WKW SCHOOL

2020

CI6206 Internet Programming

Client-Side Development
Cascading Style Sheet (CSS)

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Ver1.1

TOPICS

- What is CSS
- Benefits of CSS
- Code Syntax
- Examples

REVISION HTML

- Colors

Format	Syntax	Example
Hex Code	#RRGGBB	p{color:#FF0000;}
Short Hex Code	#RGB	p{color:#6A7;}
RGB %	rgb(rrr%,ggg%,bbb%)	p{color:rgb(50%,50%,50%);}
RGB Absolute	rgb(rrr,ggg,bbb)	p{color:rgb(0,0,255);}
keyword	aqua, black, etc.	p{color:teal;}

REVISION HTML

- Background
  - The **background-color** property is used to set the background color of an element.
  - The **background-image** property is used to set the background image of an element.

```
<html>
   <head>
   <body>
      <p style = "background-color:yellow;">
      This text has a yellow background color.</p>
   </body>
   </head>
<html>
```

This text has a yellow background color.

```
<html>
   <head>
      <style>
         body  {
            background-image: url("paper.gif");
            background-color: #cccccc;
         }
      </style>
      <body>
         <h1>Hello World!</h1>
      </body>
   </head>
<html>
```

Hello World!

REVISION HTML

- **Styles**

  - Use **background-color** for background color
  - Use **color** for text colors
  - Use **font-family** for text fonts
  - Use **font-size** for text sizes
  - Use **text-align** for text alignment

```html
<!DOCTYPE html>
<html>
 <body style="background-color:lightgrey;color:Blue">
  <h1>This is a heading</h1>
  <p>This is a paragraph.</p>
</body>
</html>
```

This is a heading

This is a paragraph.

HTML & STYLES

```
<body style="background-color:lightblue">

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
```

This is a heading

This is a paragraph.

Inline style

- Each element on a page has a *style* defined for it.
- The style is defined by a set of *attribute : value* pairs.
- Style attributes can control:
  - *Typeface and font properties*
  - *Background properties*
  - *...*

HTML & OBJECTS

- **Common features**
  - **Text & Fonts**
  - **Colors – Foreground and Background**
  - **Tables**
  - **Frame**
  - **Form**
  - **Image map**
  - **Character Set**
  - **Meta tags**
  - **Images, Hyperlink, etc…**

CSS (CASCADING STYLE SHEET)

- Simple mechanism for adding style to web page
- Code be embedded into the HTML file
- HTML tag:
    <style type="text/css">CODE</style>
- Also be in a separate file FILENAME.css
- HTML tag:
    <link rel="stylesheet" href="scs.css" type="text/css">
- Style types mainly include:
    - Font
    - Color
    - Spacing

- Styles are normally stored in **Style Sheets**
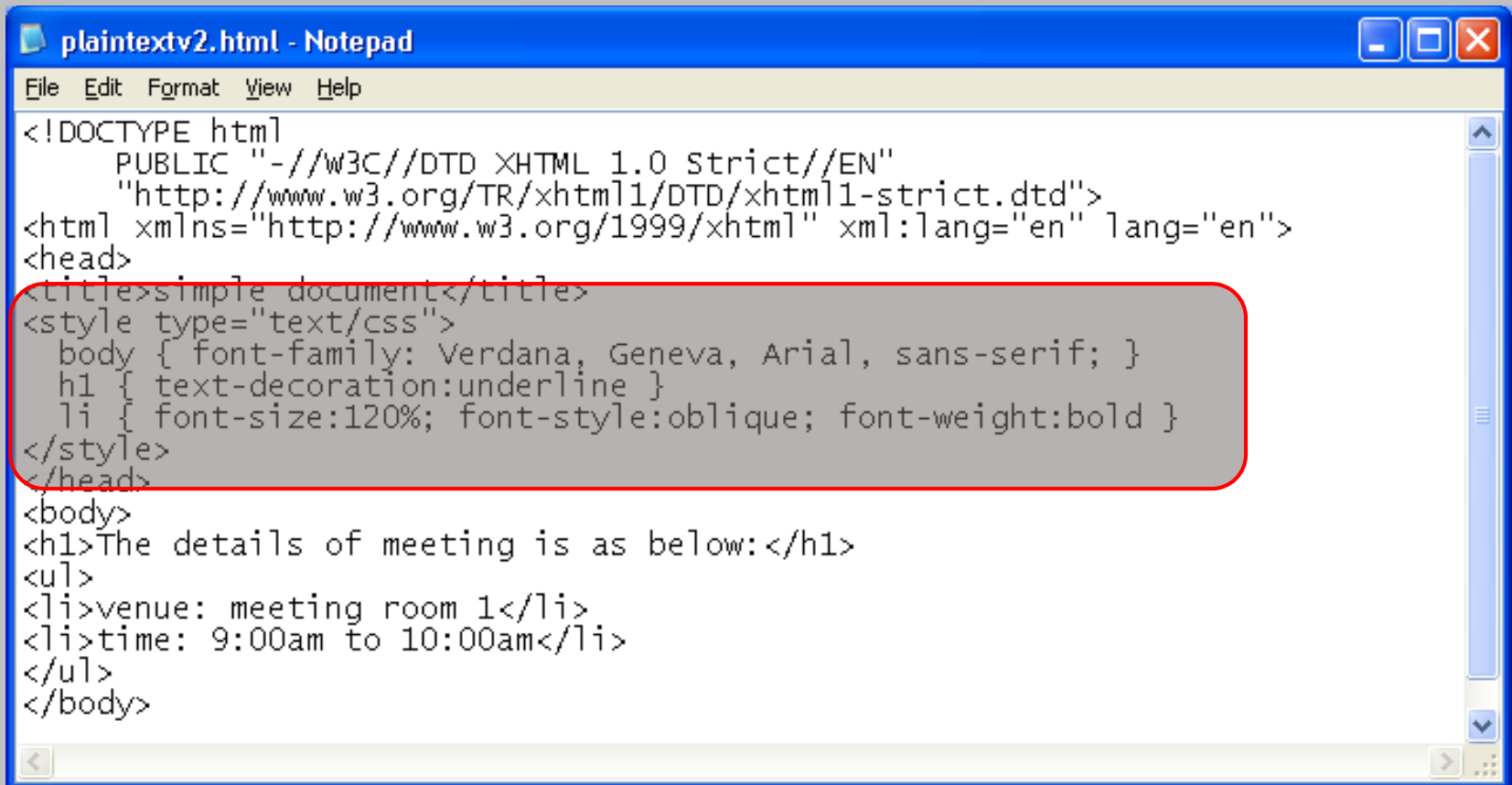- Multiple style definitions will **cascade** into one

BENEFITS OF USING STYLES

- To reduce messy HTML codes
- Consistency between pages
- A more readable Content
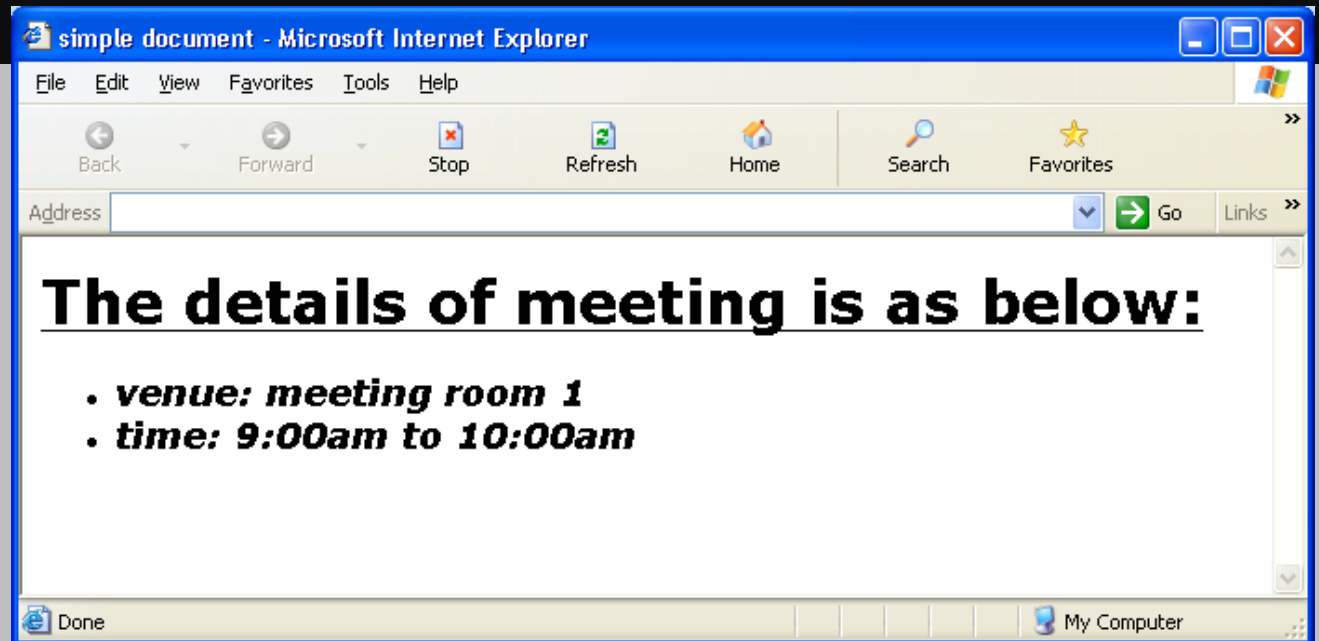- Reusability and flexibility
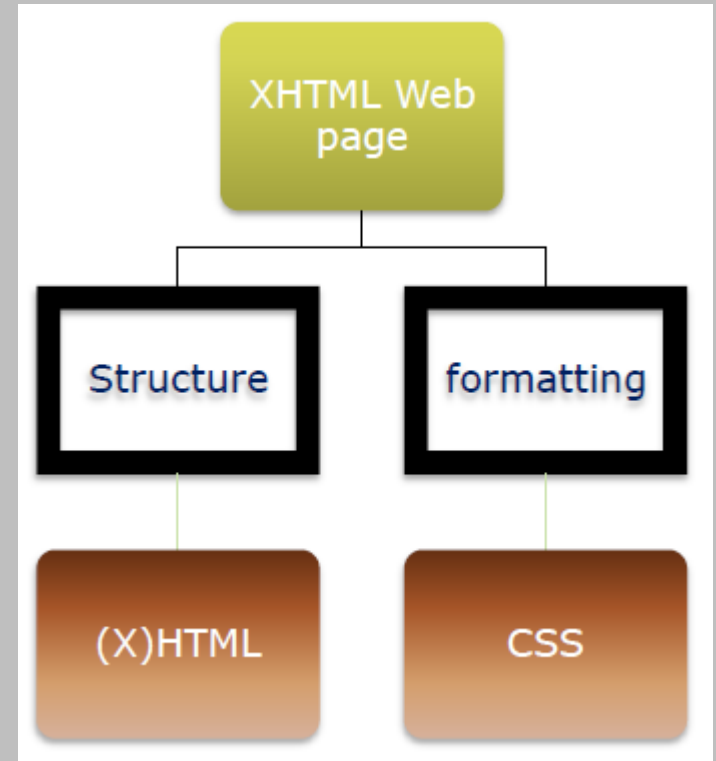
USING CSS WITH XHTML

- Adding a little style – cascading style sheet

```
plaintextv2.html - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html
      PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
      "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head>
<title>simple document</title>
<style type="text/css">
  body { font-family: Verdana, Geneva, Arial, sans-serif; }
  h1 { text-decoration:underline }
  li { font-size:120%; font-style:oblique; font-weight:bold }
</style>
</head>
<body>
<h1>The details of meeting is as below:</h1>
<ul>
<li>venue: meeting room 1</li>
<li>time: 9:00am to 10:00am</li>
</ul>
</body>
```

USING CSS WITH XHTML

```
<style type="text/css">
  body { font-family: Verdana, Geneva, Arial, sans-
serif; }
  h1 { text-decoration:underline }
  li { font-size:120%; font-style:oblique; font-
weight:bold }
</style>
```

simple document - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back   Forward   Stop   Refresh   Home   Search   Favorites

Address

Go   Links

The details of meeting is as below:

- *venue: meeting room 1*
- *time: 9:00am to 10:00am*

Done   My Computer

EXAMPLE - USING CSS

- **Page with no document structure**
  - Example0
- **Without Styling**
  - Example1
- **Different styling**
  - Example2
  - Example3

WAYS TO DEFINE STYLES

- *Default style:* provides values for all element properties, unless you change it. (Note: user can customize browser to change defaults!)
- *Embedded style sheet:* styles defined in the head portion of web page. Use this if you don't have many web pages, or for styles that are useful only for the given page.
- *External style sheet:* styles defined in a separate file. Use this to centralize style definitions and provide uniformity across all pages of a web site.
- *Inline style:* style is defined as an attribute of the element in-place. Use this for "one-off" or special styles.

DIFFERENT LEVELS OF CSS …

Cascading Order (in order of priority)

1. Browser default `lowest priority`
   - ❖ *provides values for all element properties, unless you change it. (Note: user can customize browser to change defaults!)*

2. External Style Sheet (standalone .css file)
   - ❖ *styles defined in a separate file. Use this to centralize style definitions and provide uniformity across all pages of a web site.*

3. Embedded Style Sheet (inside the <head> element)
   - ❖ *styles defined in the head portion of web page. Use this if you don't have very many web pages, or for styles that are useful only for the given page.*

4. Inline Style (inside HTML element) `highest priority`
   - ❖ *style is defined as an attribute of the element in-place. Use this for "one-off" or special styles.*

EXTERNAL STYLE SHEET

- **Each webpage must link to the style sheet using the `<link>` tag**
- **Browser reads styles definitions from *pStyle.css* file**

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

EXTERNAL STYLE SHEET

- An external style sheet is ideal when the style is applied to many web pages

- With an external style sheet, you can change the look of an entire Web site by changing one file

- Each page must link to the style sheet using the <link> tag. The <link> tag goes inside the head section.

<head>

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

</head>

- The browser will read the style definitions from the file mystyle.css, and format the document according to it

EXTERNAL STYLE SHEET (EXAMPLE 1)

An HTML file uses the <link> tag to link to an external style sheet:

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

<body>

<h1>This header is 36 pt</h1>
<h2>This header is blue</h2>

<p>This paragraph has a left
margin of 50 pixels</p>

</body>
</html>
```

This is the style sheet file (ex1.css):

```
body {background-color: yellow}
h1 {font-size: 36pt}
h2 {color: blue}
p {margin-left: 50px}
```

The result is in the frame below:

This header is 36 pt

This header is blue

This paragraph has a left margin of 50 pixels

EXTERNAL STYLE SHEET (EXAMPLE 2)

An HTML file uses the <link> tag to link to an external style sheet:

```
<html>
<head>
<link rel="stylesheet" type="text/css"
href="ex2.css" />
</head>

<body>

<h1>This is a header 1</h1>
<hr>

<p>You can see that the style
sheet formats the text</p>

<p><a href="http://www.microsoft.com"
target="_blank">This is a link</a></p>

</body>
</html>
```

This is the style sheet file (ex2.css):

```
body {background-color: tan}
h1 {color:maroon; font-size:20pt}
hr {color:navy}
p {font-size:11pt; margin-left: 15px}
a:link     {color:green}
a:visited  {color:yellow}
a:active   {color:blue}
a:hover    {color:black}
```

The result is in the frame below:

This is a header 1

You can see that the style sheet formats the text
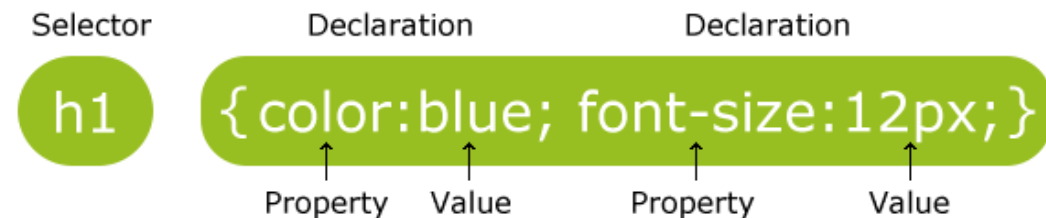
This is a link

EMBEDDING STYLE SHEET

- An embedded (or internal) style sheet should be used <u>when a single document has a unique style</u>
- You define embedded styles in the **head** section by using the **<style>** tag, like this:

```
<head>
<style type="text/css">
        hr {color: sienna}
        p {margin-left: 20px}
        body {background-image:url("images/back40.gif")}
</style>
</head>
```

CSS Syntax

A CSS rule set consists of a selector and a declaration block:

Selector   Declaration   Declaration

h1   { color:blue; font-size:12px;}

Property   Value   Property   Value

USING CSS WITH XHTML

- **CSS rule is made up of three parts: a selector, a property and a value**

    selector {property: value}

    - <u>Selector</u> is the element/tag you wish to define
    - <u>property</u> is the attribute you wish to change
    - Each property can have a <u>value</u>
    - The property and value are separated by a <u>colon</u> and surrounded by <u>curly braces</u>
    - E.g.   body {color: black}

MULTIPLE STYLE SHEET

- **An internal/inline style sheet has following properties for the h3 selector:**
  - ❖ h3 { text-align: right;
  - ❖ font-size: 20pt }
- **External style sheet has these:**
  - ❖ h3 { color: red;
  - ❖ text-align: left;
  - ❖ font-size: 8pt }
- **Your Web Browser has default formatting:**
  - ❖ h3 { color: black;
  - ❖ font size: 10pt }

What will be the format of <h3> tag?

- ❖ color: red;
- ❖ text-align: right;
- ❖ font-size: 20pt

3 TYPES OF SELECTORS

```
(CSS)

h1 {...}
.inside {...}
#intro {...}
```

```
(HTML)

<section id="intro">
<h1>...</h1>
<h2 class="inside">...</h2>
</section>
```

Example	Classification	Explanation
h1	Type Selector	Selects an element by it's type
.inside	Class Selector	Selects an element by the class attribute value, which may be reused multiple times per page
#intro	ID Selector	Selects an element by the ID attribute value, which is unique and to only be used once per page

TYPE SELECTOR

- **For multiple words, put <u>quotes</u> around the value:**

  p {font-family: "sans serif"}

- **For more than one property, separate each property with a <u>semi-colon</u>**

  <u>E.g.</u> **define a centre aligned paragraph, with a red text colour:**

  p {text-align: center; color: red}

  <u>**or**</u>

  p
    {
        text-align: center;
        color: red
    }

CLASS SELECTOR

- **Define a style that can be used by different types of elements:**

.center {text-align: center}

.left {text-align: left}

.right {text-align: right}

class attribute: To set the presentation of a group of same or different selectors

Example:

<h1 class="center">This heading will be centre-aligned</h1>

<p class="left">This paragraph will also be left-aligned.</p>

<p class="right">This paragraph will also be right-ligned.</p>

ID SELECTOR

- **Define a style that can control the appearance of a unique element**
- **#important** {color:red; text-decoration:blink}

id attribute: To set the presentation of a specific element

Example:
<p **class="centre"**>
 Please return me the
 money!.
</p>

USING CSS WITH XHTML

- **You can group selectors together and separate each selector with a comma**

<u>Example</u>: group all header elements and each header element is green

```
h1, h2, h3, h4, h5, h6
{
    color: green
}
```

CHILD SELECTORS (DESCENDANT)

(CSS)

```
article h2 {...}
```

(HTML)

```
<h2>...</h2>
<article>
    <h2>This heading will be selected</h2>
  <div>
    <h2>This heading will be selected</h2>
  </div>
</article>
```

Explanation

No matter where a h2 element lives, so long as it is within the article element, it will always be selected. Additionally, any h2 element outside of the article element is not selected.

CHILD SELECTORS (DIRECT)

(CSS)

`article > h2 {...}`

(HTML)

```
<h2>...</h2>
<article>
    <h2>This heading will be selected</h2>
    <div>
    <h2>This heading will be selected</h2>
    </div>
</article>
```

Explanation

Identifying h2 elements that <u>fall directly</u> within an article element. Any h2 element placed outside of an article element, or nested inside of another element other than the article element, will not be selected.

GENERAL SIBLINGS SELECTOR

(CSS)

```css
h2 ~ p {...}
```

```html
(HTML)
<p>...</p>
<section>
   <p>...</p>
   <h2>...</h2>
   <p>This paragraph will be
        selected</p>
   <div>
        <p>...</p>
   </div>
   <p>This paragraph will be selected</p>
</section>
```

Explanation

The h2 ~ p selector is a general sibling selector that looks for p elements that follow, and <u>share the same parent</u>, of any h2 elements. In order for a p element to be selected it must come after any h2 element.

ADJACENT SIBLINGS SELECTOR

(CSS)

```
h2 + p {...}
```

(HTML)

```
<p>...</p>
<section>
    <p>...</p>
    <h2>...</h2>
    <p>This paragraph will be selected</p>
    <div>
        <p>...</p>
    </div>
    <p>This paragraph will be selected</p>
</section>
```

Explanation

Only p <u>elements directly following </u>after h2 elements will be selected. <u>Both of which must also share the same parent element</u>.

USING CSS WITH XHTML

- **You can also have nested selector**

  Example: all paragraph (p) under a division (<div>) with class ="membership"

```
.membership p
{
    color: green;
}
<div class="membership">
    <p>hello</p>
</div>
```

USING CSS WITH XHTML

Example: Style all paragraph (p) with class ="membership"

```
p.membership
{
    color: green;
}
<p class="membership">hello</p>
```

- **CSS Specificity**

The measure of how tightly a rule matches a given element;

used to decide which rule to use in case of a conflict.

- The latest has highest priority example
- Class as a selector has a higher priority than a generic selector example
- ID as a selector has the highest priority example

USING CSS FOR LAYOUT

Content in the centre of web page
example

```
<!Doctype html>
<html>
<head><title>Content at center</title>
<style type="text/css">
#content {   width:500px;
             margin:auto;
             padding:15px;
             border:2px solid red;
             text-align:left; }
</style>
</head>
<body>
<div id="content">
<p>Content is here</p>
</div>
</body>
</html>
```

```
<html>
<head>
<title>Content at center</title>
<style type="text/css">
#content {
             border:2px solid red;
             position:absolute;
             margin-left:50%;
             width:500px;
             left:-250px;
}
</style>
</head>
<body>
<div id="content">
<p>Content is here</p>
</div>
</body>
</html>
```

USING CSS FOR LAYOUT

Two columns layout
example


```html
<html>
<head>
<style type="text/css">
#left {        float:left;
               width:22%;
               height:95%;
               margin-top:5px;
               border:3px solid blue;

}
#right {       float:right;
               width:75%;
               height:95%;
               margin-top:5px;
               border:3px solid green;

}
</style>
</head>
<body>
<div id="content">
<div id="left"></div>
<div id="right"></div>
</div>
</body>
</html>
```
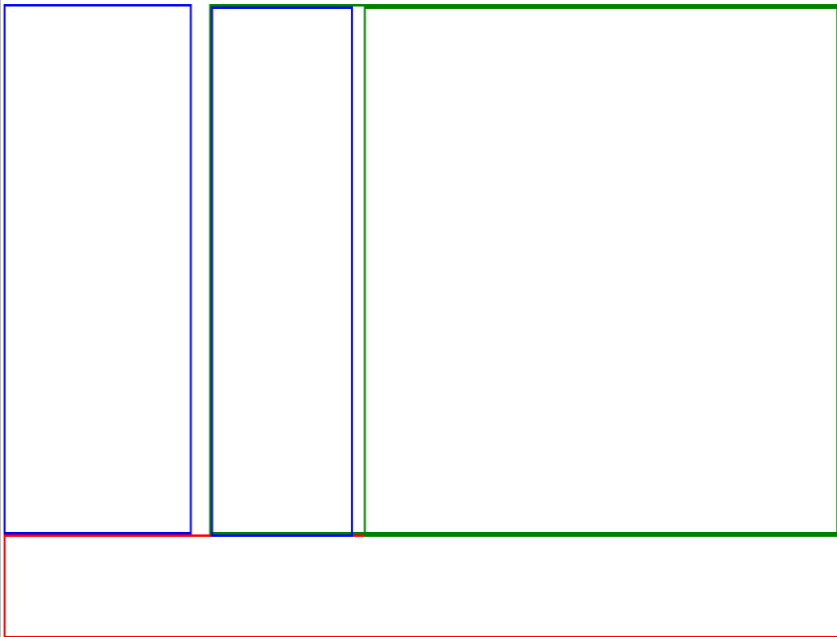
USING CSS FOR LAYOUT

Two columns with footer
example
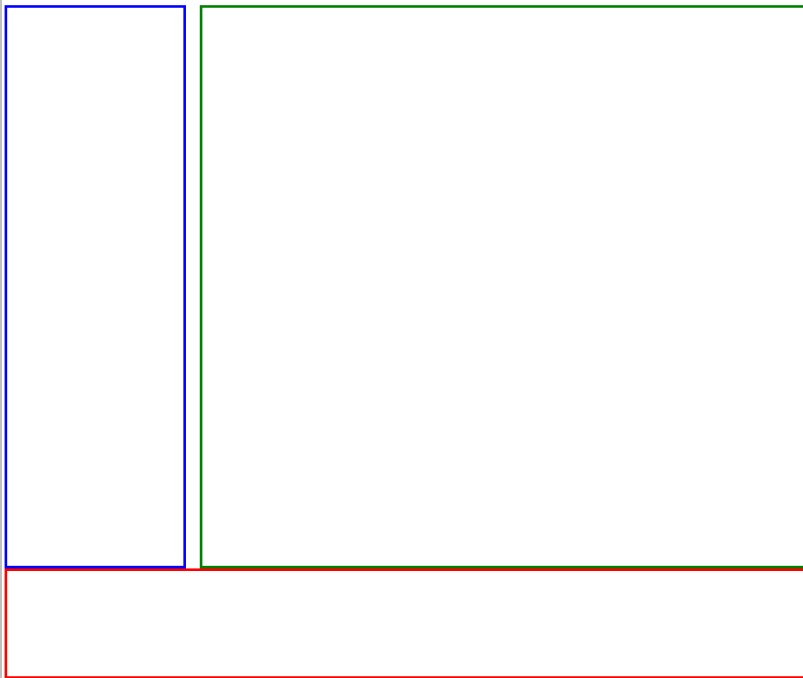
```
<html>
<head>
<style type="text/css">
#left {        float:left;
               width:22%;
               height:80%;
               margin-top:5px;
               border:3px solid blue;

}
#right {       float:right;
               width:75%;
               height:80%;
               margin-top:5px;
               border:3px solid green;

}

#foot {        clear:both;
               width:100%;
               height:15%;
               margin-top:5px;
                border:3px solid yellow;

}
</style>
</head>
```

```
<body>
<div id="content">
<div id="left">
</div>
<div id="right">
</div>
<div id="foot">
</div>
</div>
</body>
</html>
```

Three columns layout with footer
 example

```
#rightLeft{
          float:left;
          width:22%;
          height:100%;
          margin-top:0px;
          border:3px solid blue;
}
#rightRight {
          float:right;
          width:75%;
          height:100%;
          margin-top:0px;
     border:3px solid green;

}
```

Add to previous codes

```
<body>
<div id="content">
<div id="left">
</div>
<div id="right">
          <div id="rightLeft">
          </div>
          <div id="rightRight">
          </div>
</div>
<div id="foot">
</div>
</div>
</body>
```

Add to previous codes

USING CSS FOR LAYOUT

Three columns layout with footer
Another Way

```
#right1 {
          float:left;
          width:59%;
          height:80%;
          margin-top:0px;
            border:1px solid green;
}
#right2 {
          float:left;
          width:20%;
          height:80%;
          margin-top:0px;
          border:1px solid blue;
}
```
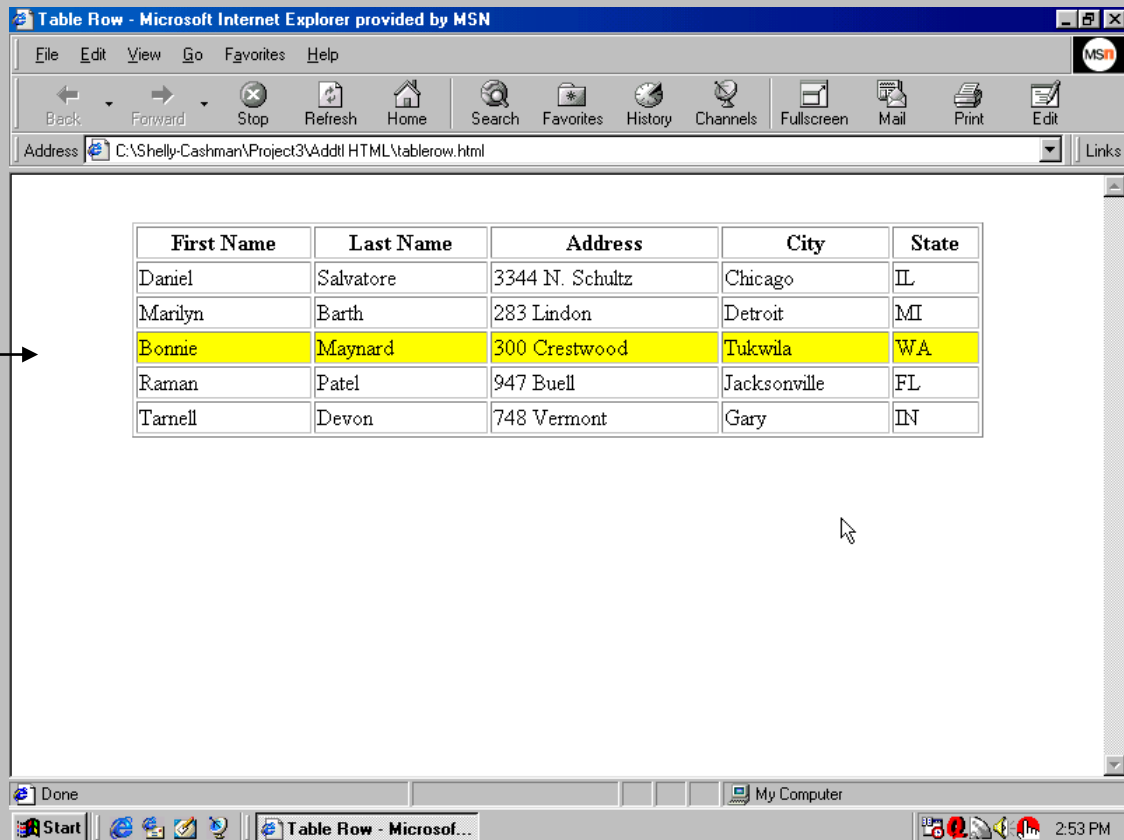
```
<body>
<div id="content">
  <div id="left">
  </div>
  <div id="right1">
  </div>
  <div id="right2">
  </div>
 <div id="foot">
  </div>
</div></body>
```

TABLE ELEMENTS

TABLE ELEMENTS

First Name	Last Name	Address	City	State
Daniel	Salvatore	3344 N. Schultz	Chicago	IL
Marilyn	Barth	283 Lindon	Detroit	MI
Bonnie	Maynard	300 Crestwood	Tukwila	WA
Raman	Patel	947 Buell	Jacksonville	FL
Tarnell	Devon	748 Vermont	Gary	IN

column
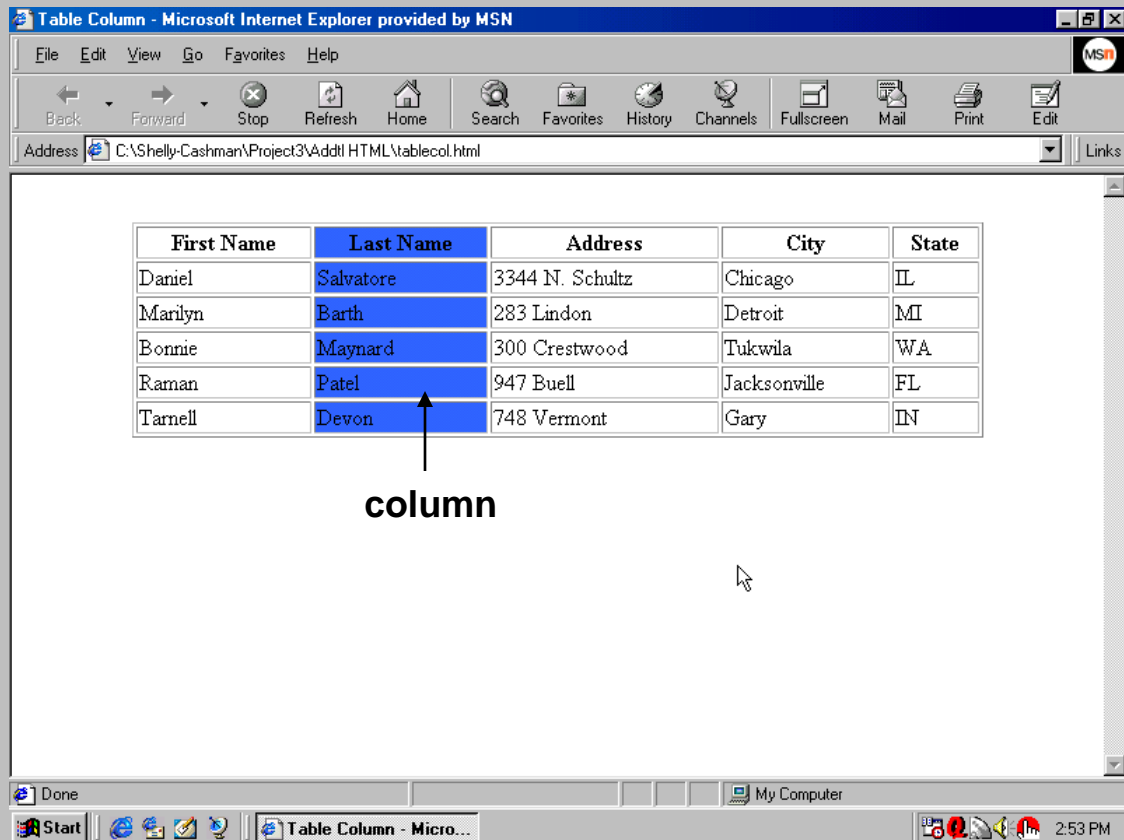
TABLE ELEMENTS
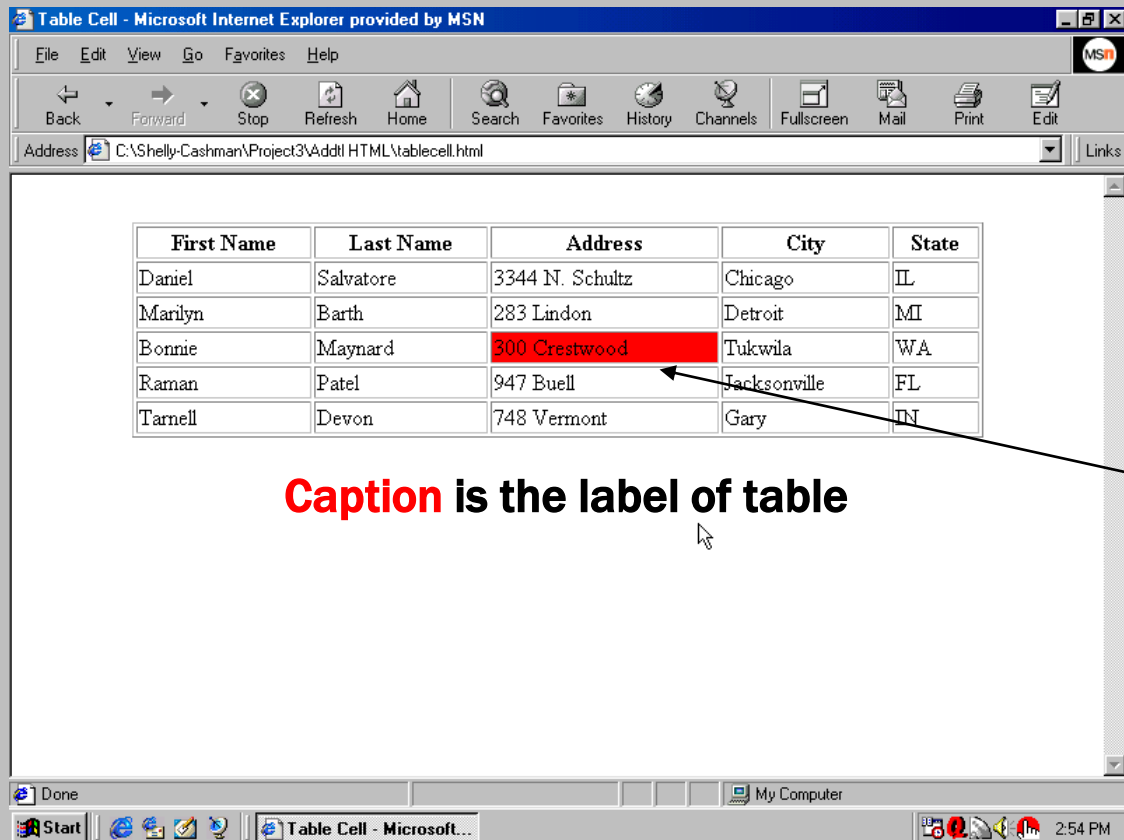
TAGS FOR CREATING TABLES

Tag	Description
<table>...</table>	Defines a table
<tbody>...</tbody>	Defines table body
<thead>...</thead>	Defines table header
<tfoot>...</tfoot>	Defines table footer
<th>...</th>	Defines a table header
<tr>...</tr>	Defines a table row
<td>...</td>	Defines a table cell
<caption>...</caption>	Defines a table caption

<TABLE> ATTRIBUTES

Attribute	Possible Values	Default
align	left, center, right	left
border	pixels	0
cellpadding	pixels	1
cellspacing	pixels	2
height	pixels, percent	content length
width	pixels, percent	content length
frame	border, box, void, above, below, hsides, vsides, lhs, rhs	void

ATTRIBUTES OF <TR>

Attribute	Possible Values	Default
align	left, center, right	left
valign	top, middle, bottom	middle

ATTRIBUTES OF <TD> AND <TH>

Attribute	Possible Values	Default
Align	left, center, right	left
valign	top, middle, bottom	middle
colspan	integer	0
rowspan	integer	0

TABLE - EXAMPLE

TABLE - EXAMPLE
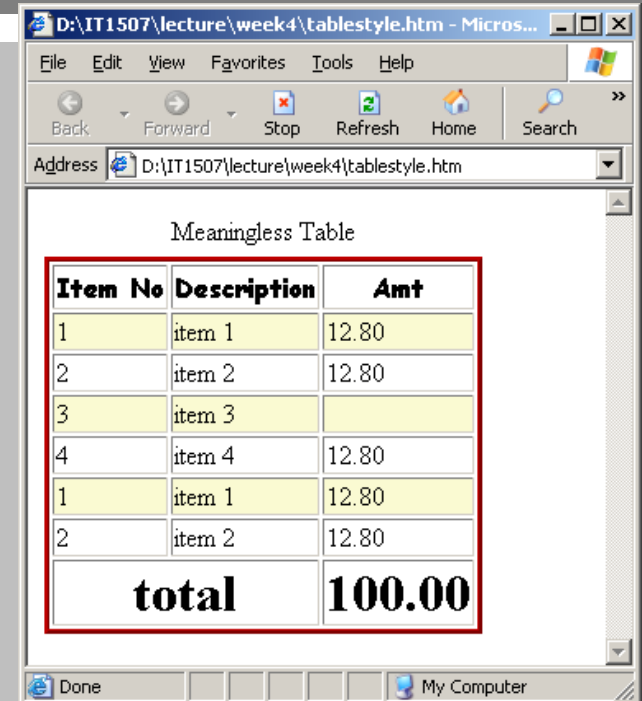
TABLE FORMAT USING CSS

```
<table border="1">
<caption>Meaningless Table</caption>
<thead>
<tr>
<th>Item No</th><th>Description</th><th>Amt</th>
</tr>
</thead>
<tfoot>
<tr>
<th colspan="2">total</th><th>100.00</th>
</tr>
</tfoot>
<tbody>
<tr class="odd">
  <td>1</td><td>item 1</td><td>12.80</td></tr>
<tr class="even">
  <td>2</td><td>item 2</td><td>12.80</td></tr>
<tr class="odd">
  <td>3</td><td>item 3</td><td> </td></tr>
<tr class="even">
  <td>4</td><td>item 4</td><td>12.80</td></tr>
<tr class="odd">
  <td>1</td><td>item 1</td><td>12.80</td></tr>
<tr class="even">
  <td>2</td><td>item 2</td><td>12.80</td></tr>
</tbody>
</table>
```
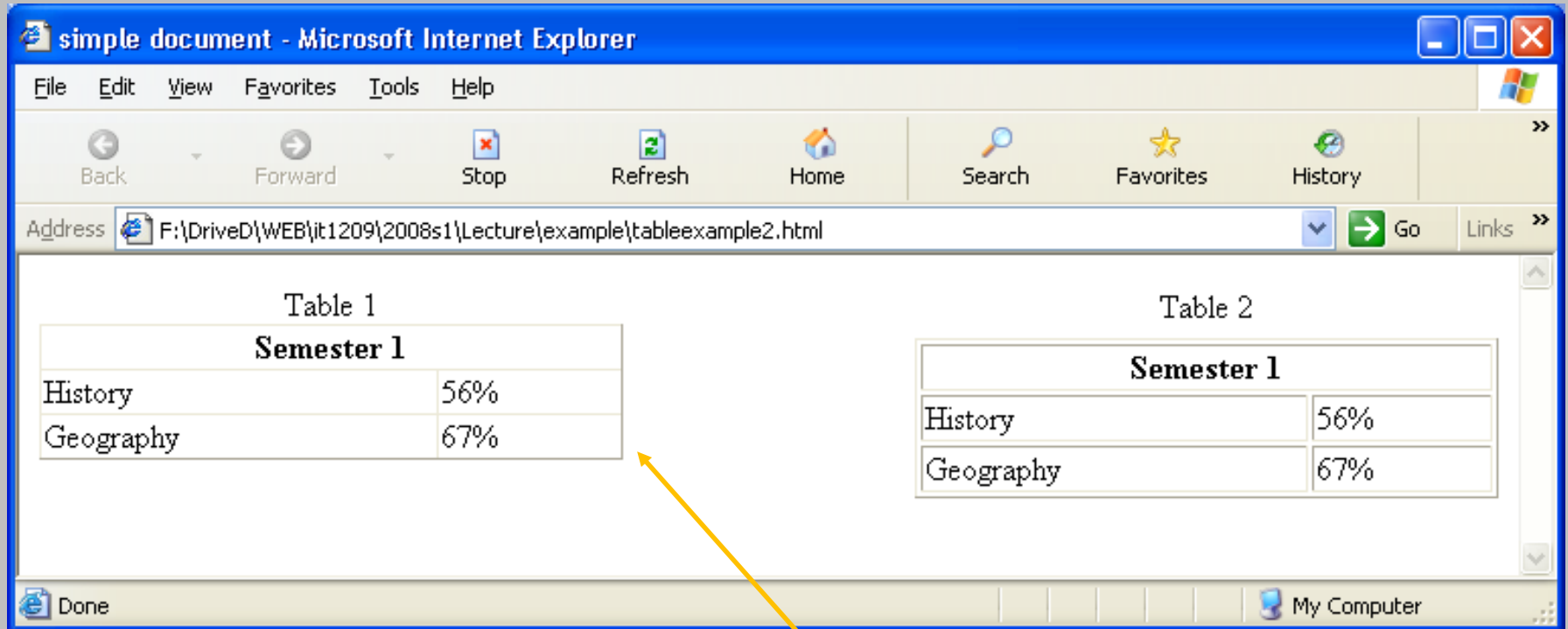
show

D:\IT1507\lecture\week4\tablestyle.htm - Micros...

File   Edit   View   Favorites   Tools   Help

Address D:\IT1507\lecture\week4\tablestyle.htm

Meaningless Table

Item No	Description	Amt
1	item 1	12.80
2	item 2	12.80
3	item 3	
4	item 4	12.80
1	item 1	12.80
2	item 2	12.80
total		**100.00**

```
table { border-width:3;
     border-style:ridge;
     border-color:#FF0000}
tr.odd { background-color: #FAFAD2 }
tr.even { background-color: #F0E68C }
thead { font-family:comic sans ms }
tfoot { font-size:+2em }
```

TABLE FORMAT USING CSS

border-collapse:collapse

USEFUL LINKS

- http://www.w3schools.com/css/
  - Learn CSS
- http://validator.w3.org/
  - Check Your CSS syntax
- http://www.csszengarden.com/
  - The beauty of CSS Design
  - One HTML file
  - 210 CSS