

Web Design

HTML Syntax, Terminology, & Semantics

Outline

- Useful resources
- Recap
- Terminology
- Encoding
- Semantic HTML
- Web Accessibility

Resources

Resources

- Documentation: Mozilla Developer Network (MDN) Web Docs
 - <https://developer.mozilla.org/en-US/>
 - Has reference manual and guides
- Guides: YouTube
 - [Derek Banas](#), [Academind](#)
- Help (Q&A): StackOverflow
 - <https://stackoverflow.com>

HTML Syntax (Recap)

HTML Elements

- Everything in HTML is an element and is contained within an element (starting with the <html> element)
- An element is composed of an opening tag, attributes, content, and a closing tag
- Some elements are self closing, meaning they have no content or closing tag

```
<div attribute="value">  
  this is the content of an element  
</div>
```

```

```

HTML Terminology

Element Nesting

- Elements can be nested arbitrarily deeply (there is no depth limit)
- Almost any element can be nested within any other element (restrictions apply)
- Note on code styling: when nesting elements, add another level of indentation —it makes your code much easier to read

Element Relationships

- A descendant is any element contained within another element. A level-1 descendant is called a child.
- An ancestor is any element that contains another element. A level-1 ancestor is called a parent.
- Elements with the same parent are siblings
- Using the example to the right...
 - The `<p>` elements are all descendants of the `<section>` element, and the `<section>` is an ancestor of the `<p>`s
 - The `<div>` elements are children (a specific type of descendant) of the `<section>` element, and the `<section>` is the parent (type of ancestor) of the `<div>`s

```
<section>
  <div>
    <p>Paragraph 1</p>
  </div>
  <div>
    <p>Paragraph 2</p>
  </div>
  <div>
    <p>Paragraph 3</p>
  </div>
</section>
```

HTML Encoding

Character References

- HTML at first only used 7-bit ASCII characters, so we had to use encodings for additional characters. HTML 5 supports additional encodings (e.g. UTF-8)
- Also possibility of text content being interpreted as code (e.g. “<”)
- Start with ampersand (“&”) end with semi-colon (“;”)
- Examples:
 - less than: <
 - ampersand: &
 - copyright: ©

Semantic HTML

Semantic HTML

- While we could just use generic `<div>` tags for all of our elements and style them manually (and while we might completely override the default styles), using semantic HTML is important and good practice
- Meaning: Semantic HTML means using specific HTML tags that convey the meaning of their contents rather than relying on styling or content alone to convey that meaning
- Examples: `<header>`, `<section>`, `<h1>`, `<article>`, `<nav>`

Importance of Semantic HTML

- Your site will work without custom CSS (at least better than it would otherwise)
 - Which improves the experience for users with CSS disabled or with screen readers
- Search engine optimization (SEO): crawlers can more easily understand the content of your site when using semantic HTML since more meaning can be inferred from the HTML itself

Semantics Specifics

Page Breakdown

- Every page should have the three following elements as children (and the only children) of the body element (and nowhere else on the page)
 - `<header>`
 - `<main>`
 - `<footer>`

Headings

- Headings provide a title for and indicate the beginning of a new (sub)section
- Tags: h1, ..., h6
- Headings should increase in level (by 1 each time) as we move down the page's hierarchy
 - Start with an h1 (generally should only be one h1 on each page)
 - A section that starts with an h2 should have subsections that start with h3 and so on

Content Breakdown

- Main content should be broken up into <section> and/or <article> elements
- Text should be placed in paragraphs (<p>)

Media

- Media should be placed inside of a `<figure>` and include a `<figcaption>`

Navigation

- Place navigation links in a `<nav>` element

Semantic HTML Example

```
<body>
  <header>
    <span>My Site</span>
    <nav>
      <a href="/">Home</a>
      <a href="/about.html">About</a>
      <a href="/history.html">History</a>
    </nav>
  </header>

  <main>
    <h1>Page Title</h1>

    <section>
      <h2>Section 1</h2>

      <p>
        Lorem ipsum dolor sit amet, consectetur adipisicing elit. Quibusdam modi nisi excepturi. Eius porro volu
      </p>

      <p>
        Lorem ipsum dolor sit amet consectetur adipisicing elit. Ex ab adipisci itaque distinctio, tempora quo s
      </p>
    </section>

    <section>
      <h2>Section 2</h2>

      <p>
        Lorem ipsum dolor sit amet consectetur, adipisicing elit. Veniam praesentium obcaecati, hic mollitia qua
      </p>
    </section>
  </main>

  <footer>
    &copy; Web Dev Corp.
  </footer>
</body>
```

Tables

- For displaying information in table form
- Tags: table, thead, tbody, tr, th, td
- Example:

```
<table>
  <thead>
    <tr>
      <th>Col 1</th>
      <th>Col 2</th>
      <th>Col 3</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>a</td>
      <td>b</td>
      <td>c</td>
    </tr>
    <tr>
      <td>x</td>
      <td>y</td>
      <td>z</td>
    </tr>
    <tr>
      <td>A</td>
      <td>B</td>
      <td>C</td>
    </tr>
  </tbody>
</table>
```

Col 1	Col 2	Col 3
a	b	c
x	y	z
A	B	C