Module 5 – Frontend – HTML5

Question 1: Difference between HTML and HTML5

HTML (Hypertext Markup Language) is the standard language used to create and design webpages. HTML has undergone several updates over the years, with HTML5 being the latest version. Here's a comparison between HTML and HTML5:

Feature	HTML	HTML5
Doctype Declaration	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" ...>	<!DOCTYPE html> (Simplified)
Multimedia Support	No built-in support for audio or video elements. External plugins like Flash needed.	Native support for <audio> and <video> tags to embed multimedia without the need for plugins.
Semantic Elements	Limited use of semantic tags. Commonly uses <div> and <span> for layout and structure.	Introduces semantic tags like <article>, <section>, <nav>, <header>, <footer>, and <figure>, improving readability and accessibility.
Form Elements	Limited form input types (e.g.,	New input types for forms such as email, url, date, range,

Feature	HTML	HTML5
	<input type="text">).	color, and more, allowing better validation and functionality.
API Support	No support for native APIs. JavaScript often used for interactivity.	HTML5 introduces various APIs like the Canvas API, Geolocation API, Web Storage API, Web Workers, and more for richer, interactive web experiences.
Graphics	No native support for drawing or dynamic graphics.	<canvas> element added for drawing graphics, animations, and dynamic visualizations directly in the browser using JavaScript.
Offline Web Apps	Web pages required constant internet connection to work.	HTML5 introduced Web Storage and Application Cache, enabling offline functionality for web apps.

Feature	HTML	HTML5
Character Encoding	Often used charset="ISO-8859-1".	By default, HTML5 uses UTF-8 character encoding for better international character support.
Deprecated Elements	Tags like <font>, <center>, <marquee>, and others were commonly used.	These tags are removed in HTML5, encouraging cleaner, more semantic code using CSS for styling and positioning.

In summary, HTML5 is a more advanced, feature-rich, and semantic version of HTML, with better support for multimedia, interactivity, and modern web development techniques.

Question 2: What are the additional tags used in HTML5?

HTML5 introduced several new tags that offer better structure, semantics, and functionality for modern web development. Here are some of the key additional tags:

1. <article>:
   - Represents a self-contained, independent piece of content, such as a news article, blog post, or user-generated content.
   - Example:
   - <article>
   -   <h2>HTML5: The Future of Web Development</h2>

   - <p>HTML5 introduces many new features...</p>
   - </article>

2. <section>:
   - Represents a section of content within a document, often used for grouping related content such as chapters, headers, or sections in a report.
   - Example:
   - <section>
   -   <h2>Introduction</h2>
   -   <p>HTML5 enhances the way we build websites...</p>
   - </section>
3. <nav>:
   - Used to define a section of navigation links, such as a menu or a set of links to important pages.
   - Example:
   - <nav>
   -   <ul>
   -     <li><a href="#home">Home</a></li>
   -     <li><a href="#about">About</a></li>
   -   </ul>
   - </nav>
4. <header>:
   - Represents introductory content or a group of navigational links for the webpage or section. Often contains logos, navigation menus, or page titles.

   - Example:
   - <header>
   -   <h1>My Website</h1>
   -   <nav>...</nav>
   - </header>

5. <footer>:
   - Defines footer content for a webpage or section, usually containing copyright information, contact details, or links.
   - Example:
   - <footer>
   -   <p>© 2024 My Website</p>
   - </footer>
6. <figure>:
   - Used to group media content (images, videos, etc.) and their captions, typically paired with the <figcaption> tag.
   - Example:
   - <figure>
   -   <img src="html5_logo.png" alt="HTML5 Logo">
   -   <figcaption>HTML5 Logo</figcaption>
   - </figure>
7. <figcaption>:
   - Provides a caption or description for content inside a <figure>.
   - Example:

- <figcaption>This is an image of the HTML5 logo.</figcaption>

8. <mark>:
   - Represents highlighted or marked text, typically used to highlight search results or important terms.
   - Example:
   - <p>HTML5 introduced many new features, such as <mark>video</mark> and <mark>audio</mark> support.</p>
9. <progress>:
   - Represents the completion progress of a task, often used in forms or as a visual indicator for ongoing processes.
   - Example:
   - <progress value="50" max="100">50%</progress>
10. <meter>:
    - Represents a scalar measurement within a known range (e.g., disk usage, temperature, or completion percentage).
    - Example:
    - <meter value="0.6" min="0" max="1">60%</meter>
11. <canvas>:
    - Provides an area for drawing graphics via JavaScript. It can be used for creating dynamic graphics, games, animations, and more.
    - Example:
    - <canvas id="myCanvas" width="200" height="100"></canvas>

12. <video>:
    - Used for embedding video content directly into a webpage without relying on third-party plugins like Flash.
    - Example:
    - <video width="320" height="240" controls>
    -   <source src="movie.mp4" type="video/mp4">
    -   Your browser does not support the video tag.
    - </video>
13. <audio>:
    - Used for embedding audio content, such as music or sound files, into a webpage.
    - Example:
    - <audio controls>
    -   <source src="audio.mp3" type="audio/mp3">
    -   Your browser does not support the audio element.
    - </audio>
14. <source>:
    - Specifies multiple media resources for elements like <video> or <audio>, allowing browsers to choose the appropriate format.
    - Example:
    - <video controls>
    -   <source src="movie.ogg" type="video/ogg">
    -   <source src="movie.mp4" type="video/mp4">
    - </video>

15. <details> and <summary>:

- <details> is used to create a disclosure widget from which the user can view or hide content. <summary> defines a visible heading for the <details> element.
- Example:
- <details>
-   <summary>More info</summary>
-   <p>Here is some additional information.</p>
- </details>

These are just a few of the many new elements introduced in HTML5. These tags help make web development more semantic, structured, and accessible while providing better support for modern media, interactive content, and application features.