

# Web Designing Assignment

## Module 3 (HTML 5)

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

Some new tags were introduced in HTML 5 to provide a better document structure. These tags are listed below.

#### Structural or Semantic Tags:

Tag	Uses
<article>	Used to specify a blog, a magazine or a newspaper article or any other independent piece of content in a document.
<aside>	Used to indicate that the specified article is somehow related to the rest of the document.
<bdi>	Used for bi-directional isolation, i.e, to isolate a part of a content which is formatted in other direction from the outside text document.
<data>	Used to facilitate a machine readable version of the data.
<details>	Used to define any additional information on a topic or a summary.
<dialog>	Used to specify a window or a dialog box.
<figcaption>	Used to specify a caption for a <figure> element.
<figure>	Used to specify a self-contained content like photos, diagrams etc.
<footer>	Used to specify a footer for a section.
<header>	Used to specify a header for a section.
<main>	Used to specify the main content of a document.
<mark>	Used to mark or highlight the specified content.

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<menuitem>	Used to specify a command that the user can invoke from a popup menu.
<meter>	Used to determine a scalar value within a given range.
<nav>	Used to specify a navigation link in an HTML document.
<progress>	Used to define the progress of a task.
<rp>	Used to specify the content to show in a browser that don't support ruby annotation.
<rt>	Used to indicate an explanation or pronunciation of characters.
<ruby>	Used to specify a ruby annotation along with <rp> and <rt>.
<section>	Used to specify a section in an HTML document.
<summary>	Used to define a visible heading for the HTML <details> element.
<time>	Used to define a date or time.
<wbr>	Used to specify a line break opportunity.

## HTML5 Form Tags:

Tag	Uses
<datalist>	Used to facilitate an auto complete feature for textfield.
<output>	Used to specify the output of a calculation or an outcome of the user action.

## Graphics Tags:

Tag	Uses
<canvas>	Used to draw canvas in an HTML document.
<svg>	Used to display shapes.

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## HTML5 Media Tags:

Tag	Uses
<audio>	Used to define an audio file in HTML.
<embed>	Used to specify a container for an external file, application or a media.
<source>	Used to specify multiple media resources for a media element.
<track>	Used to specify the text tracks for an <audio> or a <video> element.
<video>	Used to specify a video file in HTML.

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

### • How to embed audio in HTML?

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.

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Attribute	Value	Description
loop	Loop	It will start the audio again when it is finished.
muted	Muted	When the page is loaded audio will be automatically muted.
preload	auto metadata none	It specifies how the author thinks the audio will be loaded when the page is ready.
Src	URL	It specifies the URL of the audio file.

## Example:

In this example, we will add an audio file to a webpage.

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>
<h2>Click play button to play audio</h2>
<audio src="./test.mp3" controls></audio>
</body>
</html>
```

- **How to embed video in HTML?**

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.

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## 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'.

## Example:

In this example, we will add a video to our webpage. To add video, we will use the <video> tag defining source using <source> tag. Create an HTML file just like an

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audio file example and save the video file in the same directory. Suppose a video file name test.mp4 save in the same directory where your HTML file was saved.

```
<!DOCTYPE html>

<html>
<head>
<title>Page Title</title>
</head>
<body>
<h2>Click play button to play video</h2>
<video src="./test.mp4" controls></video>
</body>
</html>
```

or you can use the following code:

```
<!DOCTYPE html>

<html>
<head>
<title>Page Title</title>
</head>
<body>
<h2>Click play button to play video</h2>
<video controls>
  <source src="./test.mp4">
</video>
</body>
</html>
```

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## 3. Semantic element in HTML5?

The semantic elements added in HTML5 are:

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

Elements such as <header>, <nav>, <section>, <article>, <aside>, and <footer> act more or less like <div> elements. They group other elements together into page sections. However where a <div> tag could contain any type of information, it is easy to identify what sort of information would go in a semantic <header> region.

## 4. Canvas and SVG tags

**Canvas:** The HTML element is used to draw graphics on the fly, via scripting (usually JavaScript). The element is only a container for graphics. You must use a script to actually draw the graphics. Canvas has several methods for drawing paths, boxes, circles, text, and adding images.

**Example:**

```
<!DOCTYPE html>
<html>
<head>
  <title>HTML5 Canvas Tag</title>
```

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```
</head>
<body>
  <h2>Canvas Square(Geeks For Geeks)</h2>
  <canvas id="newCanvas" width="100" height="100"
    style="border:1px solid #000000;">
  </canvas>
  <script>
    var c = document.getElementById('newCanvas');
    var ctx = c.getContext('2d');
    ctx.fillStyle = '#7cce2b';
    ctx.fillRect(0, 0, 100, 100);
  </script>
</body>
</html>
```

**SVG:** The Scalable Vector Graphics (SVG) is an XML-based image format that is used to define two-dimensional vector-based graphics for the web. Unlike raster image (Ex .jpg, .gif, .png, etc.), a vector image can be scaled up or down to any extent without losing the image quality.

An SVG image is drawn out using a series of statements that follow the XML schema — that means SVG images can be created and edited with any text editor, such as Notepad. There are several other advantages of using SVG over other image formats like JPEG, GIF, PNG, etc.

## Example:

```
<!DOCTYPE html>
<html>
<head>
```



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```
<style>
  #svgelem {
    position: relative;
    left: 50%;
    -webkit-transform: translateX(-20%);
    -ms-transform: translateX(-20%);
    transform: translateX(-20%);
  }
</style>
<title>HTML5 SVG</title>
</head>
<body>
  <h2 align="center">
    SVG Circle(Geeks For Geeks)
  </h2>
  <svg id="svgelem" height="200">
    <circle id="greencircle" cx="60"
      cy="60" r="50" fill="green" />
  </svg>
</body>
</html>
```