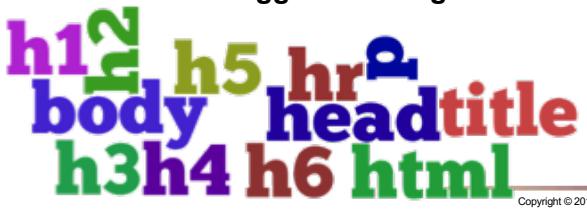
Document and Block Element Review

- In the previous slide set we covered the following elements
  - Which are Document Elements?
  - Which are Block Elements?
  - What is the function of each element?
  - Which is the biggest heading element?



 1

X/HTML: Inline -Text Markup Elements

- Some of the Inline Text Markup Elements

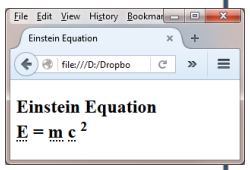
Semantic Markup		Format Markup?
Usually bold	= Usually bold	abc
Emphasize	= Usually *italics*	abc
<del> Deleted text </del>	= ~~Deleted text~~	<s>abc</s>
<ins> Inserted text</ins>	= Inserted text	<u>abc</u>
_{Subscript text}	= Subscript text	
^{Superscript text}	= Superscript text	
<mark>Marked text</mark>	= Marked text	
Smaller text	= Smaller text	
<abbr title="Japan">JP</abbr>	= JP	

- Break Line is an *Inline* and *Empty* Element
  - The line will break <br /> or <br> here

 2

Inline Markup Example

```
1.  <!DOCTYPE html>
2.  <html>
3.    <head>
4.      <title>Einstein Equation</title>
5.    </head>
6.    <body>
7.      <h2>
8.        Einstein Equation<br />
9.        <abbr title="Energy">E</abbr> =
10.       <abbr title="Mass">m</abbr>
11.       <abbr title="Speed of Light">c</abbr>
12.       <sup>2</sup>
13.     </h2>
14.   </body>
15. </html>
```



 3

X/HTML: Inline - Symantec Elements

- Computer Code Symantec Markup
  - <code>computer code</code> = usually monospaced
  - <samp>sample output</samp> = usually monospaced
  - <kbd>keyboard input</kbd> = usually monospaced
  - <var>variable markup</var> = usually italics
- Miscellaneous Inline Text Markup Elements
  - <cite>title of a work</cite> = usually italics
  - specifying text = no inherent formatting
  - <pre>preformatted text</pre> = monospaced and all white space displayed including multiple spaces, tabs, and new lines

 4

Nested Inline Example

Quadratic Equation Solution

Solve: $x^2 - 2x = 35$

Step 1: Move all the terms to one side by subtracting 35 from both sides
$x^2 - 2x - 35 = 0$

Step 2: Factor trinomial into product of two binomials
$(x - 7)(x + 5) = 0$

Step 3: Set each factor to zero and solve.
$(x - 7) = 0$ or $(x + 5) = 0$

Step 4: Solve for the two solutions
$x_1 = 7$ and $x_2 = -5$

```
1.  <!DOCTYPE html>
2.  <html>
3.  <head>
4.    <title>Algebra Example</title>
5.  </head>
6.  <body>
7.    <h2>Quadratic Equation Solution</h2>
8.    <h3>Solve: <var>x</var><sup>2</sup> - 2<var>x</var> = 35 </h3>
9.    <p>Step 1: Move all the terms to one side by subtracting 35 from both sides<br>
10.   <strong><var>x</var><sup>2</sup> - 2<var>x</var> - 35 = 0 </strong></p>
11.   <p>Step 2: Factor trinomial into product of two binomials<br>
12.   <strong>(<var>x</var> - 7)(<var>x</var> + 5) = 0</strong></p>
13.   <p>Step 3: Set each factor to zero and solve.<br>
14.   <strong>(<var>x</var> - 7) = 0 </strong> or
15.      <strong> (<var>x</var> + 5) = 0</strong></p>
16.   <p><strong>Step 4: Solve for the two solutions<br>
17.   <var>x</var><sub>1</sub> = 7 </strong> and
18.       <strong> <var>x</var><sub>2</sub> = -5</strong></p>
19. </body>
20. </html>
```


Character Encoding

- X/HTML Character encoding specifies the document character set used for webpage.
  - Standard US ASCII XHTML designation
    `<meta http-equiv="content-type" content="text/html; charset=us-ascii" />`
  - Western European Languages XHTML designation
    `<meta http-equiv="content-type" content="text/html; charset=iso-8859-1" />`
  - Unicode UTF-8 Recommended for X/HTML documents and includes character glyphs for all human languages
    `<meta http-equiv="content-type" content="text/html; charset=utf-8" />`
- HTML5 simplifies Character encoding meta tag
  `<meta charset="utf-8">`
- Language Specification uses `<html>` language attribute
  - `<html lang="en">` Primary language in document is English
  - `<html lang="es">` Primary language in document is Spanish
  - `<html lang="ru">` Primary language in document is Russian
  - `<html lang="ja">` Primary language in document is Japanese
  - `<html lang="zh">` Primary language in document is Chinese

Special Characters and Symbols

<	&lt;	&#60;
>	&gt;	&#62;
&	&amp;	&#38;
"	&quote;	&#34;
©	&copy;	&#169;
Ñ	&Ntilde;	&#209;
ñ	&ntilde;	&#241;
°	&deg;	&#176;
·	&middot;	&#183;
•	&bull;	
™	&trade;	
»	&raquo;	&#187;
→	&rarr;	
±	&plusmn;	&#177;
¥	&yen;	&#165;
®	&reg;	&#174;
£	&pound;	&#163;
å	&aring;	&#229;

```
1.  <!DOCTYPE html> <html lang="en"><head>
2.    <meta charset="utf-8">
3.    <title>Character Encoding &amp;amp; Colors</title>
4.  </head>
5.  <body style="background-color: yellow ; color: blue;">
6.    <h2>WebRate&amp;trade;</h2>
7.    <h3>Todays Rates:<br>
8.    US$ 100.00 = JP&amp;yen; 11,275 = UK&amp;pound; 67.30</h3>
9.    <p>Copyright &amp;copy; 2016 WebRate&amp;trade;
10.   &amp;nbsp; &amp;nbsp; H&amp;aring;gat&amp;ntilde;a, Guam</p>
11. </body>
12. </html>
```

WebRate™

Todays Rates:
US$ 100.00 = JP¥ 11,275 = UK£ 67.30

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Factoring Trinomial using AC Method

Assignment 1 - Part B:
Code the factoring shown as valid HTML5.

Solve: $6x^3 - 40x^2 + 56x$

Step 1: $2x[\ 3x^2 - 20x + 28\ ]$ Factor out anything common to all terms.

Step 2: $2x[\ 3x^2 + (-20)x + 28\ ]$ Write trinomial in standard form $ax^2 + bx + c$

Step 3: $2x[\ 3x^2 + (-20)x + 28\ ]$ Determine product of $a \cdot c = 3 \cdot 28 = 84$

Verify validation using the site validator.w3.org

Step 4: List all pairs of factors of $a \cdot c$ If $a \cdot c$ is negative, then factors have opposite signs. If $a \cdot c$ is positive, then factors have same signs. Sign of b determines sign of factors.
Factors of 84 are: -1, -84 -4, -21 -6, -14 -7, -12
Select factor pair such that their sum is b term = -20

Step 5: Split middle term b order factors as muliple of the a and c terms
$2x[\ 3x^2 + (-6)x + (-14)x + 28\ ]$

Step 6: Factor out something common to first two terms.
$2x[\ 3x^2 + (-6)x + (-14)x + 28\ ] \rightarrow 2x[\ 3x(x - 2) + (-14)x + 28\ ]$

Step 7: Factor out same binomial in last two terms.
$2x[\ 3x(x - 2) + (-14)(x - 2)\ ]$

Step 8: Apply Distributive Law and convert trinomial into the product of two binomials and a monomial.
$2x[\ (3x - 14)(x - 2)\ ] \rightarrow 2x(3x - 14)(x - 2)$ This is the answer

