

CASCADING STYLE SHEETS (CSS)

Overview

2

- Basic CSS
- CSS Properties
- More CSS Syntax

3

Basic CSS

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

4

```
<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

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

output

- Tags such as **b**, **i**, **u**, and **font** are discouraged in strict XHTML
- Why is this bad?

Cascading Style Sheets (CSS)

5

- 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

Basic CSS rule syntax

6

```
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

Aside: Favorites icon ("favicon")

7

```
<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

Attaching a CSS file <link>

8

```
<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

Embedding style sheets: <style>

9

```
<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?)

Inline styles: the style attribute

10

```
<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?)

Cascading Style Sheets

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

W3C CSS Validator

12

```
<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

13

CSS Properties

CSS properties for colors

14

```
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

Specifying colors

15

```
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)

Grouping styles

16

```
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

CSS comments `/*...*/`

17

```
/* 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

CSS properties for fonts

18

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_font.asp) (http://www.w3schools.com/css/css_font.asp)

font-family

19

```
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

More about font-family

20

```
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

font-size

21

```
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%**

font-size

22

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

CSS

This paragraph uses the style above.

output

- **pt** specifies a number of points, 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

font-weight, font-style

23

```
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

CSS properties for text

24

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_text.asp) (http://www.w3schools.com/css/css_text.asp)

text-align

25

```
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



text-decoration

26

```
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;
```

The list-style-type property

27

```
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...

Body styles

28

```
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

Inheriting styles

29

```
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

Styles that conflict

30

```
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

CSS properties for backgrounds

31

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

background-image

32

```
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

background-repeat

33

```
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

background-position

34

```
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

35

More CSS Syntax

XHTML id attribute

36

```
<p>Coding Horror! Coding Horror!</p>  
<p id="mission">Our mission is to combine programming and  
<q>human</q> factors with geekiness!</p>
```

HTML

Coding Horror! Coding Horror!

Our mission is to combine programming and “human” factors with geekiness!

output

- A unique ID for an element on a page
- Each ID must be unique; can only be used once in the page



Linking to sections of a web page

37

```
<p>Visit <a href=
"http://www.textpad.com/download/index.html#downloads">
textpad.com</a> to get the TextPad editor.</p>
<p><a href="#mission">View our Mission Statement</a></p>
```

HTML

Visit [textpad.com](http://www.textpad.com) to get the TextPad editor.

[View our Mission Statement](#)

output

- Link target can include an ID at the end, preceded by a #
- Browser will load that page and scroll to element with given ID

CSS ID selectors

38

```
#mission {  
font-style: italic;  
font-family: "Garamond", "Century Gothic", serif;  
}
```

CSS

Coding Horror! Coding Horror!

Our mission is to combine programming and “human” factors with geekiness!
output

- Applies style only to the paragraph that has the ID “mission”

HTML class attribute

39

```
<p class="shout">Coding Horror! Coding Horror!</p>
<p class="special">See our special deal on Droids!</p>

<p class="special">Today only!</p>
```

HTML

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output

- A way to group some elements and give a style to only that group
- Unlike an id, a class can be reused as much as you like on the page



CSS class selectors

40

```
.special { /* any element with class="special" */  
background-color: yellow;  
font-weight: bold;  
}  
p.shout { /* only p elements with class="shout" */  
color: red;  
font-family: cursive;  
}
```

CSS

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output



CSS class selectors

41

```
<p class="shout">Coding Horror! Coding Horror!</p>  
<p class="special">See our special deal on Droids!</p>  
<p class="special shout">Today only!</p>
```

HTML

Coding Horror! Coding Horror!

See our special deal on Droids!

Today only!

output



CSS pseudo-classes

42

```
a:link { color: #FF0000; } /* unvisited link */  
a:visited { color: #00FF00; } /* visited link */  
a:hover { color: #FF00FF; } /* mouse over link */
```

CSS

Buy Early Buy Often!

output

CSS pseudo-classes

43

class	description
:active	an activated or selected element
:focus	an element that has the keyboard focus
:hover	an element that has the mouse over it
:link	a link that has not been visited
:visited	a link that has already been visited
:first-letter	the first letter of text inside an element
:first-line	the first line of text inside an element
:first-child	an element that is the first one to appear inside another