

## More HTML

### Chapter 4

## Nesting Tags

- How do you write the following in HTML?

This is really, *REALLY* fun.

- The wrong way:

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

- Tags must be correctly nested.

- A closing tag must match the most recently opened tag.

- The right way:

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

2

## Spacing And Indentation

- Which tag is not closed?

```
<html><head><title>Can you find it?</title></head>  
<body><p><ul><li>Not it!</li><li><ol><li>Is it here?  
</li><li>Or maybe it's this one?</li></ol></li><li>  
More words here</li><li>This is very hard to  
read</li></p></body></html>
```

3

## How About Now?

```
<html>  
<head>  
  <title>Can you find it?</title>  
</head>  
<body>  
  <p>  
    <ul>  
      <li>Not it!</li>  
      <li>  
        <ol>  
          <li>Is it here?</li>  
          <li>Or maybe it's this one?</li>  
        </ol>  
      </li>  
      <li>More words here</li>  
      <li>This is very hard to read</li>  
    </p>  
  </body>  
</html>
```

4

## Spacing And Indentation Guidelines

- If the tag's content fits on one line, open and close the tag on the same line.

```
<li>Is it here</li>
```

- Otherwise, the tag's content should be indented more than the starting and closing tags.

```
<ol>  
  <li>Is it here?</li>  
  <li>Or maybe this tag is not closed?</li>  
</ol>
```

- If the starting and closing tags are on separate lines, they should line up vertically, like above.

5

## Spacing And Indentation Guidelines

- Use *newlines* to structure the HTML.

- The wrong way:

```
<ol>  
  <li>Item 1</li><li>Item 2</li><li>Item 3</li>  
</ol>
```

- The right way:

```
<ol>  
  <li>Item 1</li>  
  <li>Item 2</li>  
  <li>Item 3</li>  
</ol>
```

6

## Extensible HTML: XHTML

- Newer version of HTML, standardized in 2000
- XHTML tags must always be ...
  - ... in lowercase
  - ... closed
  - ... nested properly
- **XHTML 1.0 Strict** is the standard we will be using.
  - Reference: <http://www.december.com/html/x1/>

7

## Why Use Standards?

- Ensure interoperability across different browsers
- Can easily verify if standards-compliant
  - XHTML Validation Service: <http://validator.w3.org/>
- Alas, not all web browsers (particularly Internet Explorer) adhere to the standards
  - <http://www.webdevout.net/browser-support-summary>

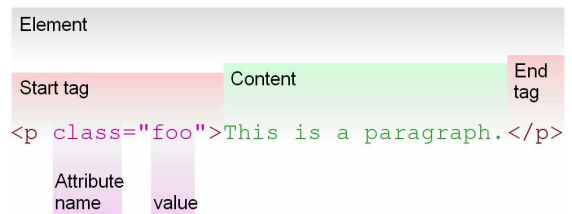
8

## Basic XHTML Template

```
<?xml version="1.0" encoding="utf-8" ?>
<!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">
  <head>
    <title>page title goes here</title>
  </head>
  <body>
    page content goes here
  </body>
</html>
```

9

## HTML Element



10

## Block vs. Inline Elements

- Block elements create "larger" structures than inline elements.
- In general,
  - block elements may contain text, inline elements, and other block elements.
  - inline elements may contain only text and other inline elements.
- Block elements begin on new lines, inline elements do not.

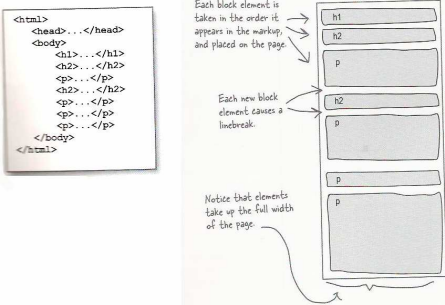
11

## Block or Inline?

- Block
  - h1, h2, ..., h6
  - p
  - ul, ol
  - hr
- Inline
  - br
  - em
  - strong
  - a
  - img

12

## Document Flow: Block Elements

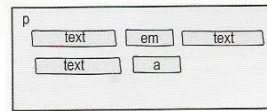


13

## Document Flow: Inline Elements

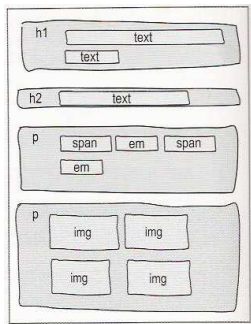
```

<p>
Join us <em>any evening</em> for
these and all our other wonderful <a
href="beverages/elixir.html" title="Head
First Lounge Elixirs">elixirs</a>.
</p>
    
```



14

## Document Flow Example



15

## Why Important?

Only block elements are directly allowed inside the **body** element.

Vendor: W3C/DOM HTML 1.0 Strict/EN

Element: body

Program: document body

Description: This element encloses the text flow of a document. Note that you only have one body. For example:

```

<body>
<h1>Hello, World!</h1>
<p>This is a minimal "Hello World" document.</p>
</body>
    
```

Start tag: <body>

Attributes	Name	Type	Default	Comment
class	CDATA	IMPLIED	space-separated list of classes	
id	(#ID)	IMPLIED	identifier for user-defined object	
id	ID	REQUIRED	document-wide unique id	
lang	NMTOKEN	REQUIRED	language code (document's compatible); language code as RFC3066	
onclick	CDATA	IMPLIED	a pointer button was clicked, script expression	
ondblclick	CDATA	IMPLIED	a pointer button was double clicked, script expression	
onkeydown	CDATA	IMPLIED	a key was pressed down, script expression	
onkeypress	CDATA	IMPLIED	a key was pressed and released, script expression	
onkeyup	CDATA	IMPLIED	a key was released, script expression	
onload	CDATA	IMPLIED	script expression; the document has been loaded	
onmousedown	CDATA	IMPLIED	a pointer button was pressed down, script expression	
onmousemove	CDATA	IMPLIED	a pointer was moved within, script expression	
onmouseout	CDATA	IMPLIED	a pointer was moved away, script expression	
onmouseover	CDATA	IMPLIED	a pointer was moved onto, script expression	
onmouseup	CDATA	IMPLIED	a pointer button was released, script expression	
onunload	CDATA	IMPLIED	script expression; the document has been removed	
style	CDATA	IMPLIED	associated style sheet data	
title	CDATA	REQUIRED	arbitrary title; that used to title	
xml:lang	NMTOKEN	IMPLIED	language code (as per XML 1.0 spec); language code as RFC3066	

Content: [CDATA[ ]

End tag: </body>

Referenced by: [none]

Elements allowed in body element

Image snapshot from XHTML 1.0 Strict Reference <http://www.december.com/html/1/element/body.html>

16

## What About Links?

- Allowable content for **body**:

Content: [CDATA[ ]

- Illegal:

```

<body>
<a href="http://www.yahoo.com">Yahoo!</a>
</body>
    
```

- How can a web page have links?
  - One solution is to put the link in a block element.

```

<body>
<p><a href="http://www.yahoo.com">Yahoo!</a></p>
</body>
    
```

17

## Images In XHTML

- Requires an **alt** attribute describing the image

```

<p>

</p>
    
```

- Image present:



- Image missing:

Hamster eating carrot

18

## XHTML Validation

- Make sure your files validate!
  - XHTML Validation Service: <http://validator.w3.org/>
- When fixing errors, fix the first error and then try validating again.
  - For example, a single missing closing tag might be confused for several errors.
- Validation does not check for proper indentation.

19



## HTML/XHTML Resources

- W3Schools HTML Tutorial
  - <http://www.w3schools.com/html/default.asp>
- W3Schools XHTML Tutorial
  - <http://www.w3schools.com/xhtml/default.asp>
- Complete list of HTML tags
  - <http://www.w3schools.com/tags/default.asp>
- XHTML 1.0 Strict Reference
  - <http://www.december.com/html/x1/>

21

## Cascading Style Sheets (CSS)

- Describe the appearance, layout, and presentation of information on a web page
- Describe *how* information is to be displayed, not *what* is being displayed

22

## Basic CSS Rule

- A CSS file contains one or more **rules**.
- Rule *syntax*:

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

- **selector**: HTML element you wish to style
- **property**: attribute you wish to change

23

## Example

- **CSS:**

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

- **HTML:**

```
<p>Can you see me now?</p>
```

Can you see me now?

24

## Color Properties

- `color`: color of the element's text
- `background-color`: color that will appear behind the element

25

## Colors

- Colors are defined by three numbers (from 0 to 255) representing the amount of red, green, and blue (RGB)
- Can specify colors by:
  - Pre-defined name
    - aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, yellow
  - RGB triplet
    - `rgb(R, G, B)` where *R*, *G*, and *B* are each numbers from 0 to 255
  - RGB triplet in hexadecimal format\*
    - `#RRGGBB` where *RR*, *GG*, *BB* are the red, green, and blue values in hexadecimal
- ColorSchemer: <http://www.colorschemer.com/online.html>

\*You do not need to understand hexadecimal.

26

## Colors Example

- Ways to specify teal

```
h1 {  
  color: teal;  
}
```

```
h1 {  
  color: rgb(0,128,128);  
}
```

```
h1 {  
  color: #008080;  
}
```

27

## More Properties: Font

- `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
- For examples on how to set these and other properties, see:
  - [http://www.w3schools.com/css/css\\_reference.asp](http://www.w3schools.com/css/css_reference.asp)
  - <http://www.tizag.com/cssT/reference.php>

28

## Attaching a CSS File: `<link />`

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

- Copy the `rel` and `type` attributes and their corresponding values verbatim
- Use the `href` attribute to specify the location of a stylesheet file
  - Path location may be absolute or relative

29

## CSS Resources

- CSS property references:
  - [http://www.w3schools.com/css/css\\_reference.asp](http://www.w3schools.com/css/css_reference.asp)
  - <http://www.tizag.com/cssT/reference.php>
- CSS tutorial:
  - <http://www.tizag.com/cssT/>
- CSE 190 M (Web Programming) lecture notes:
  - [http://www.cs.washington.edu/education/courses/cse190m/CurrentQtr/lectures/slides/lecture03-basic\\_css.html](http://www.cs.washington.edu/education/courses/cse190m/CurrentQtr/lectures/slides/lecture03-basic_css.html)

30