1. List out the features of HTML5.

Ans:- HTML5 introduces a number of new elements and attributes that can help you in building modern websites. Here is a set of some of the most prominent features introduced in HTML5.

* New Semantic Elements − These are like <header>, <footer>, and <section>.

Forms 2.0 − Improvements to HTML web forms where new attributes have been introduced for <input> tag.

* Persistent Local Storage − To achieve without resorting to third-party plugins.
* WebSocket − A next-generation bidirectional communication technology for web applications.
* Server-Sent Events − HTML5 introduces events which flow from web server to the web browsers and they are called Server-Sent Events (SSE).
* Canvas − This supports a two-dimensional drawing surface that you can program with JavaScript.
* Audio & Video − You can embed audio or video on your webpages without resorting to third-party plugins.
* Geolocation − Now visitors can choose to share their physical location with your web application.
* Microdata − This lets you create your own vocabularies beyond HTML5 and extend your web pages with custom semantics.
* Drag and drop − Drag and drop the items from one location to another location on the same webpage.

1. What are HTML Entities? List out 5 commonly used HTML entities.

Ans:- HTML entities are special codes used to represent reserved characters, symbols, or special characters that have special meaning or may not be easily represented or displayed directly in HTML. HTML entities start with an ampersand (&) and end with a semicolon (;).

Here are five commonly used HTML entities:

* &lt; - represents the less-than symbol (<). It is used to display the symbol without being interpreted as an opening tag in HTML.
* &gt; - represents the greater-than symbol (>). It is used to display the symbol without being interpreted as a closing tag in HTML.
* &amp; - represents the ampersand symbol (&). It is used to display the symbol without being interpreted as the start of an HTML entity.
* &quot; - represents the double quotation mark ("). It is used to display the symbol without being interpreted as the start or end of an attribute value in HTML.
* &copy; - represents the copyright symbol (©). It is used to display the copyright symbol in HTML.

1. What is web accessibility? List some of the assistive devices which play a major role in providing accessibility?

Ans:- Web accessibility refers to the practice of designing and developing websites and web applications that can be accessed and used by people with disabilities. It aims to ensure equal access to information and functionality, regardless of an individual's abilities or disabilities.

Assistive devices or assistive technologies play a crucial role in providing accessibility by helping individuals with disabilities interact with digital content. Here are some commonly used assistive devices:

* Screen Readers: Screen readers are software applications that convert text into synthesized speech or braille output. They read out the content of a web page aloud, allowing visually impaired users to access and navigate websites.
* Screen Magnifiers: Screen magnifiers enlarge portions of the screen, making content more visible for individuals with low vision or visual impairments. Users can adjust the magnification level according to their needs.
* Braille Displays: Braille displays are tactile devices that convert on-screen text into braille characters. They allow blind or visually impaired users to read and navigate web content using their sense of touch.
* Speech Recognition Software: Speech recognition software enables users to control a computer or interact with web content using voice commands. It is particularly helpful for individuals with physical disabilities who have limited or no use of their hands.

1. List any 3 ways which help us in improving the accessibility of HTML?

Ans:- Use Semantic HTML: Employing semantic HTML tags and elements helps provide clear structure and meaning to the content. By using appropriate tags like <header>, <nav>, <main>, <article>, <section>, and <footer>, the document structure becomes more understandable for assistive technologies, screen readers, and search engines.

Provide Alternative Text (Alt Text): Images and other visual elements should include descriptive alternative text (alt text) using the alt attribute. Alt text provides a textual description of the image, allowing visually impaired users to understand its content. It is important to provide accurate and meaningful descriptions that convey the purpose and context of the image.

Ensure Keyboard Accessibility: Make sure that all interactive elements and functionalities on the web page can be accessed and operated using the keyboard alone. This includes ensuring that users can navigate through links, forms, buttons, and other interactive elements using the "Tab" key. Additionally, provide clear focus indicators (visible outlines or highlighting) to indicate the currently focused element, aiding users with visual impairments or motor disabilities.

1. Write a short note on the tab index.

Ans:- The tabindex attribute is used in HTML to specify the tabbing order of focusable elements on a web page when users navigate through them using the keyboard's "Tab" key. It allows developers to define a specific order in which elements receive focus, which is especially useful for users who rely on keyboard navigation or have motor disabilities.

The tabindex attribute can be applied to various HTML elements, including links (<a>), form controls (<input>, <select>, <textarea>, etc.), buttons (<button>, <a> with role="button">), and other focusable elements. The attribute accepts numerical values that determine the order of focus. Elements with a lower tabindex value receive focus before elements with a higher value.

By default, focusable elements are ordered based on their position in the HTML structure (top-down, left-right). However, developers can use the tabindex attribute to modify this order according to the logical flow of their web page, improving usability and accessibility.

It's important to note that the use of tabindex should be approached with caution and used sparingly. Modifying the tab order can have implications on the natural flow of a web page and may disrupt the user experience if not implemented thoughtfully.

1. List any 5 semantic tags in HTML along with their descriptions.

Ans:- <header>: The <header> tag represents the introductory or navigational section of a web page or a specific section within it. It typically contains the site's logo, site title, navigation menus, or other elements related to the overall header of the page.

<nav>: The <nav> tag is used to define a section of a web page that contains navigation links. It represents a collection of navigation elements that allow users to move between different pages or sections within a website. It can include menus, lists of links, or other navigation-related content.

<main>: The <main> tag signifies the main content area of a web page. It represents the primary content that is unique to the page and excludes content such as headers, footers, or sidebars. A web page should typically have only one <main> element.

<article>: The <article> tag is used to mark a self-contained and independent piece of content within a web page. It represents a complete or standalone section of content that can be distributed or syndicated separately from the rest of the page. Examples of <article> elements include blog posts, news articles, forum posts, or comments.

<footer>: The <footer> tag represents the footer section of a web page or a specific section within it. It typically contains information about the author, copyright notice, contact information, or other elements related to the page's footer. The <footer> element is usually placed at the bottom of the page or at the end of a specific section.

1. What are the benefits of using semantic tags in our webpage?

Ans:- Accessibility: Semantic tags enhance web accessibility by providing a clear and meaningful structure to the content. Assistive technologies such as screen readers rely on semantic markup to interpret and convey information to users with disabilities. Semantic tags make it easier for screen readers to navigate and understand the content, improving the overall accessibility of the webpage.

Search Engine Optimization (SEO): Search engines prioritize semantic markup because it helps them understand the context and relevance of the content. By using semantic tags, you provide search engines with better information about the purpose and structure of your webpage, potentially improving its visibility and ranking in search engine results.

Code Readability and Maintainability: Semantic tags make the HTML code more readable and self-explanatory. By using tags like <header>, <nav>, <main>, <article>, and <footer>, it becomes easier for developers to understand the purpose and hierarchy of different sections within the webpage. This improves code maintainability and makes it easier to update or modify the webpage in the future.

Consistency and Reusability: Semantic tags encourage consistent and standardized markup across different webpages. By adhering to semantic HTML practices, you establish a common language and structure that can be reused throughout your website or even across different projects. This saves development time, ensures consistency in the user experience, and promotes code modularity.

Future-Proofing: Semantic tags provide a level of future-proofing for your webpage. As web standards and technologies evolve, semantic tags are more likely to be compatible with new browsers, devices, and assistive technologies. They also help in adopting and leveraging new HTML features and advancements, making it easier to adapt and enhance your webpage in the future.