

Diploma in Web Development – Part I

Lesson 3 – What is the Front-End?

HTML: A Container for Content

HTML, or HyperText Markup Language, is the container for all content that is visible on the web, whether text, images, video or any other kind of possible content. Content in HTML is marked up using tags.

```
<div>This is content</div>
```

In the above, the text “This is content” is **wrapped** in HTML tags, namely the opening (<div>) and closing (</div>) division tags. This lets a browser or another interpreter know that the Content is contained inside a div.

```
<div>  
    <p>Paragraph content</p>  
</div>
```

Similarly, for above, the text “Paragraph Content” is contained in a paragraph element, letting an interpreter know that the content is part of a paragraph. This time however, the whole paragraph element is also wrapped inside a division element, which means that the paragraph is now “nested” inside the division element. Elements can contain many other HTML elements inside of themselves. The unordered list element for example is supposed to contain multiple list item elements inside of it (more details in Toolkit Bonus 2).

```
<a href="http://www.shawacademy.com">Shaw Academy</a>
```

Finally, elements can have attributes associated with them. Attributes are added to the opening tag of a given element, after its name. In the above, the anchor element has the “href” **attribute** assigned to a **value** of “http://www.shawacademy.com”. Attributes give interpreters additional information about an

element. In the case of the above, this element is now hyperlinked to another web page on the internet. Elements can have multiple attributes, with each assigned to a specific value.

Adding CSS and JavaScript to a HTML Document

Both CSS and JavaScript can be added to a HTML document in 3 ways:

1. **Inline:** this method writes CSS and JavaScript directly into the attribute of a given HTML element.
2. **Internal:** this method writes CSS and JavaScript directly into the HTML document in HTML's "style" or "script" elements, respectively.
3. **External:** this method writes CSS and JavaScript in a separate file, which can then be loaded into a HTML document using the "link" or "script" elements respectively. To link an external CSS file, the rel and href attributes are required, while to link an external JavaScript file, an src attribute is required.

CSS: The Language for Web Design

CSS, or Cascading StyleSheets, is the language used to describe the presentation of HTML content on the web. This includes everything from layout, to colours and fonts, and more.

```
p {  
    color:blue;  
    text-align:right;  
}
```

In the above CSS, the selected elements for styling are all paragraph elements in a document. It is worth noting that specific classes and ids can be selected as well by using the "." And "#" prefix before the name of the class or id (this is covered in Toolkit Bonus 3). The color property above has its value set to "blue", and the text-align property has its value set to "right". This is the basis for all content styling on the web.

JavaScript: For Dynamic Interactivity

JavaScript is responsible for handling events and to create and interactive experience for the users of a web application. JavaScript is a Turing-complete scripting language, meaning it is capable of any computer process that can be programmed. JavaScript, link CSS, can be separated into individual statements.

```
foo = bar();
```

In the example above, the value of foo is being assigned to be the value of bar(). This means that the equals sign is an **assignment operator** rather than a comparison of two values (to compare two values, a double equal sign is used instead). The identifier foo in the above refers to a variable, while the identifier bar(), with circular brackets after the name, refers to a function. All statements are ended with a semi-colon. Additional programming with JavaScript is discussed in Toolkit Bonus 4.