<HTML5>

An introduction
What is HTML?

- HTML = Hyper Text Markup Language
- Developed in 1990 by Tim Berners Lee
- Current Version: **HTML 5**
  - developed since 2004, released 2012
  - W3C (World Wide Web Consortium) recommendation since 2014 ([http://www.w3.org/TR/html5/](http://www.w3.org/TR/html5/))
  - incorporates all features from earlier versions of HTML, including the stricter XHTML
- Predecessors: HTML4 and XHTML
- Separation of the structure of the document’s information from the presentation of a document
HTML5 - Syntax Options

HTML5 is designed based on XHTML and HTML4 and supports several syntax options:

• Uppercase tag names are allowed
  
  ```html
  <SECTION> or <section>
  ```

• Quotes are optional for attributes.
  
  ```html
  <input name=address maxlength=200>  
  <input name=address maxlength='200'>  
  <input name=address maxlength="200">
  ```

• Attribute values are optional.
  
  ```html
  <input name=address disabled>  
  <input name=address disabled="">
  ```

• Closing void (empty) elements is optional.
  
  ```html
  <img src="mypicture.jpg"/>
  ```
Please note:
As we will work with the XML editor oXygen in this class, we will use the XML-syntax rules!

```
<element attribute="value">element content</element>

<element attribute="value"/>

<!-- This is a comment -->
```
The DOCTYPE

A DOCTYPE is a required preamble – every HTML document starts with it.

In HTML5:

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

The DOCTYPE indicates the browser which type and version of document to expect.
The `<html>` element

`<html>` is the root element of each document

```html
<html lang="en">
  <!-- the page's content -->
</html>
```

The `@lang` attribute declares which language the page content is in. Though not strictly required, it should be specified to assist search engines and screen readers.

ISO 639-1 language Codes:

http://www.w3schools.com/tags/ref_language_codes.asp
<!DOCTYPE html>
<html lang="en">
  <head>
    <!-- the document’s metadata -->
  </head>
  <body>
    <!-- the content of the page -->
  </body>
</html>
A little detour: How to organize your folders

Use lowercase to name your folders and files!

Do not use spaces or special characters!

You are here!

Address documents/media via the document path.

<a href="index.html"> . . . </a>

<link href="css/stylesheet.css" . . .

<img src="images/facsimiles/picture.jpg"/>
Exercise 1: Creating a HTML5 doc with basic structure

- Create a folder called **website** (e.g. in Documents or on the Desktop)

- Open a file in oXygen
  - Open oXygen → File → New file → HTML

  **Attention!**
  The opened file will be XHTML. To create **HTML 5** you will have to change

  - the Document Declaration to **<!DOCTYPE html>**
  - the root element to **<html lang="en">**

- Create the basic structure of an html5 document

- Write **Hello World!** in the **<body>** and open the document in your browser with

- Name the document **index.html** and save it in **website**
The `<head>` element is a container for meta data about the HTML document, it is not displayed (only `<title>`).

<table>
<thead>
<tr>
<th><code>&lt;title&gt;</code></th>
<th>title of the document (required! and visible for users)</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;meta&gt;</code></td>
<td>specifies page description, keywords, author, and other metadata</td>
</tr>
<tr>
<td>@name</td>
<td>a name for the metadata</td>
</tr>
<tr>
<td>@content</td>
<td>the value associated with the name attribute</td>
</tr>
<tr>
<td>@charset</td>
<td>specifies the character encoding for the HTML document</td>
</tr>
<tr>
<td></td>
<td>Common values:</td>
</tr>
<tr>
<td></td>
<td>• UTF-8 - Character encoding for Unicode</td>
</tr>
<tr>
<td></td>
<td>• ISO-8859-1 - Character encoding for the Latin alphabet</td>
</tr>
</tbody>
</table>
<!DOCTYPE html>
<html>
  <head>
    <title>Fanny Lewald - Digital Edition of the correspondence</title>
    <meta name="author" content="Frederike Neuber"/>
    <meta name="description" content="Digital Edition of the correspondence of Fanny Lewald ">
    <meta name="keywords" content="Lewald, 1848, Feminism, Literature"/>
    <meta charset="UTF-8"/>
  </head>
  <body>
    ...
  </body>
</html>
### `<link>`
- Defines the page relationship to an external resource, e.g. to a related stylesheet.

- **@rel**: Specifies the relationship between current and linked document location of the linked document (URL).

### `<style>`
- Defines style information how HTML elements should render in a browser, CSS code.

### `<script>`
- Defines a client-side script, such as a JavaScript, contains scripting statements, or it points to an external script file through the `src` attribute.

- **@src**: Specifies the URL of an external script file.
<head>
<title>Fanny Lewald - Digital Edition of the correspondence</title>
<meta name="author" content="Frederike Neuber"/>
<meta name="description" content="Digital Edition of the correspondence of Fanny Lewald "/>
<meta name="keywords" content="Lewald, 1848, Feminism, Literature"/>
<meta charset="UTF-8"/>
<link rel="stylesheet" href="css/style.css" />
<style>
    h1{
        color:red;
        font-weight:bold;
    }
    p{
        color:blu;
    }
</style>
<script src="js/edition.js" />
</head>
Exercise 2: Creating <head>

Download the Dropbox folder HTML (save the image folder in your website folder)

Use sample texts of exercises_texts.txt

Open index.html

• Give the document a title

• Enrich it with further metadata using <meta>
  – Document’s author
  – Description of the website
  – Keywords
  – Encoding information

• Open it in your browser, view the source code.
<body> contains all the contents of an HTML document, such as text, hyperlinks, images, tables, lists, etc. which are displayed.

**Binary distinction of tags up to HTML4**

**Block-level elements (HTML5 „Flow content“)**
- are formatted with a line break before and after the element, thereby creating a stand-alone block of content
- e.g. all structural elements `<header> <nav> <section>` etc. and `<div> <p> <ul> <li> <h1..6>`
- can contain either other block elements (except `<h1..6>` and `<p>`) or Inline elements

**Inline elements (HTML „Phrasing Content“)**
- occupies only the space bounded by the tags that define the inline element
- can contain either data or other Inline elements
- e.g. `<span> <a> <q> <img>`
<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;header&gt;</td>
<td>used to contain the header content of a site or &lt;section&gt;/&lt;article&gt;</td>
</tr>
<tr>
<td>&lt;nav&gt;</td>
<td>contains the navigation menu, or other navigation functionality for the page</td>
</tr>
<tr>
<td>&lt;section&gt;</td>
<td>a section is a thematic grouping of content. The theme of each section should be identified, typically by including a heading (h1-h6 element) as a child of the section element.</td>
</tr>
<tr>
<td>&lt;article&gt;</td>
<td>contains a standalone piece of content that would make sense if syndicated as an RSS item, for example a news item</td>
</tr>
<tr>
<td>&lt;aside&gt;</td>
<td>defines a block of content that is related to the main content around it, but not central to the flow of it</td>
</tr>
<tr>
<td>&lt;footer&gt;</td>
<td>contains the footer content of a site or &lt;section&gt;/&lt;article&gt;</td>
</tr>
</tbody>
</table>
## More block-level elements

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;div&gt;</code></td>
<td>for grouping an area of content, often for styling/visual purposes <em>(not semantic!)</em></td>
</tr>
<tr>
<td><code>&lt;p&gt;</code></td>
<td>defines a paragraph</td>
</tr>
<tr>
<td><code>&lt;h1&gt;</code> - <code>&lt;h6&gt;</code></td>
<td>define headings; <em>&lt;h1&gt;</em> defines the most important heading, <em>&lt;h6&gt;</em> the least important heading</td>
</tr>
</tbody>
</table>

```html
<h1>headline1</h1>
<h2>headline2</h2>
<h3>headline3</h3>
<h4>headline4</h4>
<h5>headline5</h5>
<h6>headline6</h6>
```
Example: Structuring a website
W3C specification:

“The section element is not a generic container element. When an element is needed only for styling purposes or as a convenience for scripting, authors are encouraged to use the div element instead.”

The `<div>` is a **semantically neutral element**, the `<section>` element is not.
Welcome to the award-winning digital edition of the diary of William Godwin (1756-1836). Godwin’s diary consists of 32 octavo notebooks. The first entry is for 6 April 1788 and the final entry is for 26 March 1836, shortly before he died.
Exercise 3: Creating the `<body>` of index.html

Structure your content into

- a `<header>` containing
  - a headline with the title of the project
  - a further headline with the subtitle

- a `<section>` containing
  - a headline for the welcoming page
  - a paragraph with the description of the status of your project

Open it in your browser!

Use sample text of exercises_texts.txt
# More elements: images

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;figure&gt;</code></td>
<td>specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.</td>
</tr>
<tr>
<td><code>&lt;img&gt;</code></td>
<td>defines an image in an HTML page, has two required attributes: <code>@src</code> and <code>@alt</code>. Can be used without figure.</td>
</tr>
<tr>
<td><code>@src</code></td>
<td>specifies the URL for an image or path</td>
</tr>
<tr>
<td><code>@alt</code></td>
<td>specifies alternate text for an image</td>
</tr>
<tr>
<td><code>@width</code></td>
<td>specifies size of an image in pixel (if set one the other adapts)</td>
</tr>
<tr>
<td><code>@height</code></td>
<td>provides additional information, pops up when you hover over an image</td>
</tr>
<tr>
<td><code>@title</code></td>
<td>provides additional information, pops up when you hover over an image</td>
</tr>
<tr>
<td><code>&lt;figcaption&gt;</code></td>
<td>defines a caption for a <code>&lt;figure&gt;</code> element</td>
</tr>
</tbody>
</table>

The `<img>` element can also be used alone. While `<figure>` is a block-level element, `<img>` is an Inline element.
Example: `<img> vs. <figure>`

**Option 1:**

```
<img src="/bag/img/about2.jpg" alt="Brief Franz Bretanos" width="232" height="280"/>
<p>Ein Brief Franz Bretanos</p>
```

**Option 2:**

```
<figure>
  <img src="/bag/img/about2.jpg" alt="Brief Franz Bretanos" width="232" />
  <figcaption>Ein Brief Franz Bretanos</figcaption>
</figure>
```
More elements: lists

- `<ul>` defines an unordered, bulleted list
  - `<li>` defines a list item, contained by `<ul>` and `<ol>`
- `<ol>` defines an ordered list. An ordered list can be numerical or alphabetical
  - `<li>` defines a list item, contained by `<ul>` and `<ol>`

### Unordered List

```html
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

- Coffee
- Tea
- Milk

### Ordered List

```html
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

1. Coffee
2. Tea
3. Milk
More elements: links

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;a&gt;</code></td>
<td>defines a hyperlink, which is used to link from one page to another</td>
</tr>
<tr>
<td><code>@href</code></td>
<td>specifies the URL of the page the link goes to</td>
</tr>
<tr>
<td></td>
<td>If e-mail: address value starts with &quot;mailto:... &quot;</td>
</tr>
</tbody>
</table>

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
Example: Building a navigation using `<ul>` and `<a>`

```html
<nav>
  <ul>
    <li><a href="http://gams.uni-graz.at/..context=fr">France</a></li>
    <li><a href="http://gams.uni-graz.at/..context=it">Italy</a></li>
    <li><a href="http://gams.uni-graz.at/..context=es">Spain</a></li>
    <li><a href="http://gams.uni-graz.at/..">Complete List</a></li>
    <li><a href="http://gams.uni-graz.at/..">Advanced search</a></li>
  </ul>
</nav>
```
Exercise 4: More <body> features

Add to your existing <body>

- a navigation <nav> containing Start, Edition, About and link these items to index.html, edition.html, about.html

- a <figure> below <h3> containing the photography of Stefan George: george.jpg (set size to 300x400px)

- a <footer> with three logos wrapped in a <div>: dixit.png, ide.png, zim.png (set height for all three of them to 60px) – use <img>

Open it in your browser!
## Text-level semantics: Inline Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;strong&gt;</code></td>
<td>represents strong importance, seriousness, or urgency for its contents</td>
</tr>
<tr>
<td><code>&lt;em&gt;</code></td>
<td>represents stress emphasis of its contents.</td>
</tr>
<tr>
<td><code>&lt;del&gt;</code></td>
<td>defines text that has been deleted from a document</td>
</tr>
<tr>
<td><code>&lt;ins&gt;</code></td>
<td>text that has been inserted into a document</td>
</tr>
<tr>
<td><code>&lt;sub&gt;</code></td>
<td>defines subscript text</td>
</tr>
<tr>
<td><code>&lt;sup&gt;</code></td>
<td>defines superscripted text</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;span&gt;</code></td>
<td>used to group inline-elements in a document — <strong>has no semantic meaning</strong> on its own, but can be useful when in combination with e.g. <code>@class</code>, <code>@lang</code></td>
</tr>
</tbody>
</table>
Example: Inline Elements

My favorite color is `<del>blue</del>` `<ins>red</ins>`! → My favorite color is **blue** **red**!

Emphasized text<br/>
Strong text → **Emphasized text**

Example for a `<sup>`superscript`</sup>` and a `<sub>`subscript`</sub>`!!! → Example for a `superscript` and a `subscript`!!!

This is `<span class="important">`dangerous`</span>`! → This is dangerous!
So called *global attributes* can be used on almost every HTML element.

@class specifies one or more classnames for an element. It is mostly used to point to a class in a style sheet. There is no standard set of class names.

```html
<p class="sad_story">
  <span class="name person">Peter</span> met a <span class="person">woman</span>.

  Her name was <span class="name person">Linda</span>. They decided to get married in <span class="name place">New York</span>.

  In <span class="date">2015</span> they broke up and <span class="name person">Peter</span> said:

  <span class="song">No <span class="person">woman</span> no cry.</span>
</p>
```
### Global Attributes: @id

<table>
<thead>
<tr>
<th><strong>@id</strong></th>
<th>provides an <strong>unique</strong> identifier for an element within the document. Most used in CSS code as a hook for styling purposes, or by JavaScript code to make changes or add behavior to the element by referencing its unique id.</th>
</tr>
</thead>
</table>
| **"id"** | Naming rules:  
  • Must contain at least one character  
  • Must not contain any space characters |

```
<div id="transcription_column">Edited text</div>
<div id="facsimile_column">Images</div>
```

```
<div id="transcription_column">Edited text</div>
<div id="transcription_column">Normalized text</div>
<div id="facsimile_column">Images</div>
```
Summary: @class vs. @id

- @id and @class are global attributes
- @id is unique to the specific element - classes can be used across several elements
- Multiple classnames can be assigned to one element
- @id can appear only once in a document
- Elements can even have both @id and @class at the same time

→ @class is for generic purpose, for grouping elements under the same label!
→ @id is for unique identification purpose!

It is recommended to use values that are as semantically meaningful as possible to indicate to a human who reads it what that element’s purpose or meaning is, rather than how it looks.

Within the elements <span> and <div> @class and @id are often used to group and structure a document for styling purposes.
### Global Attributes: more

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@lang</td>
<td>Specifies the language being used for the element. Languages are indicated with specific codes. You can find a list of the ISO language codes on <a href="http://www.w3schools.com/tags/ref_language_codes.asp">http://www.w3schools.com/tags/ref_language_codes.asp</a></td>
</tr>
<tr>
<td>@title</td>
<td>Specifies extra information about an element, appears when mouseover.</td>
</tr>
<tr>
<td>@style</td>
<td>Specifies an inline CSS style for an element containing one or more CSS properties and values separated by semicolons, overrides any style set globally – is not recommended</td>
</tr>
</tbody>
</table>

```html
<p lang="it" title="Popular Italian proverb" style="color:blue;font-weight:bold">Morto un papa se ne fa un altro.</p>
```
Exercise 5: Going deeper into the text

Download the two html templates from the Dropbox and save them in your website-folder as edition.html and about.html.

about.html

• Markup places, names and dates with `<span>` using `@class` with the values: place, name (for persons), date

• Set geoNames references for places – links to be found in `exercises_texts.txt`

• Enhance the contact information with link and e-mail address

• Use `<em>` and `<strong>` in this sentence

  “George rejected any attempts to use it for mundane political purposes, especially National Socialism.”

Open the document in your browser!
Final exercise: The edition

dition.html

Mark-up

- Pages and verses using `<div>`
- Linebreaks `<br/>`
- Headlines, assign them if necessary `@class` (e.g. for colors)
- Colored text parts

Where pageturns, insert images using `<img>`, set `@width` to 485
Thank you!
• W3C: http://www.w3.org/TR/html5/
  (Markup Validation: http://validator.w3.org/)

• W3Schools: http://www.w3schools.com/html/