# HTML5 and CSS3 Introductory Second Edition

**Unit C** 

**Getting Started with CSS** 

# HTML Web Elements Review (Should be included in your lab 2)

```
HTML Validator: <a href="https://validator.w3.org/">https://validator.w3.org/</a>
<!DOCTYPE html>
<html lang="en">
                                              CSS Validator: <a href="http://jigsaw.w3.org/css-validator/">http://jigsaw.w3.org/css-validator/</a>
      <title>Spotted Wren Garden Center</title> <!--defines title of the document -->
      <meta charset="utf-8">
      <meta name="viewport" content="width=device-width">
         <h1>Spotted Wren Garden Center</h1>
         For your year-round garden and yard needs
         Looking for something unusual or hard to find? Ask us!
      </article>
         548 N. 58th St. | Monterey, CA 68132 | (402) 555-9736
      </footer>
   </body>
```

## **Objectives**

- Assess style rules
- Create an embedded style sheet
- Implement an ID selector
- Implement a class selector
- Use multiple selectors
- Create an external style sheet
- Link to an external style sheet
- Add a comment to a style sheet
- Debug and validate CSS code

# **Assess Style Rules**

- CSS (Cascading Style Sheets): adds style information to elements defined in HTML code
- Style rules: lines or blocks of CSS code that specify the presentation of web page elements
- Declarations: basic building block of CSS, includes a property name and a value, e.g. text-align: center



# Assess Style Rules (continued)

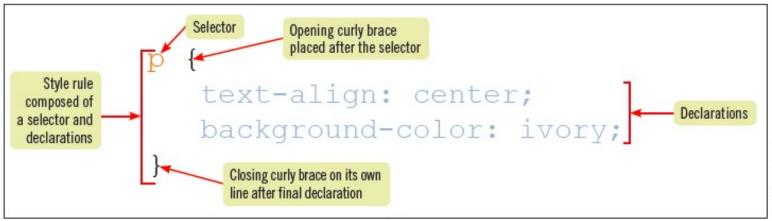
- Style rules contain two main parts
  - Selectors: identify the HTML elements to which the rule applies
  - Declarations: specify CSS property to apply to the selector and value to assign to the property
    - Each declaration (property: value) ends with a semicolon
    - All declarations surrounded by curly braces

Example: next slide ->



# Assess Style Rules (continued)

CSS style rule

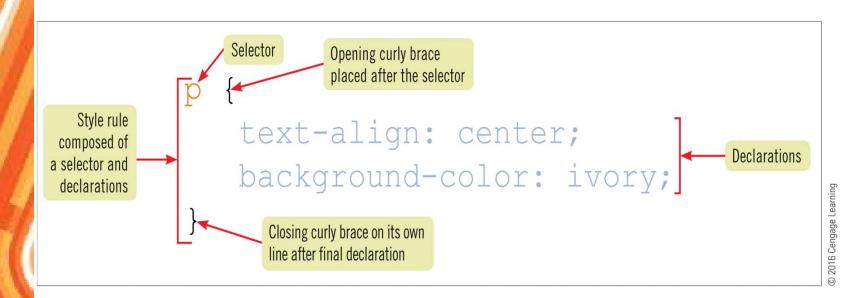


### CSS properties and values

property	affects	allowable values	example
background-color	an element's fill color, behind any content such as text	name from a list of supported colors, or code using one of several systems for specifying color using numeric values	background-color: ivory;
color	an element's foreground color; for elements containing text, this is the text color	name from a list of supported colors, or code using one of several systems for specifying color using numeric values	color: wheat;
text-align	the horizonal alignment of text within the element that contains it	left, right, center, justify, inherit (same value as enclosing element)	text-align: center;

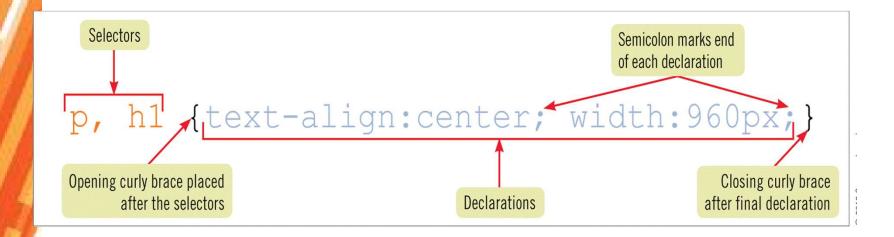
### **Semicolon**

(attribute-value pair ends with a semicolon)



Format advantage: Easier to read. Each declaration has its own line.

### Declarations on the same line



NOTE: To keep the code compact is a matter of personal taste.



### **Classroom Activities**

Why it is helpful and important to use CSS to format a web page rather than using HTML formatting elements?



# Create an Embedded Style Sheet

- Embedded Style Sheet: CSS code inserted in the head element of an HTML document
  - Most straightforward method for affecting the presentation of a single web page
  - Generally used only with a single web page
  - Labor intensive to update embedded styles if added to lots of web pages

page text

left-aligned

# Create an Embedded Style Sheet (continued)

 Embedded style rule and resulting web page



A country getaway perfect for fishing, boating, biking, or just watching the day go by.

Reserve your perfect weekend today.

45 Marsh Grass Ln. :: Marble, MN 55764 :: (218) 555-5253

Background

document changed to ivory

color for entire

## Demo css\_basic.html

If you go to your EMS, you may download and open css\_basic.html for a

demo.

```
h1 {
        background-color: green;
        text-align: center;
        text-align: center;
        background-color: red;
  </style>
  <header>
     <h1>Welcome to Mar's Game Center</h1>
  </header>
  <article>
     Playing video games is fun.
     Sp>But creating videos using HTML, CSS, JavaScript is better using Adobe Phone Gap
     https://phonegap.com/getstarted/
  </article>
     548 N. 58th St. | Monterey, Ca 68132 | (402) 555-9736
  </footer>
</body>
```



# Demo css\_basic.html Output

If you go to your EMS, you may download and open css\_basic.html for a demo.

### Welcome to Mar's Game Center

Playing video games is fun.

But creating videos using HTML, CSS, JavaScript is better using Adobe Phone Gap

https://phonegap.com/getstarted/

548 N. 58th St. | Monterey, Ca 68132 | (402) 555-9736



## Clues



### **Classroom Activities**

Assume that you are in the process of creating a draft for a website containing a single page. Because this is a draft, you expect that there will be changes to the layout of the web page. Discuss whether this project is suitable for using an embedded style sheet.

## Implement an ID Selector

- <u>id</u> selector: affects the presentation of a specific HTML element
- Add id attribute to opening tag of an HTML element to give it a unique value
  - e.g., John Smith
- Use # and id value to create CSS id selector for a style rule
  - e.g., #name {text-align: right;}

# Implement an ID Selector (continued)

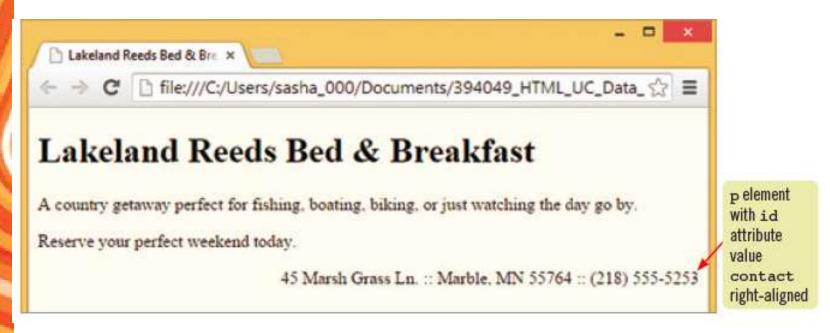
Syntax: #idValue { attribute:value pairs; }

```
<style>
             body {
                background-color: ivory;
                text-align: left;
  New style
  rule using -
            → contact {
                text-align: right:
     an ID
   selector
          </style>
       </head>
       <body>
          <header>
             <hl>Lakeland Reeds Bed &amp; Breakfast</hl>
          </header>
          A country getaway perfect for fishing, boating, biking, or just watching the day
          go by. 
          Reserve your perfect weekend today.
33
          <footer>
             45 Marsh Grass In. :: Marble, MN 55764 :: (218) 555-5253
          </footer>
                          id attribute with value of contact
       </body>
    </html>
                          added to opening  tag
```



# Implement an ID Selector (continued-example output

Presentation resulting from use of ID selector





### **Demo**

css\_basic\_with\_id.html

```
background-color: green;
   text-align: center;
  text-align: center;
   background-color: red;
#myfirstid {
 background-color: yellow;
 background-color: blue;
```

Added to Target specific id.



css\_basic\_with\_id.html

### Welcome to Mar's Game Center

### My school ID number is 1234

My cat's name is Kathy

Playing video games is fun.

But creating videos using HTML, CSS, JavaScript is better using Adobe Phone Gap

https://phonegap.com/getstarted/

548 N. 58th St. | Monterey, Ca 68132 | (402) 555-9736

```
#myfirstid {
   background-color: yellow;
}

#myfirstid {
   background-color: blue;
}
```

### **Syntax**

```
#id {
    css declarations;
}
```

```
<div>
     My school ID number is 1234
     My cat's name is Kathy
</div>
```

Added to Target specific id.

### **Class Activities**

In which a type based style rule and an id selector based style rule contradict each other. For example, an HTML page includes an h1 element with the id "date". A type selector style rule specifies that all h1 elements should be centered, whereas an id selector style rule specifying the element having the id "date" indicates that this element should be aligned to the right. How should the element be displayed? Which of the style rules, if any, should take precedence.

### **CSS Precedence Rules**

RULE: !important (highest precedence)

Demo File: css\_precedencerule1.html

```
<style>
   div {
         font-family: Arial;
         font-size: 16px !important,
   .specialText {
          font-size: 50px;
</style>
<div class="specialText">
   !important is the highest precedence. You apply this
rule if you want CSS property for the same HTML
elements.
</div>
```



### **CSS Precedence Rules**

**RULE**: Specificity of CSS Rule Selectors

Demo File: css precedencerule2.html

Inherited styles: Lowest specificity of all selectors - since an inherited style targets the element's parent, and not the HTML element itself.

\* Lowest specificity of all directly targeted selectors element Higher specificity than universal selector and inherited styles.

attribute Higher specificity than element selector class Higher specificity than attribute, element and universal selectors.

ID Higher specificity than class selector.

Combined selectors Gets the specificity of the selectors combined.

CSS properties set directly on element, inside style attribute. Stronger specificity than ID selector.

### **CSS Precedence Rules**

RULE: Specificity of CSS Rule Selectors continue.

Demo File: css\_precedencerule2.html

```
<style>
   body
           { font-size: 10px; } /* set for the body element in t
   div
           { font-size: 12px; }
   [mymy] { font-size: 14px; }
   .myText { font-size: 16px; }
   #myId { font-size: 18px; }
</style>
<div
                                > CSC525 Text Sample 1 </div>
<div mymy
                                > CSC525 Text Sample 2 </div>
<div mymy class="myText" > CSC525 Text Sample 3 </div>
<div mymy class="myText" id="myId" > CSC525 Text Sample 4 </div>
```



## Implement a Class Selector

- class attribute: can be assigned to multiple HTML elements
- class selector: creates a style rule based on values assigned to the class attribute
  - Allows style rule to be applied to unlimited number of separate elements
  - Consists of period followed by class attribute value; e.g. .accent



# Implement a class Selector (continued code example)

 class attribute and style rule with class selector added

```
15
          <style>
             body 1
               background-color: ivory;
               text-align: left;
             #contact {
                                       New style rule
                text-align: right;
                                       using a class
                                       selector
             accent
               color: darkeyan;
                                       class attribute with value of
          </style>
                                       accent added to opening
       </head>
                                        tags for two elements
29
       <body>
          <header>
             <hl>Lakeland Reeds Bed &amp; Breakfast</hl>
          </header>
          A country getaway perfect for fishing, boating, biking, or just
          watching the day go by. 
          Reserve your perfect weekend today.
          <footer>
             45 Marsh Grass Ln. :: Marble, MN 55764 :: (218) 555-5253
```



# Implement a class Selector (continued sample output)

 Presentation resulting from use of class selector



# class selector Demo Demo: css\_usingclass.html

```
header {
    background-color: yellow;
}
#tagline {
    text-align: right;
}
article {
        text-align: center;
    }
.contact { /*can be assigned to multiple HTML elements*/
    text-align: right;
    background-color: red;
}
</style>
```

```
<header>
     <h1>Big J's Deep Dish Pizza</h1>
     Authentic Chicago-style pies
</header>
</header>
<footer>
     150 St. Joseph St.
     Toronto, ON M5S 2C3
     (416) 555-3337
</footer>
```



# class selector Demo output Demo: css\_usingclass.html

Note: Deciding whether to use an ID or a class selector

# Big J's Deep Dish Pizza

Authentic Chicago-style pies

150 St. Joseph St.

Toronto, ON M5S 2C3

(416) 555-3337



### **Activities**

Although this is not true in practice, assume that you can only apply a single class value to each HTML element. Suppose that Jim is writing a website listing all of his friends and their phone numbers, and wants to format the list according to the interests of his friends. Any friends interested in trains will be listed in **boldface**, any friends interested in cars will be listed in *italic*, and any friends interested in baseball will be listed in red letters. How many classes will Jim need to create in order to achieve the desired presentation of his list?

# **Use Multiple Selectors**

- Multiple selectors allow you to add the same style rule to multiple HTML elements
  - Type selector name, comma, space (optional), next selector name
  - Type a curly brace, followed by the declaration(s), followed by a curly brace

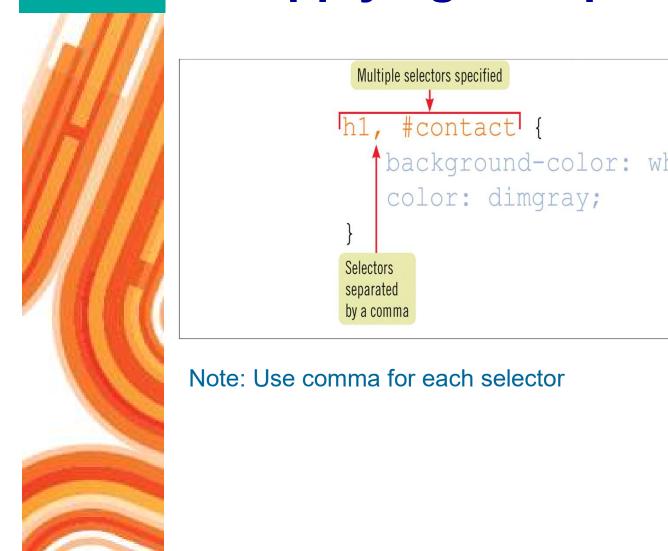
```
Multiple selectors specified

h1, #contact {
    background-color: wheat;
    color: dimgray;
}

Selectors
separated
by a comma
```



# **Applying Multiple Selectors**



background-color: wheat;



# Use Multiple Selectors (continued)

## Commonly used CSS selectors

selector	description	example	selects
Descendant	Specifies a series of nested elements and selects the final, most deeply nested element	article div p	Each p element nested within a div element that is itself nested within an article element
Direct child	Selects an element that is a child (but not grandchild, etc.) of another specified element	div > p	Each p element whose parent element is a div element
Direct next sibling	Selects an element that is a sibling of another specified element and <i>directly</i> follows that element	h1 + p	Each p element that is a sibling of an h1 element and <i>directly</i> follows that h1 element
Next sibling	Selects an element that is a sibling of another specified element and follows that element (potentially with other siblings between them)	h1 ~ p	Each p element that is a sibling of an h1 element and follows that h1 element



# Demo css\_multiple\_selectors.html

### Spotted Wren Garden Center H1

### Align to the right multiple selector H2

Align to the right multiple selector H3

For your year-round garden and yard needs

Looking for something unusual or hard to find? Ask us!



# Create an External Style Sheet

- External style sheet: separate file containing style information
  - Suitable for maintaining a consistent style in large websites
  - Prevents need to implement style changes on each page of website
  - Changes made to external style sheet are reflected in all web pages linked to that style sheet
  - Can be linked to multiple HTML pages

# Create an External Style Sheet (continued) – Example

An external style sheet

```
body {
background-color: ivory;
text-align: left;

fentact {
    text-align: right;

accent {
    color: darkcyan;

h1, #contact {
    background-color: wheat;
    color: dimgray;
}
Style rules
moved from
embedded
style sheet
```

### **Link Element Example**

```
<! DOCTYPE html>
    <html lang="en">
       <head>
           <title>Lakeland Reeds Bed &amp; Breakfast</title>
              Lakeland Reeds Bed and Breakfast main web page
              Filename: index.html
              Author: your first and last name
                        today's date
              Date:
              HTML5 and CSS3 Illustrated Unit C, Lessons
12
13
           <meta charset="utf-8">
14
           <meta name="viewport" content="width=device-width">
15
           <script src="modernizr.custom.62074.js"></script>
16
         k rel="stylesheet" href="styles.css">
       </head>
18
       <body>
                                 Filename of external style sheet
link element
loads contents
of external CSS
document
```

Note: Because the contents of an external style sheet are written entirely in CSS, the file uses the extension .css instead of .html.

# Implementing CSS Inline Style

<h1 style="text-align: center;">Lakeland Reeds Bed and Breakfast</h1>
© 2016 Cengage Learning

Incorporate: To incorporate CSS attributes into an HTML document using inline styles, insert into the opening tag.

Benefits: None. It is better to use an embedded or external style sheet.

Note: Many developers avoid this style.

### **Activities**

Suppose that you created a website that includes six web pages, all of which are linked to a single external style sheet. You now want to change the font of all the text in your website. How many files will you need to change in order to achieve this? Does your answer change if you are restricted to writing only a single new style rule?

# Link to an External Style Sheet

- Use the HTML link element to link an HTML document to an external style sheet, e.g.
  - > <link rel="stylesheet"
    href="mystylesheet.css" />
- Attributes of the link element

attribute	description	example
rel	Indicates the type of content in the linked file; for a style sheet, the value is stylesheet	rel="stylesheet"
href	Specifies the filename of the linked file	href="styles.css"



# Link to an External Style Sheet (continued)

 Web page linked to an external style sheet and the style sheet

```
<script src="modernizr.custom.62074.js"></script>
          k rel="stylesheet" href="styles.css">
                                                                               Document contains class
   Every document linking to an
                                                                               and ID values corresponding
   external style sheet uses the
                                                                               to selectors in external
same code for the link element d Reeds Bed & Breakfast</h
                                                                               style sheet
          </peager>
          <h2>About Us</h2>
          Lakeland Reeds is an ideal place to unplug from your daily
          routine, whether on the shore of Twin Lakes watching the sundown over the cattails
25
          or just curled up in a hammock on our screened wraparound porch with a good book.
          Breakfast is ready whenever you are, and we're happy to accommodate a wide range of
          appetites, from comfort food like samsage and biscuits to the lighter end of
          things, such as egg white omelettes a
          We're here to help
          from canoes and life vests for a day
                                                          background-color: ivory;
          quiet evening in. We look forward to
                                                          text-align: left;
32
          <footer>
33
              45 Marsh Grass Ln.
                                                        #contact {
                                                                                              Style rules
          </footer>
                                                          text-align: right;
       </body>
                                                                                              moved from
                                                                                              embedded
                                                        .accent {
    </html>
                                                          color: darkcyan;
                                                                                              style sheet
                                                       hl. #contact (
                                                          background-color: wheat;
                                                          color: dimgray;
                                                   14
```



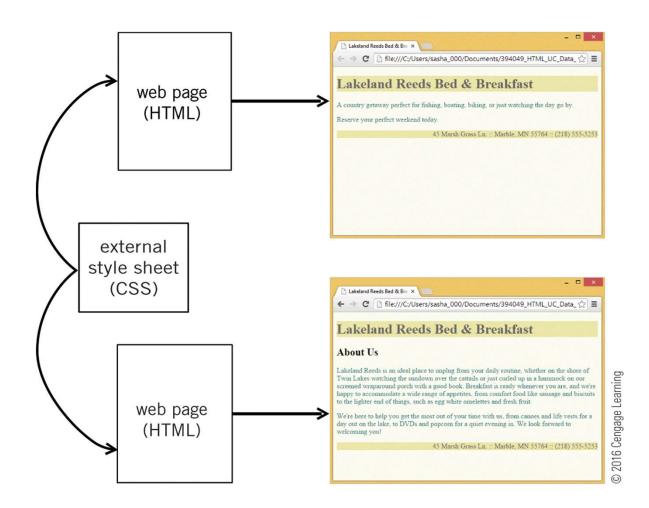
# Link to an External Style Sheet (continued)

 Multiple pages styled by external style sheet





# Demo css\_external.html & mystyleonly.css



### DEMO

```
15
         <script src="modernizr.custom.62074.js"></script>
16
         <link rel="stylesheet" href="styles.css">
                                                                        Document contains class
   Every document linking to an
                                                                        and ID values corresponding
   external style sheet uses the
                                                                        to selectors in external
same code for the link element d Reeds Bed & amp; Breakfast </hl>
                                                                        style sheet
          </header>
22
         <h2>About Us</h2>
          Lakeland Reeds is an ideal place to unplug from your daily
23
24
         routine, whether on the shore of Twin Lakes watching the sundown over the cattails
25
         or just curled up in a hammock on our screened wraparound porch with a good book.
26
          Breakfast is ready whenever you are, and we're happy to accommodate a wide range of
27
          appetites, from comfort food like saysage and biscuits to the lighter end of
28
          things, such as egg white omelettes and fresh fruit. 
29
          30
         from canoes and life vests for a day out on the lake, to DVDs and popcorn for a
31
         quiet evening in. We look forward to welcoming you!
32
          <footer>
33
            45 Marsh Grass Ln. :: Marble, MN 55764 :: (218) 555-5253
34
         </footer>
35
       </body>
36
    </html>
```



# Add a Comment to a Style Sheet

- Use comments in CSS style sheet to document the file
- Syntax for style sheet comments
  - /\* for opening tag
  - [comment text]
  - > \* / for closing tag
- Format for style sheet comments
  - Can be single line
  - Can be multi-line



# Add a Comment to a Style Sheet (Style sheet with comment added)

What do you put in your comment?

- Help identify sections
- Main ideas.

```
Lakeland Reeds Bed and Breakfast style sheet
Filename: styles.css

Author: your first and last name
Date: today's date
HTML5 and CSS3 Illustrated Unit C, Lessons

*/

body {
background-color: ivory;
text-align: left;
}

CSS start comment
characters

CSS end comment
characters
```

## Organizing CSS code (TIPS)

- 1. Esef
- 2. Include CSS comment at the start of each section. Example,

/\* footer section \*/

3.



### **Class Activities**

Why would you want to include comments in your HTML and CSS files?

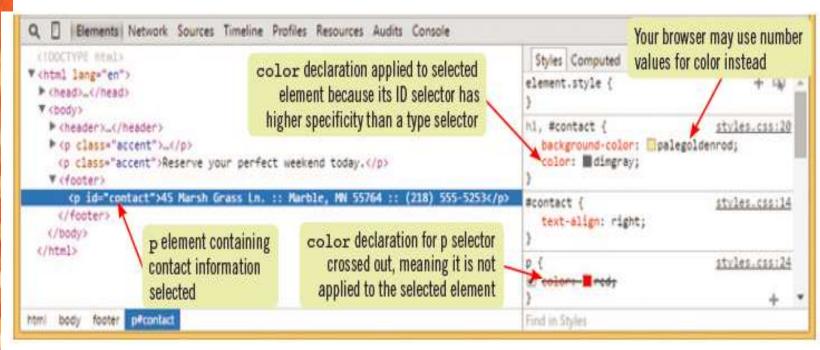


## Debug and Validate CSS Code

- Important to debug and validate CSS code against CSS rules even when CSS code works in browser testing
  - Helps ensure compatibility of code with different user agents
  - Helps ensure that code remains usable
- You can use online tools to validate your code

# Debug and Validate CSS Code (continued)

 Use developer tools to debug code, such as developer tools in Chrome



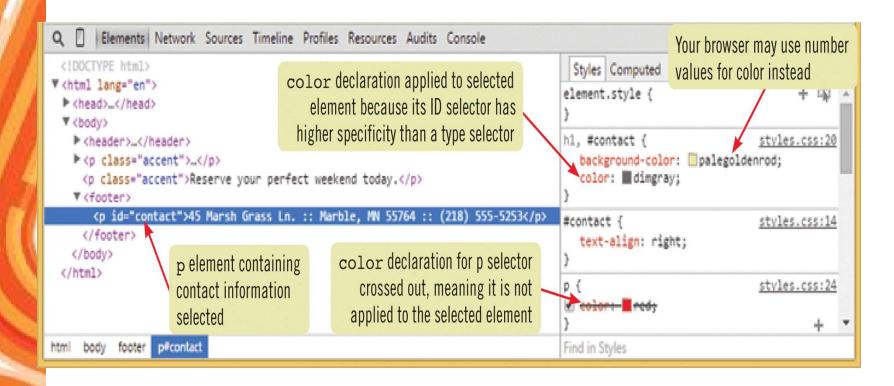


# Debug and Validate CSS Code (continued)

 Use online service to validate CSS code, such as W3C validation service page



# **Built-in Developer Tools**(Using Browsers)

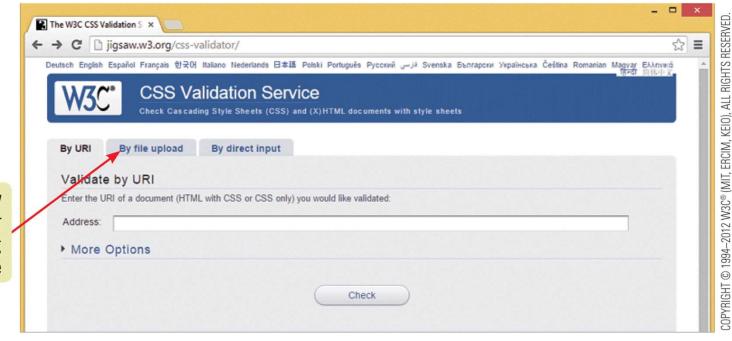


Go ahead an open up your computer browsers and press F12 Windows short cut. On a Mac, hold [command] and click the contact information, the click Inspect element.



# Online CSS validators (W3C CSS Validation Service)

LINK: http://jigsaw.w3.org/css-validator



Click to display options for uploading your file

### **Key Terms**



### **Summary**

- HTML and CSS are complementary languages
  - > HTML specifies the page content
  - CSS indicates how the content should be displayed
- CSS uses style rules
  - Selector, which identifies the HTML element
  - Declaration, which includes a property name and a value



### **Summary (continued)**

- Different types of selectors affect different groups of elements
  - Type selector: applies to all HTML elements of a specific type, such as h1
  - id selector: applies to a single element having a specific unique id
  - class selector: applies to elements with a value specific to the class attribute
  - Multiple selectors: applies the same rule(s) to different elements



### **Summary (continued)**

- Embedded style sheets are included in the HTML code
  - Suitable for single page websites
- External style sheets can be linked to multiple web pages
  - All linked web pages can be changed by changing a single style sheet
- Use the link element to link a web page to a CSS style sheet



### **Summary (continued)**

- Use comments to document the style sheet
  - /\* [comment text] \*/
- Use developer tools to debug CSS code
- Use online validation service to validate CSS code against CSS rules