Subject Code: CS3   Computer Science 3
Module Code: 6.0   What's New in HTML5
Lesson Code: 6.1   Layout Tags (header, footer, nav, aside)
Time Frame: 30 mins.

TARGET

Time Allocation: 1 min.

After completing this module, you are expected to:

- Compare the differences of HTML and HTML5 Demonstrate the use of various HTML5 tags
- Demonstrate the use of various HTML5 tags

HOOK

Time Allocation: 2 mins.

A web page consists of text, pictures, hyperlinks, navigational structure, and much more. HTML5's Semantic Markup allows the creation of a structured layout for web pages and conveys meaning and purpose. Some essential HTML elements that will add to the layout of a web page will be presented in this module.

IGNITE

Time Allocation: 15 mins.

Semantic Markup

Semantic markup or semantic HTML brings meaning to a web page than just presentation. Take for example the <div> element. It is used to layout web pages and may wrap a navigational menu or a list of blog posts but by itself it doesn't convey what it is representing in a page. CSS classes applied to <div> elements displays information about their intended purpose.

```
<div class= "header">…</div>
```

In the markup shown above, the header CSS class provides an idea as to what the <div> might be doing. But, in the absence of this CSS class, there is no way to quickly identify what the
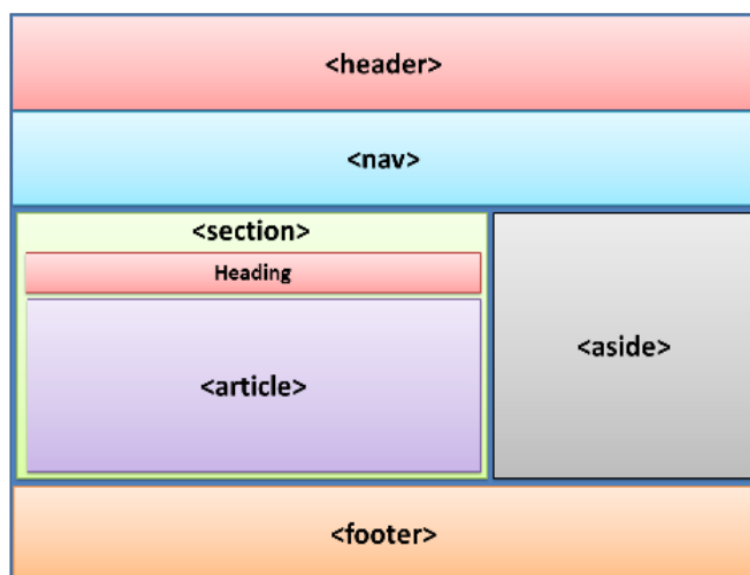
<div> might be doing. This is because <div> is a general-purpose element and has no specific documented responsibility. It marks a division or section of the web page but doesn't dictate what can go inside that section.

HTML5 includes a set of markup elements to solve this matter. The new elements have names that gives a clear idea about their content.

Listed below are the semantic elements of HTML5:

- <header>
- <footer>
- <section>
- <article>
- <aside>
- <nav>

The figure below is an example of a page designed using the elements:

The figure shows the usual arrangement of elements. The location of an element on a page is dependent on the layout. As an example, the <aside> element can be placed on the other side of the <section> or even below or above it.

<header>

The <header> element represents the whole page's header or a section of it and usually contains a logo, search, navigational links, etc.

This tag doesn't present a new section in the outline. A <header> element commonly contains the heading (an <h1>–<h6> element) of a surrounding section. However, this is not required.

The <header> tag is one of the HTML5 elements. In an HTML document, it is allowed to use several <header> tags, which can be placed in any part of it.

Note: It is not permitted to place the <header> tag inside the <footer>and <address> elements, and in another <header> tag.

The following shows how a <header> element is used:

```
<header>
      <h1>This is page heading</h1>
</header>
```

<nav>

<nav> element provides navigation links, either to other pages or within the current page and is defined this way:

The <nav> element presents a section with navigation links.

It is advised that <nav> is used only for the main navigational structures and not for a minor set of hyperlinks (such as those found in the footer of a web page).

The following shows how a <nav> element is used:

```
<nav>
     <ul>
       <li><a href="#">Home</a></li>
       <li><a href="#">About Us</a></li>
       <li><a href="#">Contact Us</a></li>
     </ul>
</nav>
```

<section>

 The <section> element is used to group related elements and may be used to define navigation, in the header or footer, or within articles. Some examples where it can be used include the section of a web page for contact information, announcement section of a web page, and pages of a tabbed user interface. A section usually has some heading.

The given markup below displays how the <section> element looks:

```
<section>
        <h1>This is a section heading</h1>
        <p>
          Hello world! Hello world! Hello world!
          Hello world! Hello world! Hello world!
          Hello world! Hello world! Hello world!
        </p>
</section>
```

A section may contain a <header> as well as a <footer> element. It is analogous to a printed book section containing chapters or a section of a newspaper containing news items.

<article>

An <article> element describes a self-contained composition in a page, application, document, or site intended to be independently reusable or distributable (e.g. a newspaper or magazine article, a user- submitted comment, a blog entry, a forum post etc.).

The given markup below displays how the <article> element could be used:

```
<article>
    <h1>This is article heading</h1>
    <p>
       Hello world! Hello world! Hello world!
       Hello world! Hello world! Hello world!
       Hello world! Hello world! Hello world!
    </p>
</article>
```

Sometimes <section> and <article> are used together and sometimes, on nested <article> elements. There are no rules dictating their nesting.

<aside>

<aside> element identifies content related to the main content of a page but does constitute the main content of the webpage (e.g. related links, advertisements, author information, related content etc).

The given markup below displays how the <aside> element looks:

```
<aside>
    <figure>
        <img src="images/laptop.png" height="100px" width="100px" />
        <figcaption>Figure caption goes here</figcaption>
    </figure>
    <p>
            Hello world! Hello world! Hello world!
            Hello world! Hello world! Hello world!
    </p>
</aside>
```

The <aside> element contains a <figure> element and text in the form of a <p> element. The <figure> element is intended to represent a figure and in turn contains <img> and <figcaption> elements. The <img> tag points to the actual image to be displayed and the <figcaption> element holds the figure caption.

<footer>

The **<footer>** element represents the footer of the whole page or a <section> element. It is intended to contain footer information such as copyright notice.

The <footer> element of the example web page looks like this:

```html
<footer>
        <hr/>
          Copyright (C) 2020. All rights reserved.
</footer>
```

An accomplish markup of the example web page below will serve as your quick reference:

The Source Code:

```html
<!DOCTYPE html>
<html>
<head>
    <title>Sample HTML5 Layout</title>
</head>
<body>
    <header>
      <h1>This is page heading</h1>
    </header>
    <nav>
      <ul>
        <li><a href="#">Home</a></li>
        <li><a href="#">About Us</a></li>
        <li><a href="#">Contact Us</a></li>
      </ul>
    </nav>
    <article>
      <h1>This is article heading</h1>
      <p>
          Hello world! Hello world! Hello world!
          Hello world! Hello world! Hello world!
          Hello world! Hello world! Hello world!
      </p>
    </article>
    <aside>
      <figure>
          <img src="image.jpg" height="100px" width="100px" />
          <figcaption>Figure caption goes here</figcaption>
      </figure>
      <p>
          Hello world! Hello world! Hello world!
          Hello world! Hello world! Hello world!
      </p>
    </aside>
    <section>
      <h1>This is a section heading</h1>
      <p>
         Hello world! Hello world! Hello world!
         Hello world! Hello world! Hello world!
         Hello world! Hello world! Hello world!
      </p>
    </section>

    <footer>
        <hr/>
```

```
                Copyright (C) 2020. All rights reserved.
    </footer>
</body>
</html>
```

The style sheet:

```
<style>

article {padding:5px;
        border: dotted 3px #ff006e;
        margin-top:5px;
}

header {padding:0px;
        text-align: center;
}



aside {margin-top:5px;
        background-color: #f0eaea;
        padding:5px;
        text-align : center;
        font-style: italic;
        border: double 3px #b200ff;
}

section {padding:5px;
        border: dashed 3px #0026ff;
        margin-top:5px;
}

footer {padding:5px;
        text-align: center;
        font-weight: bold;
}

nav {text-align: center;
}

ul li {display: inline;
       padding-left:5px;
       padding-right:5px;
       text-align: left;
       font-size:16px;
       font-weight: bold;
}
</style>
```

The previous code will produce the following result:

This is page heading

Home   About Us   Contact Us

This is article heading

Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world!

image

Figure caption goes here

Hello world! Hello world! Hello world! Hello world! Hello world! Hello world!

This is a section heading

Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world! Hello world!

Copyright (C) 2020. All rights reserved.

NAVIGATE

Time Allocation: 10 mins.

It's your time to apply what you have learned.

Create a web page containing several layout elements including a <header>, <footer>, <article>, <aside>, and <nav> (navigational field). Example output is given below.

I am a header

Article

I am text in article.

The quick brown fox runs over the lazy dog.

Navigation

Selection 1
Selection 2
Selection 3

I am a footer

- Copy and modify the given source code and create the styling sheet. Make sure you have the following features:

  - Configure CSS for the header and footer element. Set background color to #007196, 1em padding, white font color, clear: left and center-aligned.

  - Configure CSS for the nav element. Set float to right, max-width of 160px; 134px height; 1 em padding; solid border with #333 border color.

- Configure CSS for the nav ul descendant selector. The unordered list within the navigation should be displayed without any bullets and 0 padding.

- Set the text decoration of the list items in the navigation to none, 10 pixels of right padding, and font color of #C5BD99.

- Configure CSS for the article element. Set the padding to 1 em.

- The aside element contains content that is tangential to the article content. Configure CSS to display the aside element on the right (use float) with a 200 pixel width, lightgray background color, 20 pixels of padding, 40 pixels of right margin, 80% font size, italic and a box shadow (use box-shadow: 3px 5px 3px 1px #7e563e;). Configure a relative position (use position: relative; top: -40px;)

- Save your file as **Section_FullName_Layout.html** and send your final solution to _____.

The Source Code:

```html
<!DOCTYPE html>
<html>
<head>
    <title>Module 6 -Layout</title>
</head>
<body>
    <header>
        <h1>I am a header</h1>
    </header>
    <nav>
        <h1>Navigation</h1>
        <ul>
            <li><a href"="#">Selection 1</a></li>
            <li><a href"="#">Selection 2</a></li>
            <li><a href"="#">Selection 3</a></li>
        </"ul">
    </nav>
    <article>
        <h1>Article</h1>
        <p style=height: 55px;>I am text in article.</p>
    </article>
    <footer>I am a footer</footer>
</body>
</html>
```

Note: This is a non-graded activity. But you can still submit your output to check whether you have learned something from this module.

KNOT

Time Allocation: 1 min.

In summary,

- Semantic markup conveys its meaning and purpose clearly to the developers and the browser. Web developers frequently use the <div> element to layout web pages. A <div> element may wrap a navigational menu or house a list of blog posts, but merely using <div> doesn't convey much information to developers or browsers. CSS classes applied to <div> elements reveal information about their intended purpose.

- Semantic elements of HTML5 are listed below:
  - <header>
  - <footer>
  - <section>
  - <article>
  - <aside>
  - <nav>

- The **<header>** tag defines the header of a page or a section.
- The **<nav>** element houses navigation menus or any navigational structure such as hyper-links.
- The **<section>** element represents a section of a document or application.
- The **<article>** element represents an independent item section of content such as a blog post, forum post, or a comment.
- The **<aside>** element houses content related to the surrounding content but, at the same time, is a standalone piece of content in itself.

- The **<footer>** element presents the footer of the whole page or a <section> element. It contains footer information such as copyright notice.

REFERENCES

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