**HTML5 Assignment**

**1. What are the new tags added in HTML5?**

🡪 HTML5 introduced many new tags that were not present in previous versions of HTML. Some of the new tags introduced in HTML5 are:

1. <header>: This tag represents the header section of a document or a section.
2. <footer>: This tag represents the footer section of a document or a section.
3. <nav>: This tag represents a set of navigation links.
4. <section>: This tag represents a generic section of a document or a section.
5. <article>: This tag represents an article, which can be a blog post, news article, or any other independent piece of content.
6. <aside>: This tag represents a sidebar or a supplementary content that is related to the main content of a document.
7. <video>: This tag is used to embed videos into a webpage.
8. <audio>: This tag is used to embed audio files into a webpage.
9. <canvas>: This tag is used for drawing graphics and animations on a webpage.
10. <datalist>: This tag is used to create a list of options for an input field.

These are just a few of the new tags introduced in HTML5. There are many more tags that were added to improve the semantic structure of web documents and make them more accessible to search engines and assistive technologies.

**2. How to embed audio and video in a webpage?**

🡪 To embed audio and video in a webpage, you can use the <audio> and <video> tags in HTML5. Here's an example:

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<video controls src="video.mp4" type="video/mp4> </video>

<audio controls src="audio.mp3" type="audio/mp3> </audio>

In this example, we use the "controls" attribute to add playback controls to the video and audio elements. The sec attribute specifies the location and file type of the media file, and the type attribute specifies the MIME type of the file. The <video> and <audio> elements will automatically choose the best format based on the browser's capabilities.

You can also customize the appearance and behavior of the audio and video player by using CSS or JavaScript.

**3. Semantic element in HTML5?**

🡪 Semantic elements in HTML5 are tags that provide meaning and structure to the content of a web page, making it easier for search engines and assistive technologies to understand and navigate the page. Unlike non-semantic elements (such as <div> and <span>), semantic elements describe their meaning to both the browser and the developer, and they are used to create a well-organized and meaningful document outline.

Some examples of semantic elements in HTML5 are:

1. <header>: Defines the header section of a webpage, typically containing a logo, navigation links, and other introductory content.
2. <nav>: Defines a section of navigation links.
3. <main>: Defines the main content of a webpage.
4. <article>: Defines a self-contained piece of content, such as a blog post or news article.
5. <section>: Defines a generic section of a webpage.
6. <aside>: Defines a section of supplementary content that is related to the main content of a webpage.
7. <footer>: Defines the footer section of a webpage, typically containing copyright information, contact details, and other closing content.

Using semantic elements in HTML5 helps to improve the accessibility, usability, and search engine optimization (SEO) of a webpage. By using descriptive and meaningful tags to structure the content, it becomes easier for both humans and machines to understand and navigate the page.

**4. Canvas and SVG tags.**

🡪 The <canvas> and <svg> tags are both used for creating graphics and visual effects on a web page, but they have different capabilities and use cases.

The <canvas> tag is used for drawing bitmap graphics, which are made up of pixels. With the canvas tag, you can create complex animations, games, and visual effects by drawing and manipulating pixels using JavaScript. The canvas tag provides a drawing surface that can be accessed with JavaScript, allowing you to draw shapes, lines, curves, text, and images on the canvas. The canvas tag is ideal for applications that require real-time rendering and interactivity, such as games and data visualizations.

The <svg> tag, on the other hand, is used for drawing scalable vector graphics, which are made up of mathematical shapes and can be scaled up or down without losing quality. With the SVG tag, you can create static and animated graphics, such as icons, logos, and illustrations, using XML markup or JavaScript. The SVG tag provides a vector-based drawing surface that can be styled with CSS, and it supports interactivity and accessibility features.

In summary, the <canvas> tag is used for bitmap graphics that require real-time rendering and interactivity, while the <svg> tag is used for scalable vector graphics that are scalable and can be styled with CSS. Both tags provide powerful tools for creating graphics and visual effects on the web, and the choice between them depends on the specific needs of your project.

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