HTML (Hyper Text Markup Language)

Introduction Part I

What is HTML?

- HTML is a **markup** language for **describing** web documents (web pages).
  - HTML stands for **H**yper **T**ext **M**arkup **L**anguage
  - A markup language is a set of **markup tags**
  - HTML documents are described by **HTML tags**
  - Each HTML tag **describes** different document content

HTML Example

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Example Explained

- The **DOCTYPE** declaration defines the document type to be HTML

- The text between **<html>** and **</html>** describes an HTML document

- The text between **<head>** and **</head>** provides information about the document

- The text between **<title>** and **</title>** provides a title for the document

- The text between **<body>** and **</body>** describes the visible page content

- The text between **<h1>** and **</h1>** describes a heading

- The text between **<p>** and **</p>** describes a paragraph

HTML Tags

- HTML tags are **keywords** (tag names) surrounded by **angle brackets**:

  `<tagname>content</tagname>`

- 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 **slash** before the tag name
- The start tag is often called the **opening tag**. The end tag is often called the **closing tag**.

Web Browser

- The purpose of a web browser (Chrome, IE, Firefox, Safari) is to read HTML documents and display them.

- The browser does not display the HTML tags, but uses them to determine how to display the document:

HTML Page Structure

```
<html>

    <head>

        <title>Page title</title>

    </head>

    <body>

        <h1>This is a heading</h1>

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

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

    </body>

</html>
```

The <!DOCTYPE> Declaration

- The <!DOCTYPE> declaration helps the browser to display a web page correctly.

- There are different document types on the web.

- To display a document correctly, the browser must know both type and version.

- The doctype declaration is not case sensitive. All cases are acceptable:

```
<!DOCTYPE html>

<!DOCTYPE HTML>

<!doctype html>

<!Doctype Html>
```

HTML Documents

- All HTML documents must start with a type declaration: **<!DOCTYPE html>**.
- The HTML document itself begins with **<html>** and ends with **</html>**.
- The visible part of the HTML document is between **<body>** and **</body>**.

```html
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>
</html>
```

HTML Headings

- HTML headings are defined with the **<h1>** to **<h6>** tags:

```html
<h1>This is a heading</h1>
<h2>This is a heading</h2>
<h3>This is a heading</h3>
```

Heading Level 1

Heading Level 2

Heading Level 3

Heading Level 4

Heading Level 5

Heading Level 6

HTML Headings

- Headings are defined with the <h1> to <h6> tags.

- <h1> defines the most important heading. <h6> defines the least important heading.

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

- Users skim your pages by its headings. It is important to use headings to show the document structure.

- h1 headings should be main headings, followed by h2 headings, then the less important h3, and so on.

HTML Paragraphs

- HTML paragraphs are defined with the **<p>** tag:

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

- Groups sentences and sections of text together.

- Block Display – Configures empty space above and below

HTML Paragraphs

- The HTML **<p>** element defines a **paragraph**.

- The browser will remove extra spaces and extra lines when the page is displayed.

- Any number of spaces, and any number of new lines, count as **only one space**.

```
<p>
This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.
</p>
```

```
<p>
This paragraph
contains        a lot of spaces
in the source           code,
but the         browser
ignores it.
</p>
```

HTML Line Breaks

- The HTML **
** element defines a **line break**.

- Use <br> if you want a line break (a new line) without starting a new paragraph:

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

The Poem Problem

- This poem will display as one line:

```html
<p>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</p>
```

The HTML \<pre\> Element

- The HTML <pre> element defines preformatted text.

- The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

```
<pre>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</pre>
```

Line Break Element

- Line Break element
  - Stand-alone, or void tag

    *…text goes here
*
    This starts on a new line….

  - Causes the next element or text to display on a new line

HTML Horizontal Rules

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

- The hr element can be used to separate content:

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

Blockquote Element

- Blockquote element
  - ○ Indents a block of text for special emphasis

  <blockquote>
  …text goes here…
  </blockquote>

  - ○ Block Display – Configures empty space above and below

HTML Elements

- HTML elements are written with a **start** tag, with an **end** tag, with the **content** in between:

```
<tagname>content</tagname>
```

- The HTML **element** is everything from the start tag to the end tag:

```
<p>My first HTML paragraph.</p>
```

Nested HTML Elements

- HTML elements can be nested (elements can contain elements).

- All HTML documents consist of nested HTML elements.

- This example contains 4 HTML elements:

```
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>
</html>
```

Phrase Elements

- Indicate the context and meaning of the text

Element	Example	Usage
\<b\>	bold text	Text that has no extra importance but is styled in bold font by usage and convention
\<em\>	emphasized text	Causes text to be emphasized in relation to other text; usually displayed in italics
\<i\>	italicized text	Text that has no extra importance but is styled in italics by usage and convention
\<mark\>	mark text	Text that is highlighted in order to be easily referenced (HTML5 only)
\<small\>	small text	Legal disclaimers and notices ("fine print") displayed in small font-size
\<strong\>	strong text	Strong importance; causes text to stand out from surrounding text; usually displayed in bold
\<sub\>	sub text	Displays a subscript as small text below the baseline
\<sup\>	sup text	Displays a superscript as small text above the baseline

Proper Nesting

CODE:

```
<p><i>Call for a free quote for your web development needs:
<strong>888.555.5555 </strong></i></p>
```

BROWSER DISPLAY:

*Call for a free quote for your web development needs: **888.555.5555***

Exercises

```
<!DOCTYPE html>
<html>
<body>

<p>London is the capital city of England. It is
the most populous city in the United Kingdom,
with a metropolitan area of over 13 million
inhabitants.</p>
</body>
</html>
```

1- Add Heading before the paragraph

2- Add horizontal rule between heading and paragraph.

3-Add six headings to the document with the text "Hello".

4- Mark up the following text with appropriate tags:

"Universal Studios Presents" is the most important content.

"Jurassic Park" is the next most important content.

"About" is of lesser importance than Jurassic Park.

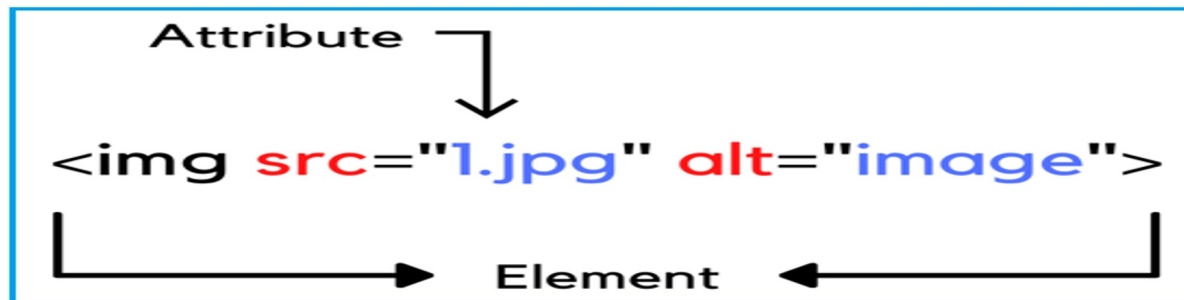The last sentence is just a paragraph.

HTML Links

- HTML links are defined with the **<a>** tag:
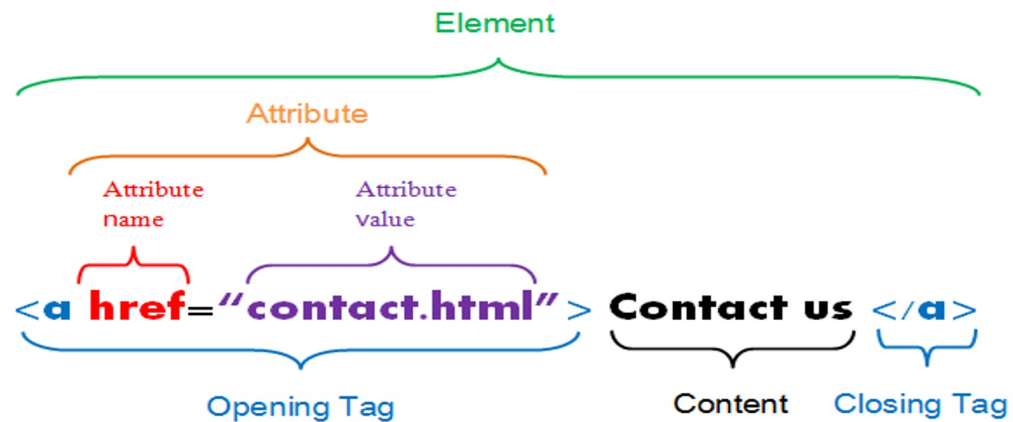
HTML Images

- HTML images are defined with the **<img>** tag.

- The source file (**src**), alternative text (**alt**), and size (**width** and **height**) are provided as **attributes**:

Exercise Lets do this!

We're looking for an HTML and CSS developer

For our client, The Cat Factory, **we need a skilled web developer in HTML and CSS**. We offer a competitive salary, a bag of cat food, and toys.

Don't wait, apply now! Our crazy team is waiting for you right meow!

Validate your code!

http://validator.w3.org

HTML Lists

- Unordered List

- Ordered List

- Description List
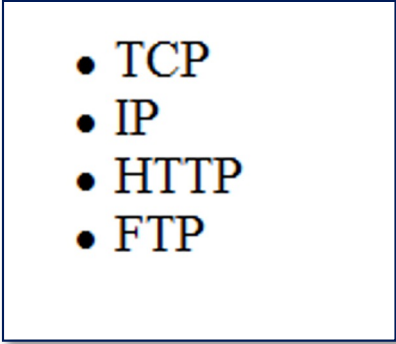 *formerly called a definition list*

HTML List Tags

Tag	Description
	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dl>	Defines a description list
<dt>	Defines a term in a description list
<dd>	Describes the term in a description list

Unordered List

- Displays a bullet, or list marker, before each entry in the list.

- \<ul\>

  Contains the unordered list

- \<li\>

  Contains an item in the list

- TCP
- IP
- HTTP
- FTP

Unordered List Example

\<ul\>

   \<li\>TCP\</li\>

   \<li\>IP\</li\>

   \<li\>HTTP\</li\>

   \<li\>FTP\</li\>

\</ul\>

- TCP
- IP
- HTTP
- FTP

Ordered List

- Displays a numbering or lettering system to itemize the information contained in the list

-

  Contains the ordered list
  - type attribute determines numbering scheme of list, default is numerals

-

  Contains an item in the list

Ordered List Example

```
<ol>

    <li>Apply to school</li>

    <li>Register for course</li>

    <li>Pay tuition</li>

    <li>Attend course</li>

</ol>
```

1. Apply to school
2. Register for course
3. Pay tuition
4. Attend course

Description List

Useful to display a list of terms and descriptions or a list of FAQ and answers

- <dl>
  Contains the description list

- <dt>
  Contains a term/phrase/sentence
  Configures empty space above and below the text

- <dd>
  Contains a description of the term/phrase/sentence
  - Indents the text
  - Configures empty space above and below the text

Description List Example

<dl>

  <dt>IP</dt>

    <dd>Internet Protocol</dd>

  <dt>TCP</dt>

    <dd>Transmission Control Protocol</dd>

</dl>

IP
    Internet Protocol
TCP
    Transmission Control Protocol

Ordered HTML List - The Type Attribute

The type attribute of the <ol> tag, defines the type of the list item marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Ordered List - Example

```html
<!DOCTYPE html>
<html>
<body>

<h2>List of our Cafe drinks</h2>

<ol type="A">
  <li>Spanish Latte</li>
  <li>Jasmine Tea</li>
  <li>Americano</li>
  <li> Iced Shaken espresso</li>
</ol>

</body>
</html>
```

List of our Cafe drinks

A. Spanish Latte
B. Jasmine Tea
C. Americano
D. Iced Shaken espresso

Special Characters

Display special characters such as quotes, copyright symbol, etc.

Character	Code
©	©
<	<
>	>
&	&

Div Element

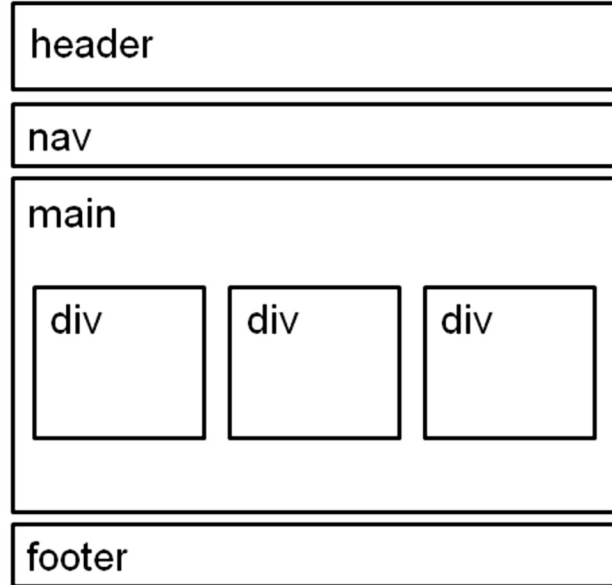Configures a structural block area or "division" on a web page with empty space above and below.

Can contain other block display elements, including other div elements

<div>Home Services Contact</div>

HTML5 Structural Elements

HTML5 Structural Elements

<body>

  <header> *document headings go her*e </header>

  <nav> *main navigation goes here* </nav>

  <main> *main content goes here* </main>

  <footer> *document footer information goes here* </footer>

</body>

Anchor Element

Specifies a hyperlink reference (href) to a file

Text between the <a> and is displayed on the web page.

Contact Us

href Attribute

Indicates the file name or URL

Absolute & Relative Hyperlinks

- Absolute link
  - Link to a different website

  Yahoo

- Relative link
  - Link to pages on your own site

  Home
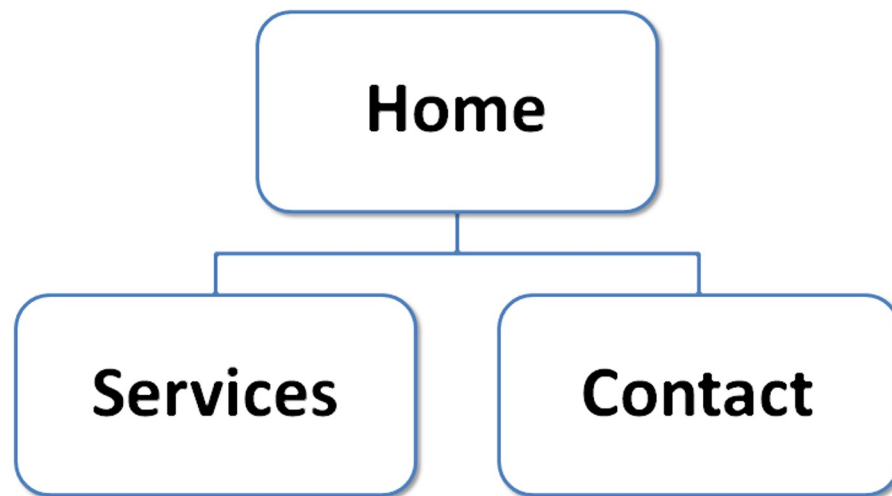
E-Mail Hyperlink

- Automatically launch the default mail program configured for the browser

- If no browser default is configured,

- a message is displayed

me@gmail.com

Hyperlinks

- Hands-On Practice

Exercise!