INT106 Lab – HTML5 Semantics (Credits: www.w3schools.com)

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| Semantics means (from Ancient Greek), is the study of meaning.  **Semantic elements are elements with a meaning**. |

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| HTML5 offers new semantic elements to define different parts of a web page:  <article> Defines an article  <aside> Defines content aside from the page content  <details> Defines additional details that the user can view or hide  <figcaption> Defines a caption for a <figure> element  <figure> Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.  <footer> Defines a footer for a document or section  <header> Specifies a header for a document or section  <main> Specifies the main content of a document  <mark> Defines marked/highlighted text  <nav> Defines navigation links  <section> Defines a section in a document  <summary> Defines a visible heading for a <details> element  <time> Defines a date/time |

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| **Why Semantic HTML5 Elements?**  **With HTML4**, developers used their own favorite attribute names to style page elements:  header, top, bottom, footer, menu, navigation, main, container, content, article, sidebar, topnav, ...  This made it impossible for search engines to identify the correct web page content.  **With HTML5** elements like: <header> <footer> <nav> <section> <article>, this will become easier.  According to the W3C, a Semantic Web:  "Allows data to be shared and reused across applications, enterprises, and communities." |

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| **The <section> element** defines a section in a document.  According to W3C's HTML5 documentation: "A section is a thematic grouping of content, typically with a heading." |

Try the following code to see how <section> works.

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| <!DOCTYPE html>  <html>  <body>  <section>  <h1>WWF</h1>  <p>  The World Wide Fund for Nature (WWF) is an international organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund. WWF was founded in 1961.  </p>  </section>  <section>  <h1>WWF's Panda symbol</h1>  <p>  The Panda has become the symbol of WWF. The well-known panda logo of WWF originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the London Zoo in the same year of the establishment of WWF.  </p>  </section>  </body>  </html> |

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| **The <article> element** specifies independent, self-contained content.  An article should make sense on its own, and it should be possible to read it independently from the rest of the web site.  Examples of where an <article> element can be used:   * Forum post * Blog post * Newspaper article |

Try the following code to see how <article> works.

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| <!DOCTYPE html>  <html>  <body>  <article>  <h1>What Does WWF Do?</h1>  <p>WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature.</p>  </article>  </body>  </html> |

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| **The <header> element** specifies a header for a document or section.  The <header> element should be used as a container for introductory content.  You can have several <header> elements in one document. |

The following example defines a header for an article.

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| <!DOCTYPE html>  <html>  <body>  <article>  <header>  <h1>What Does WWF Do?</h1>  <p>WWF's mission:</p>  </header>  <p>WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature.</p>  </article>  </body>  </html> |

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| **The <footer> element** specifies a footer for a document or section.  A <footer> element should contain information about its containing element.  A footer typically contains the author of the document, copyright information, links to terms of use, contact information, etc.  You can have several <footer> elements in one document. |

Try the following code to see how <footer> works.

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| <!DOCTYPE html>  <html>  <body>  <footer>  <p>Posted by: Hege Refsnes</p>  <p>Contact information: <a href="mailto:someone@example.com">  someone@example.com</a>.</p>  </footer>  </body>  </html> |

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| **The <nav> element** defines a set of navigation links.  The <nav> element is intended for large blocks of navigation links. However, not all links in a document should be inside a <nav> element! |

Try the following code to see how it works.

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| <!DOCTYPE html>  <html>  <body>  <nav>  <a href="/html/">HTML</a> |  <a href="/css/">CSS</a> |  <a href="/js/">JavaScript</a> |  <a href="/jquery/">jQuery</a>  </nav>  </body>  </html> |

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| **The <aside> element** defines some content aside from the content it is placed in (like a sidebar).  The aside content should be related to the surrounding content. |

Example:

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| <!DOCTYPE html>  <html>  <body>  <p>My family and I visited The Epcot center this summer.</p>  <aside>  <h4>Epcot Center</h4>  <p>The Epcot Center is a theme park in Disney World, Florida.</p>  </aside>  </body>  </html> |

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| **HTML5 <figure> and <figcaption> Elements**  In books and newspapers, it is common to have captions with images.  The purpose of a caption is to add a visual explanation to an image.  With HTML5, images and captions can be grouped together in <figure> elements: |

Example:

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| <!DOCTYPE html>  <html>  <body>  <p>The Pulpit Rock is a massive cliff 604 metres (1982 feet) above Lysefjorden, opposite the Kjerag plateau, in Forsand, Ryfylke, Norway. The top of the cliff is approximately 25 by 25 metres (82 by 82 feet) square and almost flat, and is a famous tourist attraction in Norway.</p>  <figure>  <img src="img\_pulpit.jpg" alt="The Pulpit Rock" width="304" height="228">  <figcaption>Fig.1 - The Pulpit Rock, Norway.</figcaption>  </figure>  </body>  </html> |

**Example of a typical web page.**

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| <!DOCTYPE html>  <html lang="en">  <title>HTML</title>  <meta charset="utf-8">  <!--[if lt IE 9]>  <script src="http://html5shiv.googlecode.com/svn/trunk/html5.js">  </script>  <![endif]-->  <style>  body {  font-family:Verdana,sans-serif;font-size:0.8em;  }  header,footer,section,article {  border:1px solid grey;  margin:5px;margin-bottom:15px;padding:8px;  background-color:white;  }  header,footer {  color:white;background-color:#444;margin-bottom:5px;  }  section {  background-color:#ddd;  }  nav ul {  margin:0;padding:0;  }  nav ul li {  display:inline; margin:5px;  }  </style>  <body>  <header>  <h1>Monday Times</h1>  </header>  <nav>  <ul>  <li>News</li>  <li>Sports</li>  <li>Weather</li>  </ul>  </nav>  <section>  <h2>News Section</h2>  <article>  <h2>News Article</h2>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  </article>  <article>  <h2>News Article</h2>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  <p>Ipsum lurum hurum turum ipsum lurum hurum turum  ipsum lurum hurum turum ipsum lurum hurum turum.</p>  </article>  </section>  <footer>  <p>&copy; 2014 Monday Times. All rights reserved.</p>  </footer>  </body>  </html> |

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| **The HTML <div> Element**  The HTML <div> element is a block level element that can be used as a container for other HTML elements.  **The <div> element has no special meaning.** It has no required attributes, but **style and class** are common.  Because it is a block level element, the browser will display line breaks before and after it.  When used together with CSS, the <div> element can be used to style blocks of content.  **The HTML <span> Element**  The HTML <span> element is an inline element that can be used as a container for text.  **The <span> element has no special meaning**. It has no required attributes, but **style and class** are common.  Unlike <div>, which is formatted with line breaks, the <span> element does not have any automatic formatting.  When used together with CSS, the <span> element can be used to style parts of the text: |

Try the following code to see how <div> with **style attribute** works.

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| <!DOCTYPE html>  <html>  <body>  <div style="background-color:black; color:white; margin:20px; padding:20px;">  <h2>London</h2>  <p>  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.  </p>  <p>  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.  </p>  </div>  </body>  </html> |

Try the following code to see how <span> with **style attribute** works.

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| <!DOCTYPE html>  <html>  <body>  <h1>My <span style="color:red">Important</span> Heading</h1>  </body>  </html> |

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| \*NOTE <div> and <span> were called the Grouping tags. |

Try the following code to see how <div> with **class attribute** works.

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| <!DOCTYPE html>  <html>  <head>  <style>  .cities {  background-color:black;  color:white;  margin:20px;  padding:20px;  }  </style>  </head>  <body>  <div class="cities">  <h2>London</h2>  <p>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.</p>  <p>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.</p>  </div>  <div class="cities">  <h2>Paris</h2>  <p>Paris is the capital and most populous city of France.</p>  <p>Situated on the Seine River, it is at the heart of the Île-de-France region, also known as the région parisienne.</p>  <p>Within its metropolitan area is one of the largest population centers in Europe, with over 12 million inhabitants.</p>  </div>  <div class="cities">  <h2>Tokyo</h2>  <p>Tokyo is the capital of Japan, the center of the Greater Tokyo Area, and the most populous metropolitan area in the world.</p>  <p>It is the seat of the Japanese government and the Imperial Palace, and the home of the Japanese Imperial Family.</p>  <p>The Tokyo prefecture is part of the world's most populous metropolitan area with 38 million people and the world's largest urban economy.</p>  </div>  </body>  </html> |

Try the following code to see how <span> with class attribute works.

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| <!DOCTYPE html>  <html>  <head>  <style>  span.red {  color:red;  }  </style>  </head>  <body>  <h1>My <span class="red">Important</span> Heading</h1>  </body>  </html> |

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| **Practice #1**  Create a new file name “index2.html”. Save it in folder Bistro\_B. Copy the following code into your file. Create a class (name it yourself) to be used with <div> according to the style in the following code. Then use the class you created instead of the style attribute.  <!DOCTYPE html>  <html>  <body>  <div style="background-color:grey; color:white; margin:20px; padding:20px;">  <img src="blackgoose.png" alt="Bistro Logo">  <h1>Black Goose Bistro</h1>  <h2>The Restaurant</h2>  <p>The Black Goose Bistro offers casual lunch and dinner fare in hip atmosphere. The menu changes regularly to highlight the freshest ingredients.</p>  <hr>  <h2>Catering</h2>  <p>You have fun... <em>we’ll handle the cooking.</em> Black Goose Catering can handle events from snacks for bridge club to elegant corporate fundraisers.</p>  <hr>  <h2>Location and Hours</h2>  <p>Seekonk, Massachusetts;</p>  <p>Monday through Thursday, 11am to 9pm, Friday and Saturday, 11am to midnight.</p>  </div>  </body>  </html> |

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| **Practice #2**  Create a class (name it yourself) that can be used on both <div> and <span> which make the text bold and color goes red. Then:   1. Use the <div> with the class you created on the first 2 lines. 2. Use the <span> with the class you created instead of <em>. |

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| **Adding New Elements to HTML**  You can add any new element to HTML with a browser trick:  This example adds a new element called <myHero> to HTML, and defines a display style for it:  <!DOCTYPE html>  <html>  <head>  <title>Styling the article element</title>  <script>document.createElement("myHero")</script>  <style>  myHero {  display:block;  background-color:#ddd;  padding: 50px;  font-size: 30px;  }  </style>  </head>  <body>  <h1>My First Heading</h1>  <p>My first paragraph.</p>  <myHero>My First Hero</myHero>  </body>  </html> |

**The HTML Layout**

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| HTML Layout Using <div> Elements  **\*Note** The <div> element is often used as a layout tool, because it can easily be positioned with CSS.  This example uses 4 <div> elements to create a multiple column layout:  <!DOCTYPE html>  <html>  <head>  <style>  #header {  background-color:black;  color:white;  text-align:center;  padding:5px;  }  #nav {  line-height:30px;  background-color:#eeeeee;  height:300px;  width:100px;  float:left;  padding:5px;  }  #section {  width:350px;  float:left;  padding:10px;  }  #footer {  background-color:black;  color:white;  clear:both;  text-align:center;  padding:5px;  }  </style>  </head>  <body>  <div id="header">  <h1>City Gallery</h1>  </div>  <div id="nav">  London<br>  Paris<br>  Tokyo<br>  </div>  <div id="section">  <h2>London</h2>  <p>  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.  </p>  <p>  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.  </p>  </div>  <div id="footer">  Copyright © W3Schools.com  </div>  </body>  </html> |

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| **What is clear both?** (Credit: http://stackoverflow.com/questions/1012131/what-is-the-use-of-style-clearboth) |