Module 5 – Mernstack – HTML5

Question 1: Difference b/w HTML & HTML5?

HTML and HTML5 are both markup languages used to structure and present content on the web, but HTML5 introduced new features and improvements over its predecessor, HTML. Here's a comparison:

1. Version

- **HTML**: Refers to earlier versions like HTML4 (released in 1997).
- **HTML5**: The fifth and latest major revision of HTML, introduced in 2014.

2. Doctype Declaration

- **HTML**: Requires a lengthy and complex doctype declaration (e.g., `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`).
- **HTML5**: Simplified to `<!DOCTYPE html>`.

3. Multimedia Support

- **HTML**: Requires third-party plugins (like Flash) to handle audio and video.
- **HTML5**: Provides native support for audio (`<audio>`) and video (`<video>`) elements without the need for plugins.

4. New Semantic Elements

- **HTML**: Lacks many semantic elements; uses `<div>` for most layouts.
- **HTML5**: Introduced semantic elements like `<header>`, `<footer>`, `<article>`, `<section>`, `<aside>`, and `<nav>` to improve content structure and readability.

5. Graphics and Animation

- **HTML**: Relies on plugins or tools like Flash for graphics and animations.
- **HTML5**: Introduced the `<canvas>` element for rendering 2D graphics and supports SVG (Scalable Vector Graphics).

6. Forms and Input Types

- **HTML**: Limited input types for forms.

- **HTML5**: Added new input types like `email`, `date`, `color`, `range`, and `number`, along with attributes like `placeholder` and `required` for better form validation and user experience.

7. Browser Compatibility

- **HTML**: Older browsers may not support modern web functionalities.
- **HTML5**: Designed to work across modern browsers and provide backward compatibility.

8. APIs and Features

- **HTML**: Minimal support for APIs.
- **HTML5**: Introduced various APIs, such as:
  - Geolocation API
  - Web Storage (localStorage and sessionStorage)
  - WebSockets
  - Offline capabilities (Application Cache)
  - Drag-and-drop functionality

9. Mobile Friendliness

- **HTML**: Not optimized for mobile devices.
- **HTML5**: Mobile-first design with better responsiveness and support for touch-friendly elements.

10. Deprecated Elements

- **HTML**: Includes outdated elements like `<font>`, `<center>`, and `<big>`.
- **HTML5**: Removed many deprecated elements and replaced them with CSS or modern equivalents.

In short, HTML5 is a significant upgrade to HTML, introducing enhanced functionality, richer multimedia capabilities, and better performance for modern web application

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

HTML5 introduced several new tags to improve the semantic structure, multimedia handling, and functionality of web pages. Here's a breakdown of the **additional tags** in HTML5:

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1. Semantic Elements

These tags provide better meaning and structure to a webpage:

- `<article>`: Represents a self-contained piece of content (e.g., a blog post, article, or news item).
- `<section>`: Defines a section of content, typically with a heading.
- `<header>`: Used for introductory content or navigation links (can appear multiple times in a page).
- `<footer>`: Represents footer content, such as copyright info or links.
- `<nav>`: Defines navigation links or menus.
- `<aside>`: Contains content indirectly related to the main content (e.g., sidebars, ads).
- `<main>`: Represents the main content of the document (one per page).
- `<figure>`: Groups media elements like images, illustrations, or diagrams along with their captions.
- `<figcaption>`: Provides a caption for the `<figure>` element.
- `<mark>`: Highlights text for reference or emphasis.
- `<time>`: Represents a specific point in time or a duration.

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2. Multimedia Elements

These tags provide native support for multimedia without requiring plugins:

- `<audio>`: Embeds audio content with controls.
- `<video>`: Embeds video content with playback options.
- `<source>`: Specifies multiple media resources for `<audio>` or `<video>`.
- `<track>`: Adds subtitles, captions, or descriptions for videos and audio tracks.

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3. Graphics and Animation

Tags to support advanced visual content:

- `<canvas>`: Used for drawing 2D graphics using JavaScript.
- `<svg>`: Embeds scalable vector graphics directly into the webpage.

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4. Form Enhancements

New input types and elements for better form handling:

- `<datalist>`: Provides a dropdown list of predefined options for an input field.
- `<keygen>`: Used to generate a key pair (now deprecated in some browsers).
- `<output>`: Represents the result of a calculation or action.

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5. Interactive Elements

These tags enhance interactivity and user experience:

- `<details>`: Creates a collapsible section of content.
- `<summary>`: Provides a summary or title for the `<details>` element.
- `<dialog>`: Represents a modal dialog box.
- `<meter>`: Displays a scalar measurement within a known range (e.g., progress bars).
- `<progress>`: Displays the progress of a task.
- `<template>`: Holds HTML content that is not rendered immediately but can be used later via JavaScript.

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6. Structural Elements

Tags for additional document structure and grouping:

- `<bdi>`: Isolates a span of text that might have a different directionality than the surrounding content.
- `<bdo>`: Overrides the current text direction.
- `<wbr>`: Suggests a line break opportunity within a word.

Summary

HTML5 introduced these tags to make web pages:

- More **semantic** and meaningful.
- Natively capable of handling **multimedia** and **graphics**.
- More **interactive** and user-friendly.

Would you like examples of any specific tags?