Stream : Diploma 2nd Sem
Subject : Web Development[WD]

Unit 1 | HTML5

What is HTML?

- HTML stands for Hyper Text Markup Language.
- HTML is a standard markup language which is used for creating web pages.
- It describes the structure of web pages through HTML elements or tags.
- It provides some titles, headings, paragraphs, lists, tables, embedded images, etc., to describe the structure of text-based and multimedia information in HTML documents.

The History of HTML :

- HTML was first created by Tim Berners-Lee, Robert Cailliau, and others starting in 1986.
- In 1989, Berners-Lee wrote a memo proposing an Internet-based hypertext system.
- Berners-Lee specified HTML and wrote the browser and server software in late 1990.

1.1 Different Versions of HTML and its significance :

Year	Version
1991	Tim Berners-Lee invented HTML
1993	Tim Berners-Lee invented HTML 1.0
1995	HTML Working Group defined HTML 2.0
1997	W3C Recommendation: HTML 3.2
1999	W3C Recommendation: HTML 4.01
2000	W3C Recommendation: XHTML 1.0
2014	W3C Recommendation: HTML5

1. **HTML 1.0 :**

- HTML 1.0 or first version of HTML was a version of SGML that had ability to link different document or pages using 'href'.
- HTML 1.0 had 20 elements or tags, now latest version of HTML, ie HTML5 has a lot more.

2. **HTML 2.0 :**

- After HTML 1.0, the second version of HTML was released in 1994. HTML 2.0 was an expansion of HTML 1.0.
- Internet Engineering Task Force (IETF) was behind it's creation.

3. **HTML 3.2 :**

- HTML 3.2 was released In 1997. HTML 3.2 had many new features like tables, superscript, subscript etc.
- Two most important features introduced in HTML 3.2 were tables and text flow around images.
- Tables were widely used and programmers still use them but it is not recommended anymore.

4. **HTML 4.01 :**

- HTML 4.01 was released In 1999. HTML 4.01 introduced features like scripting, style sheets, better tables, better forms frames and embedding objects.
- HTML 4.01 was a revised version of HTML 4.0, it also included features for the disabled people to enhance their interactivity with the Global world through Internet.

5. **XHTML :**

- In 2000 XHTML was released. XHTML stands for Extensible Hyper Text Markup Language.
- XHTML has strict set of rules and it is basically an XML application of HTML.

6. **HTML5 :**

- So all of this added up and then after so many year HTML5 was released in 2014.
- HTML5 is the best version of HTML up till now. HTML5 improved user interactivity so much and also lessened the burden of devices.

➢ **Difference between HTML and HTML5 :**

HTML	HTML5
HTML Doctype declaration is lengthy.	DOCTYPE declaration in HTML5 is simple.
HTML Character encoding is longer.	HTML5 Character encoding declaration is simple.
Audio and video are not HTML parts.	Audio and video are HTML5 part.
It is possible to draw a vector with the help of other technologies like Silverlight, Flash, VML, etc.	Vector graphics are a part of HTML5, e.g., canvas, SVG.
It is impossible to get the actual Geolocation of a person browsing any website.	JS Geolocation API in HTML5 enables you to identify the location of the user browsing any website.
HTML offers local storage instead of cookies.	Html5 uses cookies to store data.
In HTML, it is not possible to draw basic shapes.	In Html5, it is possible to draw basic shapes.
It allows you to run JavaScript in a browser.	It enables you to run JavaScript code in the background.
You can use HTML with all old browsers.	You can use HTML5 with all new browsers.
You can use browser cache as temporary storage.	You can use application (database and web storage) Cache as temporary storage.
Web Socket is not available.	You can establish full-duplex communication channels with a server using Web Sockets.
There is no process to handle structurally incorrect HTML codes.	HTML5 supports persistent error handling via the improvised error handling process.
HTML is less mobile-friendly.	HTML5 is mobile friendly.
Attributes like async, charset, and ping are not present in HTML.	Attributes of async, ping, charset, and are a part of HTML5.
HTML does not allow drag and drop effects.	HTML5 allows drag and drop effects.
Built based on Standard Generalized Markup Language (SGML).	HTML5 has improved parsing rules providing enhanced compatibility.
The type attribute for < script > and < link > tag is mandatory in the code.	The type attribute for < script> and < link > tag can be omitted in the code.
< Html >, < body >, < head > tags are mandatory while coding.	< Html >, < body >, < head > tags can be omitted while coding.

1.2 Create and save an HTML document, access a web page using a web browser :

- ".html" or ".htm" are the two extensions used to write and save HTML files; we can write HTML code in any text editor and save it as "filename.html" or "filename.htm".

- **Requirements:**

  1. Text Editor
  2. An Internet Browser

Step :1 Open Your Text Editor :

- You can write HTML in any simple editor such as Notepad. And other software such as Adobe Dreamweaver, Sublime, NetBeans, Notepad ++, etc., are mainly used for writing and editing HTML.

Step 2: Write Your HTML Code.

Step 3: Save Your File :

- There are a few important things to keep in mind when you save it the file:

- Use the .html HTML file extension,
  i.e. about_me.html.

- Don't use any spaces or special characters in the file name. Use underscores (_) or dashes (-) instead.

- Decide where in your computer you will save the file, and make sure to remember the location!

Step 4: Open Your Web Page in Your Browser.

1.3 Structure of HTML page :

```
<!DOCTYPE html>
    <html>

        <head>
            <title> Title here </title>
        </head>

        <body>
            Web page content goes here.
        </body>

    </html>
```

- The basic structure of an HTML document consists of 5 elements:

1. <!DOCTYPE>
2. <html>
3. <head>
4. <title>
5. <body>

1. The DOCTYPE :

- A DOCTYPE declaration must be specified on the first line of each web document :

- The DOCTYPE tells the web browser which version of HTML the page is written in.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
   "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

- In this class, we will be using 'XHTML Transitional', which allows us a little flexibility.

2. The <html> Element :

- Immediately following the DOCTYPE declaration is the <html> element:

```
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
```

The <html> element tells the browser that the page will be formatted in HTML and, optionally, which world language the page content is in.

- The <html> element tells the browser that the page will be formatted in HTML and, optionally, which world language the page content is in.

3. The <head> and <body> Elements :

```
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<title>Page Title Goes Here</title>
</head>
<body>
<!--  Page content goes here -->
</body>
```

- The <head> element surrounds all the special "behind the scenes" elements of a web document.
- Most of these elements do not get displayed directly on the web page.
- The <body> element surrounds all the actual content (text, images, videos, links, etc.) that will be displayed on our web page.

4. The <meta> Element :

- Immediately after the <head> line, we place this <meta> element :
- This line declares that the document is encoded in the UTF-8 (Unicode) character set.

```
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<title>Page Title Goes Here</title>
</head>
```

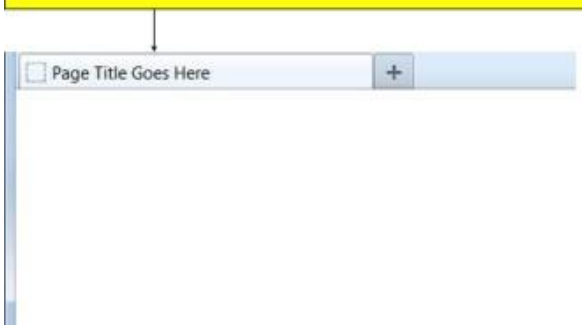
The <meta> element provides information about the document to web browsers and search engines. This line declares that the document is encoded in the UTF-8 (Unicode) character set.

- There can be multiple <meta> lines in the same web page.
- The <meta> element is often used to provide additional information such as page keywords, a page description, and the author(s) of a web document.

5. **The <title> Element :**

- The <title> element defines what text will show in the web browser's title bar :

```
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<title>Page Title Goes Here</title>
</head>
```



The <title> element is always placed within the <head> section of the document.

Each page of your website should have a unique title.

➢ What is an HTML Element ?

- An HTML element is defined by a start tag, some content, and an end tag :

<tagname> Content goes here... **</tagname>**

- The HTML element is everything from the start tag to the end tag :

<h1> My First Heading **</h1>**
** ** My first paragraph. ** **

- **Note :** Some HTML elements have no content (like the
 element). These elements are called empty elements. Empty elements do not have an end tag!

1. **HTML Headings tag:**

- HTML headings are defined with the <h1> to <h6> tags.
- <h1> defines the most important heading. <h6> defines the least important heading:

Example :	**Output :**
<!DOCTYPE html> <html> <body> This is heading 1 This is heading 2 This is heading 3 This is heading 4 This is heading 5 This is heading 6 </body> </html>	**This is heading 1** **This is heading 2** **This is heading 3** **This is heading 4** **This is heading 5** **This is heading 6**

2. **HTML Paragraphs tag:**

- HTML paragraphs are defined with the tag :

Example :	**Output :**
This is a paragraph. This is another paragraph.	This is a paragraph. This is another paragraph.

3. **Unclosed HTML Tags :**

- Some HTML tags are not closed, for example br and hr.
- **
 Tag :** br stands for break line, it breaks the line of the code.
- **<hr> Tag :** hr stands for Horizontal Rule. This tag is used to put a line across the webpage.

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4. HTML List Tag :

Unordered List :

- An unordered list is a collection of related items that have no special order or sequence.
- It is also known as **bulleted list** also.
- This list is created by using HTML **<ul>** tag and list items start with the **<li>** tag.
- Each item in the list is marked with a bullet.
- To represent different lists, The CSS **list-style-type** property is used to define the style of the list item marker.
- There are 4 types of attributes in <ul> tag :

Type	Description
Type "disc"	This is the default style. the list items are marked with bullets.
Type "circle"	In this style, the list items are marked with circles.
Type "square"	In this style, the list items are marked with squares.
Type "none"	In this style, the list items are not marked .

Example :
Default(Disc Bullets)

```
<ul>
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ul>
```

Output :

- HTML
- Java
- JavaScript
- SQL

Example :
Circle Bullets

```
<ul type="circle">
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ul>
```

Output :

- HTML
- Java
- JavaScript
- SQL

Example :
Square Bullets

```
<ul type="square">
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ul>
```

Output :

- HTML
- Java
- JavaScript
- SQL

Ordered List :

- An ordered list can be numerical or alphabetical.
- It is also known as **Numbered list** also.
- This list is created by using HTML **<ol>** tag and list items start with the **<li>** tag.
- The list items are marked with numbers by default.
- To represent different lists, The CSS **list-style-type** property is used to define the style of the list item marker.

Type	Description
Type "1"	This is the default type. The list items are numbered with numbers.
Type "I"	In this type, the list items are numbered with upper case roman numbers.
Type "i"	In this type, the list items are numbered with lower case roman numbers.
Type "A"	In this type, the list items are numbered with upper case letters.
Type "a"	In this type, the list items are numbered with lower case letters.

- **The start Attribute :**

  - You can use start attribute for <ol> tag to specify the starting point of numbering you need.
  - Following are the possible options −

<ol type = "1" start = "5">	..... Numerals starts with 5.
<ol type = "I" start = "4">	..... Numerals starts with IV.
<ol type = "i" start = "6">	.....Numerals starts with vi.
<ol type = "a" start = "7">	.....Letters starts with g.
<ol type = "A" start = "3">	.....Letters starts with C.

Example :

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Ordered List</title>
  </head>
  <body>
    <ol type = "i" start = "4">
      <li> HTML </li>
      <li> PHP </li>
      <li> Android </li>
      <li> JavaScript </li>
    </ol>
  </body>
</html>
```

Output :

iv. HTML
v. PHP
vi. Android
vii. JavaScript

- **Descriptive List :**

  - A description list is a list of terms, with a description of each term.
  - Definition List makes use of following three tags.

<dl> − Defines the start of the list
<dt> − A term (Descriptive type)
<dd> − Term definition (Descriptive Data)

Example :

```
<dl>
  <dt>HTML</dt>
      <dd>is a markup language</dd>
  <dt>Java</dt>
      <dd>is a programming language and platform</dd>
  <dt>JavaScript</dt>
      <dd>is a scripting language</dd>
  <dt>SQL</dt>
      <dd>is a  query  language</dd>
</dl>
```

Output :

HTML
is a markup language

Java
is a programming language and platform.

JavaScript
is a scripting language

SQL
is a query language

5. **HTML Table Tag :**
   - HTML table tag is used to display data in tabular form (row * column).

Tag	Description
<table>	It defines a table.
<tr>	It defines a row in a table.
<th>	It defines a header cell in a table.
<td>	It defines a cell in a table.
<caption>	It defines the table caption.
<tbody>	It is used to group the body content in a table.
<thead>	It is used to group the header content in a table.
<tfooter>	It is used to group the footer content in a table.

Example :

```
<!DOCTYPE html>
<html>
<body>
        <table border =”5”>
                <tr>
                        <th>Firstname</th>
                        <th>Lastname</th>
                        <th>Age</th>
                </tr>
                <tr>
                        <td>Priya</td>
                        <td>Sharma</td>
                        <td>24</td>
                </tr>
                <tr>
                        <td>Arun</td>
                        <td>Singh</td>
                        <td>32</td>
                </tr>
                <tr>
                        <td>Sam</td>
                        <td>Watson</td>
                        <td>41</td>
                </tr>
        </table>
</body>
</html>
```

Output :

Firstname	Lastname	Age
Priya	Sharma	24
Arun	Singh	32
Sam	Watson	41

- **Table Tag Properties (Attributes) :**

Properties	Description
Border	border attribute of table tag in HTML to specify border.
Align	It specify table Alignment (Left , Right ,Center).
Height	It specify the HTML table Height (pixels or percentage).
Width	It specify the HTML table width (pixels or percentage).
Bgcolor	It specify background color for table.
Background	It specify background image for table.
Cellpadding	It specify padding for table header and table data.
Cellspacing	It specify Space for table in between cell.
Rowspan	It will divide a cell into multiple rows. The number of divided rows will depend on rowspan values. It used in <th> or <td> tag.
Colspan	It will divide a cell into multiple Columns. The number of divided columns will depend on colspan values. It used in <th> or <td> tag.

1. **HTML Div tag :**

```
<!DOCTYPE html>
<html>
<head>
<style>
.myDiv {
  border: 5px outset red;
  background-color: lightblue;
  text-align: center;
}
</style>
</head>
<body>
<h1>The div element</h1>
<div class="myDiv">
  <h2>This is a heading in a div element</h2>
  <p>This is some text in a div element.</p>
</div>
<p>This is some text outside the div element.</p>
</body>
</html>
```

```
<!DOCTYPE>
<html>
<body>
<div style="border:1px solid pink;padding:20px;font-size:20px">
<p>Welcome to Classroom, You are in second semester student you learning web dev.</p>
<p>This is second paragraph</p>
</div>
</body>
</html>
```

❖ Definition and Usage

The `<div>` tag defines a division or a section in an HTML document.

The `<div>` tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript.

The `<div>` tag is easily styled by using the class or id attribute.

Any sort of content can be put inside the `<div>` tag!

1. **HTML Form Tag :**

- The HTML <form> element is used to create an HTML form for user input.

Syntax :

```
<form>
  //form elements
</form>
```

- **HTML Form Attributes :**

1. **The Action Attribute :**

   - The action attribute defines the action to be performed when the form is submitted.
   - Usually, the form data is sent to a file on the server when the user clicks on the submit button.

2. The Method Attribute :

- The method attribute specifies the HTTP method to be used when submitting the form data.
- The form-data can be sent as URL variables (with method="get") or as HTTP post transaction (with method="post").

HTTP GET	HTTP POST
In GET method we can not send large amount of data rather limited data is sent because the request parameter is appended into the URL.	In POST method large amount of data can be sent because the request parameter is appended into the body.
GET request is comparatively less secure because the data is exposed in the URL bar.	POST request is comparatively more secure because the data is not exposed in the URL bar.
Request made through GET method are stored in Browser history.	Request made through POST method is not stored in Browser history.
GET method request can be saved as bookmark in browser.	POST method request can not be saved as bookmark in browser.
Request made through GET method are stored in cache memory of Browser.	Request made through POST method are not stored in cache memory of Browser.
Data passed through GET method can be easily stolen by attackers.	Data passed through POST method can not be easily stolen by attackers.
In GET method only ASCII characters are allowed.	In POST method all types of data is allowed.

- The <form> element can contain one or more of the following form elements:

Tag	Description
<form>	It defines an HTML form to enter inputs by the used side.
<input>	It defines an input control.
<textarea>	It defines a multi-line input control.
<label>	It defines a label for an input element.
<fieldset>	It groups the related element in a form.
<legend>	It defines a caption for a <fieldset> element.
<select>	It defines a drop-down list.
<optgroup>	It defines a group of related options in a drop-down list.
<option>	It defines an option in a drop-down list.
<button>	It defines a clickable button.

Example :

```
<html>
  <body>
    <form method="post">
    <fieldset>
      <legend> User Information: </legend>  <br>

      <label for="firstname">First Name: </label>
        <input type="text" id="firstname" name="fname"/>  <br><br>

      <label for="lastname">Last Name: </label>
        <input type="text" id="lastname" name="lname"/><br><br>

      <label for="address">Address: </label>
        <textarea rows="2" cols="20" id="address"></textarea> <br><br>

      <label for="dob">Date of Birth: </label>
        <input type="datetime-local" id="dob" name="date"/><br><br>

      <label for="mno">Mobile No: </label>
        <input type="number" id="mno" name="mobno"/><br><br>
```

```
        <label for="Gender">Gender:</label>
          <input type="radio" id="male" name="gender" value="Male">
            <label for="male">Male</label>
          <input type="radio" id="female" name="gender" value="FeMale">
            <label for="female">FeMale</label> <br><br>

       <label for="country">Select Country:</label>
          <select name="country" id="country">
            <option value="india">india</option>
            <option value="pakistan">pakistan</option>
            <option value="africa">africa</option>
            <option value="china">china</option>
            <option value="other">other</option>
          </select> <br> <br>

       <label for="hobby">Hobby:</label>
          <input type="checkbox" name="hobby1" value="Reading">
            <label for="hobby1"> Reading</label>
          <input type="checkbox" name="hobby2" value="Shopping">
            <label for="hobby2"> Shopping</label>
          <input type="checkbox" name="hobby3" value="Travelling"     checked>
            <label for="hobby3"> Travelling</label> <br> <br>

        <label for="favcolor">Select your favorite color:</label>
          <input type="color" id="favcolor" name="favcolor" value="#ff0000"><br><br>

        <label for="vol">Volume (between 0 and 100):</label>
          <input type="range" id="vol" name="vol" min="0" max="100"><br><br>

        <label for="mail">Email Id: </label>
          <input type="email" id="mail" name="email"/><br><br>

        <label for="pass">Password: </label>
          <input type="password" id="pass" name="password"/><br><br>

        <input type="submit" name="submit" value="SUBMIT"/><br><br>

      </fieldset>
      </form>
   </body>
</html>
```

2. HTML Frame tag :

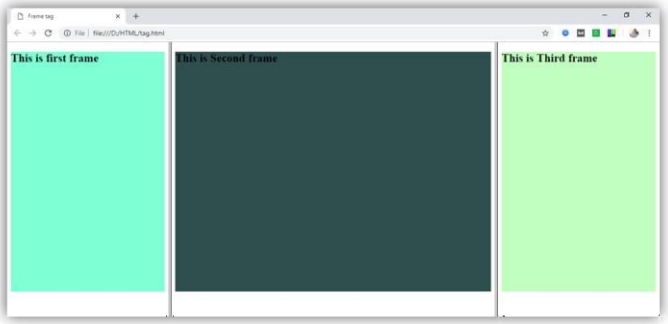
- HTML <frame> tag define the particular area within an HTML file where another HTML web page can be displayed.

- A <frame> tag is used with <frameset>, and it divides a webpage into multiple sections or frames, and each frame can contain different web pages.

Example :

```
<!DOCTYPE html>
<html>
<head>
  <title>Frame tag</title>
</head>
 <frameset cols="25%,50%,25%">
  <frame src="frame1.html" >
  <frame  src="frame2.html">
  <frame  src="frame3.html">
 </frameset>
</html>
```

Output :



Frame Tag attributes :

Attribute	Description
Frameborder	It specifies whether to display a border around the frame or not, and its default value is 1
Marginheight	It specifies the top and bottom margins of the frame.
Marginwidth	It defines the height of the margin between frames.
Name	It is used to assign the name to the frame.
Scrolling	It specifies the existence of the scrollbar for overflowing content. (value : yes , no, auto)
Src	It specifies the URL of the document which we want to display in a frame.

3. HTML Links :

- HTML links are defined with the <a> tag.
- The link's destination is specified in the href attribute.

Example :

```
<!DOCTYPE html>
<html>
<body>
<h2>HTML Links</h2>
<p>HTML links are defined with the a tag:</p>

<a href="https://www.link.com">This is a link</a>

</body>
</html>
```

Output :

HTML Links

HTML links are defined with the a tag:

This is a link

4. HTML Bookmarks :

HTML links can be used to create bookmarks.

Example :

```
<html>
 <body>
  Bookmark example <br>
  <a  href="#bottom">GoTo  Bottom</a>
  <br><br><br><br><br><br><br><br><br><br><br><br>
  <br><br><br><br><br><br><br><br><br><br><br><br>
  <br><br><br><br><br><br><br><br><br><br><br><br>

  <h2 id="bottom" >Bookmark come here <br>
     Bottom</h2>
  <br><br><br><br><br><br><br><br><br><br><br><br>
  <br><br><br><br><br><br><br><br><br><br><br><br>
  <br><br><br><br><br><br><br><br><br><br><br><br>
 </body>
</html>
```

5. HTML Images :

- HTML images are defined with the <img> tag.
- **HTML Img tag Attributes :**

Attribute	Description
Src	the url of an image
Align	Deprecated− Specifies the alignment for the image.
Alt	Specifies alternate text
Border	Deprecated − Specifies the width of the image border.
Height	Specifies the height of the image.
Width	Sets the width of an image in pixels or in %.
Hspace	white space to be inserted to the left and right of the object.
Vspace	white space to be inserted to the top and bottom of the object.

Example :

```
<!DOCTYPE html>
<html>
  <head>
     <title>HTML  Tag</title>
   </head>
   <body>
     <img src = https://www.tutorialspoint.com/images/html.gif alt = "HTML Tutorial"
height = "150" width = "140" />
   </body>
</html>
```

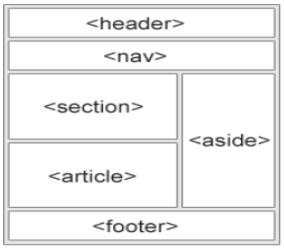
Output :

1. **Semantic Tags :**

What are Semantic Elements?

- 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.

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



❖ HTML <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.

```
<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>
```

❖ HTML <article> Element

- The `<article>` element specifies independent, self-contained content.
- An article should make sense on its own, and it should be possible to distribute it independently from the rest of the web site.
- Examples of where the `<article>` element can be used:
  - Forum posts
  - Blog posts
  - User comments
  - Product cards
  - Newspaper articles

- Example:

```
<article>
<h2>Google Chrome</h2>
<p>Google Chrome is a web browser developed by Google, released in 2008.
Chrome is the world's most popular web browser today!</p>
</article>

<article>
<h2>Mozilla Firefox</h2>
<p>Mozilla Firefox is an open-source web browser developed by Mozilla.
Firefox has been the second most popular web browser since January,
2018.</p>
</article>

<article>
<h2>Microsoft Edge</h2>
<p>Microsoft Edge is a web browser developed by Microsoft, released in 2015.
Microsoft Edge replaced Internet Explorer.</p>
</article>
```

- Example 2

```
<html>
<head>
<style>
.all-browsers {
  margin: 0;
  padding: 5px;
  background-color: lightgray;
}

.all-browsers > h1, .browser {
  margin: 10px;
  padding: 5px;
}

.browser {
  background: white;
}

.browser > h2, p {
  margin: 4px;
  font-size: 90%;
}
</style>
</head>
<body>

<article class="all-browsers">
  <h1>Most Popular Browsers</h1>
  <article class="browser">
    <h2>Google Chrome</h2>
    <p>Google Chrome is a web browser developed by Google, released in 2008.
```

```
Chrome is the world's most popular web browser today!</p>
  </article>
  <article class="browser">
    <h2>Mozilla Firefox</h2>
    <p>Mozilla Firefox is an open-source web browser developed by Mozilla.
Firefox has been the second most popular web browser since January,
2018.</p>
  </article>
  <article class="browser">
    <h2>Microsoft Edge</h2>
    <p>Microsoft Edge is a web browser developed by Microsoft, released in
2015. Microsoft Edge replaced Internet Explorer.</p>
  </article>
</article>

</body>
</html>
```

➢ HTML <nav> Element

- The <nav> element defines a set of navigation links.
- Example

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

➢ HTML <aside> Element

- The <aside> element defines some content aside from the content it is placed in (like a sidebar).
- Example:

```
<p>My family and I visited The Epcot center this summer. The weather was
nice, and Epcot was amazing! I had a great summer together with my
family!</p>

<aside>
<h4>Epcot Center</h4>
<p>Epcot is a theme park at Walt Disney World Resort featuring exciting
attractions, international pavilions, award-winning fireworks and
seasonal special events.</p>
</aside>
```

- Example 2:

```
<html>
<head>
<style>
aside {
  width: 30%;
  padding-left: 15px;
  margin-left: 15px;
  float: right;
  font-style: italic;
  background-color: lightgray;
}
</style>
</head>
<body>

<p>My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!</p>

<aside>
<p>The Epcot center is a theme park at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks and seasonal special events.</p>
</aside>

<p>My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!</p>
<p>My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!</p>

</body>
</html>
```

HTML <header> Element

- The <header> element represents a container for introductory content or a set of navigational links.

- A <header> element typically contains:

- one or more heading elements (<h1> - <h6>)
- logo or icon
- authorship information
- You can have several <header> elements in one HTML document. However, <header> cannot be placed within a <footer>, <address> or another <header> element.

- **Example**

```
<article>
  <header>
    <h1>What Does WWF Do?</h1>
    <p>WWF's mission:</p>
  </header>
  <p>WWF's mission is to stop the degradation of our planet's natural
environment,
  and build a future in which humans live in harmony with nature.</p>
</article>
```

❖ HTML <footer> Element

- The `<footer>` element defines a footer for a document or section.

- A `<footer>` element typically contains:

- authorship information
- copyright information
- contact information
- sitemap
- back to top links
- related documents

- You can have several `<footer>` elements in one document.

- Example

```
<footer>
  <p>Author: Hege Refsnes</p>
  <p><a href="mailto:hege@example.com">hege@example.com</a></p>
</footer>
```

❖Media tag (audio, video)

❖ The `<audio>` tag is used to embed sound content in a document, such as music or other audio streams.

❖ The `<audio>` tag contains one or more `<source>` tags with different audio sources. The browser will choose the first source it supports.

❖ The text between the `<audio>` and `</audio>` tags will only be displayed in browsers that do not support the `<audio>` element.

❖ There are three supported audio formats in HTML: MP3, WAV, and OGG.

➢ Example:

```
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
 </audio>
```

➢ HTML <video> Tag

- The `<video>` tag is used to embed video content in a document, such as a movie clip or other video streams.
- The `<video>` tag contains one or more `<source>` tags with different video sources. The browser will choose the first source it supports.
- The text between the `<video>` and `</video>` tags will only be displayed in browsers that do not support the <video> element.
- There are three supported video formats in HTML: MP4, WebM, and OGG.

➢ Example:

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

<h1>The video element</h1>

<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
  </video>

</body>
</html>
```