HTML5 Semantics

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

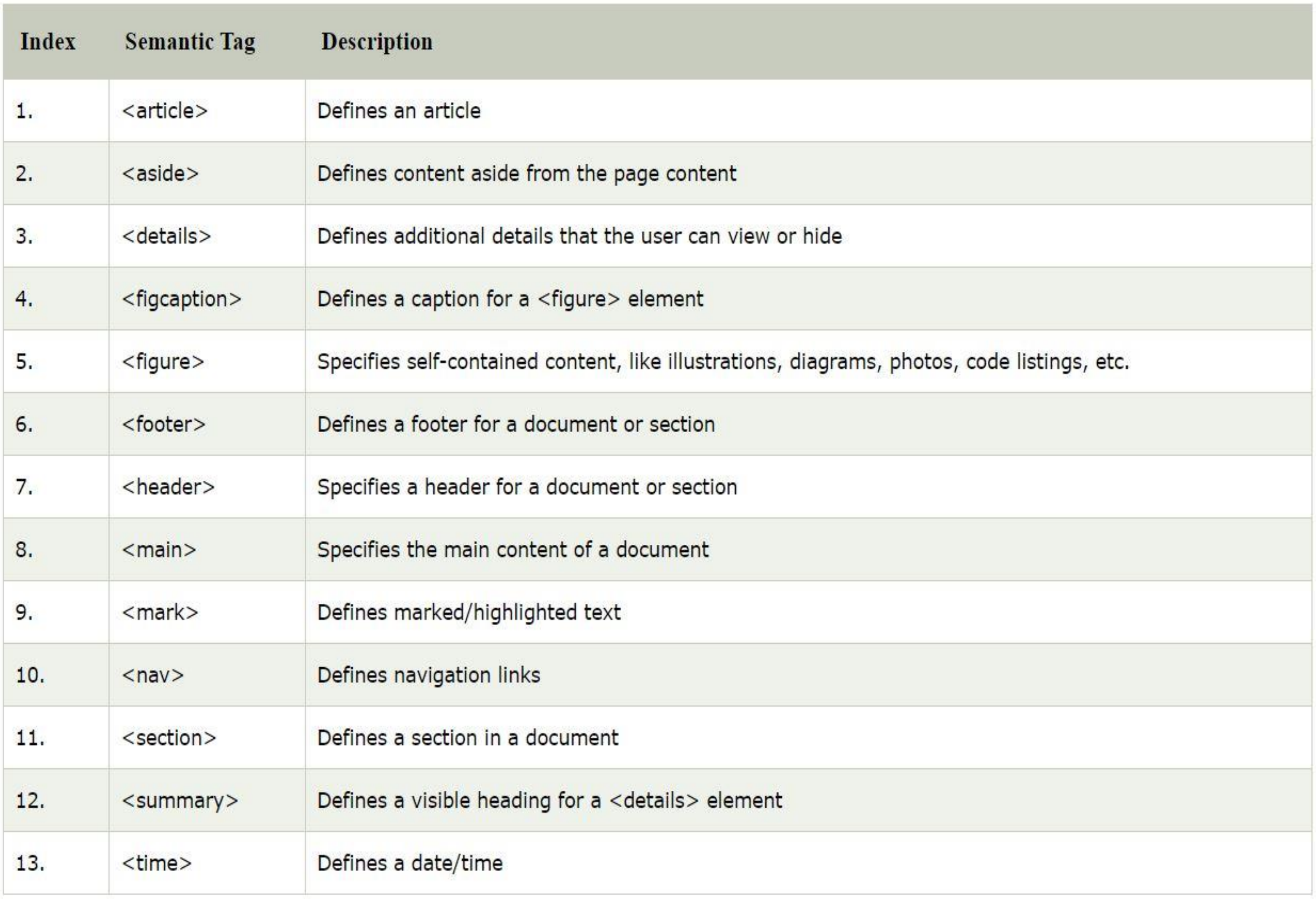
Examples of non-semantic elements: <div> and <span> - Tells nothing about its content.

Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

Semantic Elements in HTML

Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer"> to indicate navigation, header, and footer.

In HTML there are some semantic elements that can be used to define different parts of a web page:



Index	Semantic Tag	Description
1.	<article>	Defines an article
2.	<aside>	Defines content aside from the page content
3.	<details>	Defines additional details that the user can view or hide
4.	<figcaption>	Defines a caption for a <figure> element
5.	<figure>	Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.
6.	<footer>	Defines a footer for a document or section
7.	<header>	Specifies a header for a document or section
8.	<main>	Specifies the main content of a document
9.	<mark>	Defines marked/highlighted text
10.	<nav>	Defines navigation links
11.	<section>	Defines a section in a document
12.	<summary>	Defines a visible heading for a <details> element
13.	<time>	Defines a date/time

HTML5 <article> Element

HTML <article> element defines article content within a document, page, application, or a website. It can be used to represent a forum post, a magazine, a newspaper article, or a big story.

HTML5 <aside> Element

The <aside> element represent the content which is indirectly giving information to the main content of the page. It is frequently represented as a sidebar.

HTML5 <section> Element

The <section> element is used to represent the standalone section within an HTML document. A page can have various sections and each section can contain any content, but headings for each section is not mandatory.

HTML5 <nav> Element

The HTML <nav> element is used to define a set of navigation links.

HTML5 <header> Element

The <header> element represent the header of the document which can contain introductory content or navigation links.

HTML5 <footer> Element

The <footer> tag defines the footer of an HTML document or page.

HTML <figure> and <figcaption> Elements

The <figure> tag specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.

The <figcaption> tag defines a caption for a <figure> element. The <figcaption> element can be placed as the first or as the last child of a <figure> element.

The <img> element defines the actual image/illustration.

HTML <details> and <summary> Elements

The <details> tag specifies additional details that the user can open and close on demand.

The <details> tag is often used to create an interactive widget that the user can open and close. By default, the widget is closed. When open, it expands, and displays the content within.

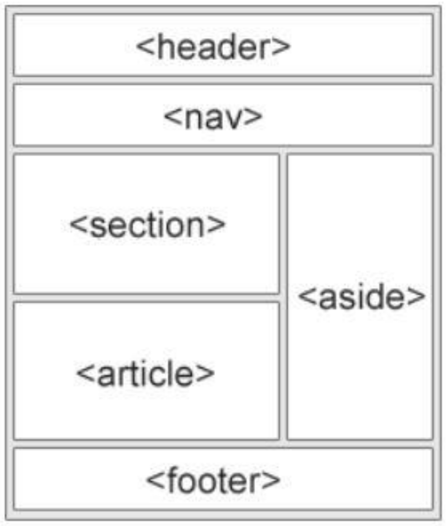
Any sort of content can be put inside the <details> tag.

The <summary> tag defines a visible heading for the <details> element. The heading can be clicked to view/hide the details.

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.



The position Property

The position property specifies the type of positioning method used for an element (static, relative, fixed, absolute or sticky).

The position Property

The position property specifies the type of positioning method used for an element.

There are five different position values:

- static
- relative
- fixed
- absolute
- sticky

Elements are then positioned using the top, bottom, left, and right properties. However, these properties will not work unless the position property is set first. They also work differently depending on the position value.

Static Positioning

This is a by default position for HTML elements. It always positions an element according to the normal flow of the page. It is not affected by the top, bottom, left and right properties.

position: relative

An element with position: relative; is positioned relative to its normal position.

Setting the top, right, bottom, and left properties of a relatively-positioned element will cause it to be adjusted away from its normal position. Other content will not be adjusted to fit into any gap left by the element.

position: absolute

An element with position: absolute; is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed).

However; if an absolute positioned element has no positioned ancestors, it uses the document body, and moves along with page scrolling.

Note: A "positioned" element is one whose position is anything except static**.**

position: sticky

An element with position: sticky; is positioned based on the user's scroll position.

A sticky element toggles between relative and fixed, depending on the scroll position. It is positioned relative until a given offset position is met in the viewport - then it "sticks" in place (like position:fixed).

position: fixed

An element with position: fixed; is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled. The top, right, bottom, and left properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

position: fixed

An element with position: fixed; is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled. The top, right, bottom, and left properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

An element with greater stack order is always in front of an element with a lower stack order.

CSS Combinators

A combinator is something that explains the relationship between the selectors.

A CSS selector can contain more than one simple selector. Between the simple selectors, we can include a combinator.

There are four different combinators in CSS:

- descendant selector (space)
- child selector (>)
- adjacent sibling selector (+)
- general sibling selector (~)

Descendant Selector

The descendant selector matches all elements that are descendants of a specified element.

The following example selects all <p> elements inside <div> elements:

```
div p {
  background-color: yellow;
}
```

Child Selector (>)

The child selector selects all elements that are the children of a specified element.

The following example selects all <p> elements that are children of a <div> element:

Example

```
div > p {
  background-color: yellow;
}
```

Adjacent Sibling Selector (+)

The adjacent sibling selector is used to select an element that is directly after another specific element.

Sibling elements must have the same parent element, and "adjacent" means "immediately following".

The following example selects the first <p> element that are placed immediately after <div> elements:

Example

```
div + p {
  background-color: yellow;
}
```

General Sibling Selector (~)

The general sibling selector selects all elements that are siblings of a specified element.

The following example selects all <p> elements that are siblings of <div> elements:

Example

```
div ~ p {
  background-color: yellow;
}
```

Pseudo-elements

What are Pseudo-Elements?

A CSS pseudo-element is used to style specified parts of an element.

For example, it can be used to:

- Style the first letter, or line, of an element
- Insert content before, or after, the content of an element

Syntax

The syntax of pseudo-elements:

```
selector::pseudo-element {
  property: value;
}
```

::first-line Pseudo-element

The ::first-line pseudo-element is used to add a special style to the first line of a text.

The following example formats the first line of the text in all <p> elements:

```
p::first-line {
  color: #ff0000;
  font-variant: small-caps;
}
```

The ::first-line pseudo-element can only be applied to block-level elements.The following properties apply to the ::first-line pseudo-element:

- font properties
- color properties
- background properties
- word-spacing
- letter-spacing
- text-decoration
- vertical-align
- text-transform
- line-height
- clear

::first-letter Pseudo-element

The ::first-letter pseudo-element is used to add a special style to the first letter of a text.

The following example formats the first letter of the text in all <p> elements:

Example

```
p::first-letter {
  color: #ff0000;
  font-size: xx-large;
}
```

::before Pseudo-element

The ::before pseudo-element can be used to insert some content before the content of an element.

The following example inserts an image before the content of each <h1> element:

Example

```
h1::before {
  content: url(smiley.gif);
}
```

::after Pseudo-element

The ::after pseudo-element can be used to insert some content after the content of an element.

The following example inserts an image after the content of each <h1> element:

Example

```
h1::after {
  content: url(smiley.gif);
}
```

::selection Pseudo-element

The ::selection pseudo-element matches the portion of an element that is selected by a user.

The following CSS properties can be applied to ::selection: color, background, cursor, and outline.

The following example makes the selected text red on a yellow background:

Example

```
::selection {

  color: red;

  background: yellow;

}
```

CSS Opacity / Transparency

The opacity property specifies the opacity/transparency of an element.

The opacity property can take a value from 0.0 - 1.0. The lower value, the more transparent:

```
img {
  opacity: 0.5;
}
```