Coding Temple

INTRODUCTION TO HTML & CSS

What is HTML & CSS?

- HTML is the markup language for describing Web documents
- Stands for: Hyper Text Markup Language
- HTML gives content structure and meaning by defining that content as, for example, headings, paragraphs or images.
- CSS stands for: Cascading Style Sheets
- CSS is a presentation language created to style the appearance of content – using for example, fonts or colors
- These two languages are independent and should remain that way

Common HTML Terms

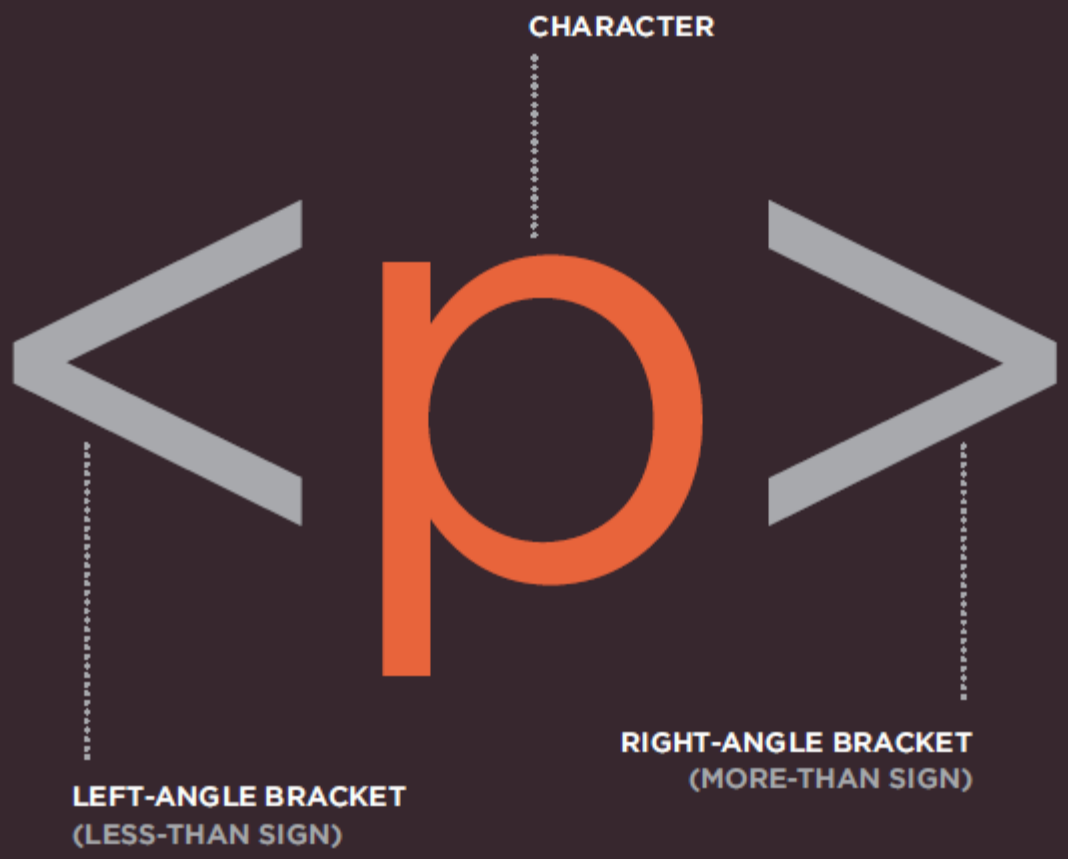
- Elements
- Tags
- Attributes

Elements

- Designators that define the structure and content of objects within a page
- Some of the more frequently used elements
  - <h1> through <h6> elements
  - Paragraphs <p>
  - <a>, , , and
  - Many more
- Elements are identified by the use of less-than and greater-than angle brackets surrounding the element name

Tags

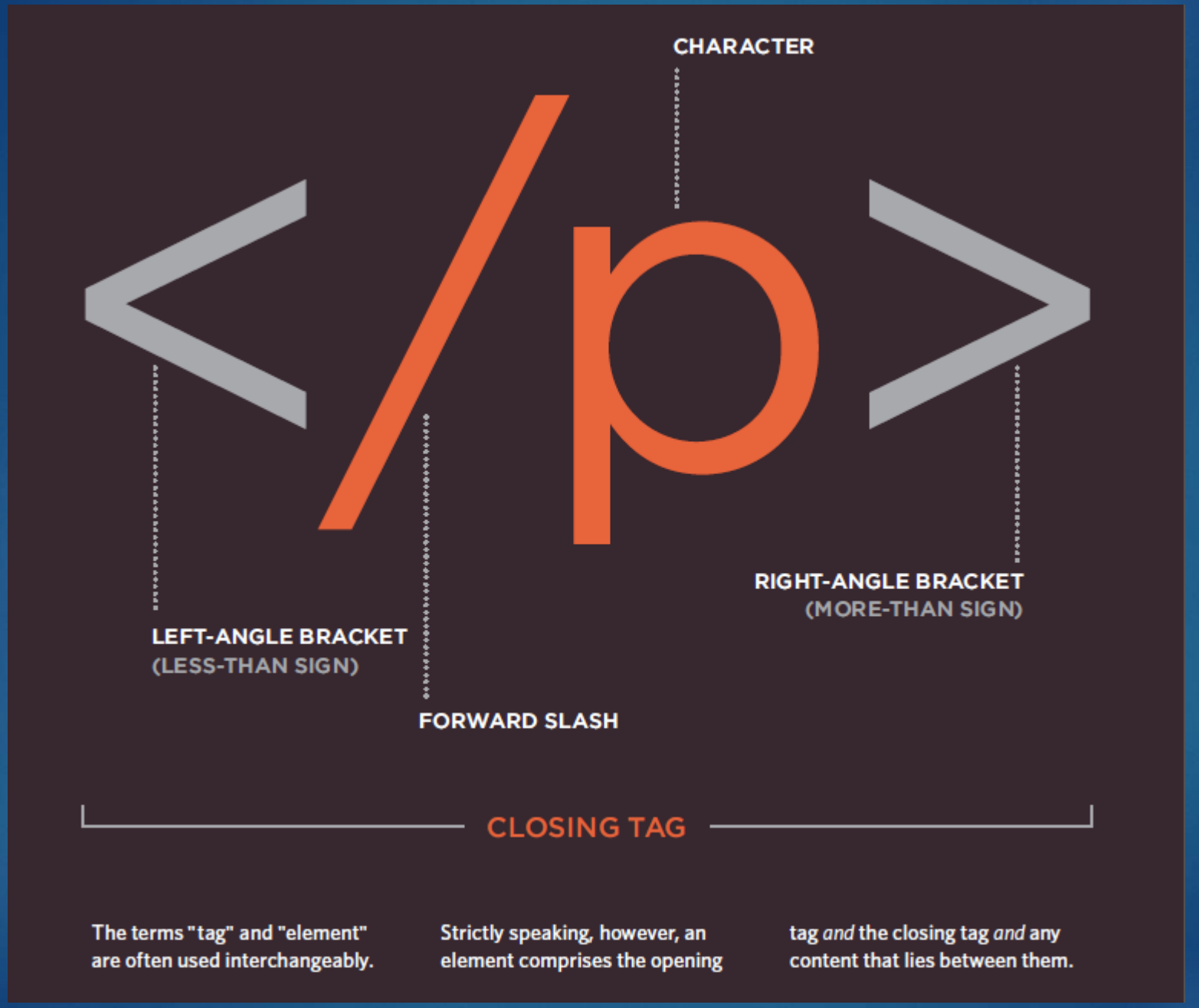
- The use of less-than and greater-than angle brackets surrounding an element creates what is known as a *tag*
- Tags most commonly occur in pairs of opening and closing tags
- An opening tag marks the beginning of an element.
  - *** ***
- A closing tag marks the end of the element
  - *** ***



The characters in the brackets indicate the tag's purpose.

For example, in the tags above the p stands for paragraph.

The closing tag has a forward slash after the the < symbol.


CHARACTER
</p>
RIGHT-ANGLE BRACKET
(MORE-THAN SIGN)
LEFT-ANGLE BRACKET
(LESS-THAN SIGN)
FORWARD SLASH
CLOSING TAG
The terms "tag" and "element" are often used interchangeably.
Strictly speaking, however, an element comprises the opening
tag *and* the closing tag *and* any content that lies between them.

Attributes

- Attributes are properties used to provide additional information about an element
- Most common attributes used:
  - Id – identifies an element
  - Class – classifies an element
  - Src – specifies a source for embeddable content
  - Href – provides a hyperlink reference to a linked resource
  - Style – apply inline-element css
- Attributes are always provided within the opening tag after the elements name.
- Generally attributes include a name and value.

Attributes provide additional information about the contents of an element. They appear on the opening tag of the element and are made up of two parts: a name and a value, separated by an equals sign.

The attribute **name** indicates what kind of extra information you are supplying about the element's content. It should be written in lowercase.

The **value** is the information or setting for the attribute. It should be placed in double quotes. Different attributes can have different values.

Here an attribute called `lang` is used to indicate the language used in this element. The value of this attribute on this page specifies it is in US English.

HTML Document Structure

- All HTML documents have a required structure that includes the following declaration and elements
  - <!DOCTYPE html>
  - <html>
  - <head>
  - <body>
- All visible content within the web page will fall within the <body> element.

```html
<!DOCTYPE html>
<html>
<head>
    <title>Introduction to HTML & CSS</title>
    <meta charset="utf-8" />
</head>
<body>
    <h1>This is the Main Heading</h1>
    <p>
        This text might be an introduction to the rest of the page.
        And if the page is a long one it might be split up into several sub-headings.
    </p>

    <h2>This is a Sub-Heading</h2>
    <p>
        Many long articles have sub-headings so to help you follow the structure of what is being written.
        There may even be sub-sub-headings ( or lower level headings.)
    </p>

    <h2>Another Sub-Heading</h2>
    <p>Here you can see another sub-heading.</p>

    <h3>This is a Sub-Sub-Heading</h3>
</body>
</html>
```

DOCTYPE Declaration

- <!DOCTYPE> declaration helps the browser to display a web page correctly.
- There are different document types on the web.
- The doctype is not case sensitive.
  - DOCTYPE html, DOCTYPE HTML, doctype html, Doctype Html
- Common Declarations
  - HTML5 - <!DOCTYPE HTML>
  - HTML 4.01 - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
  - XHTML 1.0 - <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

Self-Closing Elements

- Not all elements consist of opening and closing tags
- Some elements simply receive their content or behavior from attributes within a single tag.
- The <meta> element is one of these elements.
- Other self-closing elements
  - ***
***
  - ***<img>***
  - ***<meta>***
  - ***<wbr>***
  - ***<embed>***
  - ***<input>***
  - ***<hr>***
  - ***<link>***
  - ***<source>***

Common CSS Terms

- Selectors
- Properties
- Values

Selectors

- A Selector designates exactly which element within the HTML to target and apply styles (such as color, size, and position) to.
- May include a combination of different qualifiers to select unique elements
- For example if we wanted to target all paragraph tags
  - p {….}
- Selectors generally target and attribute value such as *id or class* value, or target the type of element, such as <h1> or <p>

Properties

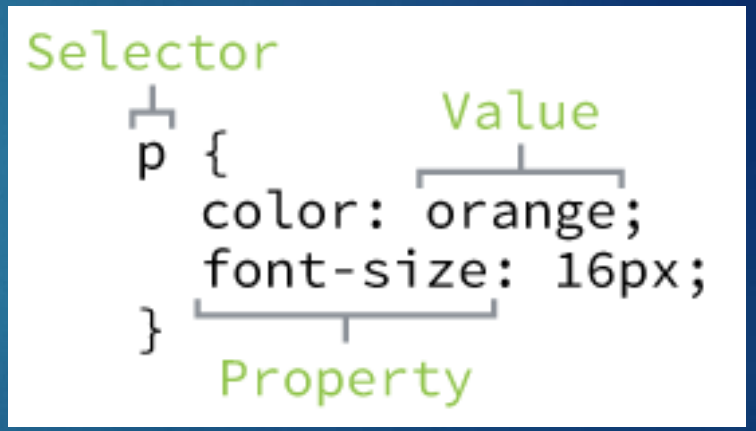
- Property determines the styles that will be applied to that element
- Property names fall after a selector, within the curly brackets, {}, and immediately preceding a colon, :
- There are numerous properties that can be applied to a selector
  - Background
  - Color
  - Font-size
  - Height
  - width

```
p {
    color: ...;
    background-color: ...;
    font-size: ...;
}
```

Values

- Values determine the behavior of the property with a value
- Values can be identified as the text between the colon, :, and semicolon, ;
- In the following example, the we have selected all paragraphs in the HTML document
  - Changed the text color to white
  - Changed background color to black
  - Font size to 15pt

```
p {
    color: white;
    background-color: black;
    font-size: 15pt;
}
```



Working with Selectors

Type Selectors

```
div { ... }
```

Class Selectors

```
<div class="awesome">...</div>
<p class="awesome">...</p>
```

```
.awesome { ... }
```

Id Selectors

```
<div id="shayhowe">...</div>
```

```
#shayhowe { ... }
```

Referencing CSS

- There are three different ways to apply CSS to an element
- Inline Element CSS
  - Using the ***Style*** attribute on any element you can apply CSS specifically to that element
  - This method of applying CSS does not meet coding standards
- Inline HTML Document
  - Using the ***<Style>*** tag you can specify all the CSS properties for that HTML Document
  - This method of applying CSS does not meet coding standards
- External CSS
  - Creating a separate style sheet to hold all the CSS properties
  - This method of applying CSS is highly recommended

```
<head>
  <link rel="stylesheet" href="main.css">
</head>
```