HTML5 and CSS3

ICT 580

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Lesson 4

Introduction to CSS

Lesson Outcomes

By the end of this lesson, you will be able to:

- Identify the proper syntax for coding with CSS

- Demonstrate understanding of the rules when creating a CSS style sheet

- Apply specific styles to tables, forms and text in an HTML document

What is CSS?

- CSS is an acronym for Cascading Style Sheet

- CSS is used to define how your web page will look

- A CSS style declares a property and its value

How HTML works with CSS

CSS styles can be added to a web page by:

- **Inline style:** Style can be attached to any HTML element/tag by the using the HTML attribute *style=""*

- **Internal style:** Styles can be attached in the head of a HTML document using the *<style>* tag

- **External Style:** Styles can be attached by linking to an external CSS document using the *<link>* tag

Cascading Styles

If there is more than one style declared for a tag the following takes precedence:

1. Inline styles

2. External or internal stylesheets – whichever stylesheet is read will be shown

3. Browser default

CSS Basic Syntax

- CSS is made up of the **property** that you want to style and the **value(s)** you want to give it

- The property and the value are separated by a colon

color: turquoise

Property   **Value**

CSS Declaration

Styling text – color property

- The color property refers to the color of text

- Color values can be represented using:
  - Predefined/Cross-browser color names (silver)
  - Hexadecimal colors: *#ff0000*;
  - RGB colors: *rgb(red, green, blue)*
  - RGBA colors: *rgba(red, green, blue, alpha)*
  - HSL colors: *hsl(hue, saturation, lightness)*
  - HSLA colors: *hsla(hue, saturation, lightness, alpha)*

color: silver

Property   **Value**

CSS Declaration

color: #00C3CD

Property   **Value**

CSS Declaration

Styling text – font-family property

- The font-family property refers to the type of font to use for the text

- Fonts can be defined as:
  - A generic family such as serif vs sans-serif
  - A specific font family such as Times New Roman or Arial

font-family: sans-serif

Property   Value

CSS Declaration

font-family: Arial

Property   Value

CSS Declaration

Styling text – font-size property

- The font-size property specifies how large the text appears

- Font-size values can be a variety of measurement types for example
  - 1 px (pixel) = a dot on the screen
  - 1 em = the browser default font size (usually 16px) or whatever the user has set their base font size to be

font-size: 16px

Property .... Value

CSS Declaration

font-size: 1em

Property .... Value

CSS Declaration

Styling text – font-weight property

- The font-weight property specifies the weight of the font, from normal to bold

font-weight: Normal

Property · · · · · · · · Value

CSS Declaration

font-weight: Bold

Property · · · · Value

CSS Declaration

Styling text – text-decoration property

- The text decoration property specifies added decorative elements –underlines, overlines, linethrough

text-decoration: underline

Property

Value

CSS Declaration
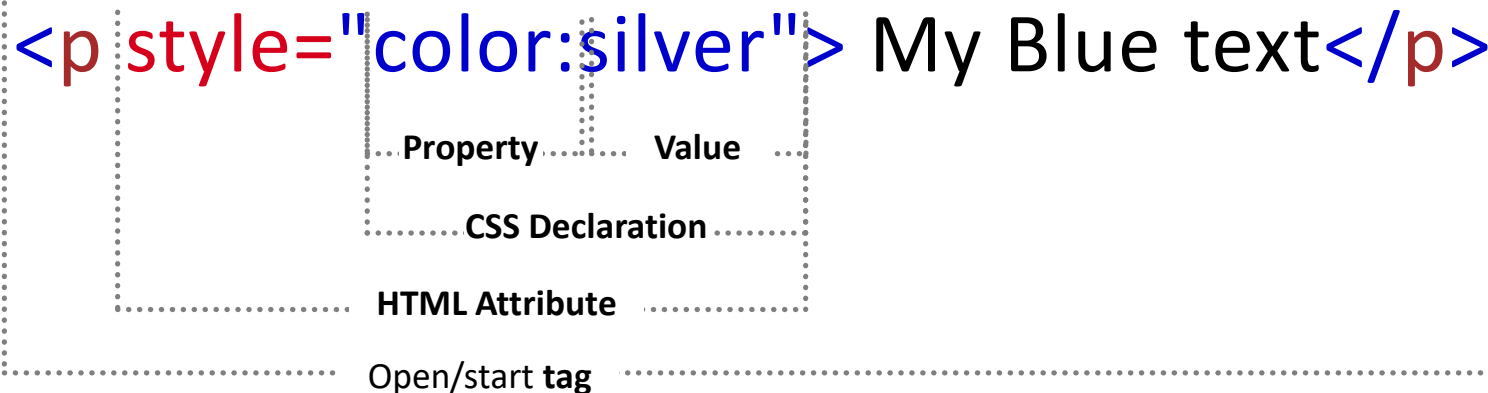
Styling text – list-style-type property

- The list-style-type property styles the type of bullet or numerical/alphabetical marker that you want to use for unordered or ordered lists

list-style-type: lower-alpha

Property   Value

CSS Declaration

Adding Inline Styles to HTML

- Inline styles are coded in the html tag using the HTML style attribute

- Inline styles will only affect a single element

```
<p style="color:silver"> My Blue text</p>
```

Property   Value

CSS Declaration

HTML Attribute

Open/start **tag**

CSS Syntax for internal and external stylesheets

- Internal and external stylesheets use **selectors** to identify what element on the web page is being targeted for styling.

- Declarations must be enclosed in curly brackets

```
p {
```
This is a selector. It identifies the HTML element to style

Nested declarations

```
color: red;

font-size: 16px;
```
Declaration of property/value pair
Each property and value must be separated by a colon
Each declaration must be separated by a semicolon

```
}
```

Element Selectors

- Element selectors use the **predefined HTML element names** to change that element's style

- Styling using an element selector will style **every** instance of that element unless overwritten by an alternate style

```
h1 {
        color: blue;
        font-size: 24px;
}
```

Nested declarations

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Adding Internal CSS to HTML

- Internal styles are coded in the **head** of a webpage using the HTML style tag

- Internal styles will style **every** instance of the element on the page unless overwritten by an alternate style

```
<style>
        h1 {
            color: blue;
            font-size: 24px;
        }
</style>
```

Nested selector   Nested declarations

Styling links – a selector

- The **a** selector specifies and styles the **link** element

```
a {
    color: blue;
    text-decoration: none;
}
```

Styling links – pseudo selectors

- Links can be styled differently depending on the state they are in by using pseudo selectors
  - :link (normal state)
  - :hover (when a mouse rolls over it)
  - :active (a link when it is being clicked)
  - :visited (a link that has been clicked on)

```
a:link {                          a:hover {
    color: blue;                      color: lightblue;
    text-decoration: underline;       text-decoration: none;
}                                 }
```

Styling lists – ul and ol selectors

- The ul (unordered list) and ol (ordered list) selectors style how lists appear and which kind of markers if any are used to mark lists

```
ul {                                    ol {
    list-style-type: square;                list-style-type: lower-alpha;
    list-style-position: inside;            list-style-position: outside;
}
                                        }
```

External CSS stylesheets

- External stylesheets make it easy to have consistent styles across your entire site by using a CSS stylesheet that can be attached via the HTML link tag to each web page on the site

External CSS stylesheets - HTML

- The link tag must be placed within the **head** element with the following attributes declared:
    - rel (relationship to the HTML page)
    - type (type of document)
    - href (where the file can be found. Can be either absolute or relative)

```
<link rel="stylesheet" type="text/css" href="mystyle.css">
```

External CSS stylesheets – CSS

- You can create an external stylesheet using any text or HTML editor software and saving it as a **.css** file

```
@charset "UTF-8";
/* CSS Document */

h1 {
        color: blue;
        font-size: 24px;
}
```

CSS comments

- As with coding HTML documents you should use comments in your CSS stylesheets to help organize and explain what your stylesheet is doing

- The code for commenting in CSS uses slashes and stars. For example: /* My Comment */

```
/* General Styles */

p {
        font-size: 16px;
}
```

Basic graphic properties – width/height

- Width and height can be specified using measurements such as **px** or **%** (percentage) of the page or container. You can use **auto** as a value to have the browser calculate the value for you

- Other measurement units and values will be discussed later in the course

```
table {
  width: 600px;
}
```

Basic graphic properties – background-color

- The background-color property sets the color of the background

- As with the color property, the color value can be specified using a named value (**red**) or a Hexadecimal (#ff6347) as well as RGB, RGBA, HSL and HSLA

```
table {
  background-color: whitesmoke;

}
```

Basic graphic properties – border

- Border styles the width, style (solid, dotted etc.) and color of a container or table

- It is shorthand for border-width, border-style, border-color

```
td {
  border: 1px solid lightgrey;
}
```

Basic graphic properties – border-radius

- The border-radius property defines the curve of the corners of a container or button

- The value is specified using px

```
table {
  border-radius: 6px;
}
```

Basic graphic properties – border-collapse

- Border-collapse is specific to table borders

- Tables can have a border around each cell of the table, making it appear that the table has 2 borders

- To merge multiple borders, use the border-collapse property

```
table {
  border-collapse: collapse;
}
```

Basic spacing properties – margin

- Margin specifies the space outside a container
- The value measurement can be px, percentage and others
- You can specify each side separately
  - margin-top: value;
  - margin-right: value;
  - margin-bottom: value;
  - margin-left: value;

```
th {

   margin-top: 5px;

}
```

Basic spacing properties – margin

- The margin shorthand specifies the values in clockwise order starting at the top

```
th {

  margin: 5px 10px 5px 10px;

}
```

Basic spacing properties – padding

- Padding specifies the space inside a container
- The value measurement can be px, percentage and others
- You can specify each side separately
  - padding-top: value;
  - padding-right: value;
  - padding-bottom: value;
  - padding-left: value;

```
th {
  padding-right: 5px;
}
```

Basic spacing properties – padding

- The padding shorthand specifies the values in clockwise order starting at the top

```
tr {

  padding: 5px 10px 5px 10px;

}
```

Basic spacing properties – text-align

- The text-align property specifies how text is aligned in a container

```
td {
  text-align: center;
}
```

Styling tables – the table selector

- The table selector specifies the general appearance of the table

- You would use this selector to:
  - Specify the size of the entire table
  - Collapse the table borders
  - Specify styles that apply to the entire table

```
table {
  border-collapse: collapse;
}
```

Styling tables – th selector

- The th selector specifies the table heading

```css
th {
  color: white;
}
```

Styling tables – td selector

- The td selector specifies the style of the cells

```
td {
  font-size: 20px;
}
```

Styling tables – tr selector

- The tr selector specifies the style of the rows

```
tr {
  font-size: 20px;
}
```

Styling tables – :nth-child()

- The :nth-child(value or formula) selector lets you style a piece of an element based on its order in the element

- For example, you could specify every odd numbered row by attaching :nth-child(odd) to the tr selector

```
tr:nth-child(odd) {

  background-color: whitesmoke;

}
```

Styling tables – :hover pseudo selector

- The :hover state selector which can be applied to both the tr and td elements

```
tr:hover {
        background-color: lightgrey;
}
```

Grouping selectors together

- When you have multiple properties and values that are the same you can group them together using a comma

```
a:link, a:visited {
  color: red;
}
```

Styling forms

- The form selector will style the area that contains the form elements

form {

  background-color: whitesmoke;

}

Styling forms – styling elements that are inside another element

- To specify styles that only effect the element that is inside another element separate the elements using a space

```
form p {
  font-size: 12px;
}
```

Styling forms – input type selectors

- *There are many types of input selectors*
    - **input** – styles all input selectors
    - **input[type=text]** – styles only text fields
    - **input[type=password]** – styles only passwords fields
    - **input[type=number]** – styles only number fields
    - **input[type=button]** – styles only buttons
    - **input[type=submit]** – styles only submit button
    - **input[type=reset]** – styles only reset button

```
input[type=text] {
    padding: 5px;
}
```

Styling forms – select selector

- The **select** selector specifies styles for the select dropdown menu

```
select {
      height: 30px;
      width: 300px;
}
```

Styling forms – textarea selector

- The textarea selector styles an input field for multiple lines of text

```
textarea {
  height: 150px;
}
```

Styling forms – :focus pseudo selector

- The :focus pseudo selector declares styles for when the user has selected the input type and is typing in it or making a selection, etc.

- Use the :focus pseudo selector to help users keep track of where they are when filling out forms

```
input[type=text]:focus {

        border: 2px solid cornflowerblue;

}
```

Styling forms – input[type=submit] selector

- The input[type=submit] selector allows you to style the submit button

```
input[type=submit] {
  color: white;
  border-radius: 10px;
  background-color: cornflowerblue;
}
```

Styling forms – button selector

- The button selector lets you style buttons that use the button element

button {

  color: white;

  border-radius: 10px;

  background-color: cornflowerblue;

}

Styling the footer

- The footer selector lets you style elements that are in the footer container element

```
footer {
  background-color:cornflowerblue;
  color: white;
}
```

Styling the footer –alternate links styles

- To specify styles that only effect the element that is inside another element, separate the elements using a space

```css
footer a:link {
    color: lightcyan;
}
```

Cascading styles

Remember, styles cascade according to their selector (inline vs internal/external) and the last read style

If there is more than one style declared for a tag the following takes precedence:

1. Inline styles
2. External or internal stylesheets – whichever stylesheet is **read last** takes precedence
3. Browser default

CSS code validator

- It is a good practice to validate your code in a CSS validator

- Validating your code helps you ensure any small errors are caught, and if you are searching for a bug, it is a good way to find where the errors are

- *https://jigsaw.w3.org/css-validator/*

Review Question

What is the difference between an inline and an internal stylesheet?

Review Question

If both styles below are present which style will show?

```
<style>
  p {
     color: red;
  }
</style>


<p style="color:turquoise"> My paragraph
will be turquoise</p>
```

Review

In this class we discussed the following properties:

- color
- font-family
- font-size
- text-decoration
- list-style-type

- width
- height
- background-color
- border
- border-radius

- border-collapse
- margin
- padding
- text-align

Review

In this class we discussed the following selectors:

- h1
- p
- a
- a:link
- a:visited
- a:hover
- a:active
- Grouping

- selectors
- ul selector
- ol selector
- table
- th
- td
- tr
- :nth-child()

- form
- input
- button
- textarea
- :focus
- footer

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Explore on your own

Take a look at the cheat sheet for this class to see additional property values you may want to explore

Questions?