HTML-5

* What are the new tags added in HTML5?

<header>: Represents the header of a section or a document.

<nav>: Defines a section containing navigation links.

<section>: Represents a standalone section of content within a document.

<article>: Represents a self-contained composition that can be independently distributed or syndicated.

<aside>: Represents content that is tangentially related to the surrounding content.

<footer>: Defines the footer of a section or a document.

<main>: Represents the main content of a document.

<figure>: Represents self-contained content, such as images, diagrams, photos, code snippets, etc.

<figcaption>: Provides a caption or description for the content within a <figure> element.

<video>: Embeds a video into an HTML document.

<audio>: Embeds audio content into an HTML document.

<canvas>: Provides a space on which you can use JavaScript to render graphics and animations.

<progress>: Represents the progress of a task or process.

<meter>: Represents a scalar measurement within a known range.

<datalist>: Specifies a list of pre-defined options for an <input> element.

<details>: Represents additional information or controls that can be toggled open or closed.

<summary>: Defines a visible heading for the <details> element.

<mark>: Highlights or emphasizes text within a document.

<time>: Represents either a specific time or a range of time.

<output>: Represents the result of a calculation or user action.

* How to embed audio and video in a webpage?

To embed audio in HTML, we use the <audio> tag. Before HTML5, audio cannot be added to web pages in the Internet Explorer era. To play audio, we used web plugins like Flash. After the release of HTML5, it is possible. This tag supports Chrome, Firefox, Safari, Opera, and Edge in three audio formats – MP3, WAV, OGG. Only Safari browser doesn’t support OGG audio format.

**Syntax:**

<audio>

<source src="file\_name" type="audio\_file\_type">

</audio>

**Attributes of <audio> tag**

| **Attribute** | **Value** | **Description** |
| --- | --- | --- |
| autoplay | autoplay | When the page is loaded. It specifies to play audio as soon as possible. |
| controls | controls | It displays audio control. |
| loop | loop | It will start the audio again when it is finished. |
| muted | muted | When the page is loaded audio will be automatically muted. |

To embed video in HTML, we use the <video> tag. It contains one or more video sources at a time using <source> tag. It supports MP4, WebM, and Ogg in all modern browsers. Only Ogg video format doesn’t support in Safari browser.

**Syntax**

<video>

<source src="file\_name" type="video\_file\_type">

</video>

**Attributes of <video> tag**

| **Attribute** | **Value** | **Description** |
| --- | --- | --- |
| autoplay | autoplay | When the page is loaded. It specifies to play video as soon as possible. |
| controls | controls | It displays video control such as play, pause, and stop. |
| loop | loop | It will start the video again when it is finished. |
| muted | muted | When the page is loaded video will be automatically muted. |
| poster | URL | It specifies an image will be shown until video play. |
| preload | auto metadata none | It specifies how the author thinks the video will be loaded when the page is ready. |
| src | URL | It specifies the URL of the audio file. |
| width | pixels | It specifies the width of the video area. The default value of width is ‘auto’. |
| height | pixels | It specifies the height of the video area. The default value of height is ‘auto’. |

* Semantic element in HTML5?

## Semantic Elements in HTML

Below is a list of some of the semantic elements in HTML.

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<article>](https://www.w3schools.com/tags/tag_article.asp) | Defines independent, self-contained content |
| [<aside>](https://www.w3schools.com/tags/tag_aside.asp) | Defines content aside from the page content |
| [<details>](https://www.w3schools.com/tags/tag_details.asp) | Defines additional details that the user can view or hide |
| [<figcaption>](https://www.w3schools.com/tags/tag_figcaption.asp) | Defines a caption for a <figure> element |
| [<figure>](https://www.w3schools.com/tags/tag_figure.asp) | Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc. |
| [<footer>](https://www.w3schools.com/tags/tag_footer.asp) | Defines a footer for a document or section |
| [<header>](https://www.w3schools.com/tags/tag_header.asp) | Specifies a header for a document or section |
| [<main>](https://www.w3schools.com/tags/tag_main.asp) | Specifies the main content of a document |
| [<mark>](https://www.w3schools.com/tags/tag_mark.asp) | Defines marked/highlighted text |
| [<nav>](https://www.w3schools.com/tags/tag_nav.asp) | Defines navigation links |
| [<section>](https://www.w3schools.com/tags/tag_section.asp) | Defines a section in a document |
| [<summary>](https://www.w3schools.com/tags/tag_summary.asp) | Defines a visible heading for a <details> element |
| [<time>](https://www.w3schools.com/tags/tag_time.asp) | Defines a date/time |

* Canvas and SVG tags

| **SVG** | **Canvas** |
| --- | --- |
| Vector based (composed of shapes) | Raster based (composed of pixel) |
| SVG has better scalability. So it can be printed with high quality at any resolution. | Canvas has poor scalability. Hence it is not suitable for printing on higher resolution. |
| SVG gives better performance with smaller number of objects or larger surface. | Canvas gives better performance with smaller surface or larger number of objects. |
| SVG can be modified through script and CSS. | Canvas can be modified through script only. |
| Multiple graphical elements, which become the part of the page’s DOM tree. | Single element similar to <img> in behavior. Canvas diagram can be saved to PNG or JPG format. |