

Web Programming

HTML – Multimedia

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HTML5 Multimedia

● Multimedia

- Multimedia data includes image, audio, and video.

● Image

- The HTML tag is used to embed an image in a web page.
- Images are not technically inserted into a web page; images are linked to web pages.
- The tag creates a holding space for the referenced image.

● Audio

- The HTML <audio> tag is used to embed sound content in a document, such as music or other audio streams.

● Video

- The HTML <video> element is used to show a video on a web page.

Roadmap

- Image
- Audio
- Video
- Multimedia Editing



Image Tag

●

- Displays an image on a web page
- Attributes
 - *src*
 - Specifies the location of an image file
 - *alt*
 - Specifies the alternate text for browser to display when the image cannot be loaded
 - *height, width*
 - Specifies the height and width of image

```

```



The src Attribute (1/4)

● Image file location

- Local server or
- Another website

```

<br /><br />
<!-- W3C logo -->

```



The src Attribute (2/4)

● Local server #1

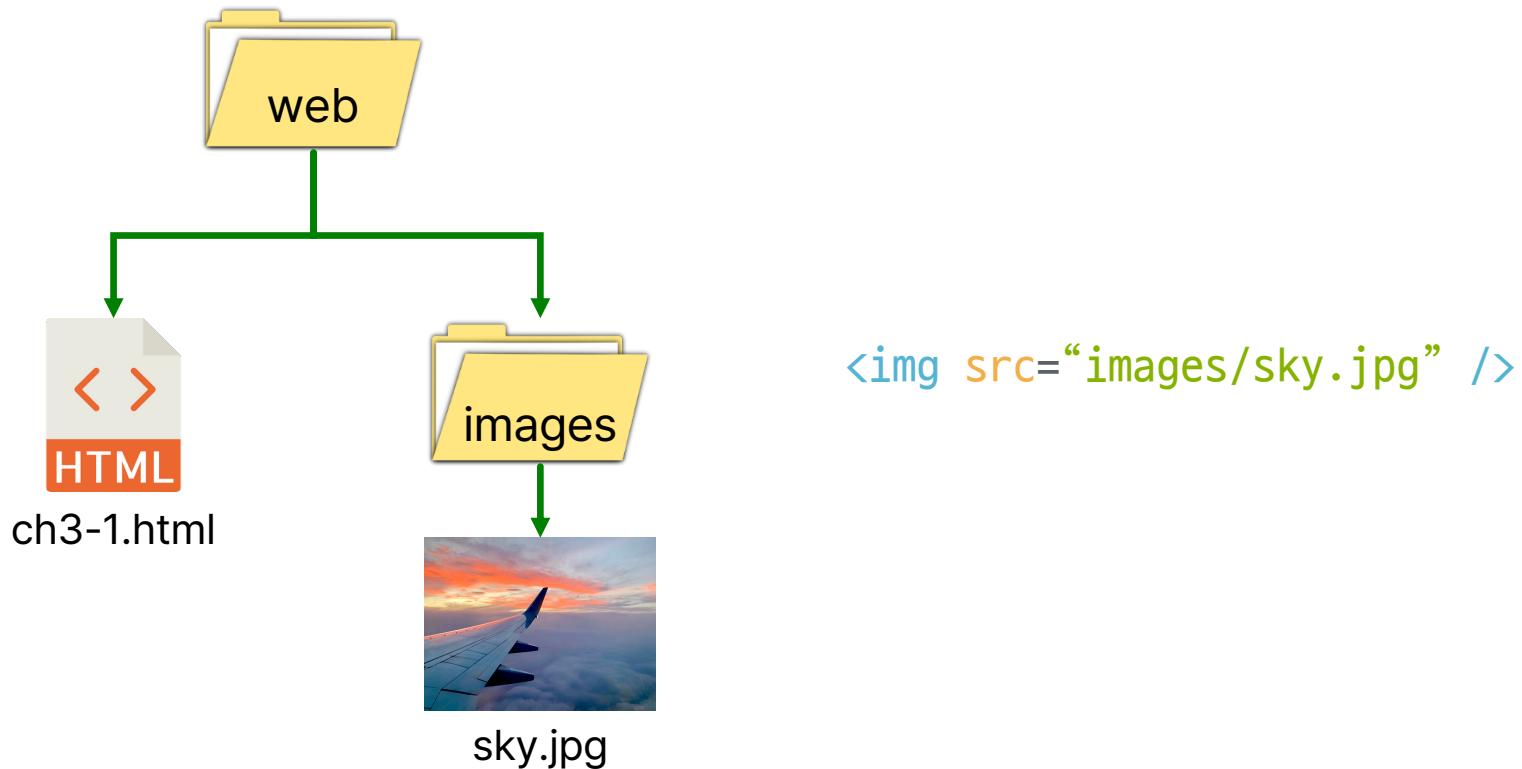
- The image file is in the same folder as the HTML document
 - Use only the name of the image file in the src attribute.



The src Attribute (3/4)

● Local server #2

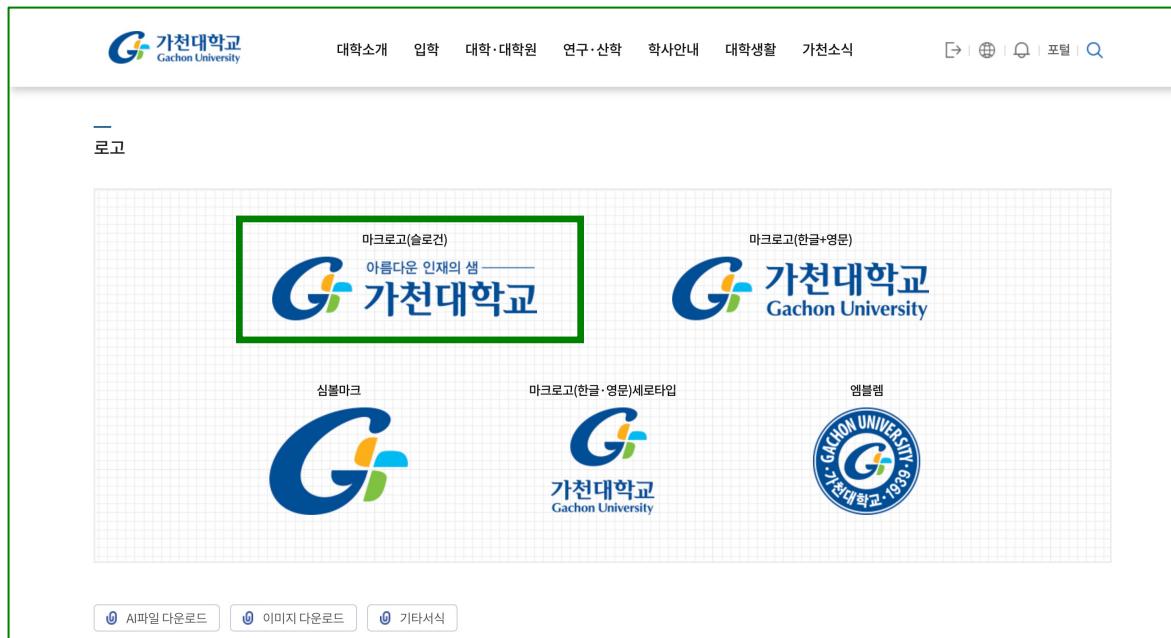
- The image file is inside a subfolder in the HTML document
 - Enter the path of the image file in the src attribute.



The src Attribute (4/4)

● Another website

- The image file is on a different Web server
 - Enter the path of the image file in the src attribute.
 - Example
 - Inserting a “mark logo” image file on the Gachon University homepage into an HTML document.



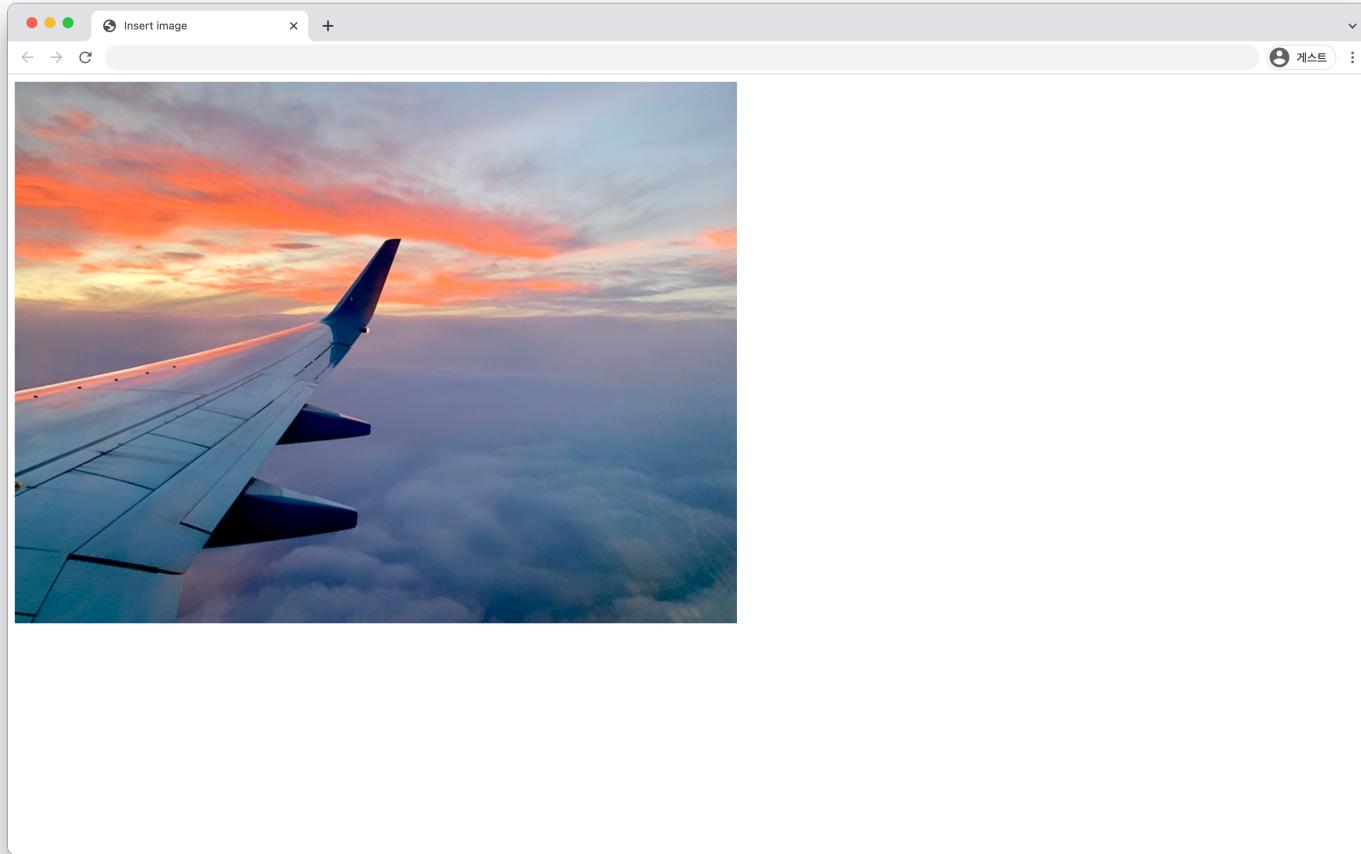
```

```

Example: Inserting an Image

● Inserting an image

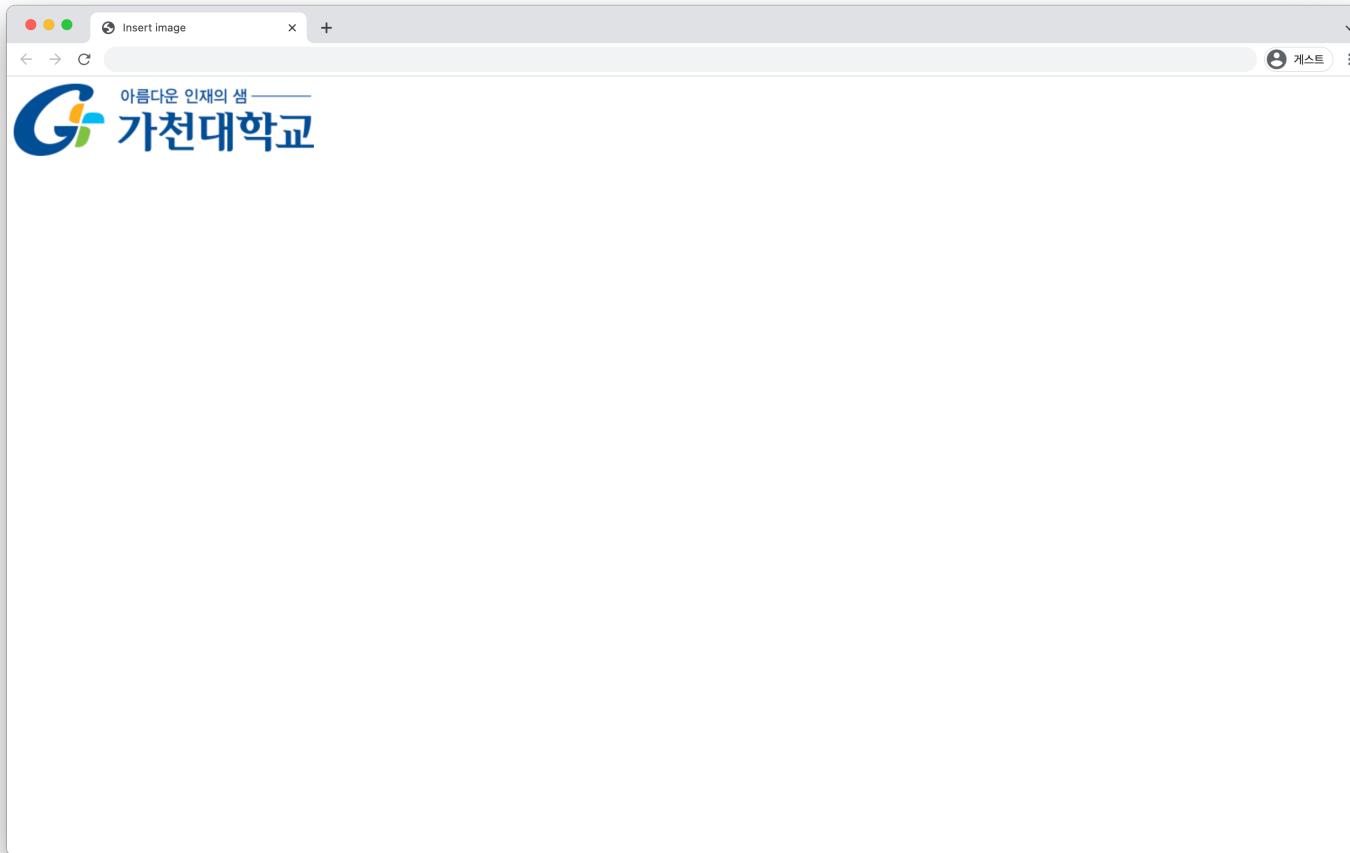
- Download a sky picture from the Internet and insert it in an HTML page
 - Title: Insert image



Example: Inserting an Image on a Web Server (1/2)

● Inserting an image on a Web server

- Insert the “Mark logo” image in the Gachon University homepage
 - Title: Insert image



Example: Inserting an Image on a Web Server (2/2)

● Inserting an image on a Web server

- Copy the image path from the Gachon University homepage

1 <https://www.gachon.ac.kr/>

2 [대학소개]-[가천역사/상징]-[대학상징]



3 Move the mouse curser over the mark logo (slogan) image

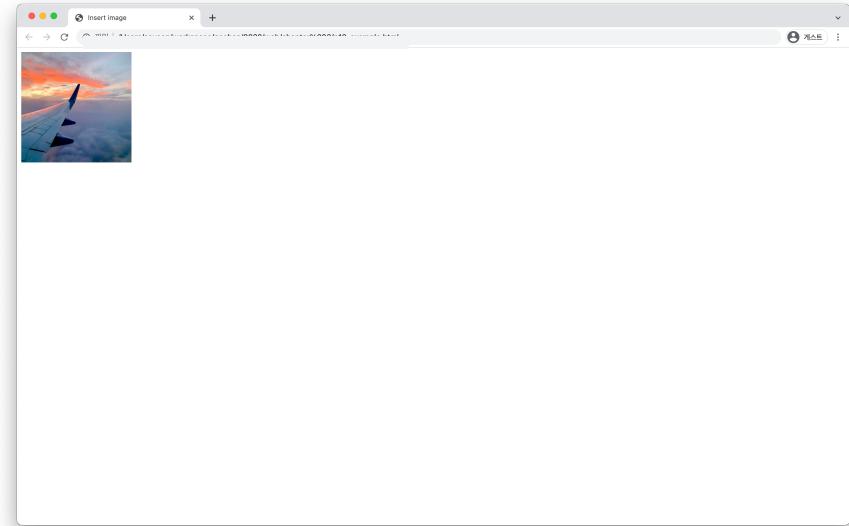
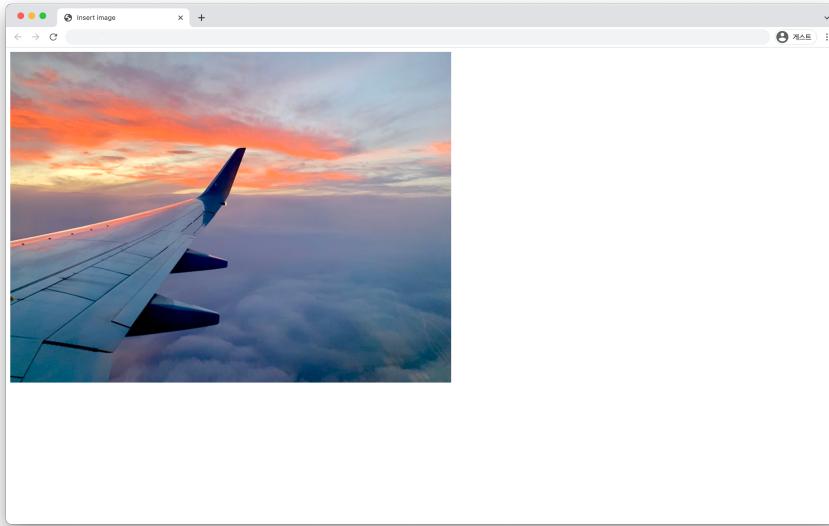
4 Right click of mouse and click “이미지 주소 복사”



Example: Changing the Image Size

● Changing the image size

- Modify your html file of 'Example: Inserting an Image' in p9
- Change the size of the sky image downloaded earlier to 200 X 200 pixels



Roadmap

- Image
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- Video
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Audio Tag

● <audio> </audio>

- The <audio> tag is used to embed sound content in a document, such as music or other audio streams.
- 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.

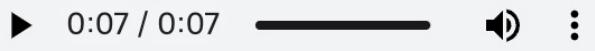
Add Audio

● Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Add Audio</title>
  </head>
  <body>
    <h2>Playing audio</h2>
    <audio src="happy.mp3" controls></audio>
  </body>
</html>
```

Run on Chrome

Playing audio



Run on Safari

Playing audio



Audio Attributes

●Attributes

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 metadata none	Specifies if and how the author thinks the audio should be loaded when the page loads
src	<i>URL</i>	Specifies the URL of the audio file

Audio Formats

● Audio Formats

- MP3
 - MP3 files are actually the sound part of MPEG files
- WAV
 - Developed by IBM and Microsoft
- Ogg
 - Developed by the Xiph.Org Foundation

● Browser Support

Browser	Edge/IE	Chrome	Firefox	Safari	Opera
MP3	YES	YES	YES	YES	YES
WAV	YES*	YES	YES	YES	YES
OGG	YES*	YES	YES	NO	YES

* From Edge 79

<audio> & <source> Tags

● <audio> & <source>

- Audio files may not play in compliance with web standards, because each browser has different audio codecs.
- The <source> tags are used to provide multiple types of audio files at the same time.
- Web browsers check the "<source> tag" in order from the top and when it finds a file that can run, it plays the audio.

```
<audio controls autoplay loop>
  <source src="happy.mp3" type="audio/mpeg" />
  <source src="happy.ogg" type="audio/ogg" />
  <source src="happy.wav" type="audio/wav" />
  Your browser does not support the audio tag.
</audio>
```

type: A MIME type that displays the format of an audio file

Add Audio by Type

● Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Add Audio by type</title>
  </head>
  <body>
    <h2>Playing audio</h2>
    <audio controls autoplay loop>
      <source src="happy.mp3" type="audio/mpeg" />
      <source src="happy.ogg" type="audio/ogg" />
      <source src="happy.wav" type="audio/wav" />
      Your browser does not support the audio tag.
    </audio>
  </body>
</html>
```

Playing audio

Roadmap

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Video Tag

- <video> ... </video>

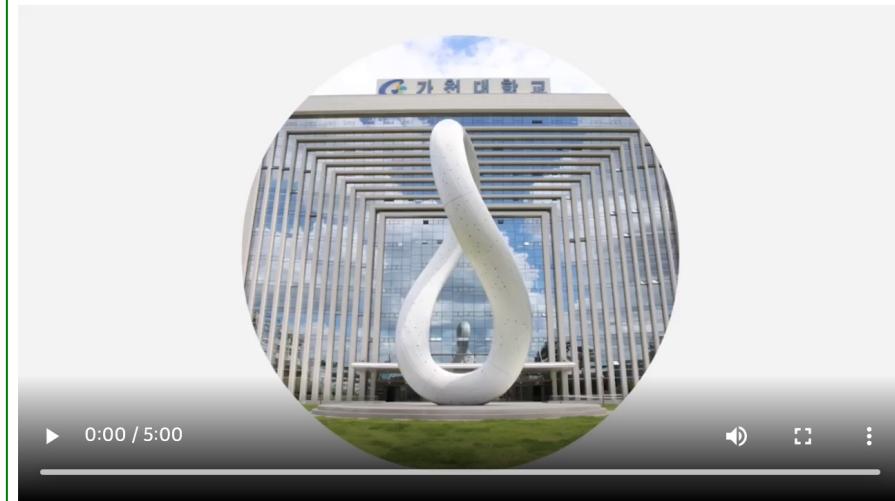
- The <video> tag is used to embed video content in a document, such as a movie clip or other video streams.
- The <video> tag contains one or more <source> tags with different video sources.
 - The browser will choose the first source it supports.
- The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

Add Video

● Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Add Video</title>
  </head>
  <body>
    <h2>Playing video</h2>
    <video src="video.mp4" width="640" controls></video>
  </body>
</html>
```

Playing video



Video Attributes

●Attributes

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	<i>pixels</i>	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
poster	<i>URL</i>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	auto metadata none	Specifies if and how the author thinks the video should be loaded when the page loads
src	<i>URL</i>	Specifies the URL of the video file
width	<i>pixels</i>	Sets the width of the video player

Video Formats and Browser Support

● Video Formats

- MP4 (MPEG-4)
 - Developed by the Moving Pictures Expert Group
 - Supported by all browsers and recommended by YouTube
- WebM
 - Developed by Mozilla, Opera, Adobe, and Google
- Ogg
 - Developed by Xiph.Org Foundation

● Browser Support

Browser	Edge/IE	Chrome	Firefox	Safari	Opera
MP4	YES	YES	YES	YES	YES
WebM	YES	YES	YES	YES	YES
OGG	YES	YES	YES	NO	YES

<video> & <source> Tags

● <video> & <source>

- Video files may not play in compliance with web standards, because each browser has different video codecs.
- The <source> tags are used to provide multiple types of video files at the same time.
- Web browsers check the "<source> tag" in order from the top and when it finds a file that can run, it plays the video.

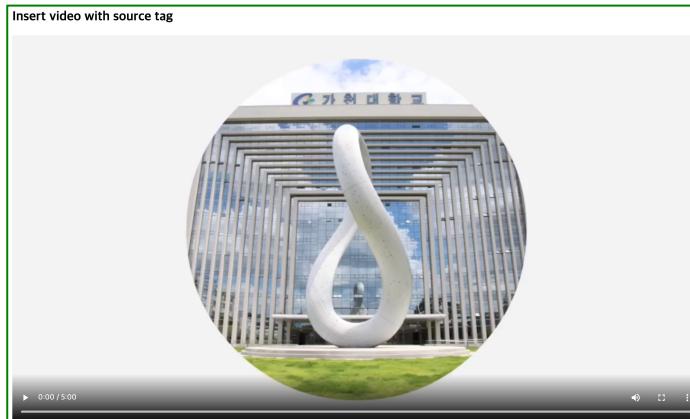
```
<video controls autoplay loop>
  <source src="video.mp4" type="video/mp4" />
  <source src="video.webm" type="video/webm" />
  <source src="video.ogv" type="video/ogg" />
  Your browser does not support the video tag.
</video>
```

type: A MIME type that displays the format of a video file

Add Video by Type

● Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Add Video by Type</title>
  </head>
  <body>
    <h2>Insert video with source tag</h2>
    <video controls autoplay loop>
      <source src="video.mp4" type="video/mp4" />
      <source src="video.webm" type="video/webm" />
      <source src="video.ogv" type="video/ogg" />
      Your browser does not support the video tag.
    </video>
  </body>
</html>
```



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STOP!

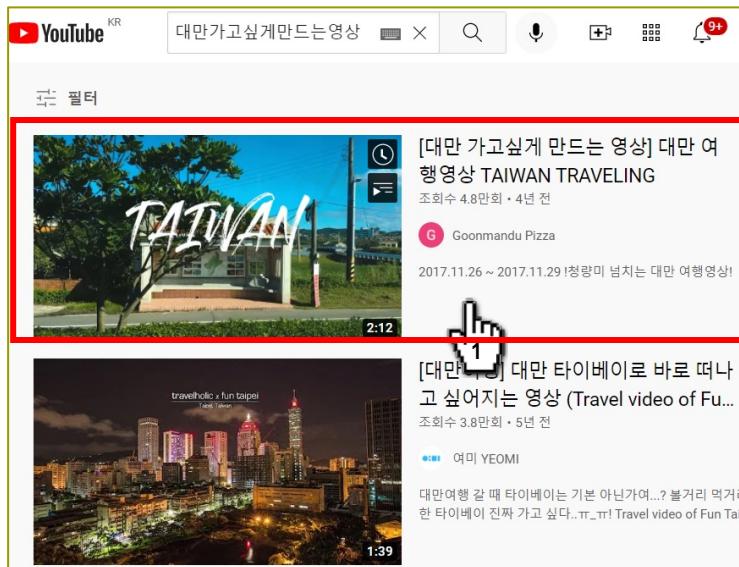
● Before Downloading YouTube Videos

- It is best to use Chrome to access YouTube.
- Be careful about copyrights to the YouTube videos.
- To be safe, use the YouTube videos only for study purpose.

Downloading a YouTube Video (1/2)

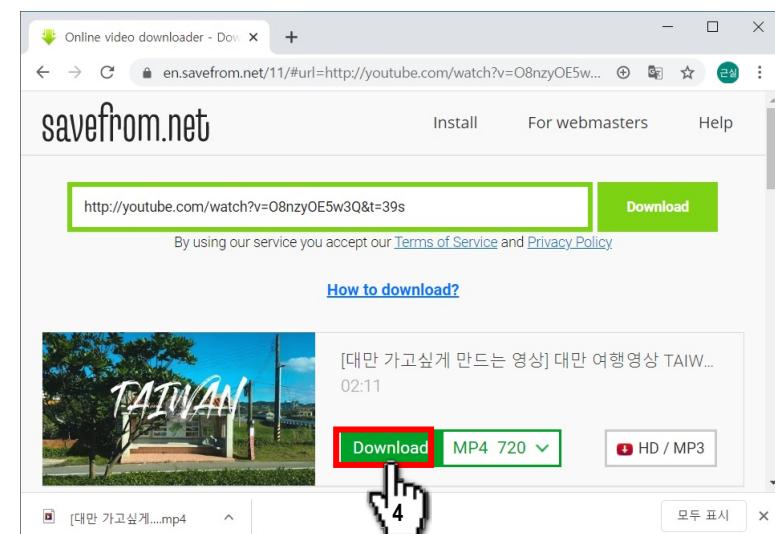
- 1) In YouTube, search for “대만가고싶게만드는영상”, and click on the video.
- 2) Add **ss** to the URL;

<https://www.ssyoutube.com/watch?v=O8nzyOE5w3Q&t=18s>



Downloading a YouTube Video (2/2)

- 3) Click [낮은 품질로].
- 4) Click [다운로드].
- 5) Open the download folder and confirm the video.



Changing the File Name in the Download Folder

- 1) Select the video → right click the mouse button → from the menu, select [이름 바꾸기]
- 2) Change the file name to **video.mp4**



Cutting the Audio (1/3)

- 1) Click [Open file] at <http://mp3cut.net/en> site.
- 2) Select the **video.mp4** file in the download folder and click [열기]

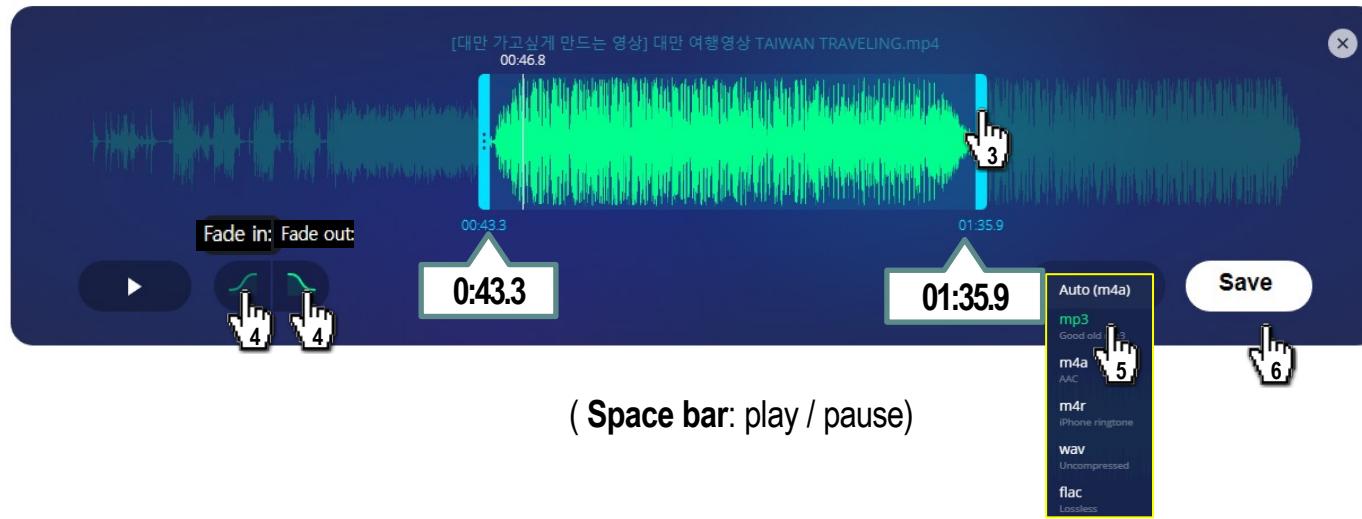


Cutting the Audio (2/3)

- 3) Select the audio segment to cut.

Using the drag and arrow, set the Marker to the start and end positions of the audio segment.

- 4) Select [Fade in] and [Fade out] to make the start and end soft.
- 5) To change the file format, click m4a and select mp3
- 6) Click [save]. Select the download location and click [저장]



Cutting the Audio (3/3)

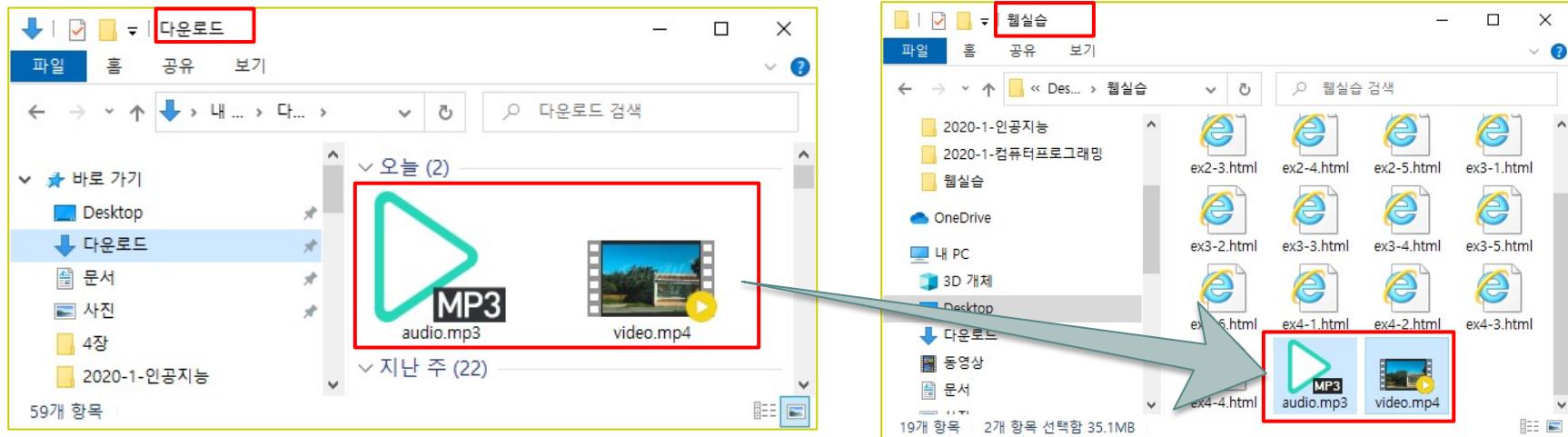
- 7) After [] on the bottom left of the window, select [폴더 열기].
- 8) Change the file name from **video (mp3cut.net).mp3** to **audio.mp3**.



Moving the Multimedia File

● Moving the Multimedia File

- In the [다운로드] folder, select the “video.mp4” file and the “audio.mp3” file, and move them to [웹실습] folder on Desktop
- NOTE!
 - To insert audio and video files in an HTML document, they must be in the same folder.



End of Class

