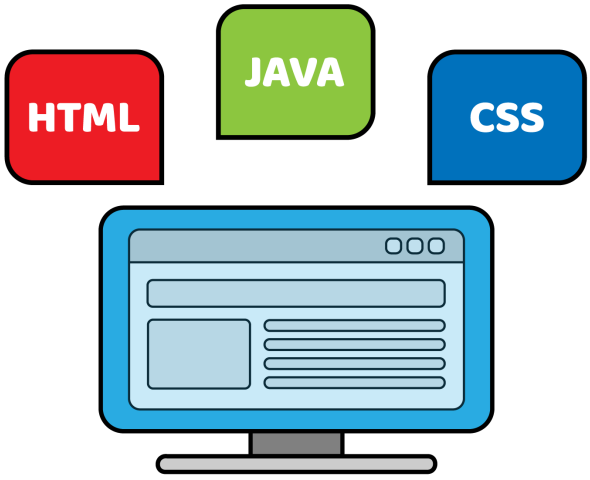
HTML, CSS, and JavaScript



These three components work together to create structured webpages with helpful styles and user interactions.

- HTML and its tags provide the structure of the page
- CSS styles the tags, including size, color, position, and many other characteristics
- JavaScript adds interactivity, such as when users click buttons or submit forms

Please click on the following tabs to learn more.

▸ **HTML**

HTML files define the structure of a webpage and have the filename extension .html. A page's structure is defined by its HTML tags — alphanumeric characters enclosed in angle brackets — like for paragraph. The vast majority of tags need to be closed using the same abbreviation in angle brackets preceded by a forward slash, e.g., . Some tags are self-closing, such as image <img>, line break
, and horizontal rule <hr>.

```
<!DOCTYPE html>
<html>
  <head>
    <title>This is the page title</title>
    <meta charset="utf-8">
  </head>

  <body>
    <p>Content here is visible to site visitors</p>
  </body>
</html>
```

The web has come a long way since the initial HTML-only websites. HTML saw its first major improvement in 1997 with the introduction of HTML 4.0. This improvement internationalized the Internet by defining a Universal Character Set to support Internet use worldwide.

The fifth and most current version of HTML is HTML5, which provides web designers more flexibility and features without additional software.

The main advantage of HTML5 over its predecessor, HTML4, is that it can support multimedia content like high-definition videos without using Flash or another media player. It also allows users to access websites without being connected to the Internet.

CSS

Cascading Style Sheets (CSS) define the style of tagged elements, such as size, color, position, margins, borders, and many other attributes. The latest evolution of the CSS language is CSS3.

CSS refers to a separate file of type .css that contains the style specifications. The "cascade" also refers to the hierarchy of style specifications, which can be placed in any of three places:

1. Within the tag, or inline, such as [**Note: This is discouraged** in the strongest possible terms today because it pollutes your structural code (HTML) with presentational code and goes against Web standards.]
2. Within the <head> of an HTML document (these are called embedded styles), and enclosed within <style></style> tags.
3. In a document (CSS file) that is external to the HTML file. [**Note: This is the best method by far.**]

The Cascade

The cascade in cascading stylesheets says that inline styles have priority over embedded styles, which in turn have priority over external styles.

For example, the following image illustrates an HTML document that is linked to an external stylesheet (between each file's <head></head> tags):

```
<!doctype html>
<html>
 <head>
   <title>HTML with external stylesheet</title>
 <meta charset="utf-8">
   <link rel="stylesheet" type="text/css" href="/styles.css">
 </head>
```

```
 <body>
     This is where page content is placed
 </body>
</html>
```

That stylesheet contains all the styles needed to make the site look and behave in the desired way. That means the stylesheet has specifications for all of the design aspects of every HTML tag on this page. In the above example, there are no embedded styles in the <head></head> and there are no inline styles inside any of the tags in the body of this page.

The definitions in a stylesheet — including the size, weight, width, height, color, background color, and everything else that CSS can address — are all defined in that one file. If there is a need to add, subtract, or modify any of the styles for the entire website, it only has to be done in that one CSS file—because every page on the site is linked to that file.

JavaScript

JavaScript—often abbreviated to JS—is an object-oriented programming language that adds interactivity and functionality to a website. How does JavaScript perform on a web page? Anything that moves, refreshes, autocompletes or changes without the user performing an action is likely the result of JavaScript. Examples include animations, popup messages, photo slideshows, and interactive tables and forms.

It is important to remember that JavaScript is a programming language—not a markup language such as HTML. Programming languages, like JavaScript, typically take more time, patience, and practice to master than other languages. Because many web developers find JavaScript to be inefficient and fussy, there is a growing trend to use CSS instead of JavaScript when the same function can be built with CSS.

Even still, JavaScript is one of the most widely used client-side programming languages on the Internet. Increasingly, JavaScripting has morphed from writing code from scratch to instead using well known JavaScript libraries, such as JQuery. These libraries contain compilations of functions intended to make JavaScript easier to implement.

Review Checkpoint

To test your understanding of the content presented in this assignment, please click on the Questions icon below. If you have trouble answering any of the questions presented here, you are always free to return to this or any assignment to re-read the material.

1. True or False?

The latest evolution of the CSS language is CSS4.

a. True

Incorrect. Try again.

b. False

Correct. This statement is false. The latest evolution of the CSS language is CSS3.

2. An HTML tag contains alphanumeric characters enclosed in _____.

a. quotation marks

Incorrect. Try again.

b. angle brackets

Correct. An HTML tag contains alphanumeric characters enclosed in angle brackets.

c. hashtags

Incorrect. Try again.

d. forward-slashes

Incorrect. Try again.