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CSC 443: Web Programming

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CSS for Styling

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The good, the bad and the... ugly!

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```
<p>  
<font face="Arial">Shashdot.</font>  
News for <b>nerds!!</b> You will <i>never</i>, <u>EVER</u>  
be  
<font size="+4" color="red">BORED</font> here!  
</p>
```

HTML

Slashdot. News for **nerds!!** You will never, EVER be **BORED** here!

output

- ❑ Tags such as b, i, u, and font are discouraged
- ❑ Why is this bad?

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Cascading Style Sheets (CSS)

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- ❑ Describes the appearance, layout, and presentation of information on a web page
 - ▣ HTML describes **the content** of the page
- ❑ Describes *how* information is to be displayed, not *what* is being displayed
- ❑ Can be embedded in HTML document or placed into separate .css file

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Basic CSS rule syntax

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```
selector {  
  property: value;  
  property: value;  
  ...  
  property: value;  
}
```

CSS

```
p {  
  font-family: sans-serif;  
  color: red;  
}
```

CSS

- A CSS file consists of one or more **rules**
- Each rule starts with a **selector**
- A selector specifies an HTML element(s) and then applies style **properties** to them
 - ▣ a selector of * selects all elements

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Attaching a CSS file <link>

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

HTML

```
<link href="style.css" type="text/css" rel="stylesheet" />  
<link href="http://www.google.com/uds/css/gsearch.css"  
rel="stylesheet" type="text/css" />
```

HTML

- A page can link to multiple style sheet files
 - ▣ In case of a conflict (two sheets define a style for the same HTML element), the latter sheet's properties will be used

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Embedding style sheets: <style>

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```
<head>
<style type="text/css">
p { font-family: sans-serif; color: red; }
h2 { background-color: yellow; }
</style>
</head>
```

HTML

- ❑ CSS code can be embedded within the head of an HTML page
- ❑ *Bad style* and should be avoided when possible (why?)

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Inline styles: the style attribute

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```
<p style="font-family: sans-serif; color: red;">
This is a paragraph</p>
```

HTML

This is a paragraph

output

- ❑ Higher precedence than embedded or linked styles
- ❑ Used for one-time overrides and styling a particular element
- ❑ *Bad style* and should be avoided when possible (why?)

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CSS properties for colors

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```
p {  
  color: red;  
  background-color: yellow;  
}
```

CSS

This paragraph uses the style above

output

property	description
color	color of the element's text
background-color	color that will appear behind the element

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Specifying colors

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```
p { color: red; }  
h2 { color: rgb(128, 0, 196); }  
h4 { color: #FF8800; }
```

CSS

This paragraph uses the first style above

This h2 uses the second style above.

This h4 uses the third style above.

output

- color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white (white), yellow
- RGB codes: red, green, and blue values from 0 (none) to 255 (full)
- hex codes: RGB values in base-16 from 00 (0, none) to FF (255, full)

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Grouping styles

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```
p, h1, h2 {  
  color: green;  
}  
h2 {  
  background-color: yellow;  
}
```

CSS

This paragraph uses the above style.

This h2 uses the above styles.

output

- ❑ A style can select multiple elements separated by commas
- ❑ The individual elements can also have their own styles

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CSS comments `/*...*/`

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```
/* This is a comment.  
It can span many lines in the CSS file. */  
p {  
  color: red; background-color: aqua;  
}
```

CSS

- ❑ CSS (like HTML) is usually not commented as rigorously as programming languages such as Java
- ❑ The `//` single-line comment style is NOT supported in CSS
- ❑ The `<!-- ... -->` HTML comment style is also NOT supported in CSS

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CSS properties for fonts

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property	description
font-family	which font will be used
font-size	how large the letters will be drawn
font-style	used to enable/disable italic style
font-weight	used to enable/disable bold style

[Complete list of font properties](http://www.w3schools.com/css/css_reference.asp#font) (http://www.w3schools.com/css/css_reference.asp#font)

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font-family

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```
p {  
  font-family: Georgia;  
}  
h2 {  
  font-family: "Courier New";  
}
```

CSS

This paragraph uses the first style above.

This h2 uses the second style above.

output

- Enclose multi-word font names in quotes

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More about font-family

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```
p {  
  font-family: Garamond, "Times New Roman", serif;  
}
```

CSS

This paragraph uses the above style.

output

- We can specify multiple fonts from highest to lowest priority
- Generic font names:
 - ▣ serif, sans-serif, cursive, fantasy, monospace
- If the first font is not found on the user's computer, the next is tried
- Placing a generic font name at the end of your font-family value, ensures that every computer will use a valid font

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font-size

16

```
p {  
  font-size: 24pt;  
}
```

CSS

This paragraph uses the style above.

output

- units: pixels (px) vs. point (pt) vs. m-size (em)
16px, 16pt, 1.16em
- vague font sizes: xx-small, x-small, small, medium, large, x-large, XX-large, smaller, larger
- percentage font sizes, e.g.: 90%, 120%

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font-size

17

```
p {  
    font-size: 24pt;  
}
```

CSS

This paragraph uses the style above.

output

- pt specifies number of point, where a point is 1/72 of an inch onscreen
- px specifies a number of pixels on the screen
- em specifies number of m-widths, where 1 em is equal to the font's current size

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font-weight, font-style

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```
p {  
    font-weight: bold;  
    font-style: italic;  
}
```

CSS

This paragraph uses the style above.

output

- Either of the above can be set to normal to turn them off (e.g. headings)

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CSS properties for text

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property	description
text-align	alignment of text within its element
text-decoration	decorations such as underlining
line-height, word-spacing, letter-spacing	gaps between the various portions of the text
text-indent	indents the first letter of each paragraph

[Complete list of text properties](http://www.w3schools.com/css/css_reference.asp#text) (http://www.w3schools.com/css/css_reference.asp#text)

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text-align

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```
blockquote { text-align: justify; }  
h2 { text-align: center; }
```

CSS

The Gollum's Quote

We wants it, we needs it. Must have the precious. They stole it from us.
Sneaky little hobbitses. Wicked, tricky, false!

output

- **text-align** can be left, right, center, or justify

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text-align

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`<h2>The Gollum's Quote</h2>`

`<blockquote>We wants it, we needs it. Must have the precious. They stole it from us. Sneaky little hobbitses. Wicked, tricky, false! We wants it, we needs it. Must have the precious. They stole it from us. Sneaky little hobbitses. Wicked, tricky, false!</blockquote>`

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text-decoration

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```
p {  
  text-decoration: underline;  
}
```

CSS

This paragraph uses the style above.

output

- can also be overline, ~~line-through~~, blink, or none
- effects can be combined:

```
text-decoration: overline underline;
```

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The list-style-type property

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```
ol { list-style-type: lower-roman; }
```

CSS

□ Possible values:

- i. none : No marker
- ii. disc (default), circle, square
- iii. Decimal: 1, 2, 3, etc.
- iv. decimal-leading-zero: 01, 02, 03, etc.
- v. lower-roman: i, ii, iii, iv, v, etc.
- vi. upper-roman: I, II, III, IV, V, etc.
- vii. lower-alpha: a, b, c, d, e, etc.
- viii. upper-alpha: A, B, C, D, E, etc.
- x. lower-greek: alpha, beta, gamma, etc.
- others: hebrew, armenian, georgian, cjk-ideographic, hiragana...

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Body styles

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

CSS

- Applies a style to the entire body of your page
- Saves you from manually applying a style to each element

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Cascading Style Sheets

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- Properties of an element cascade together in this order:
 - ▣ browser's default styles
 - ▣ external style sheet files (in a <link> tag)
 - ▣ internal style sheets (inside a <style> tag in the page's header)
 - ▣ inline style (the style attribute of the HTML element)

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Inheriting styles

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```
body { font-family: sans-serif; background-color: yellow; }
p { color: red; background-color: aqua; }
a { text-decoration: underline; }
h2 { font-weight: bold; text-align: center; }
```

CSS

This is a heading

A styled paragraph. [Previous slides](#) are available on the website.

- A bulleted list

output

- when multiple styles apply to an element, they are inherited
- a more tightly matching rule can override a more general inherited rule

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Styles that conflict

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```
p, h1, h2 { color: blue; font-style: italic; }  
h2 { color: red; background-color: yellow; }
```

CSS

This paragraph uses the first style above.

This heading uses both styles above.

output

- when two styles set conflicting values for the same property, the latter style takes precedence

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W3C CSS Validator

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```
<p>  
<a href="http://jigsaw.w3.org/css-  
validator/check/referer">  
</a>  
</p>
```

CSS



output

- jigsaw.w3.org/css-validator/
- checks your CSS to make sure it meets the official CSS specifications

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CSS properties for backgrounds

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property	description
background-color	color to fill background
background-image	image to place in background
background-position	placement of bg image within element
background-repeat	whether/how bg image should be repeated
background-attachment	whether bg image scrolls with page
background	shorthand to set all background properties

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background-image

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```
body {  
  background-image: url("images/draft.jpg");  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- background image/color fills the element's content area

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background-repeat

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```
body {  
  background-image: url("images/draft.jpg");  
  background-repeat: repeat-x;  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- can be repeat (default), repeat-x, repeat-y, or no-repeat

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background-position

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```
body {  
  background-image: url("images/draft.jpg");  
  background-repeat: no-repeat;  
  background-position: 370px 20px;  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- value consists of two tokens, each of which can be top, left, right, bottom, center, a percentage, or a length value in px, pt, etc.
- value can be negative to shift left/up by a given amount

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Aside: Favorites icon ("favicon")

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```
<link href="filename" type="MIME type" rel="shortcut icon" />
```

HTML

```
<link href="yahoo.gif" type="image/gif" rel="shortcut icon" />
```

HTML



- The link tag, placed in the HTML page's head section, can specify an icon
 - ▣ this icon will be placed in the browser title bar and bookmark/favorite