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HTML

- Short for *Hyper Text Markup Language,* the language used to create documents on the World Wide Web.

- HTML was invented by Tim Berners-Lee while at CERN, the European Laboratory for Particle Physics in Geneva.

HTML Versions

Version	Year
HTML	1991
HTML+	1993
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML5	2012

HTML

- Hyper Text Markup Language
  - Hypertext – Dealing with links
  - Markup – Designing documents with some tags, styles or lay outs

Tags

- A tag is a unit of markup, start with a less-than sign (<) followed by a keyword and concluded or ended with a greate-then sign (>).

- The symbol great-than and less-than are called angle brackets.

HTML: What do you need?

- Editor (Notepad)

- Browser to view results

- Deployment: Place to put your web site on the internet (store the files that contain the HTML code, images, video, music, etc.)
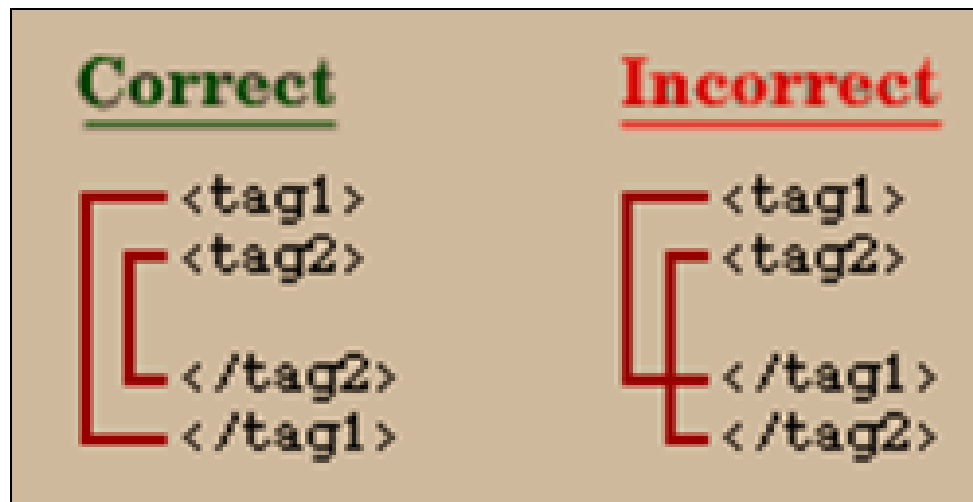
- URL for your website

HTML Elements

An HTML element usually consists of a **start** tag and **end** tag, with the content inserted in between:

<tagname>Content**</tagname>**

The HTML document begins with <html> and ends with </html>.

HTML tags

- Case insensitive

- Unrecognised tags are simply ignored by browser!!

- Container tags must be nested!!

HTML Tags

- Paired Tags
- Unpaired Tags

Paired Tags

- A tag is said to be a **paired tag** if the text is placed between a [tag](#) and its companion tag.

- In paired tags, the first tag is referred to as *Opening Tag* and the second tag is referred to as *Closing Tag.*

- Example of Paired Tags in HTML:

<p>Paragraph</p>

Unpaired Tags

- An **unpaired tag** does not have a companion tag. Unpaired tags are also known as *Singular tags* or *Stand-Alone* Tags.

- Example of Unpaired Tags in HTML:

-
 <img src='test.png' >

Structure of HTML document

- Basic structure:

```
<HTML>
<HEAD>
    <TITLE>
    Document Title
    </TITLE>
</HEAD>

<BODY>

</BODY>
</HTML>
```

Structure of the web page

- Inside the \<html>\</html> tag
  - Each web page has a **body** part described in \<body>\</body> tag:
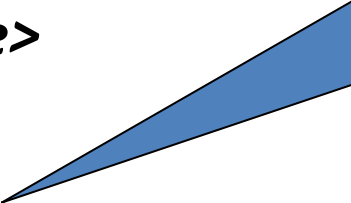
\<!DOCTYPE html>
\<html>
   \<head>
     \<title> CGS 2100 \</title>
   \</head>
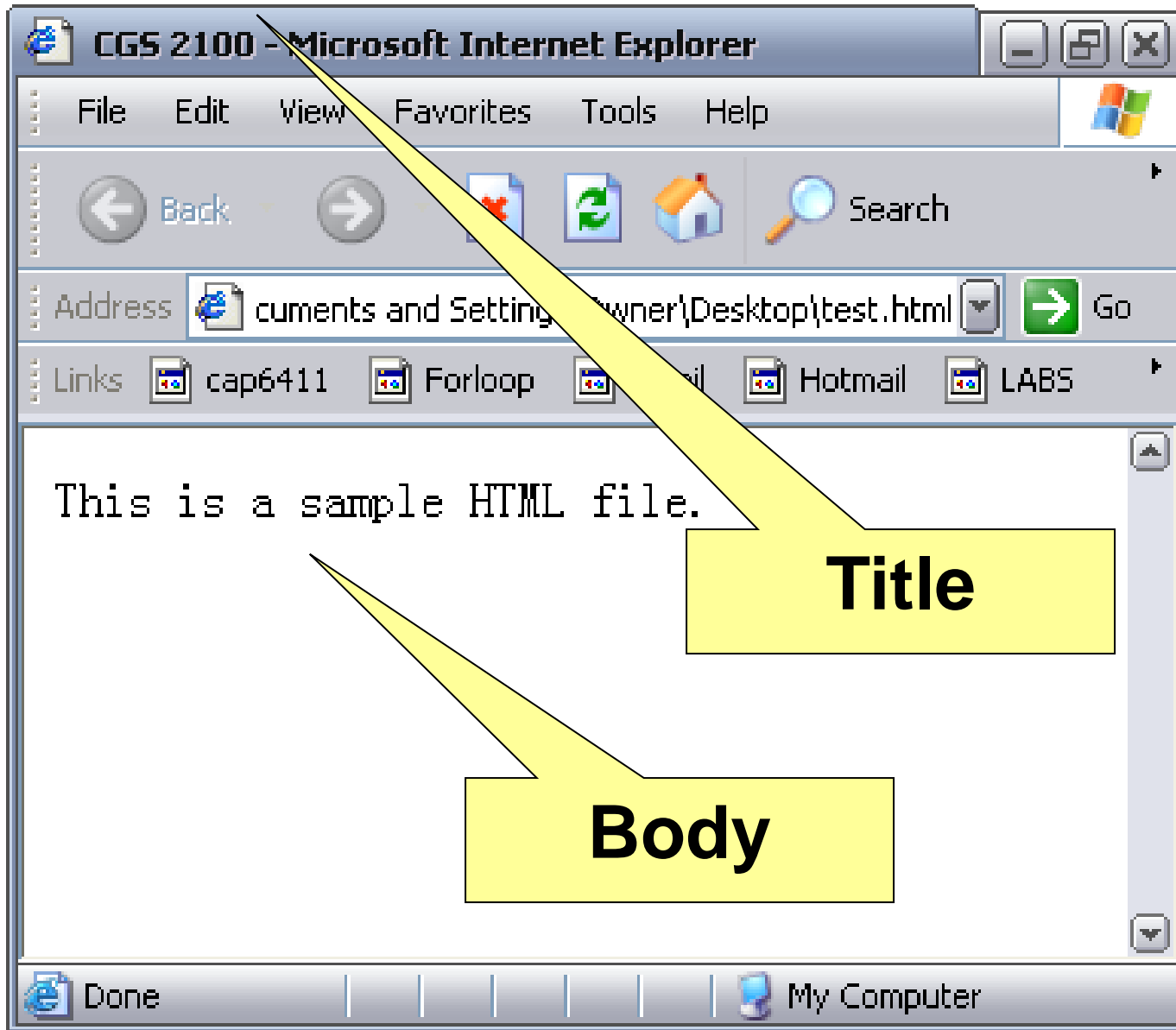 *\<body>*
      This is a sample HTML file.
   \</body>
\</html>

The content of the whole web page should be put here

HTML Creation

- Use Notepad (Notepad++) or any text editor
- Type contents and save with a .htm or .html extension
- Eg. MyPage.html
- FrontPage, MS Word allows us to create web pages without any prior knowledge in HTML. Just save as web page and you will get the effect.

HTML <!--Type your comment-->

- <!--This is a comment. Comments are not displayed in the browser-->

- <!-- Do not view the picture at this moment <img border="2" src="orange.jpg" alt="Orange">
-->

Body Tag - Attributes

Attribute	Value	Description
background	*URL*	Specifies a background image for a document
bgcolor	*color*	Specifies the background color of a document
text	*color*	Specifies the color of the text in a document
link	*color*	Specifies the color of unvisited links in a document
vlink	*color*	Specifies the color of visited links in a document
alink	*color*	Specifies the color of an active link in a document

Obsolete in HTML5, use CSS instead

Body tag attributes - events

onafterprint	Function to call user has printed document
onbeforeprint	Function to call when user requests document to be printed
onbeforeunload	Funtion to call when document is to be unloaded
onblur	Function to call when document has lost focus
onerror	Function to call when document fails
onfocus	Function to call when document has focus
onhaschange	Function to call when fragment identifier portion of document's address has changed
onload	Function to call when document has loaded
onmessage	Function to call when the document received a message
onoffline	Function to call when Network communication fails
ononline	Function to call when Network communication is restored
onpopstate	Function to call when user navigated session history
onredo	Function to call when user moved forward in undo history
onresize	Function to call when document was resized
onstorage	Function to call when storage area changed
onundo	Function to call when user moved backward in undo history
onunload	Function to call when document is being unloaded

<h1>-<h6>

- The six different HTML headings:
- <h1>This is heading 1</h1> largest
  <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> smallest

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

<h1 align = "left">
tag   attribute   value

Attributes:

Attribute	Value	Description
align	left center right justify	Specifies the alignment of a heading

<img> tag

Attribute	Value	Description
src	*URL*	Specifies the URL of an image
alt	*text*	Specifies an alternate text for an image
align	top bottom middle left right	Specifies the alignment of an image according to surrounding elements
border	*pixels*	Specifies the width of the border around an image
height	*pixels*	Specifies the height of an image
width	*pixels*	Specifies the width of an image
ismap	ismap	Specifies an image as a server-side image-map
usemap	*#mapname*	Specifies an image as a client-side image-map

<img border="5" src="buttonnext.gif" width="65" height="38">

Hr tag

Attribute	Value	Description
align	left center right	Specifies the alignment of a `<hr>` element
noshade	noshade	Specifies that a `<hr>` element should render in one solid color (noshaded), instead of a shaded color
size	*pixels*	Specifies the height of a `<hr>` element
width	*pixels%*	Specifies the width of a `<hr>` element

Obsolete in HTML5, use CSS instead

P tag

<p>This is some text in a paragraph.</p>

Attribute	Value	Description
align	left right center justify	Specifies the alignment of the text within a paragraph

Font tag

Attribute	Value	Description
face	*font_family*	Specifies the font of text
size	*number*	Specifies the size of text
color	*rgb(x,x,x)* *#xxxxxx* *colorname*	Specifies the color of text

```
<font size="3" color="red">This is some text!</font>
<font size="2" color="blue">This is some text!</font>
<font face="verdana" color="green">This is some text!</font>
```
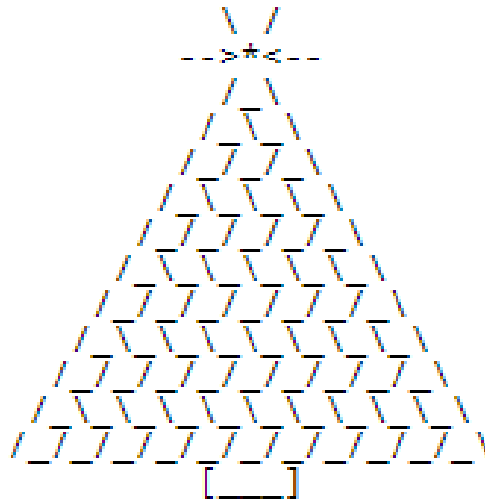
Obsolete in HTML5, use CSS instead

Center tag

- You can use **<center>** tag to put any content in the center of the page.

PRE tag

- The <pre> tag defines preformatted text.
- Text in a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks.

Revision

Tag	Description
<html>	Defines an HTML document
<body>	Defines the document's body
<h1> to <h6>	Defines header 1 to header 6
<p>	Defines a paragraph
 	Inserts a single line break
<hr>	Defines a horizontal rule
<!-->	Defines a comment

Example HTML code:

```
<HTML>

<head>
<title>Hello World</title>
</head>

<body bgcolor = "#000000">
<font color = "#ffffff">
<H1>Hello World</H1>
</font>
</body>

</HTML>
```
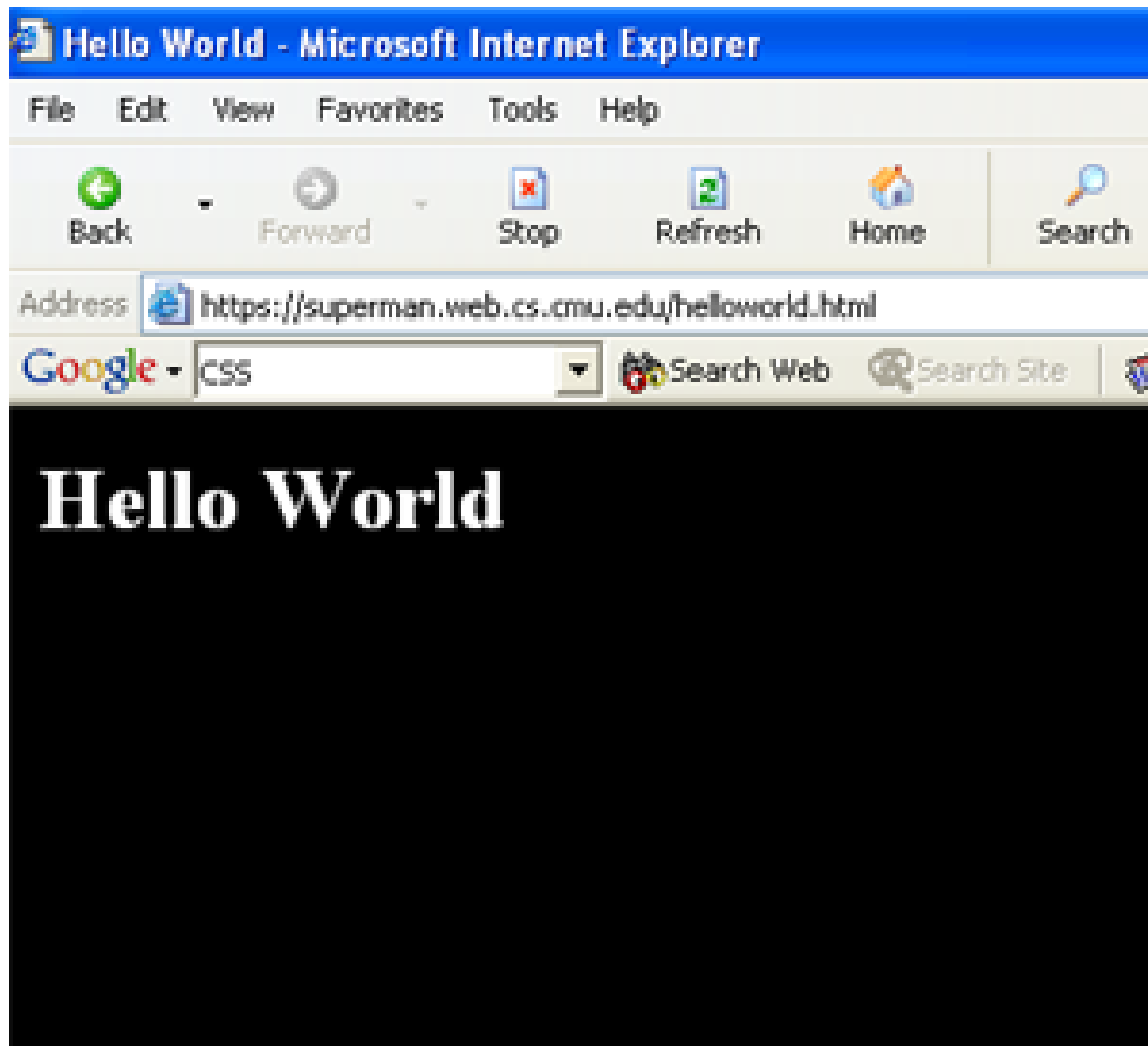
HTML Exercise

1. Create a Personal homepage
2. Design an E-Greeting page which has properly aligned paragraphs with images

Text Formatting Tags

Tag	Description
<b>	Defines bold text **This text is bold.**
<big>	Defines big text
<em>	Defines emphasized text *This text is emphasized.*
<i>	Defines italic text *This text is italic.*
<mark>	displayed as marked with yellow ink *This text is italic.* marked
<small>	Defines small text
<strong>	Defines strong text **This text is strong.**

Tag	Description
<sub>	**Defines subscripted text** This is subscripted text.
<sup>	**Defines superscripted text** This is superscripted text.
<ins>	**Defines inserted text** text
<del>	**Defines deleted text** blue
<strike>	**Deprecated. Use <del> instead**
<u>	**Deprecated. Use <ins> instead**

COMMONLY USED CHARACTERS

Result	Description	Entity Name
	non-breaking space	
<	less than	<
>	greater than	>
&	ampersand	&
¢	cent	¢

Result	Description	Entity Name
£	pound	£
¥	yen	¥
€	euro	€
§	section	§
©	copyright	©
®	registered trademark	®
₹	Rupees	₹

Marquee tag

Attribute	Value	Description
behavior	scroll slide alternate	Defines the type of scrolling.
bgcolor	rgb(x,x,x) #xxxxxx colorname	*Deprecated*
direction	up down left right	Defines the direction of scrolling the content.
height	pixels or %	Defines the height of marquee.
hspace	pixels	Specifies horizontal space around the marquee.
loop	number	Specifies how many times to loop. The default value is INFINITE, which means that the marquee loops endlessly.
scrolldelay	seconds	Defines how long to delay between each jump.
scrollamount	number	Defines how how far to jump.
width	pixels or %	Defines the width of marquee.
vspace	pixels	Specifies vertical space around the marquee.

Obsolete in HTML5, use CSS instead

Div tag

- The <div> tag defines a division or a section in an HTML document

- <div style="color:#0000FF">
  <h3>This is a heading</h3>
  <p>This is a paragraph.</p>
  </div>

- <div id = "menu" align = "middle" >...</div>

- <div id = "content" align = "left" bgcolor = "white"> ....</div>

blockquote

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

- Browsers usually **indent** <blockquote> elements.

- <html> <body>

- <h1>About WWF</h1>

- <p>Here is a quote from WWF's website:</p>

- <blockquote cite="http://www.worldwildlife.org/who/index.html">

- For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

- </blockquote> </body> </html>

About WWF

Here is a quote from WWF's website:

For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

Q tag

- The <q> tag defines a **short quotation**.

- Browsers normally insert quotation marks around the quotation.

- <p>WWF's goal is to:
<q>Build a future where people live in harmony with nature.</q>
We hope they succeed.</p>

WWF's goal is to: "Build a future where people live in harmony with nature." We hope they succeed.

Character(s)	Literal(s)	Unicode value(s)
Single quotes [9, 10]	' '	‘ ’
Single low quote [11]	‚	‚
Double quotes [9]	" "	“ ”
Double low quote [11]	„	„

acronym

- The <acronym> tag defines an acronym.
- An acronym can be spoken as if it were a word, example NATO, NASA, ASAP, GUI.
- By marking up acronyms you can give useful information to browsers, spell checkers, translation systems and search-engine indexers.
- Can I get this <acronym title="As Soon As Possible">ASAP</acronym>?

Can I get this ASAP?

As Soon As Possible

address

- The <address> tag defines the contact information

- The text in the <address> element usually renders in *italic*.

- Most browsers will add a line break before and after the address element.

```
<address>
Visit us at:<br>
Example.com<br>
Box 564, Disneyland<br>
USA
</address>
```

anchor tag

- The <a> tag defines a hyperlink, which is used to link from one page to another.

- The most important attribute of the <a> element is the href attribute, which indicates the link's destination.

- By **default**, links will appear as follows in all browsers:

  - An unvisited link is underlined and blue

  - A visited link is underlined and purple

  - An active link is underlined and red

Visit W3Schools.com!

<a> tag attributes

href	*URL*	Specifies the URL of the page the link goes to
target	_blank _parent _self _top *framename*	Specifies where to open the linked document

An Image as a Link

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

<p>
An image as a link: <a href="http://www.w3schools.com">
<img border="0" alt="W3Schools" src="logo_w3s.gif" width="100" height="100">
</a>
</p>

</body>
</html>
```

anchor tag

Text as Hyper reference

<A HREF="APP.HTML">CLICK HERE </A>

Button as Hyper reference

<A HREF="APP.HTML"><button>Click me</button></A>

Image as Hyper reference

<A HREF="APP.HTML"><IMG SRC="sweet-home-icon.jpg"></A>

Create Link at the Same Page

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

<h2><a id="top">There is a link at the bottom of the page!</a></h2>

<p>In my younger and more vulnerable years my father gave me some advice that I've
    been turning over in my mind ever since.</p>
<p>"Whenever you feel like criticizing any one," he told me, "just remember that all
    the people in this world haven't had the advantages that you've had."</p>
.

.

<a href="#top">Go to top</a>
</body>
</html>



<p name="pname">….</p>
<a href="#pname">A simple link</a>
```

CREATE A MAILTO LINK

```
<html>
<body>
<p>
This is a mail link:
<a href="mailto:someone@microsoft.com?subject=Hello%20again">
Send Mail</a>
</p>
</body>
</html>
```
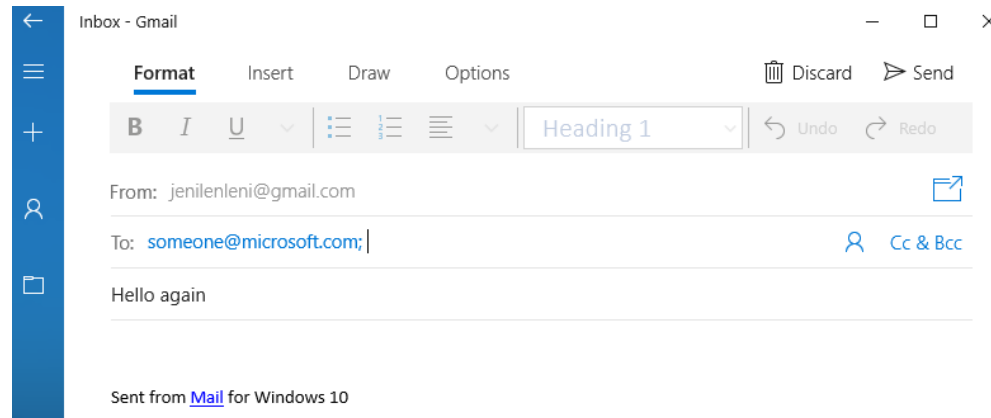

"%20" represents a space in an encoded URL

"%0A" represents a blank line in an encoded URL

```
<a
    href="mailto:someone@example.com?cc=x@gmail.com&bcc=y@gmail.com&Subject=
    Hello%20again&body=I'm%20interested%20in%20booking%20a%20party%20of:%0A%
    0AThe%20dates:%20...">Send Mail</a>
```

<abbr>Abbreviation
<acronym>Acronym
<blockquote>Long quotation
<dfn>Definition

<h5>Fifth-level headline
<sup>Superscript
<h4>Fourth-level headline
<sub>Subscript

<h6>Sixth-level headline

<ins>Inserted text
<em>Emphasis
<q>Short inline quotation

<address>Address for author(s) of the document
<cite>Citation

<var>Variable or user defined text

<hr>Thematic break
<kbd>Text to be entered by the user
<samp>Sample output

<code>Code reference
<tt>Teletype text
<div>Logical division
<span>Generic inline style container
<del>Deleted text

<strong>Strong emphasis
<h1>First-level headline
<h2>Second-level headline
<h3>Third-level headline

<pre>Pre-formatted text

Source: https://www.lambdatest.com/blog/importance-of-semantic-html-in-modern-web-development/
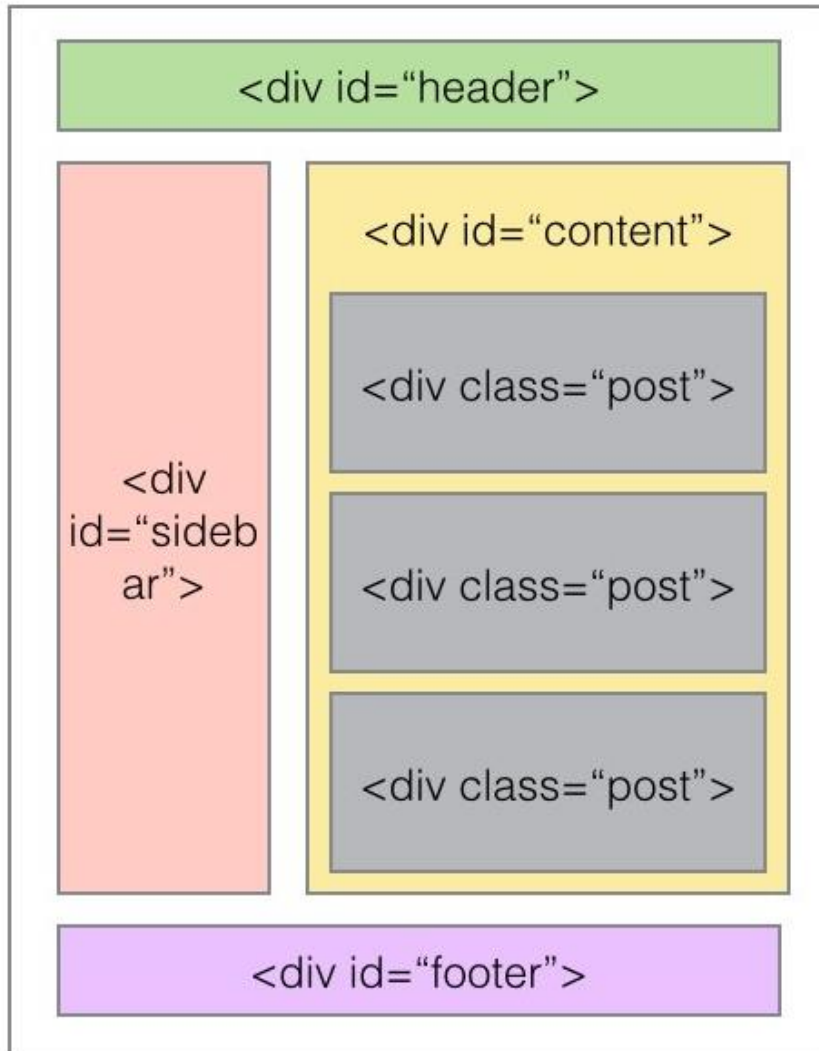
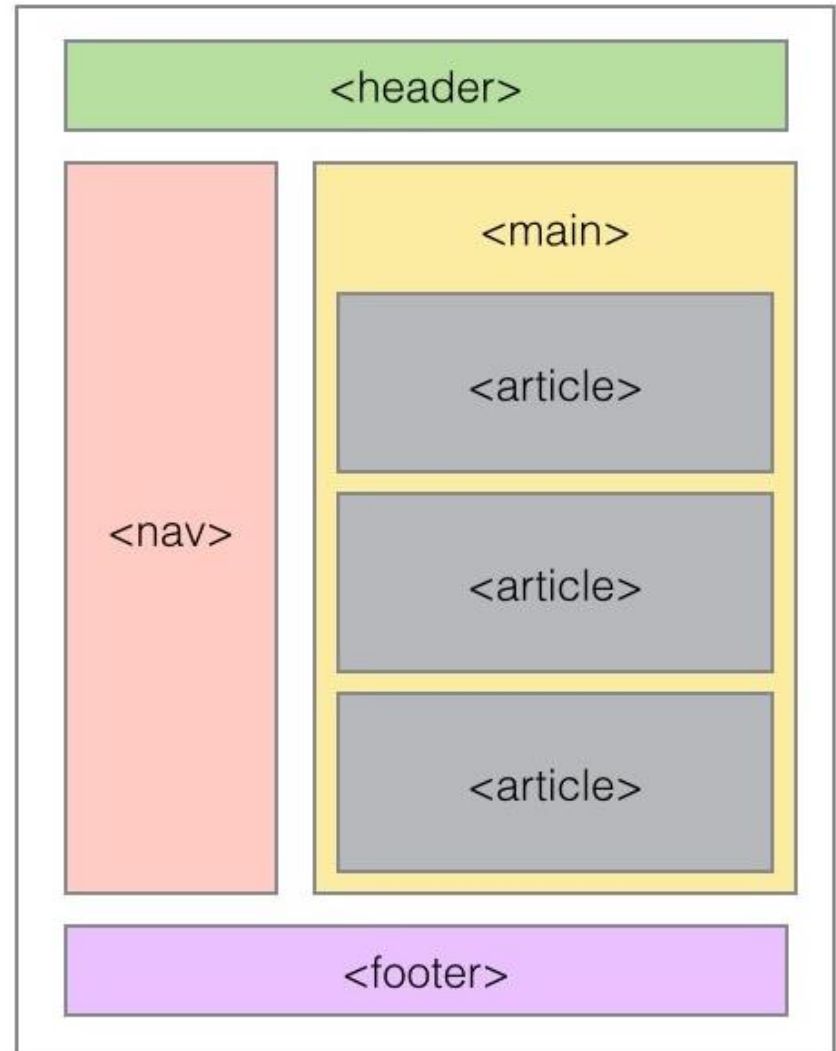# HTML4 vs HTML5 Page Structure

HTML4: Lots of Classes/IDs
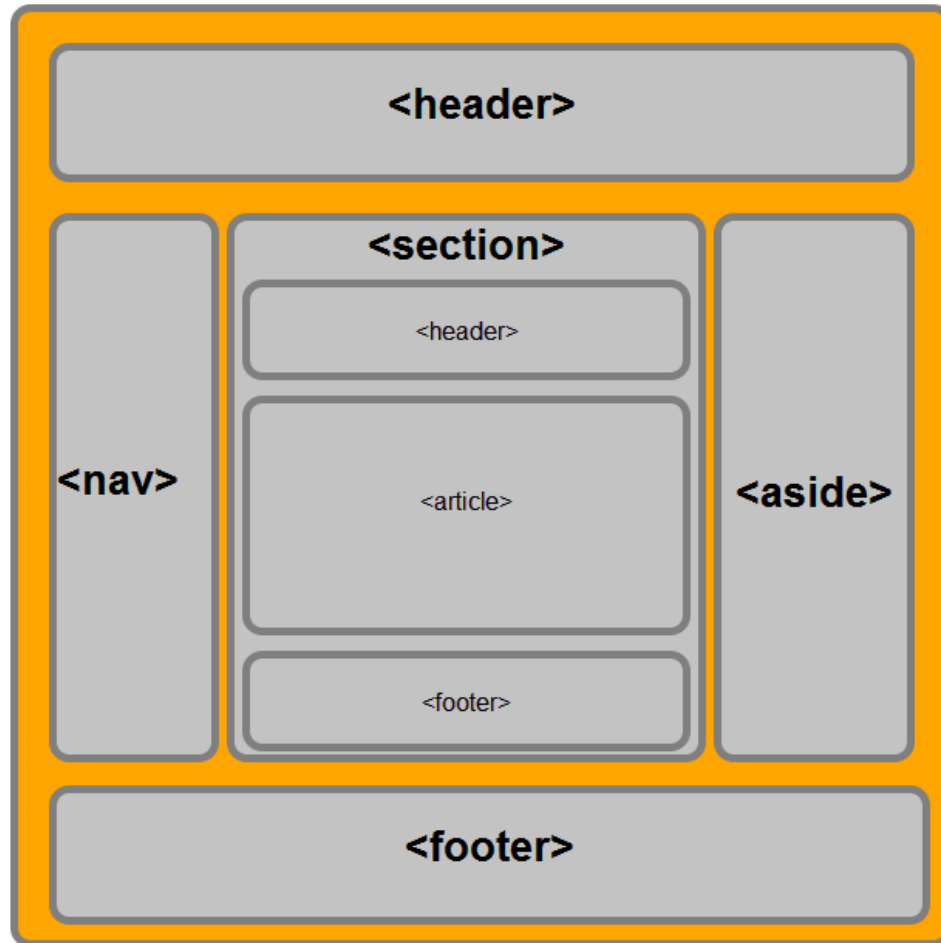
<div id="header">

<div id="sidebar">

<div id="content">

<div class="post">

<div class="post">

<div class="post">

<div id="footer">

HTML5: Semantic Tags/Sections

<header>

<nav>

<main>

<article>

<article>

<article>

<footer>

Source: https://www.vikingcodeschool.com/html5-and-css3/html5-semantic-tags

Semantic tags

Source: https://www.c-sharpcorner.com/UploadFile/b5be7f/working-with-semantic-elements-in-html5-with-layout-examples//

Non-Semantic Vs Semantic

Non-Semantic	Semantic

``html
<div id="header"></div>
<div class="section">
    <div class="article">
        <div class="figure">
            <img>
            <div class="figcaption"></div>
        </div>
    </div>
</div>
<div id="footer"></div>
``
	``html
	<header></header>
	<section>
	    <article>
	        <figure>
	            <img>
	            <figcaption></figcaption>
	        </figure>
	    </article>
	</section>
	<footer></footer>
	``

Source: https://www.freecodecamp.org/news/semantic-html5-elements/

Semantic Tags

- Multiple sections inside sections

- The <section> and <article> elements are conceptually similar and interchangeable.

```
<section>
  <p>Top Stories</p>
  <section>
    <p>News</p>
    <article>Story 1</article>
    <article>Story 2</article>
    <article>Story 3</article>
  </section>
  <section>
    <p>Sport</p>
    <article>Story 1</article>
    <article>Story 2</article>
    <article>Story 3</article>
  </section>
</section>
```

<nav>

<nav> defines a set of navigation links

Example:

<nav>

  HTML |

  CSS |

  JavaScript |

  jQuery

</nav>

Semantic Tags

<article> - article in the element

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

<header> - header for the section or article

<footer> - footer for the section or article

<section> - section in the document

<aside> - content aside from the page content

<main> - only one main tag in your document

Semantic Tags

<dialog> defines a dialog box or window

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

<figure> - self contained content like diagram

<figcaption> defines the caption for a <figure>

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

<hgroup> main heading with one or more subheadings

```
<hgroup>
  <h1>Heading 1</h1>
  <h2>Subheading 1</h2>
  <h2>Subheading 2</h2>
</hgroup>
```

Other Semantic Tags

<progress> - progress of a task

Progress in life goals (70%)
<progress min=0 max=100 value=70></progress>

Progress in life goals (70%)

<meter> - scalar measurement with in a known range

Life goals achieved (50%)
<meter min=0 max=100
value=50></meter>

Life goals achieved (50%)

Other Semantic Tags

<details> defines additional details that people can view or hide (like a tooltip)

<summary> defines a visible heading for a <details> element

```
<details>
<summary>Summary:</summar
y>
<p>XYZ...</p>
</details>
```

▶ **Summary:**

▼ **Summary:**

XYZ...

Exercise

Write a program (Biodata) which will perform the following tasks:

1. Use of <HTML><HEAD><TITLE><BODY> Tags
2. Use of <H1> to <H6> Tags
3. Use of <img> Tag
4. Use of <br>,<hr>,<p>,<div>,<blockquote>,<q><CENTER>, Tags
5. Use of All Text Formatting Tags like <font>,<b>,<i>,<u>,<s>,<em>,<strong><big>,<small>,<sub>,<sup>, <code>, <address>,<del>,<ins>, <acronym>, <pre>,<q>
6. Use Of Hyperlink i.e. <a> Tag.
7. Use Semantic tags

Thank You