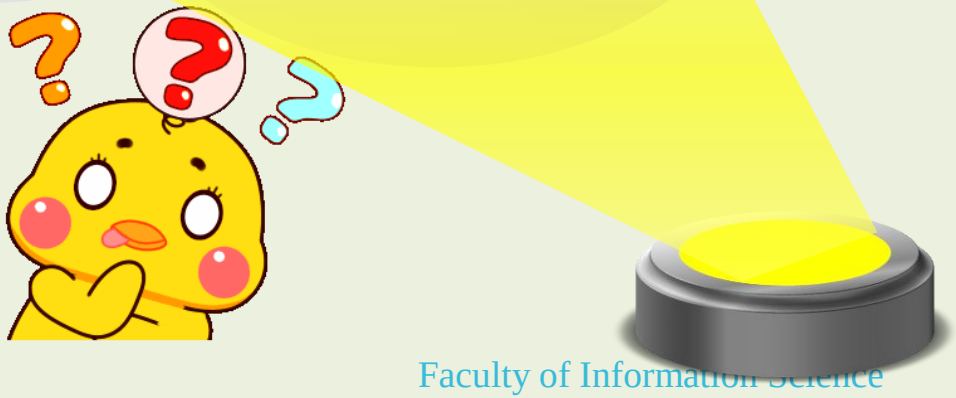
Quiz (1)

Which attribute contains the <img> tags tag?

(i) src

(ii) href

(iii) td



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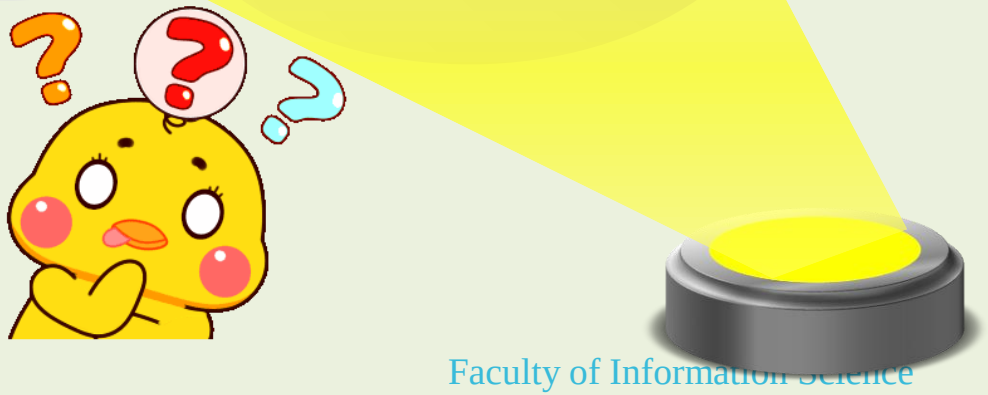
Quiz (2)

```
<map name="workmap">
  < --- shape="rect" coords="34,44,270,350"
alt="Computer" href="computer.htm">
</map>
```

(i) src

(ii) area

(iii) tr



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Assignment (2)

- *Your HTML5 page will indicate that it is in the UTF-8 character set and the title tag must contain your name.*
- *You must have*
  - *some elements like p, div, h1, ol and ul*
  - *three li tags in either ol or ul elememt or both*
  - *some bold and italics text in the document*
  - *a link to your previous assignment web page using anchor element*
  - *insert your favouite picture using img element and identify its width and height*
  - *insert one more favourite picture, use the <map> element with at least two <area> and then link to your tested html pages using href attribute*




See you!