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Hypertext Markup Language

- **HTML – Hyper Text Markup Language**
 - ◆ A notation for describing
 - document structure (semantic markup)
 - formatting (presentation markup)
 - ◆ Looks (looked?) like:
 - A Microsoft Word document
 - ◆ The markup tags provide information about the page content structure
 - ◆ A HTML document consists of many tags

Creating HTML Pages

- An HTML document must have an **.htm** or **.html** file extension
- HTML files can be created with **text editors**:
 - NotePad, NotePad ++, PSPad
- Or **HTML editors (WYSIWYG Editors)**:
 - Microsoft WebMatrix
 - Microsoft Expression Web
 - Microsoft Visual Studio
 - Adobe Dreamweaver

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HTML – Past, Present, Future

- 1991 – HTML first mentioned – Tim Berners-Lee – HTML tags
- 1993 – HTML (first public version, published at IETF)
- 1993 – HTML 2 draft
- 1995 – HTML 2 – W3C
- 1995 – HTML 3 draft
- 1997 – HTML 3.2 – “Wilbur”
- 1997 – HTML 4 – “Cougar” – CSS
- 1999 – HTML 4.01 (final)
- 2000 – XHTML draft
- 2001 – XHTML (final)
- 2008 – HTML5 / XHTML5 draft
- 2011 – feature complete HTML5
- 2022 – HTML5 – final specification



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HTML Terminology

Tags, Attributes and Elements



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HTML Terminology

- Concepts in HTML
 - Tags
 - Opening tag and closing tag
 - The smallest piece in HTML
 - Attributes
 - Properties of the tag
 - Size, color, etc...
 - Elements
 - Combination of opening, closing tag and attributes

HTML Tags

- ◆ Tags are the smallest piece in HTML Document
 - Start with "<" and end with ">"
- ◆ Two kinds of tags
 - Opening
 - Mark the start of an HTML element
 - Closing
 - Mark the end of an HTML element
 - Start in "</"

```

<html>
  <body>
    <h1>Hello Pesho!</h1>
  </body>
</html>

```

Attributes

- ◆ Attributes are properties of HTML Elements
 - Used to set size, color, border, etc...
 - Put directly in the tags
 - Has value surrounded by " "
 - The value is always a string

```

<!-- makes a hyperlink to Google -->
<a href="http://google.com"> go to Google</a>

<!-- makes a horizontal line -->
<hr width="95%" size="3px"/>

<!-- adds an image in the web page -->


```

Most Common Attributes

- ◆ There are some attributes that are common for every HTML element
 - Id, class, name, style
- ◆ And some attributes are specific
 - For example the attribute `src` of the `img` element
 - Shows the path to the image to be shown

HTML Elements

- ◆ HTML Elements are combination of tags and attributes
- ◆ Opening tag with some or none attributes and a closing tag


```

<a href="http://google.com"> go to Google</a>

<html>...</html>

```

HTML Terminology

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HTML Document Structure

HTML Document, Doctype, Head, Body




HTML Document Structure

- Some elements are essential to each HTML Document:
 - html, head, body, doctype
- The html element
 - Used to mark the beginning and ending of a HTML document
 - All the content of the web page is inside this tag

```
<html>
  ...
</html>
```

Head Element

- The head tag contains markup that is not visible to the user (i.e. the person using the browser)
 - But helps the browser to render correctly the HTML document
- What is in there?
 - Styles, scripts
 - Declare encodings
 - Etc..
 - The title tag - the text in the tab of a browser



Body Element and Doctype

- body element contains all the visible to the user markup
 - Headings, text, hyperlinks, images, etc...
 - Textboxes, sliders, buttons...
- Doctype is kind of the validator of the page
 - Tells the browser in which version of HTML the page is written
- Most common Doctype
 - HTML 5 Doctype

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

- HTML 5 Doctype

HTML Document Structure

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HTML Common Elements

Used in 90% of all the sites

Text Formatting

- Text formatting tags modify the text between the opening tag and the closing tag
 - Ex. **Hello** makes "Hello" bold

<code></code>	bold
<code><i></i></code>	<i>italicized</i>
<code><u></u></code>	<u>underlined</u>
<code><sup></sup></code>	Sample ^{superscript}
<code><sub></sub></code>	Sample _{subscript}
<code></code>	strong
<code></code>	<i>emphasized</i>
<code><pre></pre></code>	Preformatted text
<code><blockquote></blockquote></code>	Quoted text block
<code></code>	Deleted text – strike-through

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Some Simple Tags

- Hyperlink Tags


```
<a href="http://www.telerik.com/" title="Telerik">Link to Telerik Web site</a>
```
- Image Tags


```

```
- Text formatting tags


```
This text is <em>emphasized.</em>
<br />new line<br />
This one is <strong>more emphasized.</strong>
```

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Headings and Paragraphs

- Heading Tags (h1 – h6)


```
<h1>Heading 1</h1>
<h2>Sub heading 2</h2>
<h3>Sub heading 3</h3>
```
- Paragraph Tags


```
<p>This is my first paragraph</p>
<p>This is my second paragraph</p>
```
- Sections: div and span


```
<div style="background: skyblue;">
  This is a div</div>
```

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Ordered Lists: Tag

- Create an Ordered List using :


```
<ol type="1">
  <li>Apple</li>
  <li>Orange</li>
  <li>Grapefruit</li>
</ol>
```
- Attribute values for type are 1, A, a, I, or i
 - 1. Apple
 - 2. Orange
 - 3. Grapefruit
 - A. Apple
 - B. Orange
 - C. Grapefruit
 - a. Apple
 - b. Orange
 - c. Grapefruit
 - I. Apple
 - II. Orange
 - III. Grapefruit
 - i. Apple
 - ii. Orange
 - iii. Grapefruit

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Unordered Lists: Tag

- Create an Unordered List using :


```
<ul type="disc">
  <li>Apple</li>
  <li>Orange</li>
  <li>Grapefruit</li>
</ul>
```
- Attribute values for type are:
 - disc, circle or square
 - Apple
 - Orange
 - Pear
 - Apple
 - Orange
 - Pear
 - Apple
 - Orange
 - Pear

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Definition lists: <dl> tag

- Create definition lists using <dl>
- Pairs of text and associated definition; text is in <dt> tag, definition in <dd> tag

```
<dl>
  <dt>HTML</dt>
  <dd>A markup language ...</dd>
  <dt>CSS</dt>
  <dd>Language used to ...</dd>
</dl>
```

- Renders without bullets
- Definition is indented

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HTML Common Elements

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Section Elements

The <div> and The

Block and Inline Elements

- Block elements add a line break before and after them, and expand to 100% width
- <div>, <p>, <h1>, are block elements
- Inline elements don't break the text before and after them
- , <a>, are inline elements
- <http://www.w3.org/TR/CSS2/visuren.html#block-boxes>

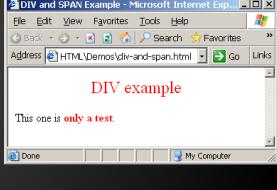
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The <div> Tag

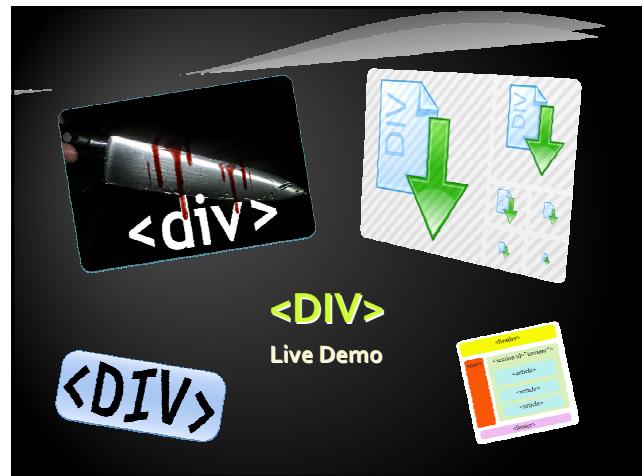
- <div> creates logical divisions within a page
 - Block style element
 - Used with CSS
- Example:

div-and-span.html

```
<div style="font-size:24px; color:red">DIV example</div>
<p>This one is <span style="color:red; font-weight:bold">only a test</span>.</p>
```



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<DIV>

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The Tag

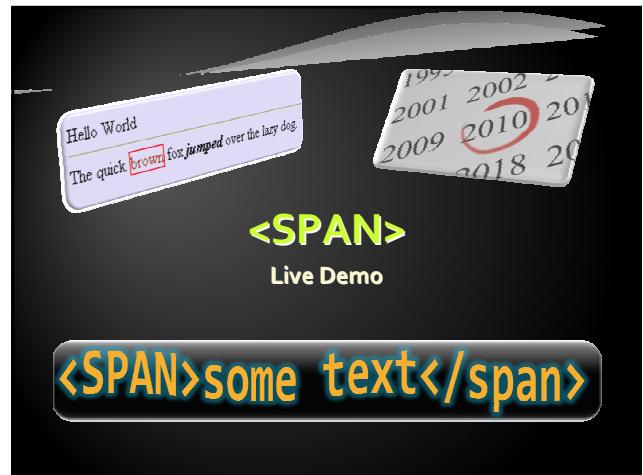
- Inline style element
- Useful for modifying a specific portion of text
 - Don't create a separate area (paragraph) in the document
- Makes sense only with some CSS

span.html

```
<p>This one is <span style="color:red; font-weight:bold">only a test</span>.</p>
<p>This one is another <span style="font-size:32px; font-weight:bold">TEST</span>.</p>
```



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some text