

CSC435: WEB PROGRAMMING LECTURE 3: HTML, CSS

Bei Xiao

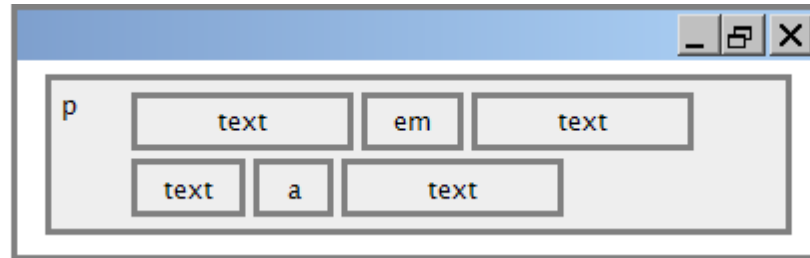
American University

Jan 21, 2016

Activity Outline

- Inline versus Block elements.
- Lists
- Forms
- W3C validator and web standards
- Onto CSS
- Quiz

Block and Inline Elements



- [block](#) elements contain an entire large region of content
 - examples: paragraphs, lists, table cells
 - the browser places a margin of whitespace between block elements for separation
- [inline](#) elements affect a small amount of content
 - examples: bold text, code fragments, images
 - the browser allows many inline elements to appear on the same line
 - must be nested inside a block element

Examples

Inline element:

- `<a>`
- ``
- ``

Block element:

`<p>`

`<div>`

Block and Inline Elements

```
<p>As Lincoln said in his famous Gettysburg Address:</p>
<blockquote>
  <p>Fourscore and seven years ago, our fathers brought forth
  on this continent a new nation, conceived in liberty, and
  dedicated to the proposition that all men are created
  equal.</p>
</blockquote>
```

HTML

As Lincoln said in his famous Gettysburg Address:

Fourscore and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

output

Phase elements: ``, ``

em: emphasized text (usually rendered in italic)

strong: strongly emphasized text (usually rendered in bold)

```
<p>  
  HTML is <em>really</em>,  
  <strong>REALLY</strong> fun!  
</p>
```

HTML is *really*, **REALLY** fun!

as usual, the tags must be properly nested for a valid page

Exercise: block element

Using block element `<div>` and `<p>` create the following page:

London

London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.

Standing on the River Thames, London has been a major settlement for two millennia, its history going back to its founding by the Romans, who named it Londinium.

Exercise: in-line element

Using in-line element `` create the following page:

Panda Bei Bei debut

Use `<q></q>` to generate this:

Quoth the Raven, “Nevermore.”

Nesting tags

```
<p>
```

```
    HTML is <em>really,  
    <strong>REALLY</em> lots of</strong>
```

```
fun!
```

```
</p>
```

- tags must be correctly nested
(a closing tag must match the most recently opened tag)
- the browser may render it correctly anyway, but it is invalid

HTML

- What is the output of the above code?

A word about image size

- Both the width, height, and style attributes are valid in the HTML5 standard.
- Suggest use style attribute. It prevents style sheets from changing.
- HTML5 also requires an alt attribute describing the image.

```

```

```

```

Unordered list: ,

```
<ul>  
  <li>No shoes</li>  
  <li>No shirt</li>  
  <li>No problem!</li>  
</ul>
```

HTML

- No shoes
- No shirt
- No problem!

output

- **ul** represents a bulleted list of items (block)
- **li** represents a single item within the list (block)

More about Unordered list

- Harry Potter characters:
 - Harry Potter
 - Hermione
 - Ron
- LOTR characters:
 - Frodo
 - Bilbo
 - Sam

output

More about Unordered list

```
<ul>
  <li>Harry Potter
characters:
  <ul>
    <li>Harry Potter</li>
    <li>Hermione</li>
    <li>Ron</li>
  </ul>
</li>
<li>LOTR characters:
  <ul>
    <li>Frodo</li>
    <li>Bilbo</li>
    <li>Sam</li>
  </ul>
</li>
</ul>
```

HTML

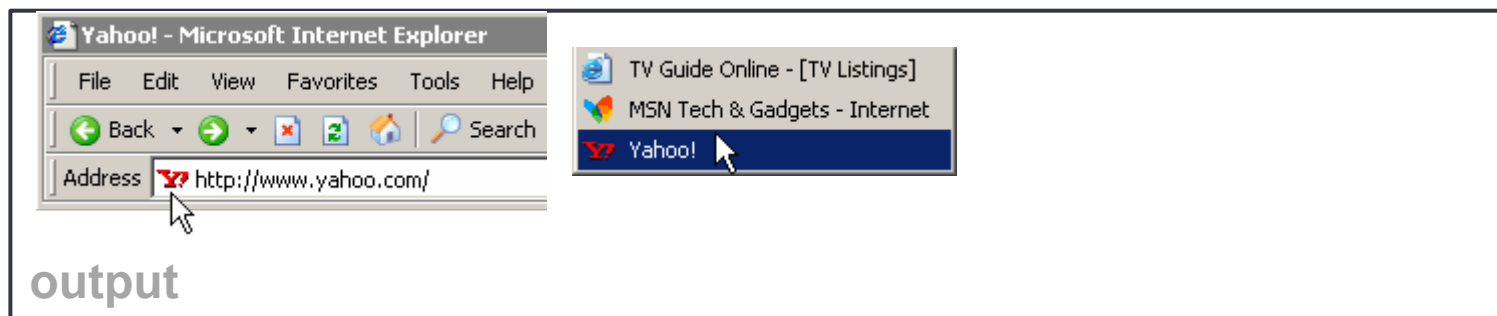
- Harry Potter characters:
 - Harry Potter
 - Hermione
 - Ron
- LOTR characters:
 - Frodo
 - Bilbo
 - Sam

output

Favorite icon (“favicon”)

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

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



<http://tools.dynamicdrive.com/favicon/>

HTML Forms: <input>

```
<form action="">  
First name:<br>  
<input type="text"  
name="firstname"  
value="John">  
<br>  
Last name:<br>  
<input type="text"  
name="lastname">  
</form>
```

First name:

Last name:

HTML Forms: <select>

```
<form action="action_page.php">
  <select name="sweets">
    <option
value="Choclates">Chocolates</option>
    <option value="Cake">Cake</option>
    <option value="Cookies">Cookies</
option>
    <option value="Icecream">Icecream</
option>
  </select>
  <br><br>
  <input type="submit">
</form>
```


Exercise: payment forms

Please create a .html that generate a page looks like this. You can download icon images from the folder on blackboard or search them online.

Buying is easy. Just fill out the following form.

Full Name:

Email address:



Web standards

- It is important to write proper HTML code and follow proper syntax.
- Why use valid HTML and web standards?
 - more rigid and structured language
 - more interoperable across different web browsers
 - more likely that our pages will display correctly in the future
 - can be interchanged with other XML data: [SVG](#) (graphics), [MathML](#), [MusicML](#), [etc.](#)

W3C HTML Validator

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

- validator.w3.org
- checks your HTML code to make sure it follows the official HTML syntax
- more picky than the browser, which may render bad HTML correctly

The bad way to produce styles

```
<p>
  <font face="Arial">Welcome to Greasy
Joe's.</font>
  You will <b>never</b>, <i>ever</i>,
<u>EVER</u> beat
  <font size="+4" color="red">OUR</font>
prices!
</p>
```

Welcome to Greasy Joe's. You will **never**, *ever*, EVER beat **OUR** prices!

Cascading Style Sheets (CSS): <link>

```
<head>
```

```
...
```

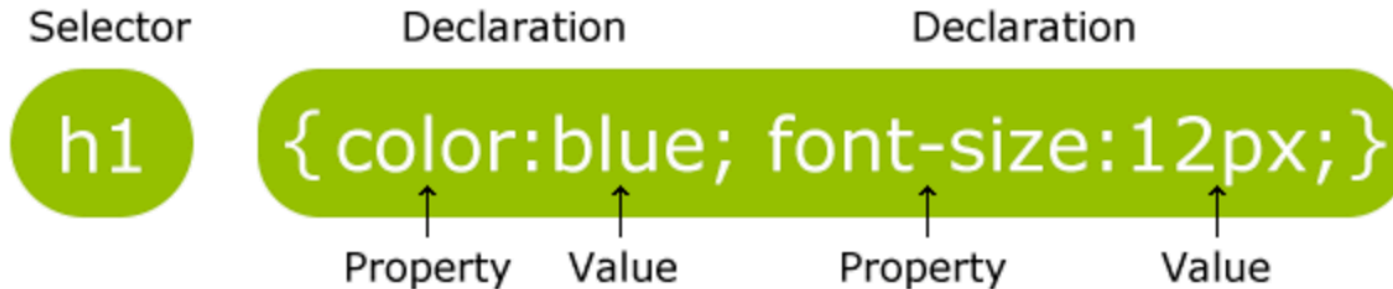
```
    <link href="filename" type="text/css"  
rel="stylesheet" />
```

```
...
```

```
</head>
```

- CSS describes the appearance and layout of information on a web page (as opposed to HTML, which describes the content of the page)
- can be embedded in HTML or placed into separate .css file (preferred)

Cascading Style Sheets (CSS) syntax



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

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

CSS properties for colors

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

This paragraph uses the style above.

Property	Description
color	color of an element's text
background-color	color that will appear behind the element

Specifying color

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

This paragraph uses the first style above.

This h2 uses the second style above.

This h4 uses the third style above.

- color names: **aqua**, black, **blue**, **fuchsia**, gray, **green**, **lime**, **maroon**, **navy**, **olive**, **purple**, **red**, silver, **teal**, (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)

Specifying attributes with class

```
<head>
  <style type="text/css">
    p.blue_paragraphs{
      color:blue;
    }
  </style>
</head>
```

```
<body>
  <p class="blue_paragraphs"> Paragraph 1</p>
  p>

</body>
```

Color picker

- http://www.w3schools.com/tags/ref_colorpicker.asp
- http://www.w3schools.com/tags/ref_colormixer.asp

CSS: Fonts

property	description
<u>font-family</u>	which font will be used
<u>font-size</u>	how large the letters will be drawn
<u>font-style</u>	used to enable/disable italic style
<u>font-weight</u>	used to enable/disable bold style
<u>Complete list of font properties</u>	

font-size

```
p {  
    font-size: 14pt;  
}
```

This paragraph uses the style above.

- 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-family

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

This paragraph uses the first style above.

This h2 uses the second style above.

enclose multi-word font names in quotes

Font-family

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

- This paragraph uses the above style.
- can specify multiple fonts from highest to lowest priority
- generic font names:
 serif, sans-serif, **cur**sive, fantasy, monospace

Using Google fonts

Specify in HTML the Google font link:

```
<head>
<link rel="stylesheet" href="style.css"
href="https://fonts.googleapis.com/css?
family=Tangerine|Inconsolata|Droid+Sans|Open
+Sans">

</head>
```

Request font in style.css:

```
body {
  font: lighter 17px/20px Open+Sans,Droid+Sans,
HelveticaNeue-Light, 'Helvetica Neue', Helvetica,
Arial, sans-serif;
}
```

https://developers.google.com/fonts/docs/getting_started?hl=en

Exercise:

- Create a simple HTML with two headers `<h1>`, `<h2>`, `<p>`.
- Write three paragraphs of texts.
- Using CSS:
 - Make the page background to be light green: `#e0ede7`
 - Make the two headings different fonts. E.g.
 - `<h1>` `Courier New`
 - `<h2>` `Arial`
 - Make `<p>` `Georgia`
 - Make the three paragraphs different colors.

Exercise:

- Download the resume.html from blackboard.
- Please fix the typos and inconsistency in the .html
- Can you create a style.css so that this page looks better?
- For the body text: use one of the Google font:
- <https://www.google.com/fonts/specimen/Open+Sans>
- For the headers, choose another font.
- Make a nice background color for the page
- Make the header have different font from the paragraph
- Experiment with font size and font spacing.

Exercise: Address forms

Please create a .html that generate a page looks like this.

Please fill out your address

Street line 1:

Street line 2:

City:

State/Province:

Zip/Postal code:

Country:

Homework & Exercises

Today's reading (Introduction to CSS):

[https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_Started/What is CSS](https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_Started/What_is_CSS)

[https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_Started/Why use CSS](https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_Started/Why_use_CSS)

Tables

- A table is defined with `<table>` tag.
- A table is divided into rows with the `<tr>` tag.
- Each row is divided into data cells with the `<td>` tag, `td` stands for table data.
- `<td>` holds the content of a data cell.
- `<td>` can contain text, images, links, other tables.
- `<th>` defines the header of the table. HTML will create a new column of the table.
- `<table border =“1”>`

Tables with cell padding

Cell padding create space inside a table cell

Exercise

Using `<table>` tag, create a page like this. Don't forget cell padding.

My trip this summer

Paris



Berlin



Vienna



Linking within a page

Link to another location in the same page

```
<p>  
<a href="#C4">See also Chapter 4.</a>  
</p>
```

```
<h2>Chapter 1</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 2</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 3</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2><a id="C4">Chapter 4</a></h2>  
<p>This chapter explains ba bla bla</p>
```

Useful Tags

- h1,h2, Headings
- p Paragraphs
- ol “Ordered list” (1.2.3., I.II.III., a.b.c.)
- ul “Unordered” list (bullet points)
- li List item, use without ol or ul
- a “Anchor” tags, used for links
- img Insert images