Unit 8 Notes:

1. Font Awesome Icons
   1. Installation: Add in the <head> of your .html file the code below:
      1. <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.5.0/css/all.css" integrity="sha384-B4dIYHKNBt8Bc12p+WXckhzcICo0wtJAoU8YZTY5qE0Id1GSseTk6S+L3BlXeVIU" crossorigin="anonymous">
   2. Use [cheatsheet](https://fontawesome.com/cheatsheet?from=io) to add icons on your site.
   3. Icons have their own classes you must use in order for them to work
      1. Class=”fa fa-nameoficon fa-lg”
         1. ‘fa’ is needed for it to work as it is the display and size data.
         2. ‘fa-nameoficon’ is the name of the icon from the cheatsheet.
         3. ‘fa-lg’ and other class sizes are optional to increase font display size.
            1. ‘fa-lg’: increase by 33%
            2. ‘fa-2x’: 2 times increase
            3. Can go up to ‘fa-5x’.
      2. Use an element such as <i> to insert the class name
         1. Note: You don’t have to insert any text between the tags.
2. Asset Optimization
   1. Image types:
      1. JPEG - a highly compressible file type that is preferred for images with significant detail
      2. PNG - a file type that is lossless (meaning that full quality is maintained) - generally preferred for images with less detail such as logos
      3. SVG - useful for high resolution screens, scalable vector graphics (SVG) will change size (scale) for various screen sizes; SVGs also contain roughly 50% less data than their JPEG or PNG equivalents allowing web pages to load more quickly; they are becoming widely used for simple images such as icons and logos.
   2. Favicon: a small image displayed in the tab or browser bar containing the name of the page being viewed.
      1. A favicon is frequently the same as, or a modified version of, whatever logo is associated with a company's web page.
      2. To convert an existing image to a favicon, you can use an online conversion tool such as [Favicon-Generator](http://www.favicon-generator.org).
      3. Note: The (existing) image being used must be a GIF, PNG, or JPEG (you may find JPG and JPEG used interchangeably)
      4. To add the favicon to your web page, add the file to your project directory and add this code to the <head> of your HTML document:
         1. <link rel="icon" href="./<favicon-name>.ico" type="image/x-icon">
   3. Another important skill is creating and managing assets. Assets are images and other media that will be presented on your web page.
      1. A best practice is to ensure that images are sized properly before adding them to an HTML file. Images that are too large may overflow their parent container or render incorrectly. Furthermore, overly large files cause web pages to load significantly slower; it is good to use the smallest possible file sizes when possible as it allows your web page to load much more quickly.
      2. There are several tools we can use to modify assets. Adobe Photoshop is a commonly used and useful tool for all sorts of photo editing tasks. Unfortunately, Photoshop requires a monthly subscription fee. Because of the cost, in this article we will use [Pixlr](https://pixlr.com/editor/), a free and industry-accepted alternative.
      3. Scalable Vector Graphics, or SVGs, are generally the smallest file size as they are created by specifying a series of line lengths, with turns and colors. However, this means that they cannot render highly detailed images well. If you have an image that is relatively simple and you want it to scale well on screens with high resolutions, you may wish to convert it to SVG format. To convert an image to SVG, you can use an online conversion tool such as [online-convert](https://image.online-convert.com/convert-to-svg).
3. Accessibility
   1. Screen Reader: a piece of software that provides an audio description of a web page's content. A screen reader not only reads the visual content out loud, it also reads out element names and other attributes that make it easier for visually impaired users to navigate a web page.
      1. Cannot interpret graphics and flash animation, thus W3C created the Web Accessibility Initiative, making info on the web accessible to all.
      2. These standards fall under a group of guidelines called ARIA, or Accessible Rich Internet Applications.
         1. To help add context to web page information, ARIA provides an HTML attribute called *role*. The value of an element's role changes how a screen reader communicates the element.
            1. Ex: <div id="code-editor" role="complementary">
            2. ...
            3. </div>

This example tells the screen reader that the following info is supplemental info. Then it tells that to the user to give him/her a better understanding.

Note: the role’s value is an actual ARIA value in its databank and not a made-up word.

* + - 1. role=”presentation”: Skips reading element tags and their necessary children; communicate info about the role of specific elements.
         1. Ex: <ol role="presentation">
         2. <li>List Item 1</li>
         3. <li>List Item 2</li>
         4. </ol>

This example will only read the content between the <li> tags and not the tag themselves.

Note: a <p> tag is not necessarily a child of a <div> tag, thus it’ll read the name of the element and its content.

* + - 1. aria-label property: Gives user, using the screen reader, additional info that the reader will read aloud.
         1. Add it in elements tags where you want to give the user additional info to better understand the context.
      2. alt property: used to describe an image (or several other elements) and is read aloud from the reader.
         1. The reader will read the tag and the alt value.
         2. Note: If an element tag doesn’t support the alt property, use the aria-label property.
         3. When using the alt attribute, you should adhere to these conventions:

In general, the value of alt should concisely describe the image.

For images that are also <a> elements, the alt attribute should describe the source that the link targets.

If an image conveys no information (such as a decorative border), the alt attribute should be empty, but should never be omitted.

If an image is described by text near the image, do not duplicate the description in the alt attribute. Use an empty alt attribute instead.

The value of an alt attribute should be no more than 150 characters.

* + 1. The quickest way of improving accessibility for screen readers is to use the appropriate tags for a given task.
       1. Will navigate screen reader users more efficiently.
       2. The <header> tag is intended to contain introductory and navigational elements such as a logo, links, or a search bar; don’t use a div as a header for accessibility, since may confuse impaired person.
          1. Don’t use divs and instead use native semantics such as <nav>, <footer>, etc.