



CS3220 Web and Internet Programming

CSS Basics

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CSS

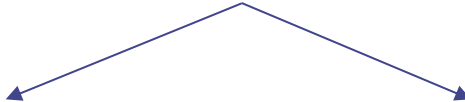
- ◆ Cascading Style Sheets
- ◆ A language to describe how HTML elements should be displayed

HTML The Old Way

Structural
Element




Presentation
Information



```
<table border="1" cellpadding="2">
```

- ◆ What if your website has 100 tables?
- ◆ What if you want to change the look of all the tables?
- ◆ What if you want the tables to be displayed differently on mobile devices?

Separate Different Aspects of a Web Page



◆ Content	→	Text, Images, etc.
◆ Structure	→	HTML
◆ Presentation	→	CSS
◆ Procedure	→	JavaScript

The Benefits of CSS

- ◆ It's much easier to create and maintain a consistent style for a website
- ◆ It's much easier to adapt the presentation of a website on different media/devices
- ◆ Smaller documents lead to faster download and better user experience

A Simple CSS Example

◆ HTML

```
<p>This is a paragraph.</p>
```

◆ CSS Ruleset

```
p {color: red; font-size: 200%;}
```

Anatomy of a CSS Ruleset

Selector



p

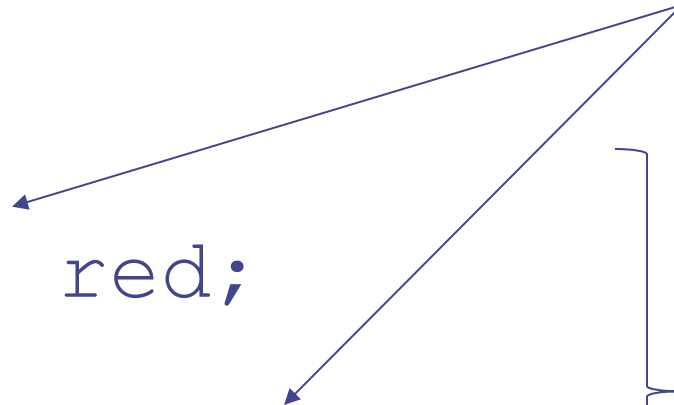
{

color: red;

font-size: 200%;

}

Declaration



Declaration
Block



Property



Property Value

Three Ways to Include CSS in a Web Page

- ◆ External stylesheet
- ◆ Internal stylesheet
- ◆ Inline style

—————→ Recommended

} Structure and presentation are not properly separated

Inline Style

```
<p style="color: red; font-size: 200%;">
```

Some text.

```
</p>
```

Internal and External Stylesheet

◆ Internal stylesheet

```
<style>  
  p {color: red; font-size: 200%;}  
</style>
```

◆ External stylesheet

```
<link rel="stylesheet" href="style.css">
```

Both <link> and <style> should be inside <head>.

Basic Selectors

◆ By element name

- `p`

◆ By ID

- `#p1`

◆ By Class

- `.blue`

◆ By attribute

- `[name]`
- `[type="text"]`

◆ Combining selectors

- `p.blue`
- `input[type="text"]`

◆ Multiple selectors

- `h1,h2,h3`
- `p,#p1,.blue`

◆ The Universal Selector

- `*`

What Happens When Multiple Style Rules Apply? ...

CSS

```
p {color: red;}  
.blue {color: blue;}
```

HTML

```
<p class="blue">A paragraph.</p>
```



Red or Blue??

... What Happens When Multiple Style Rules Apply?

- ◆ The *Cascading* part of *CSS* determines which rule "wins"
 - Importance
 - Specificity
 - Source order
- ◆ The easy way to check is to use the Developer Tools provide by browsers like Chrome and Firefox

Styling Text

- ◆ Font and color
- ◆ Indentation and alignment
- ◆ Transformation and decoration

Font Family

```
font-family: Helvetica, Arial, sans-serif;
```

```
font-family: "Courier New", Courier, monospace;
```

- ◆ `font-family` usually includes a list of fonts, and the browser will use the first available font on the list
- ◆ The general convention is to specify a preferred font, a [web-safe font](#), and a generic font

Generic Fonts

<code>serif</code>	Fonts that have serifs
<code>sans-serif</code>	Fonts that don't have serifs
<code>monospace</code>	Fonts where every character has the same width
<code>cursive</code>	Fonts that are intended to emulate handwriting
<code>fantasy</code>	Fonts that are intended to be decorative.

Font Size

Comments in CSS (only `/* */`, no `//`)



```
font-size: 16px; /* in pixels */
```

```
font-size: 12pt; /* in points */
```

```
font-size: 150%; /* as a percent of the parent  
                  element's font size */
```

```
font-size: 1.5em; /* same as 150% */
```

◆ And some pre-defined font sizes, e.g. small, medium, large

Common Units of Measure

◆ px: pixels

◆ pt: points; one point is 1/72 of an inch

◆ %: percent relative to the current font

◆ em: one em is equal to the font size for the current font

Colors

```
color: red; /* using color names */
```

```
color: rgb(128, 64, 64); /* using RGB values */
```

```
color: #cd5c5c; /* using hexadecimal value */
```

◆ `color` is for foreground,
`background-color` is for background

About Colors

- ◆ More color names in <https://www.w3.org/TR/css3-color/>
- ◆ RGB values are between 0-255
- ◆ Hexadecimal values are between 00-FF
- ◆ There could be an additional A value for transparency between 0.0 (fully transparent) to 1.0 (fully opaque)

Other Font Properties

- ◆ `font-style: normal, italic, oblique`
- ◆ `font-weight: normal, bold, 100-900`
- ◆ `font-variant: normal, small-caps`
- ◆ `line-height`
- ◆ `font: [style] [weight] [variant]
size[/line-height] family;`

Indentation and Alignment

- ◆ `text-indent`: indentation of the first line
- ◆ `text-align`: horizontal alignment
 - left, center, right, justify
- ◆ `vertical-align`: vertical alignment
 - baseline, top, middle, bottom

Text Transformation and Decoration

◆ `text-transform`

- uppercase, lowercase, capitalize, none

◆ `text-decoration`

- underline, overline, line-through, none