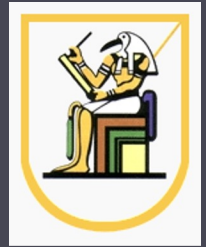Cairo University
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WEB BUILDING

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Course Topics

1. HTML Basics
2. Cascading Style Sheets (CSS)
3. Java Script
4. JQuery
5. React
6. PHP
7. Laravel
8. AJAX
9. Flutter
10. Security in Web Applications

Lesson(1)
HTML BASICS

What We Need?

Any text editor (like Notepad) or HTML editors like FrontPage

Browser

What is HTML?

HTML stands for **H**yper **T**ext **M**arkup **L**anguage.

HTML is a language for describing web pages.

HTML is not a programming language, it is a **markup language.**

A markup language is a set of **markup tags.**

HTML uses **markup tags** to describe web pages.

HTML Tags

HTML tags are keywords surrounded by **angle brackets** like <html>

HTML tags normally **come in pairs** like and

HTML tags are not case sensitive.

The first tag in a pair is the **start tag,** the second tag is the **end tag**

HTML Documents

- HTML documents are also **called web pages**

- The purpose of a web browser (such as Internet Explorer, Firefox, and Google Chrome) is to read HTML documents and display them as web pages.

- The browser does not display the HTML tags, but uses the tags to interpret the content of the page:

Example

```html
<html>
    <head>
        <title>My first HTML document</title>
    </head>
    <body>
    <h1>My First Heading</h1>
    <p>My first paragraph.</p>
    </body>
</html>
```
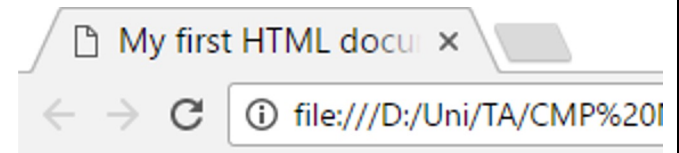
Example Explained

- The text between \<html\> and \</html\> describes the web page

- The text between \<body\> and \</body\> is the visible page content

- The text between \<h1\> and \</h1\>   is displayed as a heading

- The text between \<p\> and \</p\> is displayed as a paragraph

Ex. Explained - Con.(1)

Don't Forget the End Tag!

Most browsers will display HTML correctly even if you forget the end tag:

<p>This is a paragraph

The example above will work in most browsers, but don't rely on it. Forgetting the end tag can produce unexpected results or errors.

Note: Future version of HTML will not allow you to skip end tags.

HTML Elements

HTML documents are defined by HTML elements.

An HTML element is everything from the start tag to the end tag.

Start Tag	Element Content	End Tag
<p>	This is a para..	</p>
	Click Here	

Nested HTML Elements

Most HTML elements can be nested

(can contain other HTML elements).

```
<html>
    <body>
        <p>My first paragraph.</p>
    </body>
</html>
```

Empty HTML Elements

HTML elements with no content are called empty elements.

 is an empty element.

HTML Attributes

HTML elements can have **attributes**

Attributes provide **additional information** about an element

Attributes are always specified in **the start tag**

Attributes come in name/value pairs like:

name=**"value"**

This is a link

The link address is specified in the href attribute

HTML Attributes - Cont.(1)

Attribute values should always be enclosed in quotes.

Double style quotes are the most common, but single style quotes are also allowed.

Note: In some rare situations, when the attribute value itself contains quotes, it is necessary to use single quotes:

name='John "ShotGun" Nelson'

HTML Headings

HTML headings are defined with the <h1> to <h6> tags.
<h1> defines the largest heading. <h6> defines the smallest heading.

```html
<html>

   <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>
```

Ex2.html

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This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

HTML Headings – Cont.(1)

Use HTML headings for headings only. Don't use headings to make text **BIG** or **bold**.

Search engines use your headings to index the structure and content of your web pages.

Since users may skim your pages by its headings, it is important to use headings to show the document structure.

HTML Paragraphs

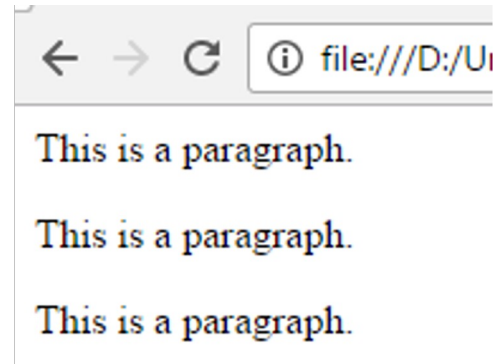HTML paragraphs are defined with the <p> tag.

```
<html>

<body>



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

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

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



</body>

</html>
```

Example

<html>

<body>

<p>

   My Bonnie lies over the ocean.

   My Bonnie lies over the sea.

   Oh, bring back my Bonnie to me.

</p>

<p>What do you notice?!!!</p>

</body>

</html>

My Bonnie lies over the ocean. My Bonnie lies over the sea. Oh, bring back my Bonnie to me.

What do you notice?!!!

Example - Cont.(1)

With HTML, you cannot change the output by adding extra spaces or extra lines in your HTML code.

The browser will remove extra spaces and extra lines when the page is displayed. Any number of lines count as one line, and any number of spaces count as one space.

HTML Line Breaks

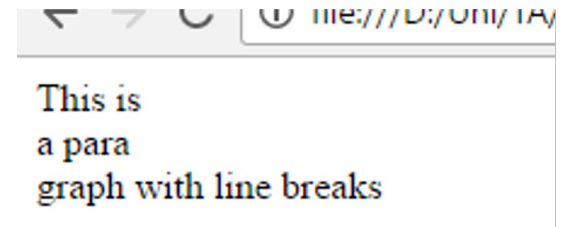Use the <br > tag if you want a new line without starting a new paragraph:

```
<html>

<body>



<p>This is   <br />   a para   <br />   graph with line breaks</p>



</body>

</html>
```

HTML Line Breaks – Cont.(1)

\
 is an empty element without a closing tag.

In XHTML, XML, and future versions of HTML, all elements must be closed.

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

HTML Lines

The <hr /> tag creates a horizontal line in an HTML page.

The hr element can be used to separate content:
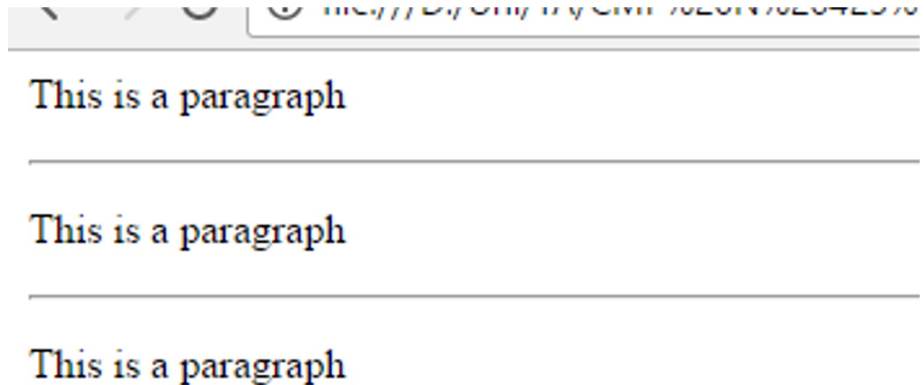
```
<html>

<body>

<p>This is a paragraph</p>

<hr />

<p>This is a paragraph</p>

<hr />

<p>This is a paragraph</p>

</body>

</html>
```

This is a paragraph

This is a paragraph

This is a paragraph

HTML Comments

Comments can be inserted into the HTML code to make it more readable.

Comments are ignored by the browser and are not displayed.

```
<html>

<body>



<!- - This comment will not be displayed - ->

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



</body>

</html>
```

HTML Links

HTML links are defined with the <a> tag.

```
<html>

<body>


<a href="http://www.google.com">

This is a link</a>


</body>

</html>
```

HTML Links - The target Attribute

The target attribute specifies where to open the linked document.
The example below will open the linked document in a new browser window:

```
<html>

<body>


<a   href="http://www.w3schools.com/"    target="_blank">Visit W3Schools.com!</a>


<p>If you set the target attribute to "_blank", the link will open in a new browser
    window.</p>


</body>
</html>
```

HTML Links - The target Attribute

Target Value	Description
_blank	Opens the linked document in a new window or tab
_self	Opens the linked document in the same frame as it was clicked (this is default)
_parent	Opens the linked document in the parent frame
_top	Opens the linked document in the full body of the window
framename	Opens the linked document in a named frame

HTML Links - The name Attribute

The name attribute is used to create a bookmark inside an HTML document. Bookmarks are not displayed in any special way. They are invisible to the reader.

```html
<html>

<body>


<p>
<a href="#C4">See also Chapter 4.</a>
</p>


<h2>Chapter 1</h2>
<p>This chapter explains ba bla bla</p>


<h2><a name="C4">Chapter 4</a></h2>
<p>This chapter explains ba bla bla</p>
</body>
</html>
```

HTML Links – Sending Email

```
<html>
<body>


<p>
This is an email link:
<a href="mailto:someone@example.com?Subject=Hello again">
Send Mail</a>
</p>


</body>
</html>
```

HTML Images

HTML Images are defined with the <img> tag.

<html>

<body>

</body>

</html>

Note: **The name and the size of the image are provided as attributes.**

HTML Text Formatting

```
<html>

<body>


<p><b>This text is bold</b></p>

<p><strong>This text is strong</strong></p>

<p><big>This text is big</big></p>

<p><i>This text is italic</i></p>

<p><em>This text is emphasized</em></p>

<p><code>This is computer output</code></p>

<p>This is<sub> subscript</sub> and <sup>superscript</sup></p>

<p>My favorite color is <del>blue</del> <ins>red</ins>!</p>


</body>

</html>
```

This text is bold

This text is strong

This text is big

This text is italic

This text is emphasized

`This is computer output`

This is subscript and superscript

My favorite color is ~~blue~~ red!

HTML Pre Element

Text in a pre element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks.

```
<html>

<body>


<p>The pre tag is good for displaying computer code:</p>

<pre>
 For  i = 1 to 10

     print i

 next i
</pre>



</body>

</html>
```
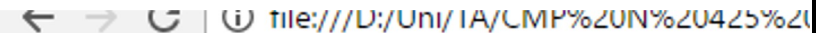
The pre tag is good for displaying computer code:

```
For  i = 1 to 10
        print i
next i
```

HTML Abbreviations and Acronyms

```
<html>

<body>


<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>


<p>Can I get this <acronym title="as soon as possible">ASAP</acronym>?</p>


<p>The title attribute is used to show the spelled-out version when holding the mouse pointer over
    the acronym or abbreviation.</p>


</body>

</html>
```

HTML Styles

The purpose of the style attribute is:
To provide a common way to style all HTML elements.

```
<html>

<body style="background-color:PowderBlue;">


<h1 style="text-align:center">This is a heading</h1>


<p style="font-family:verdana;color:red">This text is in Verdana and red</p>

<p style="font-family:times;color:green">This text is in Times and green</p>

<p style="font-size:30px">This text is 30 pixels high</p>

<p style="font-family:arial;color:red;font-size:40px;">A paragraph.</p>

<p style="background-color:green">This is a paragraph.</p>

</body>

</html>
```

HTML Styles
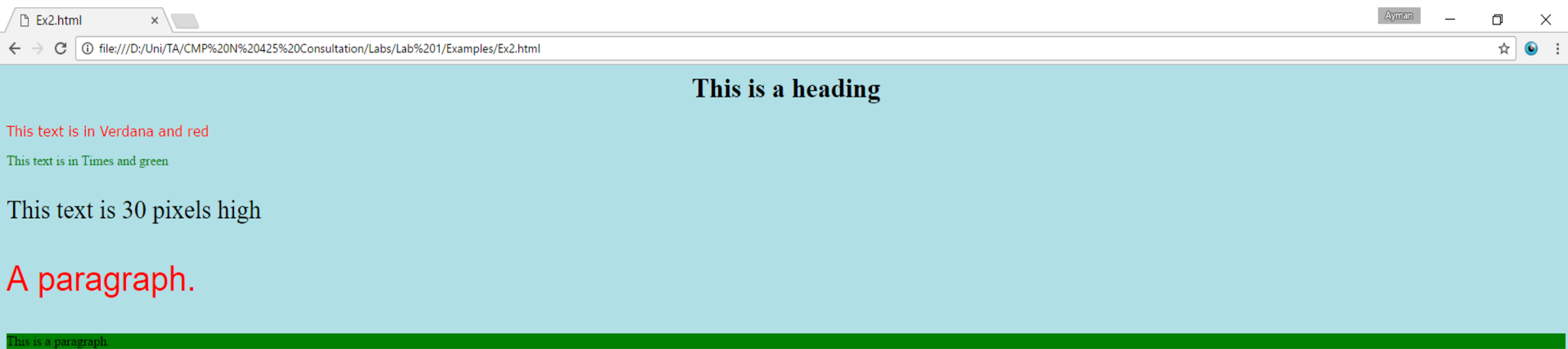
HTML Tables

Tables are defined with the <table> tag.

A table is divided into rows (with the <tr> tag)

Each row is divided into data cells (with the <td> tag). td stands for "table data," and holds the content of a data cell.

A <td> tag can contain text, links, images, lists, forms, other tables, etc.

HTML Tables-Cont.(1)

```html
<html>
<body>
<h4>One column:</h4>
<table border="1">
<tr>
  <td>100</td>
</tr>
</table>

<h4>One row and three columns:</h4>
<table border="1">
<tr>
  <td>100</td>
  <td>200</td>
  <td>300</td>
</tr>
</table>
```

One column:

| 100 |

One row and three columns:

| 100 | 200 | 300 |

Two rows and onecolumns

| 100 |
| 400 |

HTML Tables-Cont.(1)

```
<h4>Two rows and one column </h4>

<table border="1">
<tr>
  <td>100</td>
</tr>
<tr>
  <td>400</td>
  </tr>
</table>

</body>
</html>
```

One column:

| 100 |

One row and three columns:

| 100 | 200 | 300 |

Two rows and onecolumns

| 100 |
| 400 |

HTML Tables – The Border Attribute

To display a table with borders.

If you do not specify a border attribute, the table will be displayed without borders.

HTML Table Headers

Header information in a table are defined with the <th> tag.

The text in a th element will be bold and centered.

```
<tr>
<th>Header 1</th>
<th>Header 2</th>
</tr>
```

Header 1	Header 2

Example

Table cells that span more than one column

```html
<html>
<body>
<h4>Cell that spans two columns:</h4>
<table border="1">
<tr>
  <th>Name</th>
  <th colspan="2">Telephone</th>
</tr>
<tr>
  <td>Bill Gates</td>
  <td>555 77 854</td>
  <td>555 77 855</td>
</tr>
</table>
</body>
</html>
```

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Cell that spans two columns:

Name	Telephone	
Bill Gates	555 77 854	555 77 855

Example

Table cells that span more than one row

```html
<html>
<body>
<h4>Cell that spans two rows:</h4>
<table border="1">
<tr>
 <th>First Name:</th>
 <td>Bill Gates</td>
</tr>
<tr>
 <th rowspan="2">Telephone:</th>
 <td>555 77 854</td>
</tr>
<tr>
 <td>555 77 855</td>
</tr>
</table></body></html>
```


Cell that spans two rows:

First Name:	Bill Gates
Telephone:	555 77 854
	555 77 855

HTML Table
thead, tfoot, and a tbody element

<thead>Groups the header content in a table

<tbody>Groups the body content in a table

<tfoot>Groups the footer content in a table

Example

```html
<html>
<body>
<table border="1">
 <thead>
  <tr>
   <th>Month</th>
   <th>Savings</th>
  </tr>
 </thead>
 <tfoot>
  <tr>
   <td>Sum</td>
   <td>$180</td>
  </tr>
 </tfoot>
```

```html
<tbody>
  <tr>
   <td>January</td>
   <td>$100</td>
  </tr>
  <tr>
   <td>February</td>
   <td>$80</td>
  </tr>
 </tbody>
</table>

</body>
</html>
```
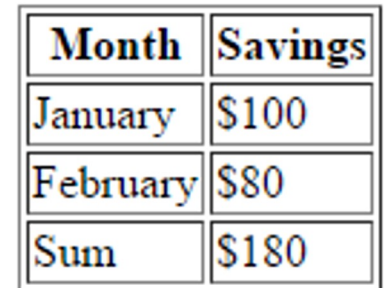
Month	Savings
January	$100
February	$80
Sum	$180

HTML Lists

Most common Html Lists are:

Ordered List:

1. The first list item
2. The second list item

Unordered List:

List item

List item

HTML Lists – Cont.(1)

Definition List:

Is a list of items, with a description of each item.

Coffee

- black hot drink

Milk

- white cold drink

Example – Ordered List

<OI >   ordered list
   list item

```html
<html>

<body>

<h4>An Ordered List:</h4>

<ol>

 <li>Coffee</li>

 <li>Tea</li>

 <li>Milk</li>

</ol>

</body>

</html>
```

An Ordered List:

1. Coffee
2. Tea
3. Milk

Example – Ordered List

type attribute

type -> A,a,I,i

```html
<html>

<body>

<h4>An Ordered List:</h4>

<ol type="A">

  <li>Coffee</li>

  <li>Tea</li>

  <li>Milk</li>

</ol>

</body>

</html>
```

An Ordered List:

A. Coffee
B. Tea
C. Milk

Example – Unordered List

   unordered list
   list item

```
<html>

<body>

<h4>An Unordered List:</h4>

<ul>

  <li>Coffee</li>

  <li>Tea</li>

  <li>Milk</li>

</ul>

</body>

</html>
```

An Unordered List:

- Coffee
- Tea
- Milk

Example – Unordered List
type attribute

type -> disc , circle,
square

```
<html>

<body>

<h4>An Unordered List:</h4>

<ul type="square">

 <li>Coffee</li>

 <li>Tea</li>

 <li>Milk</li>

</ul>

</body>

</html>
```

An Unordered List:

- Coffee
- Tea
- Milk

Example – Definition List

```
<dl >    definition list
<dt>      define an item
<dd>     define a description of an
item
```

```html
<html>

<body>

<dl>

<dt>Coffee</dt>

<dd>- black hot drink</dd>

<dt>Milk</dt>

<dd>- white cold drink</dd>

</dl>

</body>

</html>
```

Coffee
        - black hot drink
Milk
        - white cold drink

Wrap Up

We Talked about:

- HTML Basic Elements (Tags, Attributes, Elements)
- Paragraph / Headers
- Links
- Images
- Text Formatting / Styles
- Table
- Ordered / Unordered List