***Assignment 4 Modern Html***

**Ques1. List out the features of html5**

Ans:- HTML stands for Hypertext Markup Language, and it is the standard markup language for creating web pages and web applications. HTML5 is the 5th version of HTML. With invent of features in HTML5, it’s not only possible to create better websites, but we can also create dynamic websites.

1. **Intro of**[**audio**](https://www.geeksforgeeks.org/html5-audio/)**and**[**video**](https://www.geeksforgeeks.org/html5-video/)**:**

     Audio and Video tags are the two major addition to HTML5. It allows developers to embed a video or audio on their website. HTML5 video can use CSS and CSS3 to style the video tag. You can change the border, opacity, reflections, gradients, transitions, transformations, and even animations. HTML5 makes adding video super-fast and without having to build a video player. This saves time for the developer and offers the client a superior and more affordable solution.

**Example:**

|  |
| --- |
| <!DOCTYPE html>  <**html**>  <**body**>  <**h2**>Example of video and audio tag</**h2**>      <**video**  width = "300" height = "200" controls autoplay>         <**source** src = "/html5/foo.ogg" type ="video/ogg" />         <**source** src = "/html5/foo.mp4" type = "video/mp4" />          Your browser does not support the video element.     </**video**>       <**audio** controls autoplay>         <**source** src = "/html5/audio.ogg" type = "audio/ogg" />         <**source** src = "/html5/audio.wav" type = "audio/wav" />          Your browser does not support the audio element.     </**audio**>  </**body**>  </**html**> |

1. [**Vector Graphics**](https://www.geeksforgeeks.org/html-svg-basics/)**:**

     This is a new addition to the revised version which has hugely impacted the use of Adobe Flash in websites. It can be used to draw graphics with various shapes and colors via scripting usually JS. Vector graphics are scalable, easy to create and edit. It also supports interactivity and animation. Having a smaller file size makes transferring and loading graphics much faster on the web. That’s the reason why many people prefer to use vector graphics.

**Example:**

* HTML

|  |
| --- |
| <**svg** id = "svgelem" height = "200" xmlns = "<http://www.abc.org/2000/svg>">        <**circle** id = "redcircle" cx = "50" cy = "50" r = "50" fill = "red" />   </**svg**> |

1. [**Header**](https://www.geeksforgeeks.org/html-5-header-tag/)**and**[**Footer:**](https://www.geeksforgeeks.org/html5-footer-tag/)

     With these new tags, there is no longer a need to identify the two elements with a <div> tag. Footer is placed at the end of the web page while Header is placed at the start of the web page. By using <header> and <footer> HTML5 elements, the browser will know what to load first and what to load later.

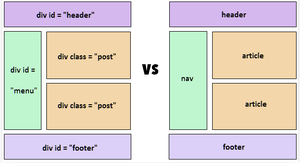
The header can contain-

* One or more heading elements (<h1> – <h6>)
* Logo or icon
* Authorship information

Footer can contain-

* Authorship information
* Copyright information
* Contact information
* Back to top links

They both have the same default CSS property as a display block.



*Layout of HTML vs HTML5*

**Example:**Below examples illustrate the <header> element in HTML:

* HTML

|  |
| --- |
| <!DOCTYPE html>  <**html**>      <**head**>          <**title**>Header Tag</**title**>      </**head**>      <**body**>          <**article**>              <**header**>                  <**h1**>This is the heading.</**h1**>                  <**h4**>This is the sub-heading.</**h4**>    <**p**>This is the metadata.</**p**>                </**header**>          </**article**>      </**body**>  </**html**> |

1. [**Figure**](https://www.geeksforgeeks.org/html5-figure-tag/)**and [Figcaption](https://www.geeksforgeeks.org/html5-figcaption-tag/):**

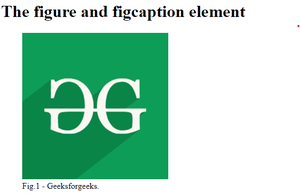
     HTML5 allows to use a <figure> element to mark up a photo in a document, and a <figcaption> element to define a caption for the photo. The <figcaption> tag defines a caption for a <figure> element. This tag provides a container for content that is equivalent to a figure. It can be used to group a caption with one or more images, a block of code, or other content.

**Example:**

* 1. HTML

|  |
| --- |
| <**figure**>    <**img**         src="<https://media.geeksforgeeks.org/wp-content/cdn-uploads/20190710102234/>              download3.png" alt="GFG" style="width:50%">    <**figcaption**>Fig.1 - Geeksforgeeks.</**figcaption**>  </**figure**> |

**Output:**



*figure and figcaption output*

1. [**Nav tag:**](https://www.geeksforgeeks.org/html-nav-tag/)

     The <nav> tag defines a set of navigation links. It is used for the part of an internet site that links to different pages at the website. The hyperlinks can be organized through a number of approaches. Common examples of the nav elements are menus, tables, contents, and indexes. This element makes it much easier to create a navigation menu, creates a neat horizontal menu of text links, and helps screen reading software to correctly identify primary navigation areas in the document.

**Example:**

* 1. HTML

|  |
| --- |
| <**h1**> HTML Nav tag</**h1**>  <**nav**>    <**a** href="/html/">HTML</**a**>    <**a** href="/css/">CSS</**a**>    <**a** href="/js/">JavaScript</**a**>    <**a** href="/jquery/">jQuery</**a**>  </**nav**> |

**Ques2. What are HTML entities? List out 5 commonly used html entities.**

## **Ans:- HTML Character Entities**

Some characters are reserved in HTML.

If you use the less than (<) or greater than (>) signs in your HTML text, the browser might mix them with tags.

Entity names or entity numbers can be used to display reserved HTML characters.

Entity names look like this.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Result** | **Description** | **Name** | **Number** |  |
|  | non-breaking space | &nbsp; | &#160; | [Try it »](https://www.w3schools.com/html/tryit.asp?filename=tryhtml_ent_nbsp) |
| < | less than | &lt; | &#60; | [Try it »](https://www.w3schools.com/html/tryit.asp?filename=tryhtml_ent_lt) |
| > | greater than | &gt; | &#62; | [Try it »](https://www.w3schools.com/html/tryit.asp?filename=tryhtml_ent_gt) |
| & | ampersand | &amp; | &#38; | [Try it »](https://www.w3schools.com/html/tryit.asp?filename=tryhtml_ent_amp) |
| " | double quotation mark | &quot; | &#34; |  |

**Ques3. Define accessibility in the context of web development. Discuss why it’s essential to create accessible websites and how it benefits different user groups.**

**Ans:- Accessibility** is the practice of making your websites usable by as many people as possible. We traditionally think of this as being about people with disabilities, but the practice of making sites accessible also benefits other groups such as those using mobile devices, or those with slow network connections.

You might also think of accessibility as treating everyone the same, and giving them equal opportunities, no matter what their ability or circumstances. Just as it is wrong to exclude someone from a physical building because they are in a wheelchair (modern public buildings generally have wheelchair ramps or elevators), it is also not right to exclude someone from a website because they have a visual impairment. We are all different, but we are all human, and therefore have the same human rights.

Accessibility is the right thing to do. Providing accessible sites is part of the law in some countries, which can open up some significant markets that otherwise would not be able to use your services or buy your products.

Building accessible sites benefits everyone:

* Semantic HTML, which improves accessibility, also improves SEO, making your site more findable.
* Caring about accessibility demonstrates good ethics and morals, which improves your public image.
* Other good practices that improve accessibility also make your site more usable by other groups, such as mobile phone users or those on low network speed. In fact, everyone can benefit from many such improvements.
* Did we mention it is also the law in some places?

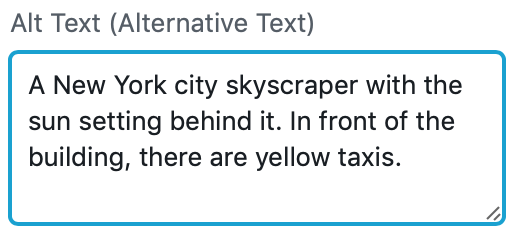
**Ques4 List any 3 ways which help us in improving the accessibility of html.**

### **Ans:-**

### **1. Add ‘Alt Text' to Your Site’s Images**

When uploading images to your website, it’s likely you’ve come across the option to add ‘alternative text’ or ‘alt text'. This is text that will be displayed if the image fails to load. In addition, this text is also used when a visitor navigates your site [using a screen reader](https://webaccess.berkeley.edu/ask-pecan/what-is-a-screen-reader), or a similar assistive device.

For these reasons, it’s important not to skip over adding alt text to your images. To do so, describe the image in as much detail as possible – including distinguishable elements, and the names of any locations. This will enable those who can't see the image to understand its relevance:

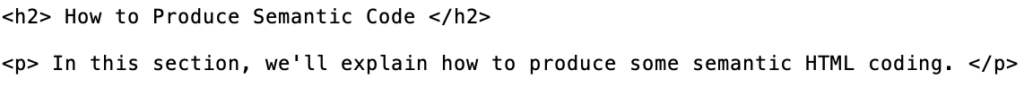


There are a [number of other guidelines](https://webaim.org/techniques/alttext/) for creating the perfect alt text, although keeping it under 125 characters is a good start. Anything longer could be cut off by assistive devices, making it more difficult to read.

### **2. Ensure That You Always Use Semantic HTML**

You’d be forgiven for thinking that the HTML used to code your website has little to do with accessibility. In reality, it plays a huge role in how easy your pages are to read.

‘Semantic HTML' refers to clean coding that clearly defines each section of your site in chronological order:



As we’ve already mentioned, many users with disabilities rely on screen readers to navigate websites. When this type of assistive device scans a web page, it collects information based on the page's HTML structure. Unclear or messy HTML code with unnecessary additions will be more difficult for the screen reader to make sense of.

If you want to improve your semantic coding skills, there are plenty of learning resources available online. [W3 Schools](https://www.w3schools.com/) is an excellent example. This free site will teach you just about everything you need to know – and even includes a lesson specifically based around [improving accessibility through HTML](https://www.w3schools.com/html/html_accessibility.asp).

### **3. Choose the Colors You'll Use Carefully**

The term ‘[color blindness](https://www.allaboutvision.com/conditions/colordeficiency.htm" \t "_blank)‘ is often used in an off-the-cuff manner. However, color-related visual impairments can present a serious issue – especially for those trying to navigate certain websites.

With that in mind, you'll want to make sure that the colors you select for your site contrast well. The simplest way to do that is by making sure all text stands out against your chosen background. So you’ll need to avoid using clashing colors, or shades that are similar.

The ideal combination is dark text against a light-colored background, as this is the easiest to read:

**Ques5. Create a webpage that highlights the features of html5. Use appropriate semantics tag to structure the content and showcase at least three key features of html5 with explanations.**

**Ans:- <!DOCTYPE html>**

**<html lang="en">**

**<head>**

**<meta charset="UTF-8">**

**<meta name="viewport" content="width=device-width, initial-scale=1.0">**

**<title>HTML5 Features Showcase</title>**

**<style>**

**/\* Add your CSS styles here \*/**

**</style>**

**</head>**

**<body>**

**<header>**

**<h1>Exploring HTML5 Features</h1>**

**</header>**

**<section>**

**<h2>Semantic Tags</h2>**

**<p>HTML5 introduced a set of semantic tags that provide more meaningful structure to web documents. Some key semantic tags include:</p>**

**<ul>**

**<li><code>&lt;header&gt;</code> - Represents a container for introductory content or a set of navigational links.</li>**

**<li><code>&lt;article&gt;</code> - Defines a self-contained composition in a document, such as a news article or blog post.</li>**

**<li><code>&lt;section&gt;</code> - Represents a thematic grouping of content, and it can be nested to create a hierarchy.</li>**

**</ul>**

**</section>**

**<section>**

**<h2>Video and Audio Elements</h2>**

**<p>HTML5 introduced native support for embedding video and audio without the need for plugins. You can use:</p>**

**<ul>**

**<li><code>&lt;video&gt;</code> - To embed video content. Example: <code>&lt;video src="my-video.mp4" controls&gt;&lt;/video&gt;</code></li>**

**<li><code>&lt;audio&gt;</code> - To embed audio content. Example: <code>&lt;audio src="my-audio.mp3" controls&gt;&lt;/audio&gt;</code></li>**

**</ul>**

**</section>**

**<section>**

**<h2>Canvas Element</h2>**

**<p>The <code>&lt;canvas&gt;</code> element allows for dynamic rendering of graphics, animations, and interactive content using JavaScript. It provides a blank slate for drawing.</p>**

**<canvas id="myCanvas" width="400" height="200"></canvas>**

**</section>**

**<footer>**

**<p>Explore HTML5 and unlock the power of modern web development!</p>**

**</footer>**

**</body>**

**</html>**