Lab 1: Basic HTML

1.1. HTML Elements

1.1.1. 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 paragraph	\</p>
\	This is a link	\
\ 		

* The start tag is often called the **opening tag**. The end tag is often called the **closing tag**.

1.1.2. HTML Element Syntax

- An HTML element starts with a **start tag / opening tag**
- An HTML element ends with an **end tag / closing tag**
- The **element content** is everything between the start and the end tag
- Some HTML elements have **empty content**
- Empty elements are **closed in the start tag**
- Most HTML elements can have **attributes**

1.1.3. Nested HTML Elements

Most HTML elements can be nested (can contain other HTML elements).

HTML documents consist of nested HTML elements.

1.1.4. HTML Document Example
\<html>

\<body>
\<p>This is my first paragraph\</p>
\</body>

\</html>

The example above contains 3 HTML elements.

1.2. HTML Basic

1.2.1. HTML Headings

HTML headings are defined with the \<h1> to \<h6> tags.

Example
\<h1>This is a heading\</h1>
\<h2>This is a heading\</h2>
\<h3>This is a heading\</h3>

* Headings Are Important

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.

H1 headings should be used as main headings, followed by H2 headings, then less important H3 headings, and so on.

* HTML Rules (Lines)

The <hr /> tag is used to create an horizontal rule (line).

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

* HTML Comments

Comments can be inserted in the HTML code to make it more readable and understandable. Comments are ignored by the browser and are not displayed.

Comments are written like this:

Example
```
<!-- This is a comment -->
```

1.2.2. HTML Paragraphs

HTML paragraphs are defined with the <p> tag.

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

* Don't Forget the End Tag

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

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

* HTML Line Breaks

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

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

The <br /> element is an empty HTML element. It has no end tag.

1.2.3. HTML Links

HTML links are defined with the <a> tag.

Example
This is a link

1.2.4. HTML Images

HTML images are defined with the <img> tag.

Example

1.3. HTML Attributes

1.3.1. HTML Attributes

- HTML elements can have **attributes**
- Attributes provide **additional information** about the element
- Attributes are always specified in **the start tag**
- Attributes come in name/value pairs like: **name="value"**

Attribute Example

HTML links are defined with the <a> tag. The link address is provided as an attribute:

Example
This is a link

1.3.2. Always Quote Attribute Values

Attribute values should always be enclosed in quotes.

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

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

name='John "ShotGun" Nelson'

1.3.3. HTML Tip: Use Lowercase Attributes

Attribute names and attribute values are case-insensitive.

However, the World Wide Web Consortium (W3C) recommends lowercase attributes/attribute values in their HTML 4 recommendation

Newer versions of (X)HTML will demand lowercase attributes.

1.4. HTML Links

1.4.1. Hyperlinks, Anchors, and Links

In web terms, a hyperlink is a reference (an address) to a resource on the web.

Hyperlinks can point to any resource on the web: an HTML page, an image, a sound file, a movie, etc.

An anchor is a term used to define a hyperlink destination inside a document.

The HTML anchor element <a>, is used to define both hyperlinks and anchors.

We will use the term HTML link when the <a> element points to a resource, and the term HTML anchor when the <a> elements defines an address inside a document..

1.4.2. An HTML Link

Link syntax:

Link text

The start tag contains attributes about the link.

The element content (Link text) defines the part to be displayed.

Note: The element content doesn't have to be text. You can link from an image or any other HTML element.

1.4.3. The href Attribute

The **href attribute** defines the link "address".

This <a> element defines a link to W3Schools:

Visit W3Schools!

The code above will display like this in a browser:

Visit W3Schools!

1.4.4. The target Attribute

The **target attribute** defines **where** the linked document will be opened.

The code below will open the document in a new browser window:

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

1.4.5. The name Attribute

When the **name attribute** is used, the <a> element defines a named anchor inside a HTML document.

Named anchor are not displayed in any special way. They are invisible to the reader.

Named anchor syntax:

Any content

The link syntax to a named anchor:

Any content

The # in the href attribute defines a link to a named anchor.

1.5. HTML Tables

1.5.1. Tables

Tables are defined with the <table> tag. A table is divided into rows (with the <tr> tag), and each row is divided into data cells (with the <td> tag). The letters td stands for "table data," which is the content of a data cell. A data cell can contain text, images, lists, paragraphs, forms, horizontal rules, tables, etc.

<table border="1">
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>row 2, cell 2</td>
</tr>
</table>

How it looks in a browser:

| row 1, cell 1 | row 1, cell 2 |

row 2, cell 1	row 2, cell 2

1.5.2. Tables and the Border Attribute

If you do not specify a border attribute the table will be displayed without any borders. Sometimes this can be useful, but most of the time, you want the borders to show.

To display a table with borders, you will have to use the border attribute:

```
<table border="1">
<tr>
<td>Row 1, cell 1</td>
<td>Row 1, cell 2</td>
</tr>
</table>
```

1.5.3. Headings in a Table

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

```
<table border="1">
<tr>
<th>Heading</th>
<th>Another Heading</th>
</tr>
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>row 2, cell 2</td>
</tr>
</table>
```

How it looks in a browser:

Heading	Another Heading
row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

1.5.4. Empty Cells in a Table

Table cells with no content are not displayed very well in most browsers.

```
<table border="1">
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
```

```
</tr>
<tr>
<td>row 2, cell 1</td>
<td></td>
</tr>
</table>
```

How it looks in a browser:

row 1, cell 1	row 1, cell 2
row 2, cell 1	

Note that the borders around the empty table cell are missing (NB! Mozilla Firefox displays the border).

To avoid this, add a non-breaking space ( ) to empty data cells, to make the borders visible:

```
<table border="1">
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td> </td>
</tr>
</table>
```

How it looks in a browser:

row 1, cell 1	row 1, cell 2
row 2, cell 1	

1.6. HTML Styles

1.6.1. The HTML Style Attribute

The purpose of the style attribute is:

To provide a common way to style all HTML elements.

Styles was introduced with HTML 4, as the new and preferred way to style HTML elements. With HTML styles, styles can be added to HTML elements directly by using the style attribute, or indirectly by in separate style sheets (CSS files).

You can learn everything about styles and CSS in our CSS tutorial.

1.6.2. HTML Style Examples

```
<html>

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

<h1>Look! Styles and colors</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>

</body>

</html>
```

1.6.3. Deprecated Tags and Attributes

In HTML 4, some tags and attributes are defined as deprecated. Deprecated means that they will not be supported in future versions of HTML and XHTML.

The message is clear: Avoid the use of deprecated tags and attributes.

These tags and attributes should be avoided:

Tags	Description
<center>	Defines centered content
<font> and <basefont>	Defines HTML fonts
<s> and <strikeout>	Defines strikeout text
<u>	Defines underlined text

Attributes	Description
align	Defines the alignment of text
bgcolor	Defines the background color
color	Defines the text color

For all the above: Use styles instead.

1.7. HTML Lists

1.7.1. Unordered Lists

An unordered list is a list of items. The list items are marked with bullets (typically small black circles).

An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.

Coffee
Milk

Here is how it looks in a browser:

- Coffee
- Milk

Inside a list item you can put paragraphs, line breaks, images, links, other lists, etc.

1.7.2. Ordered Lists

An ordered list is also a list of items. The list items are marked with numbers.

An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

Coffee
Milk

Here is how it looks in a browser:

1. Coffee
2. Milk

Inside a list item you can put paragraphs, line breaks, images, links, other lists, etc.

1.7.3. Definition Lists

A definition list is not a list of single items. It is a list of items (terms), with a description of each item (term).

A definition list starts with a <dl> tag (**d**efinition **l**ist).

Each term starts with a <dt> tag (**d**efinition **t**erm).

Each description starts with a <dd> tag (**d**efinition **d**escription).

<dl>
<dt>Coffee</dt>
<dd>Black hot drink</dd>
<dt>Milk</dt>
<dd>White cold drink</dd>
</dl>

Here is how it looks in a browser:

Coffee
> Black hot drink

Milk
> White cold drink

Inside the <dd> tag you can put paragraphs, line breaks, images, links, other lists, etc.

1.8. HTML Text Formatting

1.8.1. HTML Formatting Tags

HTML uses tags like <b> and <i> for formatting output, like **bold** or *italic* text.

These HTML tags are called formatting tags.

1.8.2. Text Formatting Tags

Tag	Description
<b>	Defines bold text
<big>	Defines big text
<em>	Defines emphasized text
<i>	Defines italic text
<small>	Defines small text
<strong>	Defines strong text
<sub>	Defines subscripted text
<sup>	Defines superscripted text
<ins>	Defines inserted text
<del>	Defines deleted text
<s>	Deprecated. Use <del> instead
<strike>	Deprecated. Use <del> instead
<u>	Deprecated. Use styles instead

1.8.3. Citations, Quotations, and Definition Tags

Tag	Description
<abbr>	Defines an abbreviation
<acronym>	Defines an acronym
<address>	Defines an address element
<bdo>	Defines the text direction
<blockquote>	Defines a long quotation
<q>	Defines a short quotation
<cite>	Defines a citation
<dfn>	Defines a definition term

* HTML <q> Tag

The <q> tag defines a short quotation.

The browser will insert quotation marks around the quotation.

A short quotation is marked up as follows:

```
<q>
Here is a short quotation here is a short quotation
</q>
```

* HTML <blockquote> Tag

The <blockquote> tag defines a long quotation.

A browser inserts white space before and after a blockquote element. It also insert margins for the blockquote element.

A long quotation is marked up as follows:

```
<blockquote>
Here is a long quotation here is a long quotation here is a long quotation here is a long quotation here is a long quotation here is a long quotation here is a long quotation here is a long quotation here is a long quotation.
</blockquote>
```

1.9. Exercises

Ex1.
 - Create a simple HTML page as this below webpage:

```
<html>
<body>

<h1 style="text-align:center">This is a HTML practice exercise</h1>
<hr />
<p>The heading above is aligned to the center of this page. The heading above is aligned to the center of this page. The heading above is aligned to the center of this page.</p>
<hr />
<p>
This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.
</p>
<hr />
<p>
This paragraph
contains     a lot of spaces
```

```
in the source     code,
but the    browser
ignores it.
</p>
<hr />
<h5>This is heading 5</h5>
<hr />
<h6>This is heading 6</h6>


</body>
</html>
```

- You should modify each tag by yourself and watch the effect of that modification.

Ex2.
- Create a simple HTML page as your personal webpage.
- Below are the suggested layout:

Personal Details	Image
Education process	
Working process	
Society activities	
Skills	
Experiences	
Certifications	
Hobbies	
Desire	

REFERENCES

[1] http://www.w3schools.com/html