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VIMAL TORMAL PODDAR BCA COLLEGE

SEMINAR

REPORTON

HTML SEMANTICS

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➤ What Is Semantic HTML?

➤ Semantic HTML, also known as semantic markup, refers tothe use of HTML tags that convey the meaning—or semantics—of the content contained within them.

➤ By adding semantic HTML tags to your pages, you provideadditional information that helps define the roles and relative importance of the different parts of your page.

➤ (As opposed to non-semantic HTML, which uses tags thatdon't directly convey meaning.)

➤ In any language, it is essential to understand the meaning of words during communication. And if this is a computer communication then it becomes more critical. So HTML5 provides more semantic elements which make easy understanding of the code.

➤ Hence Semantics defines the meaning of words and phrases.

➤ Semantic elements with a meaning. Semantic elements have a simple and clear meaning for both, the browser and the develop
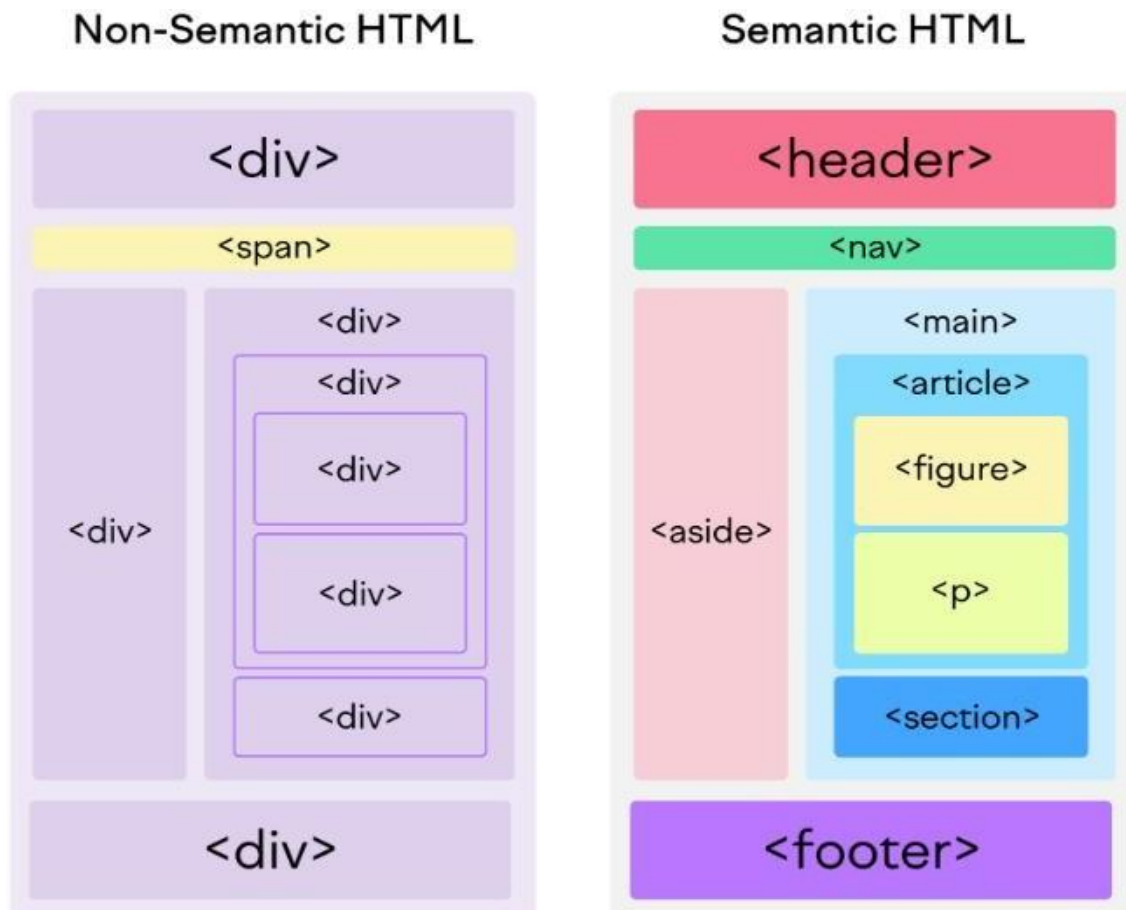
➢ **What Are Semantic HTML Tags?**

➢ Semantic HTML tags are tags that define the meaning ofthe content they contain.

➢ For example, tags like **<header>**, **<article>**, and **<footer>** are semantic HTML tags. They clearlyindicate the role of the content they contain.

➢ On the other hand, tags like **<div>** and **<span>** are typical examples of non-semantic HTML elements. They serve only as content holders but give no indication as to what type of content they contain or what role that content playson the page.

➢ Why Do I Need to Use SemanticHTML Tags?

➢ Besides the obvious reason that semantic HTML tags are easier to read and understand—for example, by web developers reviewing the code—there are two more specific reasons why you should always use semantic tags.

➢ In HTML4, developers have to use their own id/class names to style elements: header, top, bottom, footer, menu, navigation, main, container, content, article, sidebar, topnav,etc.

➢ This is so difficult for search engines to identify the correct web page content. Now in HTML5 elements (<header>
 <footer> <nav> <section> <article>), this will become easier. It now allows data
 to be shared and reused across applications, enterprises, and communities."

➢ Semantic elements can increase the accessibility of your website, and also helps to create a better website structure.

1. Accessibility

➢ For sighted users, it's easy to identify the various parts of aweb page. Headers, footers, and the main content are all immediately visually apparent.

➢ However, it is not that easy for users who are **blind orvisually impaired** and rely on screen readers.

➢ The proper use of HTML semantic tags will allow these readers to understand your content better because theirscreen readers will communicate your content more accurately.

2. SEO

➢ Semantic HTML tags are important for SEO (search engineoptimization) because they indicate the role of the content within the tags.

➢ That information gives search engine crawlers, like Google bot, a better understanding of your content. This increases the chances that your content will be selected as a candidatefor ranking on the search engine results page (SERP) for relevant keywords.

➢ Types of HTML Semantic Tags

Semantic tags can define different parts of a web page.

Let's take a look at the most common semantic HTML elements,divided into two categories based on their usage:

➢   HTML semantic tags for structure

➢   HTML semantic tags for text

HTML Semantic Tags for Structure

Many semantic HTML tags communicate the layout of a page.

These "structural" tags were introduced when HTML4 got upgraded to HTML5. That's why they're also commonly known.
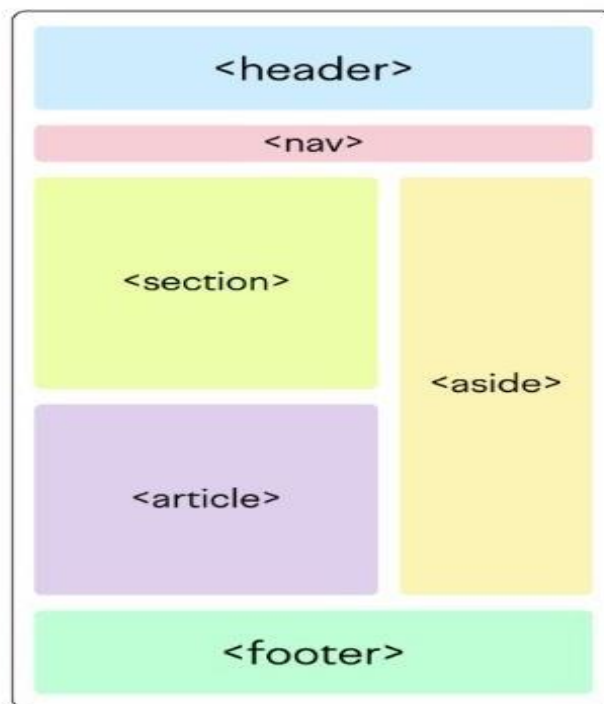
Here's a full list:

➢   **<header>**: The header tag defines content that should be considered the introductory information of a page or section

➢   **<nav>**: The navigation tag is used for navigation links. It canbe nested within the <header> tag, but secondary navigation
      <nav> tags are also commonly used elsewhere on the page.

➤ **<main>**: This tag contains the main content (also called thebody) of a page. There should be only one tag per page.

➤ **<article>**: The article tag defines content that could stand independently of the page or site it's on. It does not necessarily mean a "blog post." Think of it more as "an article of clothing"—a self-contained item that can be used invarious contexts.

➤ **<section>**: Using <section> is a way of grouping nearbycontent of a similar theme. A section tag differs from an article tag. It isn't necessarily self-contained, but it formspart of something else.

➤ **<aside>**: An aside element defines content that's lessimportant. It's often used for sidebars—areas that addcomplementary but nonessential information.

➤ **<footer>**: You use <footer> at the bottom of a page. It usually includes contact information, copyright information,and some site navigation.

HTML Semantic Tags for Text

➢ The semantic HTML tags for text are HTML tags that— besides the formatting—also convey the semantic function ofthe text they contain.

➢ Here are some of the most common examples:

➢ **<h1>** (heading): The H1 tag marks the top level heading.There's usually only one H1 heading per page.

➢ **<h2> to <h6>** (subheadings): The subheadings of various levels of importance. There can be multiple headings of thesame level on a single page.

➢ **<p>** (paragraph): A standalone paragraph of text.

➢ **<a>** (anchor): Used to mark up a hyperlink from one page toanother.

➢ **<ol>** (ordered list): A list of items that are displayed in aparticular order, starting with bullet points. One <li> (listitem) tag contains a single item in the list.

➢ **<ul>** (unordered list): A list of items that do not need to be displayed in a particular order, starting with ordinal numbers.One <li> (list item) tag contains a single item of the list.

➢ **<q>** / <blockquote>: A quotation of the text. Use <blockquote> for long, multi-line quotations and <q> forshorter, inline quotations.

➢ **<em>** (emphasis): Used for text that should be emphasized.

➢ **<strong>** (strong emphasis): Used for text that should bestrongly emphasized.

➢ **<code>**: A block of computer code.

1. \<article\>: The Article Contentselement

➢ The \<article\> [HTML](#) element represents a self-contained composition in a document, page, application, or site, which is intended to be independently distributable or reusable (e.g.,in syndication). Examples include: a forum post, a magazine or newspaper article, or a blog entry, a product card, a user- submitted comment, an interactive widget or gadget, or any other independent item of content.

Usage notes

➢ Each \<article\> should be identified, typically by including aheading ([\<h1\> - \<h6\>](#) element) as a child of
the \<article\> element.
➢ When an \<article\> element is nested, the inner elementrepresents an article related to the outer element. For example, the comments of a blog post can
be \<article\> elements nested in the \<article\> representing theblog post.
➢ Author information of an \<article\> element can be providedthrough the [\<address\>](#) element, but it doesn't apply to nested \<article\> elements.
➢ The publication date and time of an \<article\> element can bedescribed using the [datetime](#) attribute of a [\<time\>](#) element.

HTML Demo: \<article\>   RESET

HTML   CSS   OUTPUT

```
1  <article class="forecast">
2    <h1>Weather forecast for
   Seattle</h1>
3    <article class="day-forecast">
4      <h2>03 March 2018</h2>
5      <p>Rain.</p>
6    </article>
7    <article class="day-forecast">
8      <h2>04 March 2018</h2>
9      <p>Periods of rain.</p>
10   </article>
11   <article class="day-forecast">
12     <h2>05 March 2018</h2>
13     <p>Heavy rain.</p>
14   </article>
```

Weather forecast for Seattle

03 March 2018
Rain.

04 March 2018
Periods of rain.

2. \<aside\>: The Aside element

➢ The \<aside\> [HTML](#) element represents a portion of a document whose content is only indirectly related to the document's main content. Asides are frequently presented assidebars or call-out boxes

Usage notes

➢ Do not use the \<aside\> element to tag parenthesized text, asthis kind of text is considered part of the main flow.

```
HTML Demo: <aside>                              RESET

HTML        CSS                                 OUTPUT

1  <p>                                Salamanders are a
2    Salamanders are a group of       group of amphibians
   amphibians with a lizard-like      with a lizard-like
   appearance, including short legs   appearance, including
   and adult forms.                   short legs and adult
3  </p>                               forms.
4
5  <aside>                            Northwest,      The
6    <p>The Rough-skinned Newt        including the
   defends itself with a deadly       Ensatina, the  Rough-
   neurotoxin.</p>                                    skinned
7  </aside>
8                                                     Newt
9
```

3. <details>: The Details disclosureelement

➢ The <details> HTML element creates a disclosure widget in which information is visible only when the widget is toggledinto an "open" state. A summary or label must be provided using the <summary> element.

➢ A disclosure widget is typically presented onscreen using a small triangle that rotates (or twists) to indicate open/closedstatus, with a label next to the triangle. The contents of
the <summary> element are used as the label for thedisclosure widget.

4. <header>: The Header element

- The <header> [HTML](#) element represents introductory content, typically a group of introductory or navigational aids.It may contain some heading elements but also a logo, a search form, an author name, and other elements

Usage notes

- The <header> element has an identical meaning to the site-wide [banner](#) landmark role, unless nested within sectioning content. Then, the <header> element is not a landmark.
- The <header> element can define a global site header, described as a banner in the accessibility tree. It usuallyincludes a logo, company name, search feature.

HTML Demo: <header>   RESET

HTML	CSS		OUTPUT

```
1  <header>
2    <a class="logo" href="#">Cute
   Puppies Express!</a>
3  </header>
4
5  <article>
6    <header>
7      <h1>Beagles</h1>
8      <time>08.12.2014</time>
9    </header>
10   <p>I love beagles <em>so</em>
   much! Like, really, a lot.
   They're adorable </p>
11 </article>
```

Beagles

08.12.2014

I love beagles *so* much!
Like, really, a lot.
They're adorable

5. \<footer\>: The Footer element

➢ The \<footer\> [HTML](#) element represents a footer for itsnearest ancestor [sectioning content](#) or [sectioning root](#) element. A \<footer\> typically contains information about the author of the section, copyright data or links torelated documents.

Usage notes

➢ Enclose information about the author in an [\<address\>](#) element that can be included into the \<footer\> element.

➢ When the nearest ancestor sectioning content or sectioningroot element is the body element the footer applies to the whole page.

HTML Demo: \<footer\>　　　　　　　　RESET

HTML　　CSS　　　　　　　　　　OUTPUT

```
 1 <article>
 2   <h1>How to be a wizard</h1>
 3   <ol>
 4     <li>Grow a long, majestic
   beard.</li>
 5     <li>Wear a tall, pointed hat.
   </li>
 6   </ol>
 7   <footer>
 8     <p>© 2018 Gandalf</p>
 9   </footer>
10 </article>
11
```

How to be a wizard

1. Grow a long, majestic beard.
2. Wear a tall, pointed hat.

© 2018 Gandalf

6. <nav>: The Navigation Sectionelement

➢ The <nav> HTML element represents a section of a page whose purpose is to provide navigation links, either within the current document or to other documents. Common examples of navigation sections are menus, tables of contents,and indexes.

Usage notes

➢ It's not necessary for all links to be contained in a <nav> element. <nav> is intended only for a major block ofnavigation links; typically the <footer> element often has a list of links that don't need to be in a <nav> element.

➢ A document may have several <nav> elements, for example, onefor site navigation and one for intra-page navigation.

HTML Demo: <nav>   RESET

HTML   CSS   OUTPUT

```
1  <nav class="crumbs">
2    <ol>
3      <li class="crumb">
4      <li class="crumb">Jump Bike
   3000</li>
5    </ol>
6  </nav>
7
8  <h1>Jump Bike 3000</h1>
9  <p>
10   This BMX bike is a solid step
   into the pro world. It looks as
   legit as it rides and is built
   to polish your skills.
11 </p>
```

Jump Bike 3000

Jump Bike 3000

This BMX bike is a solid step into the pro world. It looks as legit as it rides and is built to

7. \<section>: The Generic Sectionelement

➢ The \<section> <u>HTML</u> element represents a generic standalone section of a document, which doesn't have a morespecific semantic element to represent it. Sections should always have a heading, with very few exceptions.

Usage notes

➢ As mentioned above, \<section> is a generic sectioning element, and should only be used if there isn't a more specific element to represent it. As an example, a navigationmenu should be wrapped in a <u>\<nav></u> element

8. <summary>: The DisclosureSummary element

➤ The <summary> HTML element specifies a summary, caption, or legend for a <details> element's disclosure box.Clicking the <summary> element toggles the state of the parent <details> element open and closed.

Usage notes

➤ The <summary> element's contents can be any headingcontent, plain text, or HTML that can be used within a paragraph.
➤ A <summary> element may only be used as the first child ofa <details> element. When the user clicks on the summary, the parent <details> element is toggled open or closed, and then a toggle event is sent to the <details> element, which can be used to let you know when this state change occurs.

HTML Demo: <summary>   RESET

| HTML | CSS | | OUTPUT |

```
1 <details>
2   <summary>I have keys but no
  doors. I have space but no room.
  You can enter but can't leave.
  What am I?</summary>
3   A keyboard.
4 </details>
5
```

▶ I have keys but no doors. I have space but no room. You can enter but can't leave. What am I?

9. <time>: The (Date) Time element

➢ The <time> HTML element represents a specific period in time. It may include the datetime attribute to translate datesinto machine-readable format, allowing for better search engine results or custom features such as reminders.

Usage notes

➢ This element is for presenting dates and times in a machine- readable format. For example, this can help a user agent offerto add an event to a user's calendar.
➢ This element should not be used for dates prior to the introduction of the Gregorian calendar (due to complicationsin calculating those dates).
➢ The *datetime value* (the machine-readable value of the datetime) is the value of the element's datetime attribute,which must be in the proper format

HTML Demo: <time>   RESET

| HTML | CSS | OUTPUT |

```
3    Park.
4  </p>
5
6  <p>
7     The concert starts at <time
   datetime="20:00">20:00</time>
   and you'll be able to enjoy the
   band for at least
8     <time datetime="PT2H30M">2h
   30m</time>.
9  </p>
10
```

The Cure will be celebrating their 40th anniversary on **July 7** in London's Hyde Park.

The concert starts at **20:00** and you'll be able to enjoy the band for at least **2h 30m**.

10. <main>: The Main element

➢ The <main> HTML element represents the dominant contentof the <body> of a document. The main content area consistsof content that is directly related to or expands upon the central topic of a document, or the central functionality of an application.

Usage notes

➢ The content of a <main> element should be unique to the document. Content that is repeated across a set of documents or document sections such as sidebars, navigation links, copyright information, site logos, and search forms shouldn't be included unless the search form is the main function of thepage.

➢ <main> doesn't contribute to the document's outline; that is,unlike elements such as <body>, headings such as h2, and such, <main> doesn't affect the DOM's concept of the structure of the page. It's strictly informative.

HTML Demo: <main>   RESET

| HTML | CSS | | OUTPUT |

```
1  <header>Gecko facts</header>
2
3  <main>
4    <p>
5      Geckos are a group of
   usually small, usually nocturnal
   lizards. They are found on every
   continent except Antarctica.
6    </p>
7  |
8  </main>
```

Gecko facts

Geckos are a group of usually small, usually nocturnal lizards. They are found on every continent except Antarctica.

11. <mark>: The Mark Text element

➢ The <mark> [HTML](#) element represents text which
is **marked** or **highlighted** for reference or notation purposesdue to the marked
passage's relevance in the enclosing context.

Usage notes

Typical use cases for <mark> include:

➢ When used in a quotation ([<q>](#)) or block quote ([<blockquote>](#)), it generally
indicates text which is of specialinterest but is not marked in the original source
material, or material which needs special scrutiny even though the original author
didn't think it was of particular importance. Think of this like using a highlighter
pen in a book to mark passages that you find of interest.

12. <form>: The Form element

➢ The <form> HTML element represents a document sectioncontaining interactive controls for submitting information.

➢ **Attributes**

This element includes the global attributes.

=> accept-charset

Space-separated character encodings the server accepts. The browser uses them in the order in which they are listed. The default value means the same encoding as the page. (In previousversions of HTML, character encodings could also be delimitedby commas.)

=> autocapitalize

Controls whether inputted text is automatically capitalized and,if so, in what manner. See the autocapitalize global attribute page for more information.

=> autocomplete

Indicates whether input elements can by default have theirvalues automatically completed by the
browser. autocomplete attributes on form elements override iton <form>. Possible values:

- off: The browser may not automatically complete entries.(Browsers tend to ignore this for suspected login forms; see The autocomplete attribute and login fields.)
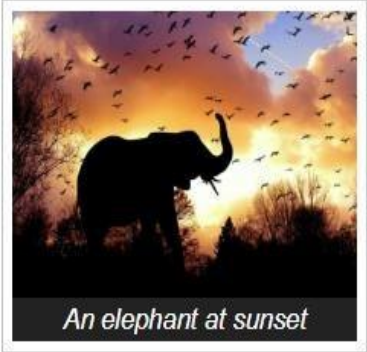- on: The browser may automatically complete entries.

13.   <figure>: The Figure with OptionalCaption element

➢ The <figure> [HTML](#) element represents self-contained content, potentially with an optional caption, which is specified using the [<figcaption>](#) element. The figure, itscaption, and its contents are referenced as a single unit.

Usage notes

➢ Usually a <figure> is an image, illustration, diagram, code snippet, etc., that is referenced in the main flow of a document, but that can be moved to another part of the document or to an appendix without affecting the main flow.

➢ Conclusion

➢ HTML is a living language, and its evolution is unending. New semantic elements are introduced to address the changing landscape of the web. As developers, we are to stayinformed and updated about these changes as it allows us to create modern, accessible, and search engine-friendly websites.

➢ In conclusion, HTML semantics is not just a set of rules; it's a language that communicates with developers, browsers, andassistive technologies. By embracing semantic elements, we make our web content richer, more accessible, and ready for the future. So, the next time you're coding, don't just think about tags, think about the meaning and context you're adding to the vast landscape of the internet!!