UNIT-2: HTML Sematic Tags

Semantic Elements

A semantic element clearly describes its meaning to both the browser and the developer.

Elements such as <header>, <footer> and <article> are all considered semantic because they accurately describe the purpose of the element and the type of content that is inside them.

Examples of **non-semantic** elements:

 and - Tells nothing about its content.

Examples of **semantic** elements:

<form>, <table> and <img> - Clearly defines its content.

Why use semantic elements?

To look at the benefits of semantic elements, here are two pieces of HTML code.

block of code uses semantic elements:	**block of code uses non-semantic elements:**
<header></header> <section> <article> <figure> <img> <figcaption> </figcaption> </figure> </article> </section> <footer></footer>	 <img>

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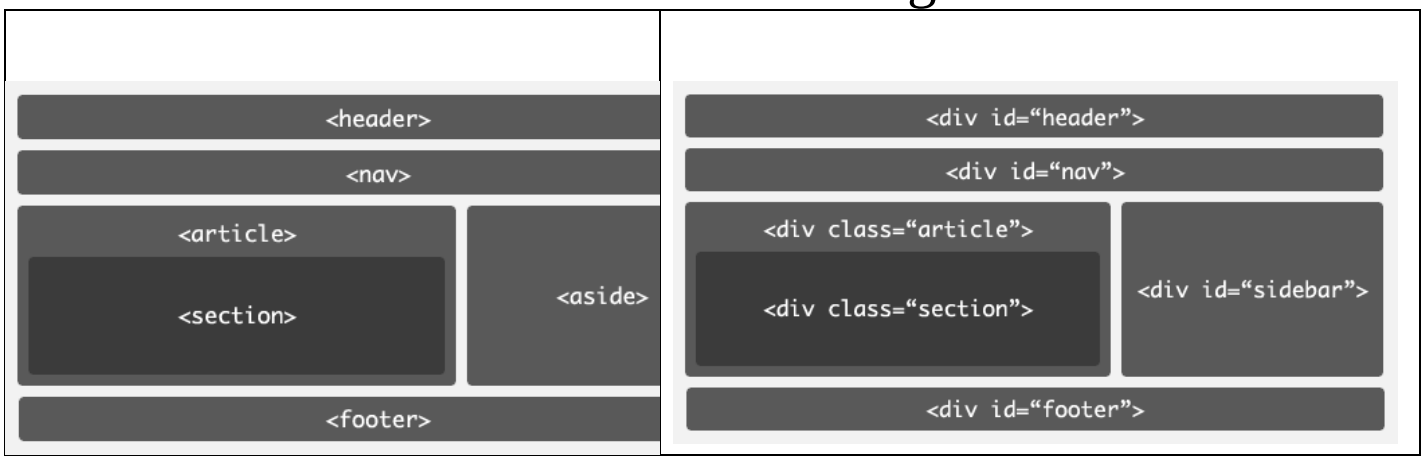

- **First, it is much easier to read.** as a programmer you can be reading through hundreds or thousands of lines of code. The easier it is to read and understand that code, the easier it makes your job.
- **It has greater accessibility.** Search engines and assistive technologies are also able to better understand the context and content of your website, meaning a better experience for your users.
- **Overall, semantic elements also lead to more consistent code.**

HTML 5 introduces a whole set of new elements that make it much easier to structure pages. Most HTML 4 pages include a variety of common structures, such as headers, footers and columns and today, it is fairly common to mark them up using div elements,giving each a descriptive id or class.

The use of div elements is largely because current versions of HTML 4 lack the necessary semantics for describing these parts more specifically. HTML 5 addresses this issue by introducing new elements for representing each of these different sections.

Semantic Elements in HTML5

Tag	Description
<article>	Defines an article
<aside>	Defines content aside from the page content
<details>	Defines additional details that the user can view or hide
<figcaption>	Defines a caption for a <figure> element
<figure>	Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer>	Defines a footer for a document or section
<header>	Specifies a header for a document or section

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<main>	Specifies the main content of a document
<mark>	Defines marked/highlighted text
<nav>	Defines navigation links
<section>	Defines a section in a document
<summary>	Defines a visible heading for a <details> element
<time>	Defines a date/time

The markup for that document could look like the following:

```
<body>
<header>...</header>
<nav>...</nav>
<article>
    <section>
        ...
    </section>
</article>
<aside>...</aside>
<footer>...</footer>
</body>
```


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- There are several advantages to using these elements.
- When used in conjunction with theheading elements (h1 to h6), all of these provide a way to mark up nested sections with heading levels, beyond the six levels possible with previous versions of HTML.
- The specification includes a detailed algorithm for generating an outline that takes the structure of these elements into account and remains backwards compatible with previous versions.
- This can be used by both authoring tools and browsers to generate tables of contents to assist users with navigating the document.

For example, the following markup structure marked up with nested section and h1 elements:

```
<section>
   <h1>Level 1</h1>
   <section>
      <h1>Level 2</h1>
      <section>
         <h1>Level 3</h1>
      </section>
   </section>
</section>
```

Result

Level 1

Level 2

Level 3

Note that for better compatibility with current browsers, it is also possible to make use ofthe other heading elements (h2 to h6) appropriately in place of the h1 elements.

By identifying the purpose of sections in the page using specific sectioning elements, assistive technology can help the user to more easily navigate the page. For example, theycan easily skip over the navigation section or quickly jump from one article to the next without the need for authors to provide skip links. Authors also benefit because replacingmany of the divs in the document with one of several distinct elements can help make thesource code clearer and easier to author.

According to the W3C, a Semantic Web:

"Allows data to be shared and reused across applications, enterprises, and communities"

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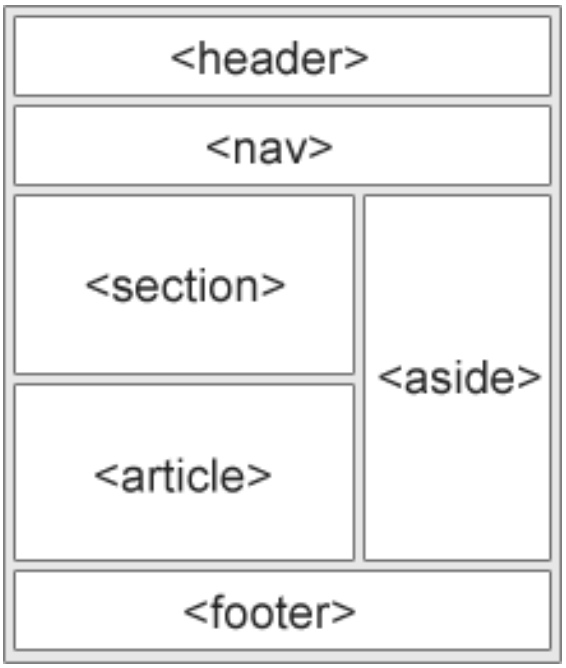
- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>



HTML5 <section> Element

The <section> element defines a section in a document.

According to W3C's HTML documentation: "A section is a thematic grouping of content, typically with a heading."

Examples of where a <section> element can be used:

Chapters

Introduction

News items

Contact information

A web page could normally be split into sections for introduction, content, and contact information.

Example

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```
<!DOCTYPE html>
<html>
<body>

<section>
  <h1>WWF</h1>
  <p>The World Wide Fund for Nature (WWF) is an international organization working on
issues regarding the conservation, research and restoration of the environment,
formerly named the World Wildlife Fund. WWF was founded in 1961.</p>
</section>

<section>
  <h1>WWF's Panda symbol</h1>
  <p>The Panda has become the symbol of WWF. The well-known panda logo of WWF
originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the
London Zoo in the same year of the establishment of WWF.</p>
</section>

</body>
</html>
```

Result:

WWF

The World Wide Fund for Nature (WWF) is an international organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund. WWF was founded in 1961.

WWF's Panda symbol

The Panda has become the symbol of WWF. The well-known panda logo of WWF originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the London Zoo in the same year of the establishment of WWF.

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HTML5 <article> Element

The <article> element specifies independent, self-contained content.

An article should make sense on its own, and it should be possible to read it independently from the rest of the web site.

Examples of where an <article> element can be used:

- *Forum post*
- *Blog post*
- *Newspaper article*

Example

```
<!DOCTYPE html>
<html>
<body>

<article>
  <h1>Google Chrome</h1>
  <p>Google Chrome is a free, open-source web browser developed by Google, released in
2008.</p>
</article>

</body>
</html>
```

Result

Google Chrome

Google Chrome is a free, open-source web browser developed by Google, released in 2008.

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The Difference Between <article> <section>

There is a confusing (lack of) difference in the HTML5 standard, between <article> <section> and .
In the HTML5 standard, the <section> element is defined as a block of related elements The <article> element is defined as a complete, self-contained, independent block of related elements

Can we use the definitions to decide how to nest those elements? No, we cannot!

So, you will find HTML pages with <section> elements containing <article> elements, and <article> elements containing <section> elements.

HTML5 <header> Element
The <header> element specifies a header for a document or section.

The <header> element should be used as a container for introductory content.You can

have several <header> elements in one document.

The following example defines a header for an article:

Example

```
<!DOCTYPE html>
<html>
<body>

<article>
  <header>
    <h1>Most important heading here</h1>
    <h3>Less important heading here</h3>
    <p>Some additional information here.</p>
  </header>
  <p>Lorem Ipsum dolor set amet....</p>
</article>

</body>
</html>
```

Result

Most important heading here

Less important heading here

Some additional information here.

Lorem Ipsum dolor set amet....

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Note: A <header> tag cannot be placed within a <footer>, <address> or another <header> element.

HTML5 <footer> Element

The <footer> element specifies a footer for a document or section.
A <footer> element should contain information about its containing element.
A footer typically contains the author of the document, copyright information, links toterms of use, contact information, etc.
You can have several <footer> elements in one document.

Example

```
<footer>
  <p>Posted by: Hege Refsnes</p>
  <p>Contact information: <a href="mailto:someone@example.com">
  someone@example.com</a>.</p>
</footer>
```

Result

Posted by: Hege Refsnes

Contact information: someone@example.com.

HTML5 <nav> Element

The <nav> element defines a set of navigation links.
The <nav> element is intended for large blocks of navigation links. However, not alllinks in a document should be inside a <nav> element!

Example

```
<nav>
  <a href="/html/">HTML</a> |
  <a href="/css/">CSS</a> |
  <a href="/js/">JavaScript</a> |
  <a href="/jquery/">jQuery</a>
</nav>
```

Result

HTML | CSS | JavaScript | jQuery

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HTML5 <aside> Element

The <aside> element defines some content aside from the content it is placed in (like asidebar).

The aside content should be related to the surrounding content.

Example

```
<p>My family and I visited The Epcot center this summer.</p>
<aside>
  <h4>Epcot Center</h4>
  <p>The Epcot Center is a theme park in Disney World, Florida.</p>
</aside>
```

Result

My family and I visited The Epcot center this summer.

Epcot Center

The Epcot Center is a theme park in Disney World, Florida.

HTML5 <figure> and <figcaption> Elements

In books and newspapers, it is common to have captions with images.

The purpose of a caption is to add a visual explanation to an image.

With HTML5, images and captions can be grouped together in **<figure>** elements:

Example

```
<figure>
  <img src="pic_mountain.jpg" alt="The Pulpit Rock" width="304" height="228">
  <figcaption>Fig1. - The Pulpit Rock, Norway.</figcaption>
</figure>
```

Result

The Pulpit Rock is a massive cliff 604 metres (1982 feet) above Lysefjorden, opposite the Kjerag plateau, in Forsand, Ryfylke, Norway. The top of the cliff is approximately 25 by 25 metres (82 by 82 feet) square and almost flat, and is a famous tourist attraction in Norway.

Fig.1 - A view of the pulpit rock in Norway.

The **<img>** element defines the image, the **<figcaption>** element defines the caption.

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HTML5 <details> Element

The <details> tag specifies additional details that the user can view or hide on demand.

The <details> tag can be used to create an interactive widget that the user can open andclose. Any sort of content can be put inside the <details> tag.

The content of a <details> element should not be visible unless the open attribute is set.

Example

```
<!DOCTYPE html>
<html>
<body>

<details>
  <summary>Copyright 1999-2014.</summary>
  <p> - by Refsnes Data. All Rights Reserved.</p>
  <p>All content and graphics on this web site are the property of the company Refsnes
Data.</p>
</details>

<p><b>Note:</b> The details tag is currently only supported in Opera, Chrome, and in
Safari 6.</p>

</body>
</html>
```

Result

▶ Copyright 1999-2014.

Note: The details tag is currently only supported in Opera, Chrome, and in Safari 6.

Result

▼ Copyright 1999-2014.

- by Refsnes Data. All Rights Reserved.

All content and graphics on this web site are the property of the company Refsnes Data.

Note: The details tag is currently only supported in Opera, Chrome, and in Safari 6.

HTML5 < main > Element

The <main> tag specifies the main content of a document.

The content inside the <main> element should be unique to the document. It should not contain any content that is repeated across documents such as sidebars, navigation links,copyright information, site logos, and search forms.

Note: There must not be more than one <main> element in a document. The <main>element must NOT be a descendant of an <article>, <aside>, <footer>, <header>, or <nav> element.

Example

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```
<!DOCTYPE html>
<html>
<body>

<main>
  <h1>Web Browsers</h1>
  <p>Google Chrome, Firefox, and Internet Explorer are the most used browsers today.
</p>

  <article>
    <h1>Google Chrome</h1>
    <p>Google Chrome is a free, open-source web browser developed by Google, released
in 2008.</p>
  </article>

  <article>
    <h1>Internet Explorer</h1>
    <p>Internet Explorer is a free web browser from Microsoft, released in 1995.</p>
  </article>

  <article>
    <h1>Mozilla Firefox</h1>
    <p>Firefox is a free, open-source web browser from Mozilla, released in 2004.</p>
  </article>
</main>

</body>
</html>
```


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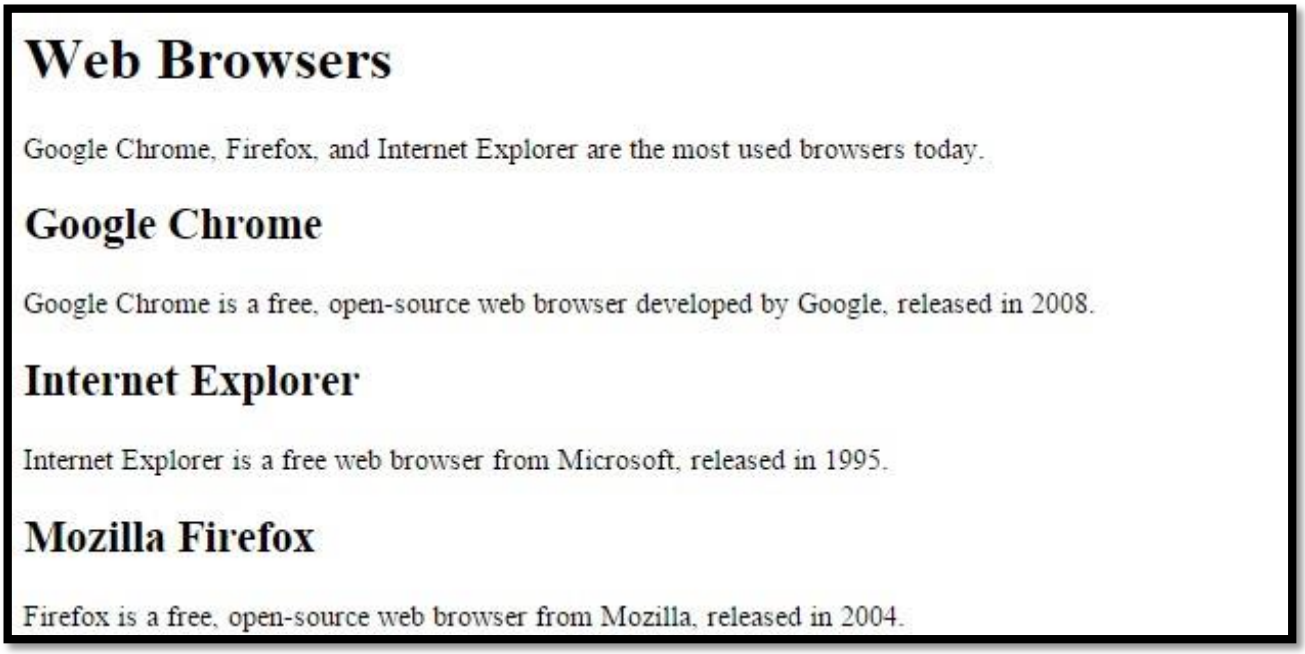
Result



HTML5 < time > Element

The <time> tag defines a human-readable date/time.
This element can also be used to encode dates and times in a machine-readable way so that user agents can offer to add birthday reminders or scheduled events to the user's calendar, and search engines can produce smarter search results.

Example

```
<!DOCTYPE html>
<html>
<body>

<p>We open at <time>10:00</time> every morning.</p>

<p>I have a date on <time datetime="2008-02-14 20:00">Valentines day</time>.</p>

<p><b>Note:</b> The time element does not render as anything special in any of the major browsers.</p>

</body>
</html>
```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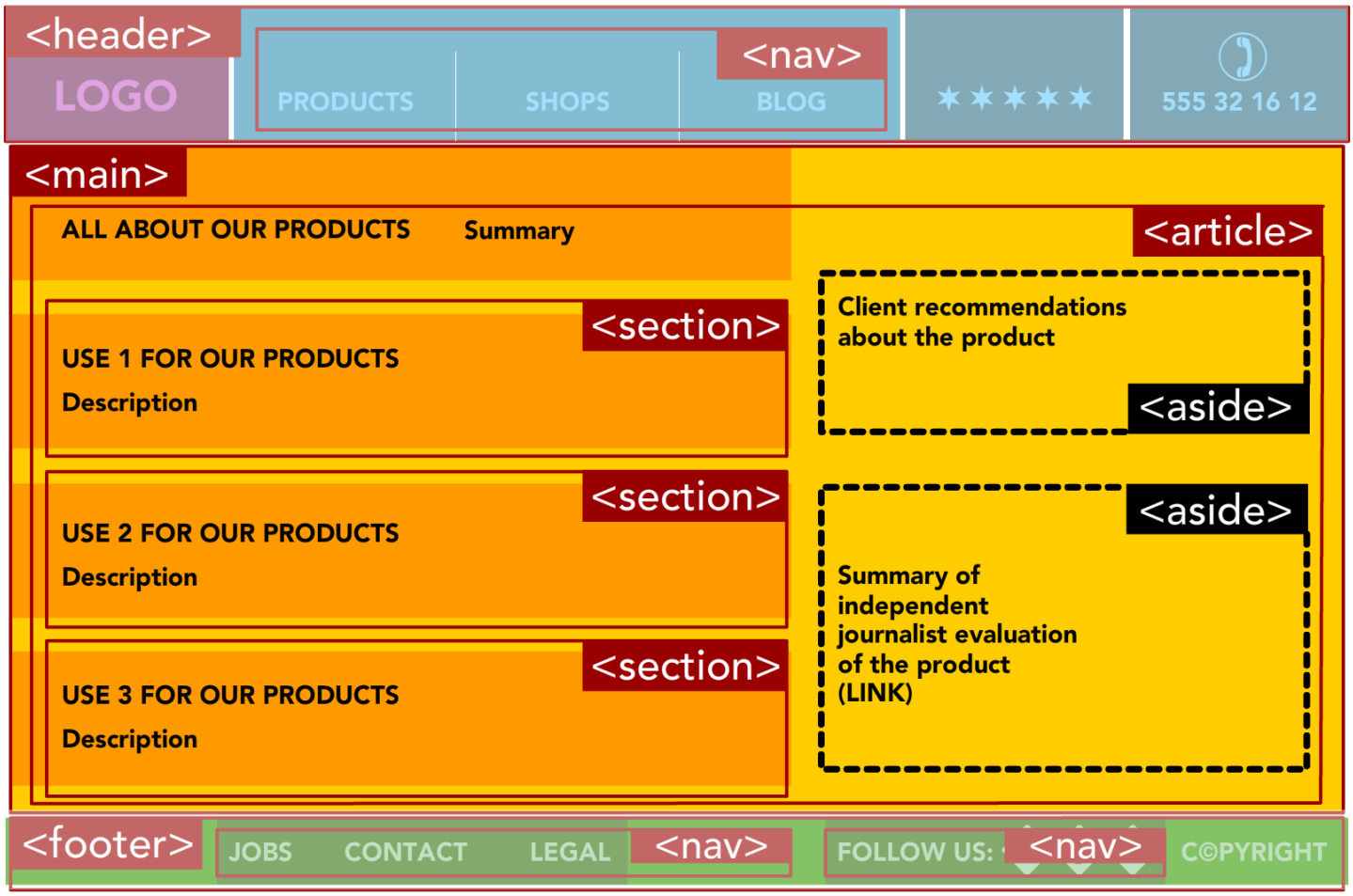
Example:



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