JavaScript Tutorial

JavaScript is the programming language of HTML and the Web.

웹과 html의 프로그램 언어

All modern HTML page are using javascript.

Programming makes computers do what you want them to do.

프로그램은 컴퓨터가 당신이 그들이 하기를 원하는 것을 하도록 만들수 있다.

JavaScript is easy to learn.

This tutorial will teach you JavaScript from basic to advanced.

첫 자바스크립트 언어를 구현해 보자.

Example

My First JavaScript

Click me to display Date and Time

<!DOCTYPE html>

<html>

<body>

<h1>My First JavaScript</h1>

<button type="button"

onclick="document.getElementById('demo').innerHTML = Date()">

Click me to display Date and Time.</button>

<p id="demo"></p>

</body>

</html>

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Why Study JavaScript?

JavaScript is one of the **3 languages** all web developers **must** learn:

   1. **HTML** to define the content of web pages 내용, 구조

   2. **CSS** to specify the layout of web pages

   3. **JavaScript** to program the behavior of web pages 행동

This tutorial is about JavaScript, and how JavaScript works with HTML and CSS.

JavaScript Introduction

JavaScript is the most popular programming language in the world.

This page contains some examples of what JavaScript can do.

1. JavaScript Can Change HTML Content

2. JavaScript Can Change HTML Attributes

3.JavaScript Can Change HTML Styles (CSS)

4. JavaScript Can Validate Data 유효한데이터

아래 예제를 동작시켜보고 실행해 보자.

JavaScript Can Change HTML Content

One of many HTML methods is **getElementById()**.

This example uses the method to "find" an HTML element (with id="demo"), and changes the element content (**innerHTML**) to "Hello JavaScript":

Example

document.getElementById("demo").innerHTML = "Hello JavaScript";

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_intro_inner_html)

<!DOCTYPE html>

<html>

<body>

<h1>What Can JavaScript Do?</h1>

<p id="demo">JavaScript can change HTML content.</p>

<button type="button"

onclick="document.getElementById('demo').innerHTML = 'Hello JavaScript!'">

Click Me!</button>

</body>

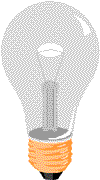
</html>

JavaScript Can Change HTML Attributes

This example changes an HTML image, by changing the src attribute of an <img> tag:

구글에서 pic\_bulboff.gif 이미지를 다운로드 받아 같은 폴더에 넣어 구현하자.

The Light bulb



Click the light bulb to turn on/off the light

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_intro_lightbulb)

. <!DOCTYPE html>

<html>

<body>

<h1>JavaScript Can Change Images</h1>

<img id="myImage" onclick="changeImage()" src="pic\_bulboff.gif" width="100" height="180">

<p>Click the light bulb to turn on/off the light.</p>

<script>

function changeImage() {

var image = document.getElementById('myImage');

if (image.src.match("bulbon")) {

image.src = "pic\_bulboff.gif";

} else {

image.src = "pic\_bulbon.gif";

}

}

</script>

</body>

</html>

JavaScript Can Change HTML Styles (CSS)

Changing the style of an HTML element, is a variant of changing an HTML attribute: ~하는 것은 바꾸는 변화

Example

document.getElementById("demo").style.fontSize = "25px";

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_intro_style)

. <!DOCTYPE html>

<html>

<body>

<h1>What Can JavaScript Do?</h1>

<p id="demo">JavaScript can change the style of an HTML element.</p>

<script>

function myFunction() {

var x = document.getElementById("demo");

x.style.fontSize = "25px";

x.style.color = "red";

}

</script>

<button type="button" onclick="myFunction()">Click Me!</button>

</body>

</html>

JavaScript Can Validate Data

JavaScript is often used to validate input:

Please input a number between 1 and 10

 Submit

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_intro_validate)

. <!DOCTYPE html>

<html>

<body>

<h1>JavaScript Can Validate Input</h1>

<p>Please input a number between 1 and 10:</p>

<input id="numb" type="number">

<button type="button" onclick="myFunction()">Submit</button>

<p id="demo"></p>

<script>

function myFunction() {

var x, text;

// Get the value of the input field with id="numb"

x = document.getElementById("numb").value;

// If x is Not a Number or less than one or greater than 10

if (isNaN(x) || x < 1 || x > 10) {

text = "Input not valid";

} else {

text = "Input OK";

}

document.getElementById("demo").innerHTML = text;

}

</script>

</body>

</html>

# JavaScript Where To

JavaScript can be placed in the <body> and the <head> sections of an HTML page. 위치할 수 있다.

자바스크립트 실행순서는 과거 헤더가 실행된 다음 바디가 실행되었는데 요즘은 문서 위에서 아래로 실행된다. 결론적으로 브라우저마다 다르다.

## The <script> Tag

In HTML, JavaScript code must be inserted between <script> and </script> tags.

### Example

<script>  
document.getElementById("demo").innerHTML = "My First JavaScript";  
</script>

|  |  |
| --- | --- |
| **Note** | Older examples may use a type attribute:  <script type="text/javascript">. The type attribute is not required.  JavaScript is the default scripting language in HTML. |

과거 VBScript등 여러 종류의 스크립트가 있으나 지금은 자바스크립트만 존재한다.

## JavaScript Functions and Events

A JavaScript **function** is a block of JavaScript code, that can be executed when "asked" for.

For example, a function can be executed when an **event** occurs, like when the user clicks a button. 이벤트 발생

You will learn much more about functions and events in later chapters.

## JavaScript in <head> or <body>

You can place any number of scripts in an HTML document.

Scripts can be placed in the <body>, or in the <head> section of an HTML page, or in both.

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| **Note** | Keeping all code in one place, is always a good habit. |

## JavaScript in <head>

In this example, a JavaScript function is placed in the <head> section of an HTML page.

The function is invoked (called) when a button is clicked:

### Example

<!DOCTYPE html>  
<html>

<head>  
<script>  
function myFunction() {  
    document.getElementById("demo").innerHTML = "Paragraph changed.";  
}  
</script>  
</head>

<body>

<h1>My Web Page</h1>

<p id="demo">A Paragraph</p>

<button type="button" onclick="myFunction()">Try it</button>

</body>  
</html>

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_whereto_head)

## JavaScript in <body>

In this example, a JavaScript function is placed in the <body> section of an HTML page.

The function is invoked (called) when a button is clicked:

### Example

<!DOCTYPE html>  
<html>  
<body>   
  
<h1>My Web Page</h1>  
  
<p id="demo">A Paragraph</p>  
  
<button type="button" onclick="myFunction()">Try it</button>  
  
<script>  
function myFunction() {  
   document.getElementById("demo").innerHTML = "Paragraph changed.";  
}  
</script>  
  
</body>  
</html>

[Try it Yourself »](http://www.w3schools.com/js/tryit.asp?filename=tryjs_whereto_body)

|  |  |
| --- | --- |
| **Note** | It is a good idea to place scripts at the bottom of the <body> element. This can improve page load, because HTML display is not blocked  by scripts loading. 페이지 로드를 향상시키다.  함수 없이 자바스크립트를 이용해서 inner html를 변경시켜보자. |

<!DOCTYPE html>

<html>

<body>

<script>

document.getElementById("demo").innerHTML = "Paragraph changed.";

</script>

<h1>My Web Page</h1>

<p id="demo">A Paragraph</p>

<button type="button" onclick="myFunction()">Try it</button>

</body>

</html>

html에서 javascript를 연결하는 여러가지 방법을 확인해보자.