

```
Extra, function  
y for outerHeight, outerWidth  
Name ] = function( margin, value ) {  
ble = arguments.length && ( defaultExtra || typeof margin !== 'undefined' )  
= defaultExtra || ( margin === true || value === true ? "margin" : "border" )  
ccess( this, function( elem, type, value ) {  
doc;  
( jQuery.isWindow( elem ) ) {  
// S( window ).outerWidth/Height return w/h including scrollbar (optional)  
return funcName.indexOf( "outer" ) === 0 ?  
elem[ "inner" + name ] :  
elem.document.documentElement[ "client" + name ];  
}  
// Get document width or height  
if ( elem.nodeType === 9 ) {  
doc = elem.documentElement;  
// Either scroll(Width/Height) or offset(Width/Height) or client(Width/Height)  
// whichever is greatest  
return Math.max( doc.body[ "scroll" + name ], doc[ "scroll" + name ],  
doc.body[ "offset" + name ], doc[ "offset" + name ],  
doc.body[ "client" + name ], doc[ "client" + name ] );  
}
```

Session 3: Animation and Multimedia Using JavaScript and HTML5 DOM Methods

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Multimedia Files

Multimedia Files

- Multimedia comes in many different formats.
- It can be almost anything you can hear or see, like images, music, sound, videos, records, films, animations, and more.
- Web pages often contain multimedia elements of different types and formats.
- The first web browsers had support for text only, limited to a single font in a single colour.
- Later browsers came to support colours, fonts, images, and multimedia.
- Multimedia elements (like audio or video) are stored in media files and the most common way to discover the type of a file is by looking at the file extension like .wav, .mp3, .mp4, .mpg, .wmv, and .avi.

Supported Multimedia Files in HTML DOM

Video formats supported by the HTML standard are:

- MP4
- WebM
- Ogg

Audio formats supported by the HTML standard are:

- MP3
- WAV
- Ogg

HTML Video

Explanation of HTML code's body part

- The `<video>` tag is used to embed video content in a document, such as a movie clip or other video streams.
- The `<video>` tag contains one or more `<source>` tags with different video sources. The browser will choose the first source it supports.
- The text between the `<video>` and `</video>` tags will only be displayed in browsers that do not support the `<video>` element.
- Adding the attributes of the control in the video element will show the controls (play, pause, seekbar) on the video.
- There are three supported video formats in HTML: MP4, WebM, and OGG.

The HTML `<video>` element is used to display a video on a web page.

HTML Video Element Attributes

There are some HTML video element attributes available which are given in table format.

Attribute	Value	Description
autoplay	autoplay	Specifies that the video will start playing as soon as it is ready
controls	controls	Specifies that video controls should be displayed (such as a play/pause button, etc.)
height	pixels	Sets the height of the video player
loop	loop	Specifies that the video will start over again, every time it is finished
muted	muted	Specifies that the audio output of the video should be muted

HTML Audio

Explanation of HTML code's body part

- The <audio> tag is used to embed audio content in a document.
- The <audio> tag contains one or more <source> tags with different audio sources.
- The browser will choose the first source it supports.
- The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.
- Adding the controls attributes in the audio element will show the controls (play, pause, seekbar) on the audio player.
- There are three supported audio formats in HTML: MP3, WAV, and Ogg.

The HTML <audio> element is used to play an audio file on a web page.

HTML Audio Element Attributes

There are some HTML audio element attributes available which are given in table format.

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button, etc.)
loop	loop	Specifies that the audio will start over again, every time it is finished
muted	muted	Specifies that the audio output should be muted
preload	auto	Specifies if and how the author thinks the audio should be loaded when the page loads
	metadata	
	none	
src	URL	Specifies the URL of the audio file
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready

HTML Video: Methods, Properties, and Events

- The HTML DOM defines methods, properties, and events for the <video> element.
- It allows you to load, play, and pause videos, as well as setting duration and volume.
- There are also DOM events that can notify you when a video begins to play, is paused, etc.

In the program example,

- The playPause function is triggered when the play or pause button is pressed.
- The if condition of the function checked whether the video is paused or playing and will play or pause video accordingly.

HTML Audio/Video Events

The table lists the available events for Audio and Video elements.

Event	Description
abort	Fires when the loading of an audio/video is aborted
canplay	Fires when the browser can start playing the audio/video
canplaythrough	Fires when the browser can play through the audio/video without stopping for buffering

durationchange	Fires when the duration of the audio/video is changed
emptied	Fires when the current playlist is empty
ended	Fires when the current playlist is ended
error	Fires when an error occurred during the loading of an audio/video
loadeddata	Fires when the browser has loaded the current frame of the audio/video
loadedmetadata	Fires when the browser has loaded meta data for the audio/video
loadstart	Fires when the browser starts looking for the audio/video

HTML Audio/Video Events

Here is another table that lists the available events for Audio and Video elements.

Event	Description
loadstart	Fires when the browser starts looking for the audio/video
pause	Fires when the audio/video has been paused
play	Fires when the audio/video has been started or is no longer paused
playing	Fires when the audio/video is playing after having been paused or stopped for buffering
progress	Fires when the browser is downloading the audio/video
ratechange	Fires when the playing speed of the audio/video is changed
seeked	Fires when the user is finished moving/skipping to a new position in the audio/video
seeking	Fires when the user starts moving/skipping to a new position in the audio/video
stalled	Fires when the browser is trying to get media data, but data is not available
suspend	Fires when the browser is intentionally not getting media data
timeupdate	Fires when the current playback position has changed
volumechange	Fires when the volume has been changed
waiting	Fires when the video stops because it needs to buffer the next frame

Recap:

- Multimedia elements (like audio or video) are stored in media files.
- The most common way to discover the type of a file is by looking at the file extension like .wav, .mp3, .mp4, .mpg, .wmv, and .avi.
