

HTML Table

- To define a table us the `<table>` tag
 - By default borders are not visible
 - Using CSS to see borders
- Tags
 - `<tr> </tr>` → defines a row
 - `<td></td>` → defines a data element
 - `<th></th>` → defines a header data element
 - `<caption> </caption>`
 - Must be inserted immediate after the `<table>` tag
- **Example:** TableNoBorders.html
- **Example:** TableWithBorders.html

Other HTML Elements

- `<div>`
 - Defines areas in your document
- `<script>`
 - Allow us to include JavaScript

HTML Tables

- `<table>`, `<thead>`, `<tfoot>`, and `<tbody>`
- `<tbody>` → Groups the table content
- `<thead>` → table header
 - Define what each column contains
- `<tfoot>` → table footer
- Allows
 - Scrolling table body independently of the header and footer
 - For large tables it allows the printing of several pages where each has a header and footer
- **Example:** Tables.html
 - Notice use of CSS rather than `border="1"`

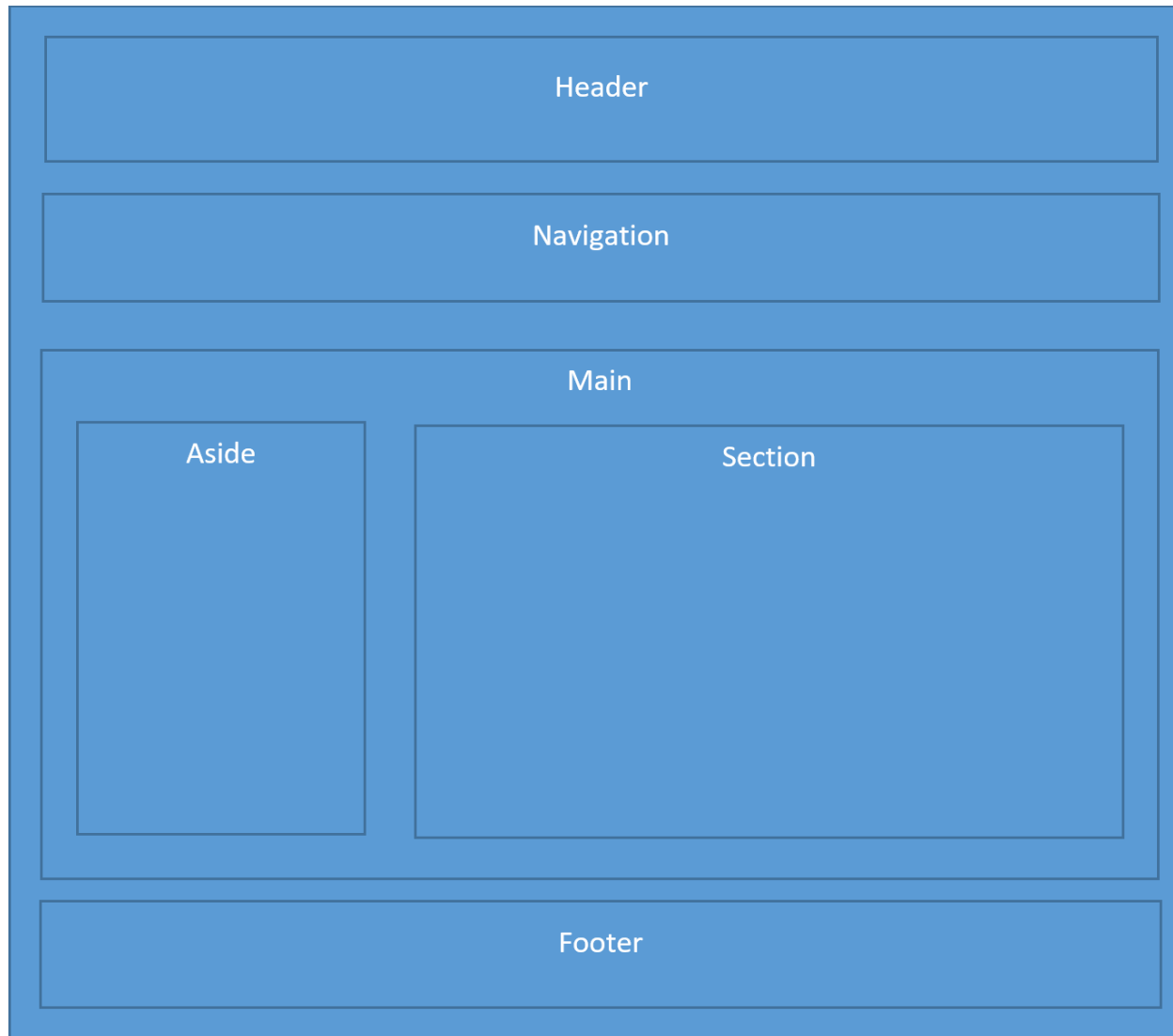
HTML Elements

- `<div>`
 - Generic container
- `<main>`
 - Contains central topic of the document
- `<nav>`
 - Define a section with navigation links
 - There can be several of them in a document
- `<section>`
 - Use to separate contents or to generate blocks to organize main content
- `<aside>`
 - Information related to main content (e.g., references)
- `<article>`
 - Independent item (e.g., magazine article, blog entry)
 - Intended to be independently distributable

HTML Elements

- `<header>`
 - header
 - `<article>`, `<section>`, `<nav>` can have their own header
- `<footer>`
 - footer
 - `<article>`, `<section>`, `<nav>` can have their own footer

HTML Elements



HTML Elements

- **Example:** HTML5Elements.html
- References:
 - <https://developer.mozilla.org/en-US/docs/Web/HTML>

HTML5 Video

- HTML5 <video> element allows embedding of video in a web page
- Example:

```
<video width="400" height="400" controls>  
    <source src="mystory.mp4" type="video/mp4">  
    HTML5 video element not supported by browser  
</video>
```

- You can add or replace controls with **autoplay**
- Several files can be listed and the browser will use the first format recognized
- Example:
http://www.w3schools.com/html/tryit.asp?filename=tryhtml5_video_all

iframe

- Format:

- `<iframe src="URL_TO_DISPLAY"></iframe>`

- Additional attributes

- width and height
 - To remove border use `style="border:none"`

- Playing youtube videos with iframe

- http://www.w3schools.com/html/html_youtube.asp

- You can customize the video interaction by adding options after the link

- `?controls=0` → player controls does not display
 - `?loop=1` → video will loop (forever)

- YouTube `<object>` and `<embed>` were deprecated

HTML5 Audio

- HTML5 <audio> element allows playing audio files
- Example:

```
<audio controls>  
    <source src="macarena.mp3" type="audio/mpeg">  
    HTML5 video element not supported by browser  
</audio>
```

- You can add or replace controls with **autoplay**
- Several files can be listed and the browser will use the first format recognized
- Example:

http://www.w3schools.com/html/tryit.asp?filename=tryhtml5_audio_all

Display Values

- Display Values: block or inline
- Block element
 - Begins on new lines
 - Stretches to the left and right as far as possible
- Inline element
 - Does not start on a new line
 - Takes only as much space as necessary

Display Values

- Block elements examples
 - `<p>`, headings, lists, tables
- Inline elements
 - `<a>`, ``
- Block elements → may contain other block elements, inline elements and data. Some block elements may not contain other block elements
- Some elements must appear within block elements

CSS

- CSS → Cascading Style Sheets
- Official W3C standard for controlling presentation
- Style Sheets
 - Text file with rules. It includes no html
 - Style sheets files use a .css extension
 - Allows you to apply typographic styles (font size, line spacing, etc.)
 - Allows you to apply spacing instructions
 - Allows you to have page layout control
 - Smaller html files by avoiding redundancy in style specification
 - Easy update a collection of pages by updating only a single file
 - **Example:** ExternalFile.css
- Why CSS?
 - <http://www.csszengarden.com/>

CSS

- Rule → Basic element of a style sheet
- Rule → Describes the formatting associated with a page element
- Rule format

selector declaration

- ***selector*** → identifies what should be styled in a web document (e.g., h1, p)
- ***declaration*** → what and how that portion of the web document should be modified

CSS

- declaration → consists of *property: value* pair(s) enclosed in { }
- Examples:

```
h1 {color: green}
p {
    font-size: 2em;
    color: red;
}
```

- **Example:** ExternalFile.css
- Popular properties → color, font-family, font-size, text-decoration
- CSS Properties
 - <http://www.w3schools.com/cssref/>

Types of Style Sheets

- **Inline**

- Style information applied to specific tag (e.g., <p style=...”)
- Avoid if possible

- **Internal**

- Using the <style> tag in the header of the html document
- Convenient to provide own style to a specific page
- **Example:** InternalStyle.html

- **External**

- External style sheet which web pages link to (see <link> tag)
- Preferred approach
- **Example:** ExternalFile.html and ExternalFile.css

CSS Validator

- <http://jigsaw.w3.org/css-validator/>
- Notice you have three choices
 - By URI
 - By File Upload
 - By direct input
- Look at the “More Options” section

Colors

- You can specify colors using one of the following predefined colors (e.g., ***yellow, white, red, purple, blue***).
- You can specify a color by indicating the red, green and blue components. For example, all the following are equivalent:
 - red
 - rgb(255,0,0)
 - #ff0000
- CRGBA adds alpha channel that allows us to specify the opacity for a color
 - RGBA color specification – rgba(RED, GREEN, BLUE, ALPHA)
 - Alpha value of 0 (transparent)
 - Alpha value of 1.0 (opaque)
 - **Example:** rgba(125, 125, 125, 0.5);
- References: http://www.w3schools.com/css/css3_colors.asp

Setting Size

- Length units - centimeters (cm), millimeters (mm), etc.
- Whitespace cannot appear between number and the unit,
- Two types of length units:
 - Relative (e.g., em)
 - Absolute (e.g., cm, pc)
- Relative
 - ex → height of the lowercase x in the font
 - em
 - Relative to the size of the current font
 - 3em → 3 times size of current font
 - <http://www.sitepoint.com/power-em-units-css/>
- Preferred → relative and percentages
- http://www.w3schools.com/cssref/css_units.asp

CSS Comments

- **Comments** → Surrounded by `/* */`
 - You can use them to disable styles
- **Inheritance of Properties** → A child element inherits the same properties of its parent element (unless otherwise indicated by the CSS specification)

Kinds of Selectors

- **Type Selectors** → Those based on the name of an HTML tag (e.g., p, table, etc.)
 - p { color: red; }
- **Pseudo-classes** → attached to selectors to specify a state. Four popular pseudo-classes are:
 - a:link → initial color of a link
 - a:visited → color for a visited link
 - a:hover → color when mouse hover over link
 - a:active → color during the clicking of the link
 - **Order is important (LoVeHAte)**
- **Example:** Selectors.html, Selectors.css

Kinds of Selectors

- **Class Selectors** → Allow us to apply the same rules to many elements
 - Use when you need to apply a style many times in your document
 - Created with a period (also known as full stop)
 - **Example:** Selectors.html, Selectors.css
- **ID Selectors** → Similar to class selectors but appear only once in the document
 - Used when you need to apply a style only once in your document
 - Created using #
 - **Example:** Selectors.html, Selectors.css

Kinds of Selectors

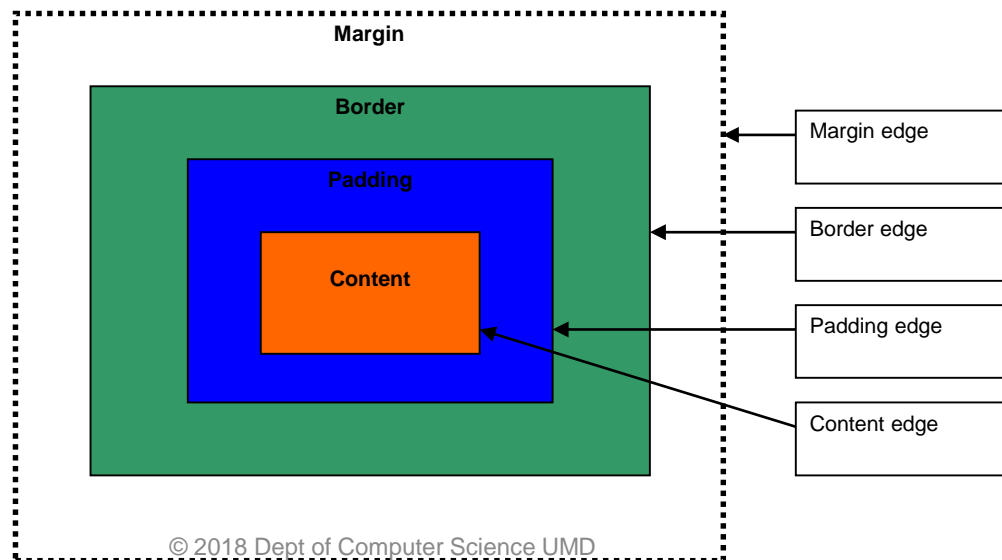
- **Descendant selector**
 - Override the type, class and id selector styles
 - Typically with two elements where the second is a descendant
 - `li a {font-size: 2em}`
 - `#header h2 {font-weight: normal;}`
 - `#content h2 {font-weight: bold;}`
 - **Example:** `DescendantSelector.html`, `DescendantSelector.css`
- **Universal selector**
 - Applies to all elements
 - **Example:** `* {font-family: arial, Helvetica; }`
- **Pseudo-elements**
 - Allows you to style an item that is not marked by elements
 - Two pseudo-elements → `:first-letter`, and `:first-line`
 - **Example:** `PseudoElements.html`, `PseudoElements.css`

Selector Examples

- **a[title] { }**
 - A link with a title attribute
- **.myPrefStyle{ }**
 - Any elements with the class myPrefStyle (same class name can appear in many elements)
- **#mySchedule { }**
 - An element with id mySchedule (only one element on the page)
- **div.myPrefStyle{ }**
 - A div with the class myPrefStyle
- **div#mySchedule{ }**
 - A div with the id mySchedule
- **div table { }**
 - A table with a div ancestor
- **input[type = “submit”] { }**
 - An input with a type attribute that has the value submit

Box Model

- CSS box model → box around an HTML element with the following components: margin, border, padding, content
- Box model allow us to define space between different elements
- Four sections can be identified:
 - Content → what lies in the middle of the box (text, image, etc.)
 - Padding → surrounds the content
 - Border → surrounds the padding and represents the box border
 - Margin → surrounds the border



Box Model (Padding/Margin)

- **Example:** BoxModel.html, BoxModel.css
- You can adjust individual padding/margin properties by using:
 - padding-bottom, padding-left, padding-top, padding-right
 - margin-bottom, margin-left, margin-top, margin-right
- The margins, borders, padding, and background properties of block elements (e.g., body, p, etc.) are not passed to their child block-level elements

Shorthand Property

- Shorthand Property → allows you to specify several properties by using only one
- If you don't specify one of the properties a default value will be used
- Commonly used shorthand properties
 - background
 - font
 - list-style
 - margin
 - border
 - padding
- **Example:** ShorthandProperties.html, ShorthandProperties.css

Background

- Background properties
 - background-color
 - background-image → location of image
 - background-repeat → how image repeats
 - Possible values for repetition
 - no-repeat → one instance of the image
 - repeat → tile
 - repeat -y → repeats on the y-axis
 - repeat -x → repeats on the x-axis
 - background-attachment → indicates attachment of the image to the containing element. Possible values are:
 - scroll → default value
 - fixed → image will stay stationary as the scrolling takes place
 - background-position → Possible values (combination of them are valid)
 - top, bottom, center, left, right
- Background images can be used in elements other than body (e.g., div)
- There is a shorthand property for backgrounds
- **Example:** Background.html, Background.css, BackgroundStretch.html, BackgroundStretch.css

Generic Font Families

- sans-serif → (e.g., Verdana, Helvetica, Arial)
- serif → (e.g., Times New Roman, Georgia, Times)
- monospace → (e.g., Courier, MS Courier New)
- cursive → (e.g., Lucida Handwriting)
- fantasy → (e.g., Whimsey, Comic Sans)
- Let's see the effect using the Background.html example

References

- HTML5 for Masterminds, 3rd Edition, ISBN CS: 978-1543040319