Cascading Style Sheets (CSS)

References

- W3Schools CSS Tutorial
- W3Schools CSS Reference

Essentials

- **Cascading style sheets (CSS)** are used to style your webpage.
    - They can also add some additional functionality to your page.
- CSS can be inserted 3 ways,
    - **external** CSS in a separate .css file
    - **internal** CSS in <style> tags in the <head>
    - **inline** CSS using the 'style' attribute
- Cascading refers to the fact that styles can override others
    - internal styles will override external styles
    - inline styles will override internal and external styles
- HTML template with CSS:

```
<!DOCTYPE html>
<html>
<head>
  <title>Template Page</title>
  <!-- optional: external stylesheet
       will show error if file doesn't exist -->
  <link rel="stylesheet" type="text/css" href="mystyle.css">
  <style>
    /* comment: internal CSS goes here */
    body {
      background-color: lightblue;
    }
  </style>
</head>
<body>
  <!-- inline CSS uses the 'style' attribute -->
  <h1 style='text-align:center;'> CSS Template </h1>
  <p> Hello CSS! </p>
</body>
</html>
```

Selectors & Pseudos

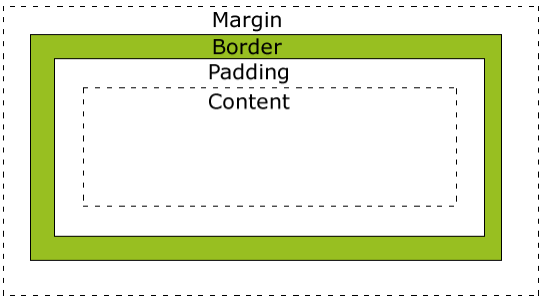
- You can select elements by id, className, or tagName
    - Use tag name to apply the style to all of those elements
    - Use id to style a single element uniquely.
    - Use class to style a group of elements the same way.
- Selectors
    - The pound (#) is the id selector.
    - The dot (.) is the class selector.
    - You can combine selectors
- Pseudo-classes
    - Special conditions are identified using pseudo-classes
    - The colon (:) is the pseudo-class selector

```
<html>
<head>
<style>
  p {
    /* apply these styles to all p elements */
  }
  p, h1{
    /* apply these styles to all p AND h1 elements
  }
  #no1 {
    /* apply these styles to THE element with id=no1 */
  }
  p.type1 {
    /* apply these styles to ALL p elements with class=type1 */
    /* omit the p to apply a class to different element types */
  }
  #div2 p {
    /* apply these styles to all p elements INSIDE of element with id=div2 */
  }
  p:hover {
    /* apply these styles to the p with the mouse pointer over it */
  }
</style>
<body>

  <h1> Heading </h1>

  <div id='div1'>
    <p id='no1' class='type1'> paragraph 1 </p>
    <p> paragraph 2 </p>
    <p class='type1'> paragraph 3 </p>
    <p> paragraph 4 </p>
    <p class='type1'> paragraph 5 </p>
  </div>

  <div id='div2'>
    <p> The p in div2 </p>
  </div>

</body>
</html>
```

Styling elements

- See CSS Tutorial:
  - 'Introduction' to 'Tables'
- CSS can be used to:
  - set background color, img
  - set text, fonts, and text-alignment
  - style links, lists, and tables
  - and more...
- CSS units:
  - Font sizes should be set using the **em** unit.
  - 1em is the default font size (1em = 16px), so 2em would be twice that, etc.

Box model & dimensions



- The CSS box model allows you to add
  - padding - space between content and border
  - border
  - margin - space between border and other elements
- Box model components are typically set using the **px** unit (pixels), but can be set using **em** also.
- CSS dimensions:
  - height / width
  - min-height / min-width
  - max-height / max-width
- Dimensions can be:
  - automatically applied - block elements are 100% and inline elements wrap to content.
  - fixed width - set using **px**
  - relative width - set using **%** (percent of container)

Display, positioning, alignment

- CSS displays
  - none — don't show (takes up no space)
  - hidden — don't show (still takes up space)
  - block — line break before / after (takes up full width)
  - inline — no line breaks
- CSS positioning:
  - static — default - element is in the normal flow of the page
  - fixed — fixed position relative to browser window
  - relative — position relative to normal (static) position
  - absolute — position relative to page (or non-static containing element)
- CSS floating
  - pushes an element to the **left** or **right** to allow other elements to wrap around.
  - floated elements will go next to each other if there is room, or else they will wrap to the next line.
  - use **clear** to stop floating
- Alignment:
  - to center-align block elements use **margin: 0 auto;**

Inspecting

- Recall that you can inspect HTML in Chrome by using the Chrome Dev Tools
  - Right-click → Inspect Element
- In the panel on the right, you can inspect the CSS:
  - Use the elements panel on the left to select the element and the hover over the component of the box model on the right to highlight it on the web page.