Mobile Simulation

2017-2

명품

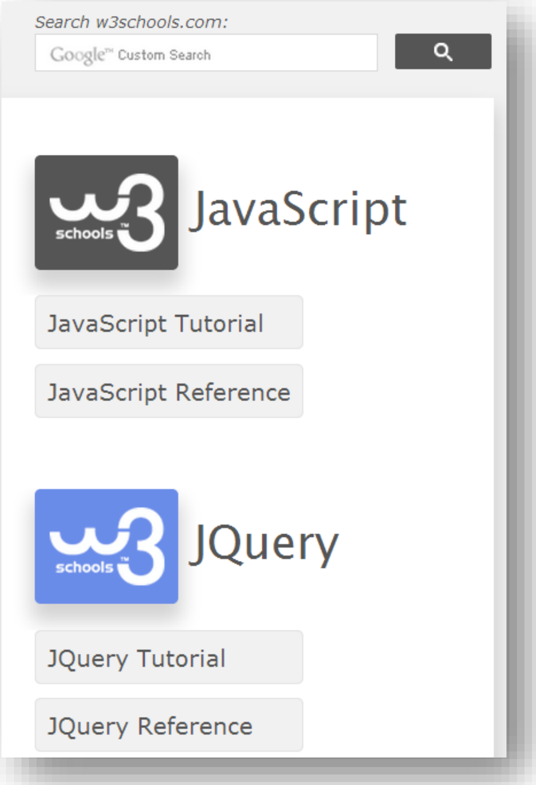
HTML5+ CSS3+ Javascript 웹 프로그래밍

황기태 지음

웹 프로그래밍의 완성에는 세 가지 코딩 기술이 필요합니다.
HTML5+CSS3+Javascript가 그것입니다.
이 책은 HTML5 웹 프로그래밍 작성에 필요한 3가지 기술을 균형 있게 구성하고 있습니다.

- 어려운 내용을 그림과 삽화로 설명해 깊이 있는 이해를 이끌어냅니다.
- 이론에서 실습까지 연결되는 예제로 손에 익히는 학습을 유도합니다.
- Open Challenge와 풍부한 연습 문제를 통해 배운 내용을 정리합니다.
- 저자가 운영하는 명품 웹 프로그래밍 사이트를 통해 언제 어디서나 실습하고 질문할 수 있습니다.

명품 웹사이트에서 예제를 실행하고 직접 수정해 볼 수 있습니다
www.webprogramming.co.kr



Search w3schools.com:

Google™ Custom Search

JavaScript

JavaScript Tutorial

JavaScript Reference

JQuery

JQuery Tutorial

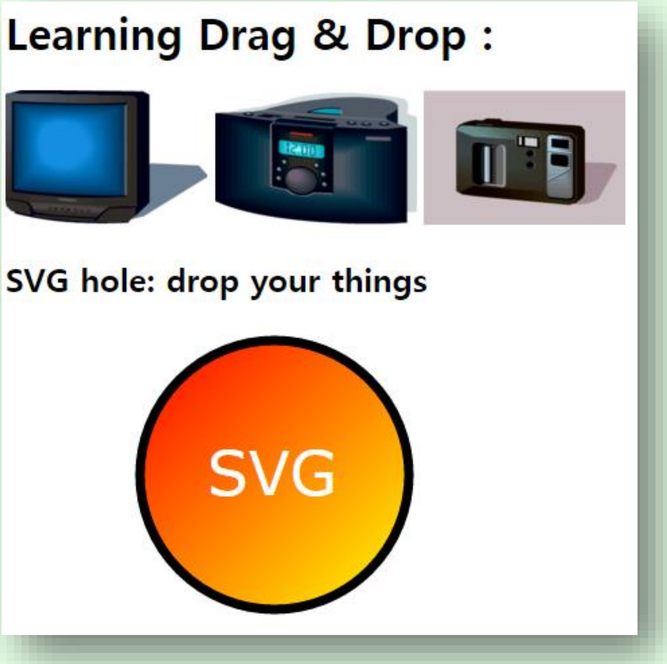
JQuery Reference

Weekly plan (HTML5, 1st semester 2017)

- **wk01 : Introduction to curriculum & current state of HTML5**
- **wk02 : Making HTML5 documents**
- **wk03 : Table, iframe and media**
- **wk04 : Semantic tag and Form**
- **wk05 : CSS3 I. Basic**
- **wk06 : CSS3 II. Advanced**
- **wk07 : CSS3 III. Animation**
- **wk08 : Mid-term Exam.**
- **wk09 : Javascript : Data types & operators**
- **wk10 : Javascript : Loop & functions**
- **wk11 : Javascript : Core objects**
- **wk12 : Javascript : DOM**
- **wk13 : Javascript : Event handling I**
- **wk14 : Javascript : Event handling II**
- **wk15 : Final exam.**

Weekly plan (Mobile Simulation, 2nd semester 2017)

- **wk01 : Introduction to curriculum & current state**
- **wk02 : Browser Object Model (BOM), installing Brackets editor**
- **wk03 : Canvas graphics I. Basic**
- **wk04 : Canvas graphics II. Image & Transformation**
- **wk05 : Canvas graphics III. Animation**
- **wk06 : Canvas graphics IV. Game**
- **wk07 : 보강 기간에 보강 실시**
- **wk08 : Mid-term Exam.**
- **wk09 : jQuery I. Basic**
- **wk10 : jQuery II. Application**
- **wk11 : SVG, Drag & Drop**
- **wk12 :**
- **wk13 :**
- **wk14 :**
- **wk15 : Final exam.**



Learning Drag & Drop :

SVG hole: drop your things

과제07. msnn_rpt07.zip

[실습과제07] Convert Javascript to jQuery & AJAX/JSON

[1] MSnn_jquery_clock.html
[2] MSnn_jquery_cannonball.html
[3] MSnn_AJAX_JSON.html, MSnn.json

**** html 파일 및 관련 파일(image. json 등..)을
MSnn_Rpt07.zip 으로 압축해서 제출하시오

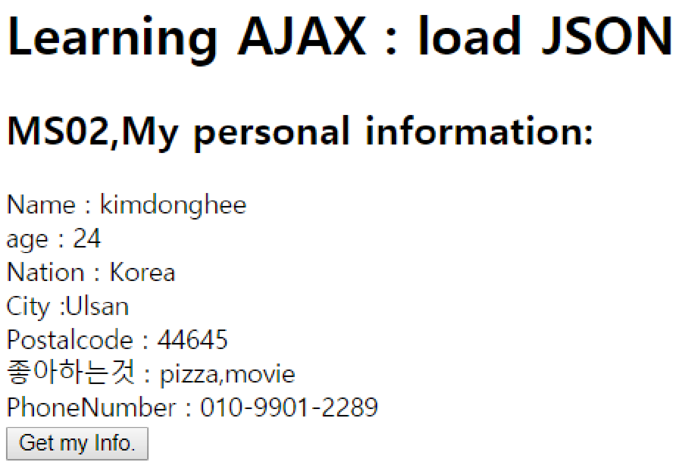
가점: Javascript, jQuery 프로그래밍 응용 능력.

[제출파일] msnn_rpt07.zip (10월31일 오후 6시 마감)

html 파일과 사용된 그림 및 데이터파일을 압축하여
이메일로 “msnn_rpt07” 제목으로 제출

Email : chaos21c@gmail.com

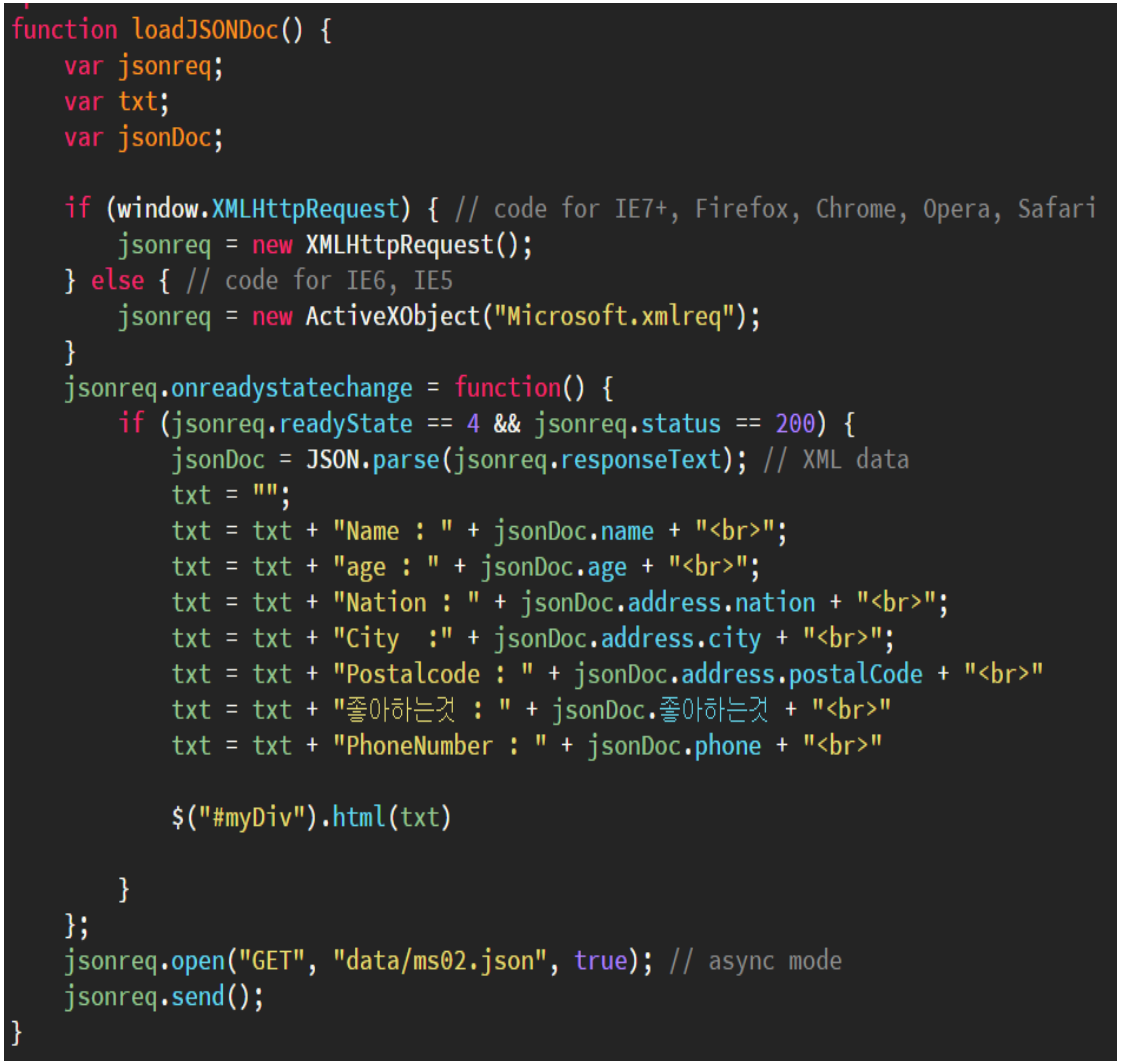
Result



Learning AJAX : load JSON

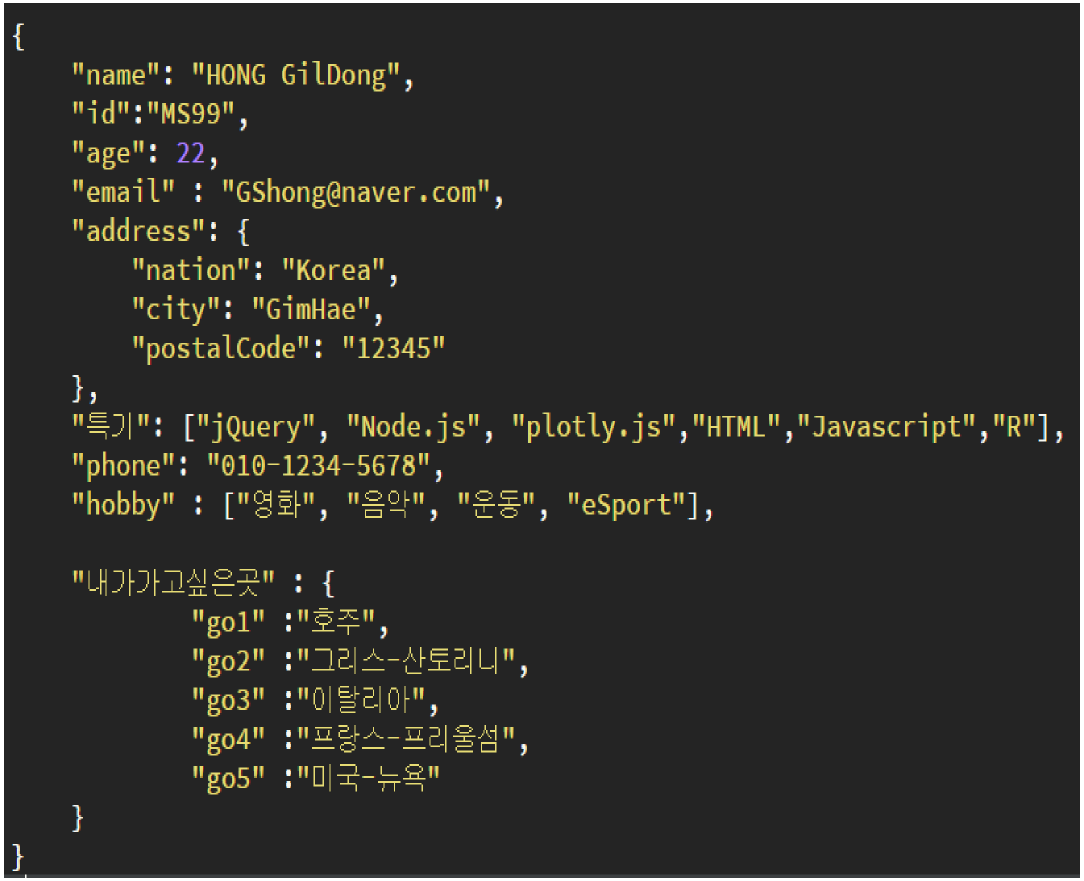
MS02,My personal information:

Name : kimdonghee
age : 24
Nation : Korea
City :Ulsan
Postalcode : 44645
좋아하는것 : pizza,movie
PhoneNumber : 010-9901-2289

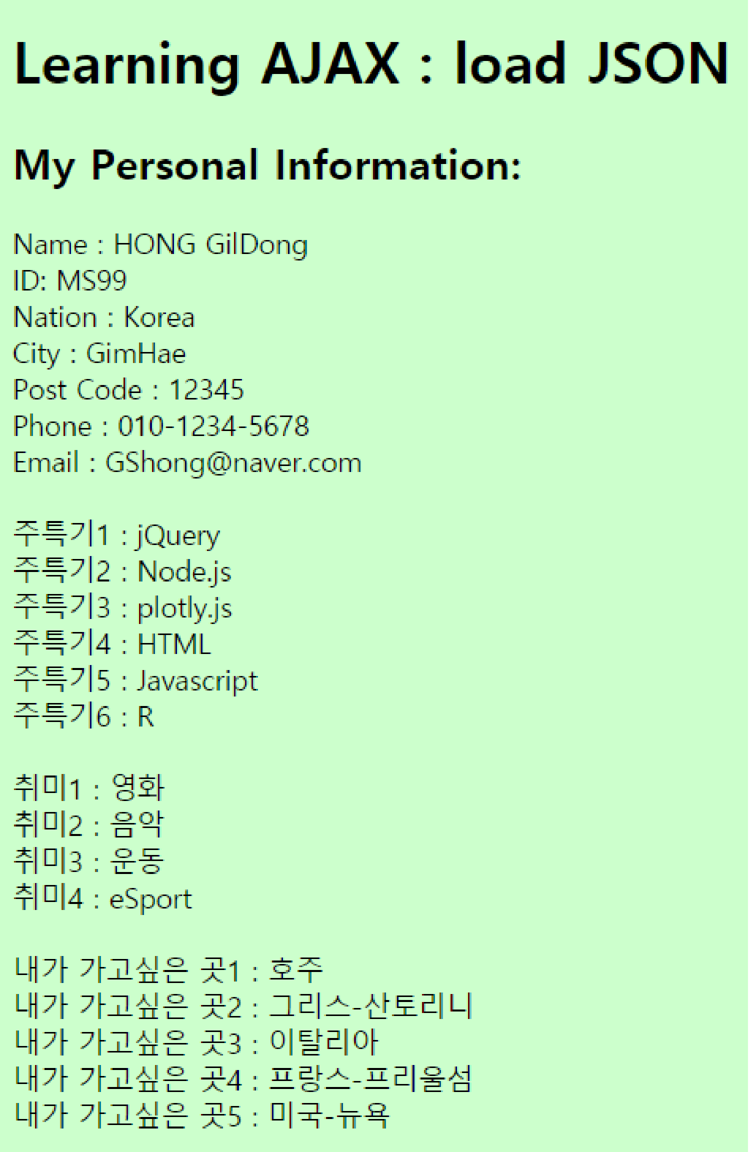


```
function loadJSONDoc() {
    var jsonreq;
    var txt;
    var jsonDoc;

    if (window.XMLHttpRequest) { // code for IE7+, Firefox, Chrome, Opera, Safari
        jsonreq = new XMLHttpRequest();
    } else { // code for IE6, IE5
        jsonreq = new ActiveXObject("Microsoft.xmlreq");
    }
    jsonreq.onreadystatechange = function() {
        if (jsonreq.readyState == 4 && jsonreq.status == 200) {
            jsonDoc = JSON.parse(jsonreq.responseText); // XML data
            txt = "";
            txt = txt + "Name : " + jsonDoc.name + "<br>";
            txt = txt + "age : " + jsonDoc.age + "<br>";
            txt = txt + "Nation : " + jsonDoc.address.nation + "<br>";
            txt = txt + "City  :" + jsonDoc.address.city + "<br>";
            txt = txt + "Postalcode : " + jsonDoc.address.postalCode + "<br>"
            txt = txt + "좋아하는것 : " + jsonDoc.좋아하는것 + "<br>"
            txt = txt + "PhoneNumber : " + jsonDoc.phone + "<br>"

            $("#myDiv").html(txt)

        }
    };
    jsonreq.open("GET", "data/ms02.json", true); // async mode
    jsonreq.send();
}
```

Best report



```
{
    "name": "HONG GilDong",
    "id":"MS99",
    "age": 22,
    "email" : "GShong@naver.com",
    "address": {
        "nation": "Korea",
        "city": "GimHae",
        "postalCode": "12345"
    },
    "특기": ["jQuery", "Node.js", "plotly.js","HTML","Javascript","R"],
    "phone": "010-1234-5678",
    "hobby" : ["영화", "음악", "운동", "eSport"],

    "내가가고싶은곳" : {
            "go1" :"호주",
            "go2" :"그리스-산토리니",
            "go3" :"이탈리아",
            "go4" :"프랑스-프리울섬",
            "go5" :"미국-뉴욕"
    }
}
```



Learning AJAX : load JSON

My Personal Information:

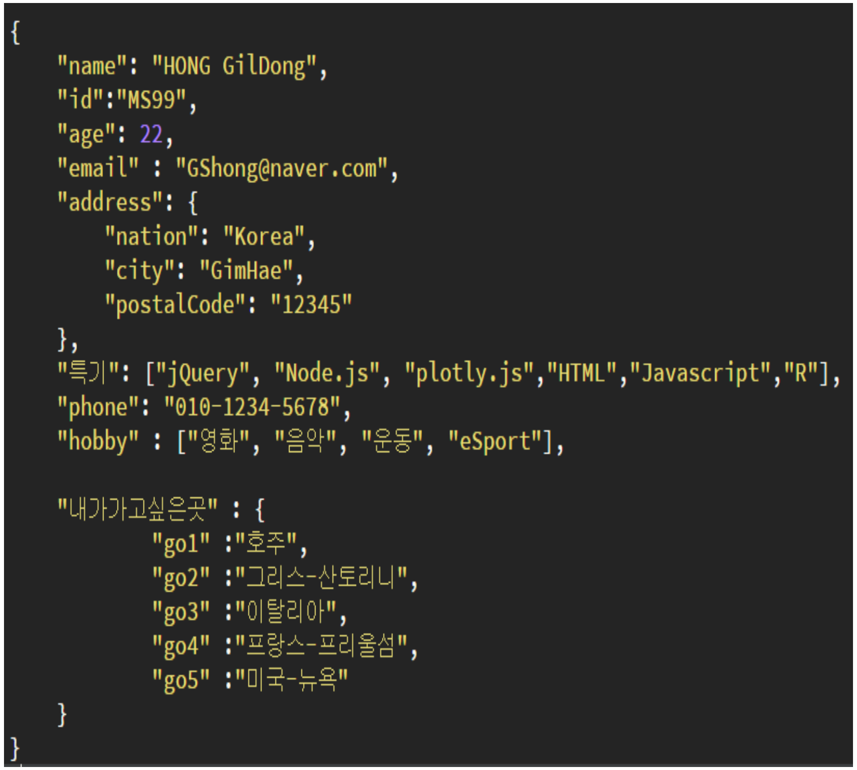
Name : HONG GilDong
ID: MS99
Nation : Korea
City : GimHae
Post Code : 12345
Phone : 010-1234-5678
Email : GShong@naver.com

주특기1 : jQuery
주특기2 : Node.js
주특기3 : plotly.js
주특기4 : HTML
주특기5 : Javascript
주특기6 : R

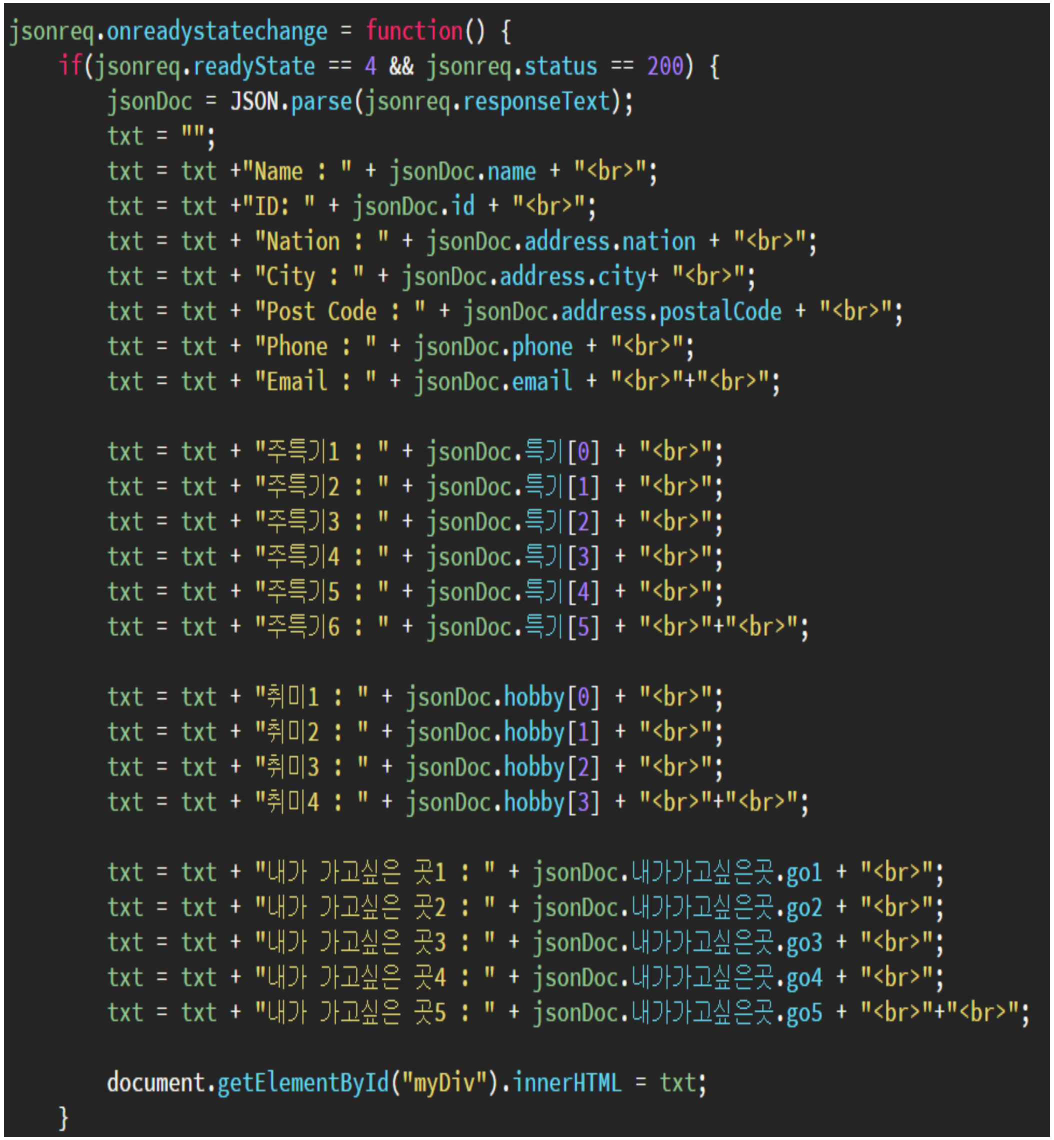
취미1 : 영화
취미2 : 음악
취미3 : 운동
취미4 : eSport

내가 가고싶은 곳1 : 호주
내가 가고싶은 곳2 : 그리스-산토리니
내가 가고싶은 곳3 : 이탈리아
내가 가고싶은 곳4 : 프랑스-프리울섬
내가 가고싶은 곳5 : 미국-뉴욕

Best report



```
{
    "name": "HONG GilDong",
    "id":"MS99",
    "age": 22,
    "email" : "GShong@naver.com",
    "address": {
        "nation": "Korea",
        "city": "GimHae",
        "postalCode": "12345"
    },
    "특기": ["jQuery", "Node.js", "plotly.js","HTML","Javascript","R"],
    "phone": "010-1234-5678",
    "hobby" : ["영화", "음악", "운동", "eSport"],

    "내가가고싶은곳" : {
            "go1" :"호주",
            "go2" :"그리스-산토리니",
            "go3" :"이탈리아",
            "go4" :"프랑스-프리울섬",
            "go5" :"미국-뉴욕"
    }
}
```



```
jsonreq.onreadystatechange = function() {
    if(jsonreq.readyState == 4 && jsonreq.status == 200) {
        jsonDoc = JSON.parse(jsonreq.responseText);
        txt = "";
        txt = txt +"Name : " + jsonDoc.name + "<br>";
        txt = txt +"ID: " + jsonDoc.id + "<br>";
        txt = txt + "Nation : " + jsonDoc.address.nation + "<br>";
        txt = txt + "City : " + jsonDoc.address.city+ "<br>";
        txt = txt + "Post Code : " + jsonDoc.address.postalCode + "<br>";
        txt = txt + "Phone : " + jsonDoc.phone + "<br>";
        txt = txt + "Email : " + jsonDoc.email + "<br>"+"<br>";

        txt = txt + "주특기1 : " + jsonDoc.특기[0] + "<br>";
        txt = txt + "주특기2 : " + jsonDoc.특기[1] + "<br>";
        txt = txt + "주특기3 : " + jsonDoc.특기[2] + "<br>";
        txt = txt + "주특기4 : " + jsonDoc.특기[3] + "<br>";
        txt = txt + "주특기5 : " + jsonDoc.특기[4] + "<br>";
        txt = txt + "주특기6 : " + jsonDoc.특기[5] + "<br>"+"<br>";

        txt = txt + "취미1 : " + jsonDoc.hobby[0] + "<br>";
        txt = txt + "취미2 : " + jsonDoc.hobby[1] + "<br>";
        txt = txt + "취미3 : " + jsonDoc.hobby[2] + "<br>";
        txt = txt + "취미4 : " + jsonDoc.hobby[3] + "<br>"+"<br>";

        txt = txt + "내가 가고싶은 곳1 : " + jsonDoc.내가가고싶은곳.go1 + "<br>";
        txt = txt + "내가 가고싶은 곳2 : " + jsonDoc.내가가고싶은곳.go2 + "<br>";
        txt = txt + "내가 가고싶은 곳3 : " + jsonDoc.내가가고싶은곳.go3 + "<br>";
        txt = txt + "내가 가고싶은 곳4 : " + jsonDoc.내가가고싶은곳.go4 + "<br>";
        txt = txt + "내가 가고싶은 곳5 : " + jsonDoc.내가가고싶은곳.go5 + "<br>"+"<br>";

        document.getElementById("myDiv").innerHTML = txt;
    }
```

CHAPTER 11-A3

SVG, Drag & Drop

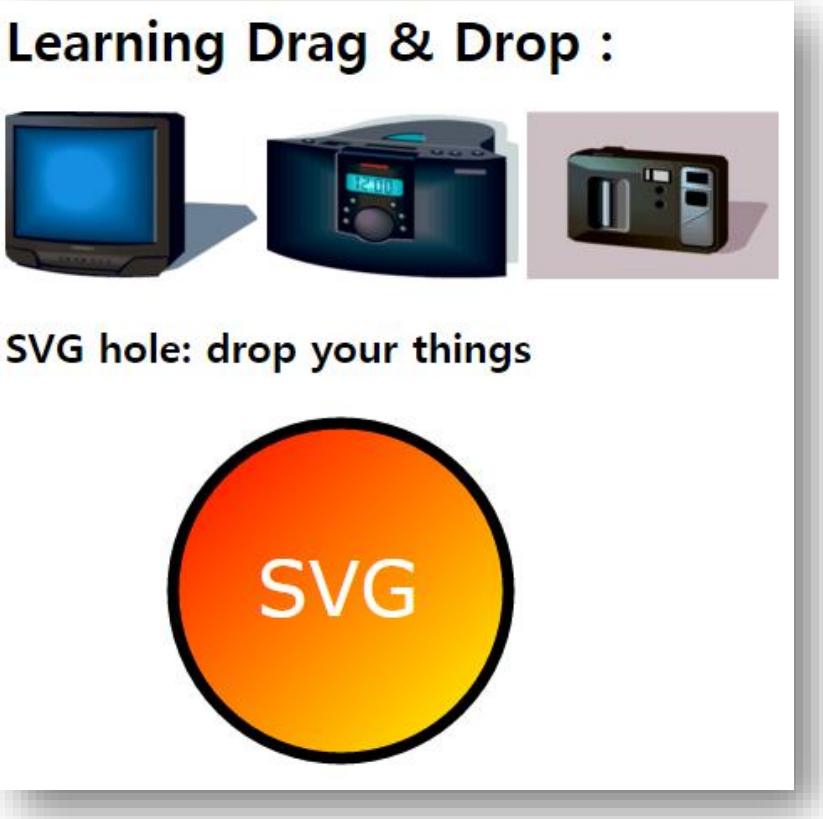
SVG stands for **Scalable Vector Graphics**.

SVG defines 2-d graphics in XML format.

Drag & drop is a part of the HTML5 standard.

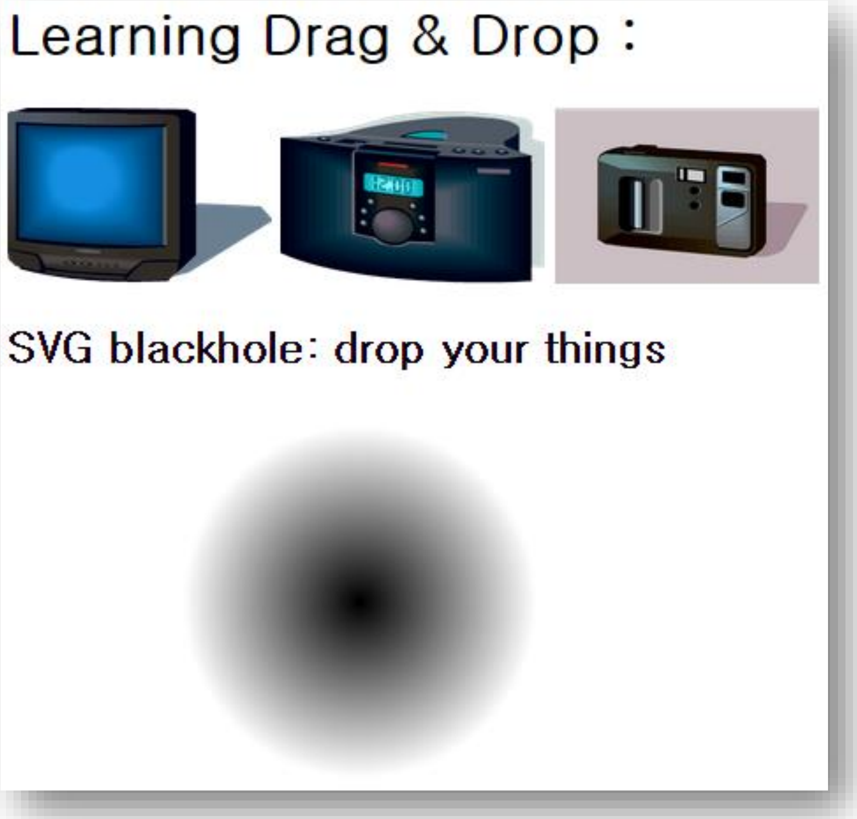
Target:

Learning SVG, Drag&Drop



Learning Drag & Drop :

SVG hole: drop your things



Learning Drag & Drop :

SVG blackhole: drop your things

Reference (w3schools.com)

SVG Tutorial

https://www.w3schools.com/graphics/svg_intro.asp

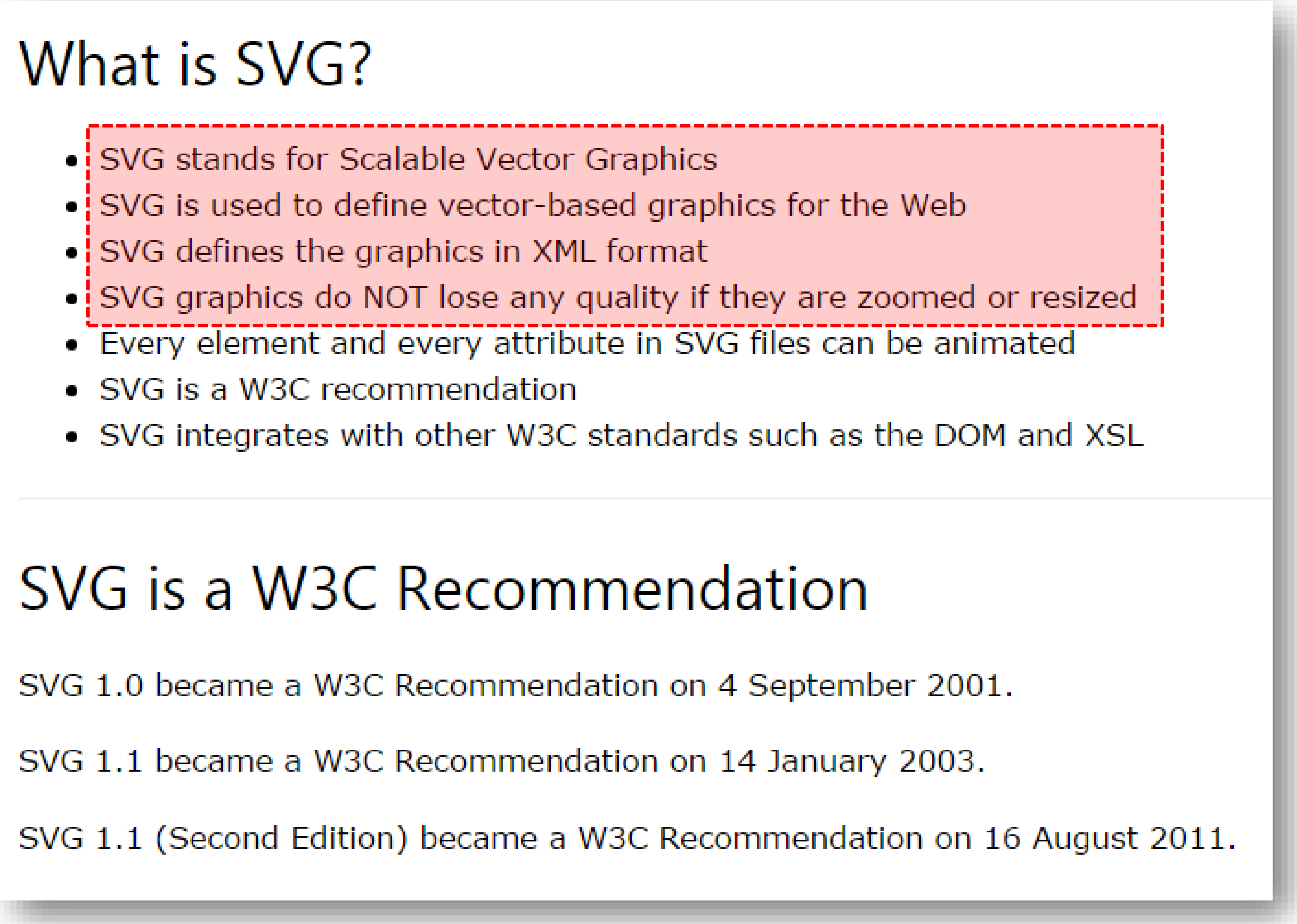
Drag & Drop Tutorial (HTML5)

http://www.w3schools.com/html/html5_draganddrop.asp

SVG

- SVG (Scalable Vector Graphics)는 XML-기반의 벡터 이미지 포맷
- 웹에서 벡터-기반의 그래픽을 정의하는데 사용
- 1999년부터 W3C에 의하여 표준

SVG



What is SVG?

- SVG stands for Scalable Vector Graphics
- SVG is used to define vector-based graphics for the Web
- SVG defines the graphics in XML format
- SVG graphics do NOT lose any quality if they are zoomed or resized
- Every element and every attribute in SVG files can be animated
- SVG is a W3C recommendation
- SVG integrates with other W3C standards such as the DOM and XSL

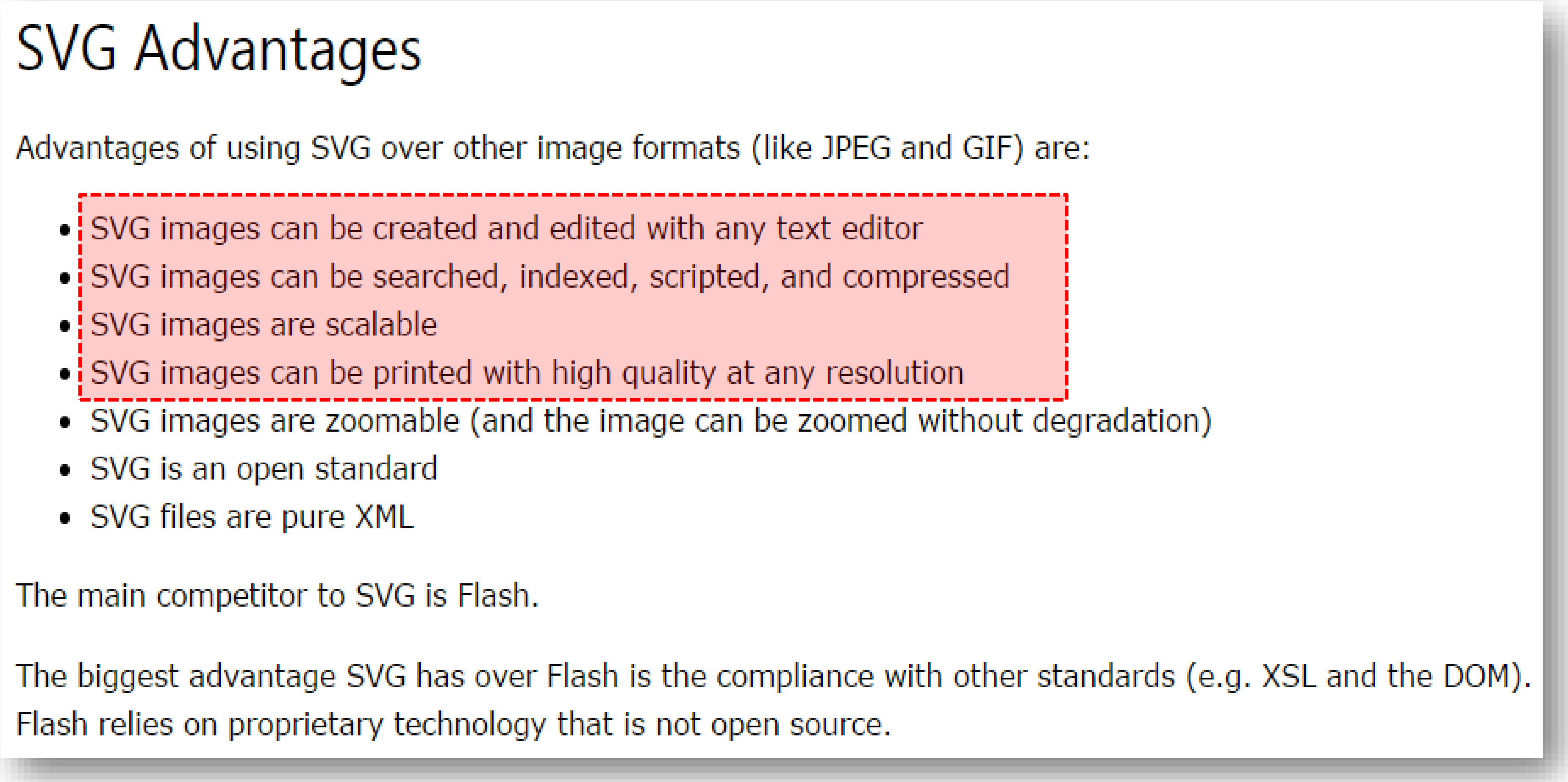
SVG is a W3C Recommendation

SVG 1.0 became a W3C Recommendation on 4 September 2001.

SVG 1.1 became a W3C Recommendation on 14 January 2003.

SVG 1.1 (Second Edition) became a W3C Recommendation on 16 August 2011.

SVG



SVG Advantages

Advantages of using SVG over other image formats (like JPEG and GIF) are:

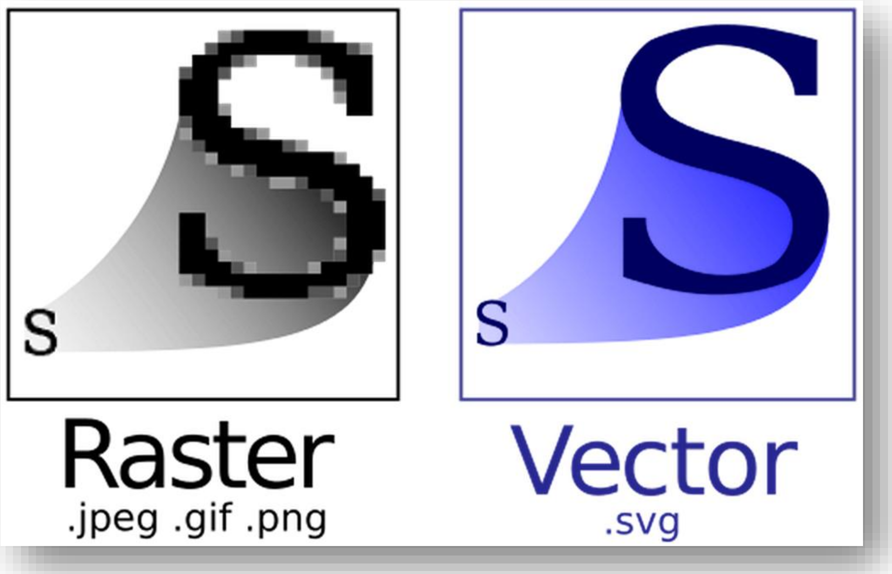
- SVG images can be created and edited with any text editor
- SVG images can be searched, indexed, scripted, and compressed
- SVG images are scalable
- SVG images can be printed with high quality at any resolution
- SVG images are zoomable (and the image can be zoomed without degradation)
- SVG is an open standard
- SVG files are pure XML

The main competitor to SVG is Flash.

The biggest advantage SVG has over Flash is the compliance with other standards (e.g. XSL and the DOM). Flash relies on proprietary technology that is not open source.

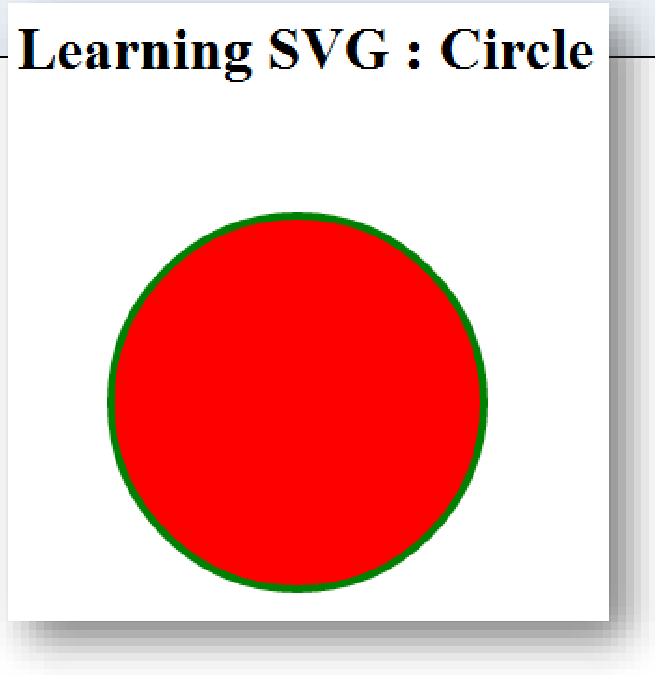
SVG의 장점

- □ **SVG 그래픽은 확대되거나 크기가 변경되어도 품질이 손상되지 않는다.**
- □ **SVG 파일에서 모든 요소와 속성은 애니메이션이 가능하다.**
- □ **SVG 이미지는 어떤 텍스트 에디터로도 생성하고 편집할 수 있다.**



원(circle) 예제

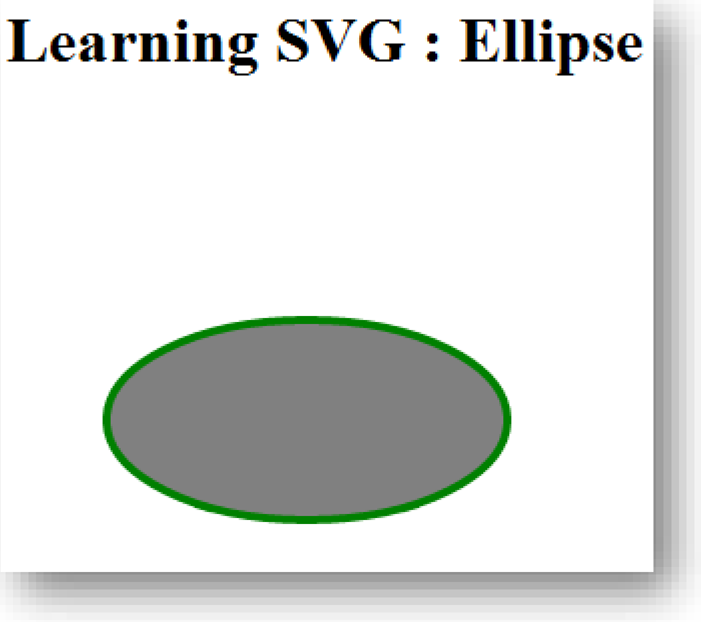
```
<!DOCTYPE html>
<html>
<body>
   <svg width="300" height=“300">
              <ellipse cx="150" cy= "150" rx="100" ry="100"
              style="fill:red; stroke:green; stroke-width:4" />

              Sorry, your browser does not support inline SVG.
  </svg>
</body>
</html>
```



Learning SVG : Circle

타원(ellipse) 예제

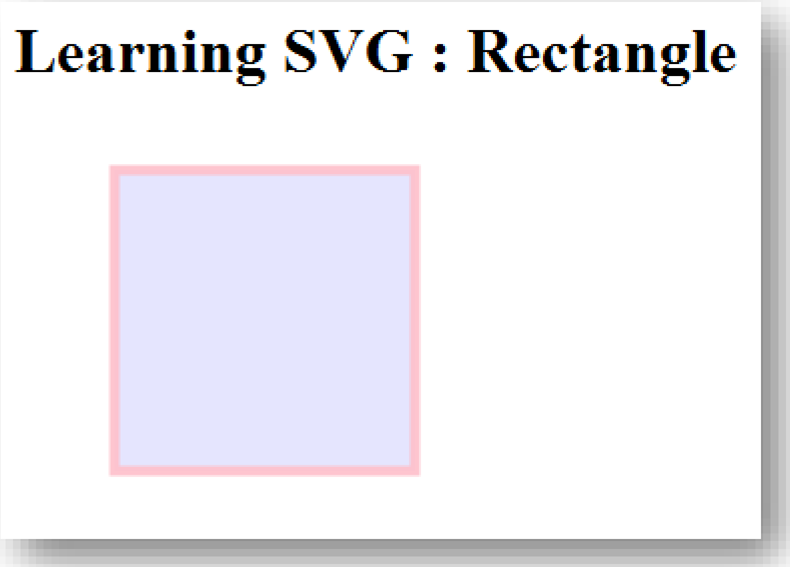
```
<!DOCTYPE html>
<html>
<body>
    <svg width="300" height="“300">
        <ellipse cx="150" cy="150" rx="100" ry="50"
              style="fill:gray; stroke:green; stroke-width:4" />
   </svg>
</body>
</html>
```



Learning SVG : Ellipse

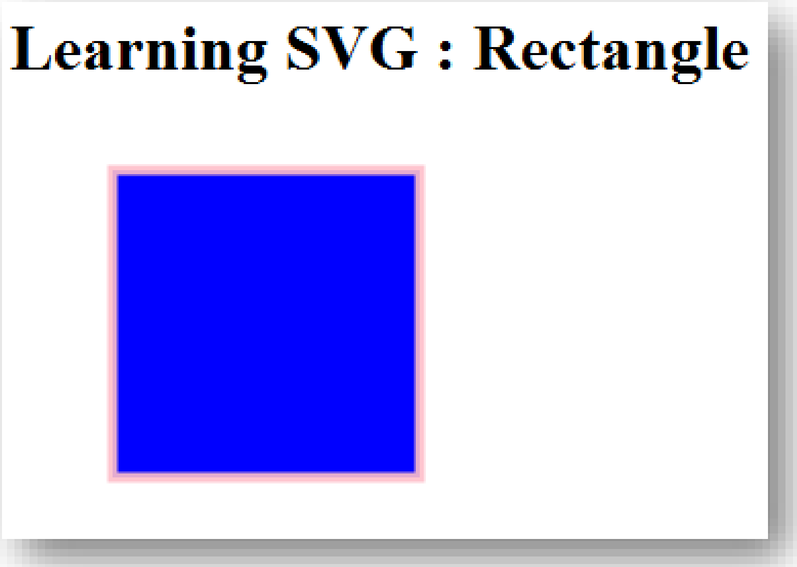
사각형(rectangle) 예제 - 1

```
<svg width="400" height="200">
  <rect x="50" y="20" width="150" height="150"
      style="fill:blue;stroke:pink;
      stroke-width:5;
      fill-opacity:0.1;stroke-opacity:0.9" />
</svg>
```



Learning SVG : Rectangle

fill-opacity:0.1

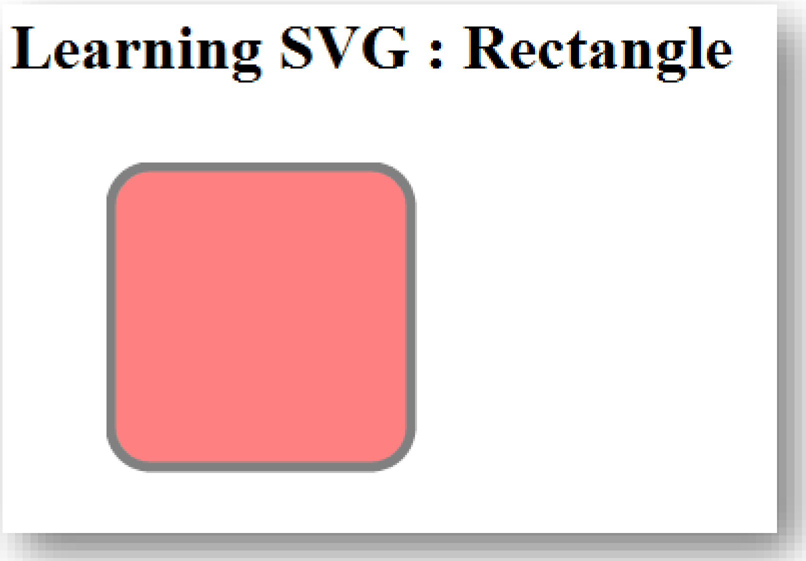


Learning SVG : Rectangle

fill-opacity:1.0

사각형 예제 - 2

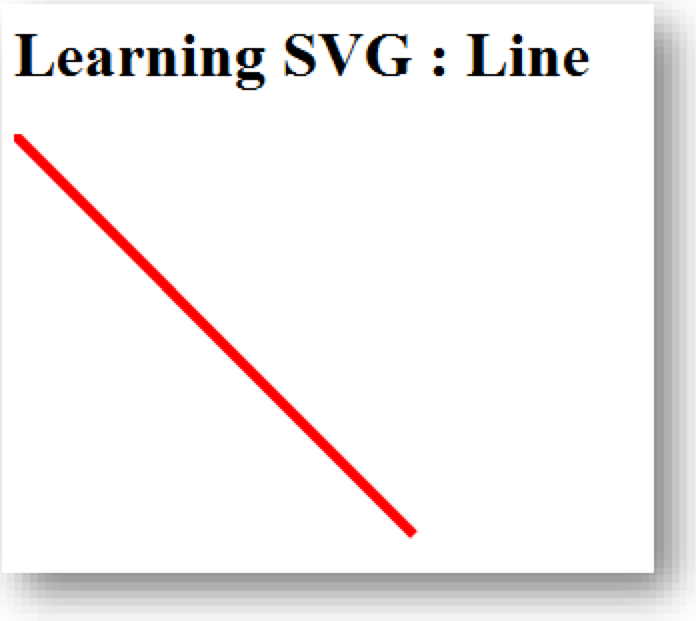
```
<svg width="400" height="200">

  <rect x="50" y="20" rx="20" ry="20" width="150" height="150"
  style="fill:red;stroke:black;stroke-width:5;opacity:0.5" />

</svg>
```



Learning SVG : Rectangle

직선(line) 예제

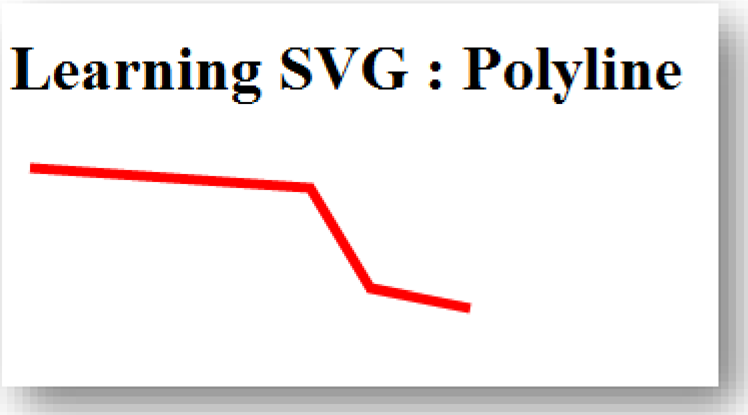
```
<svg height="210" width="500">

  <line x1="0" y1="0" x2="200" y2="200"
  style="stroke:rgb(255,0,0);stroke-width:5" />

</svg>
```



Learning SVG : Line

폴리라인 예제 - 1

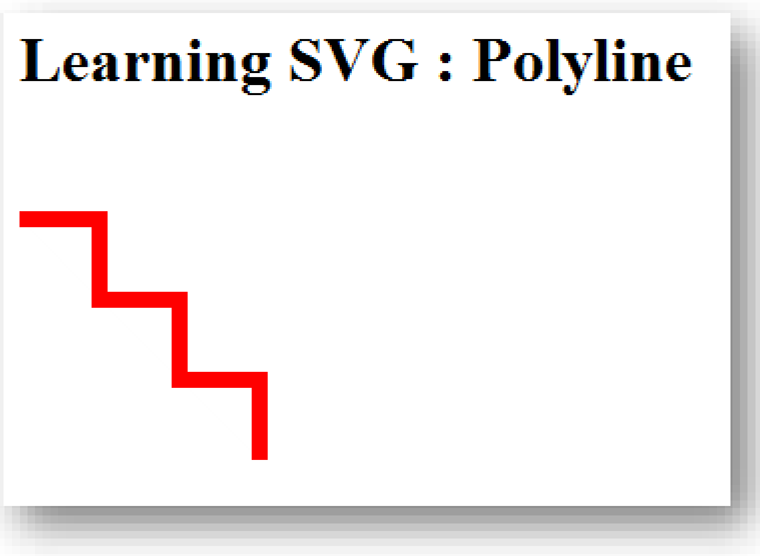
```
<svg height="210" width="500">

  <polyline points="10,10 150,20 180,70 230,80"
        style="fill: none; stroke: red; stroke-width: 5" />

</svg>
```



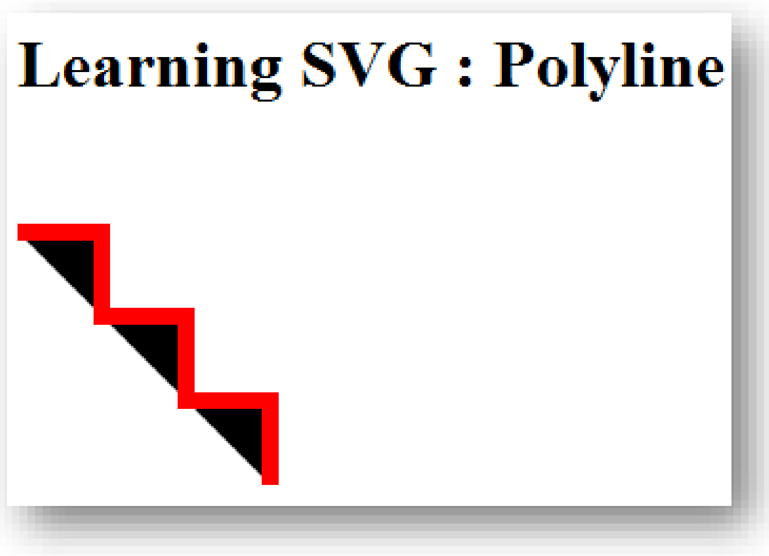
Learning SVG : Polyline

폴리라인 예제 - 2

```
<svg height="180" width="500">

  <polyline points="0,40 40,40 40,80 80,80 80,120 120,120 120,160"
  style="fill:white;stroke:red;stroke-width:4" />

</svg>
```



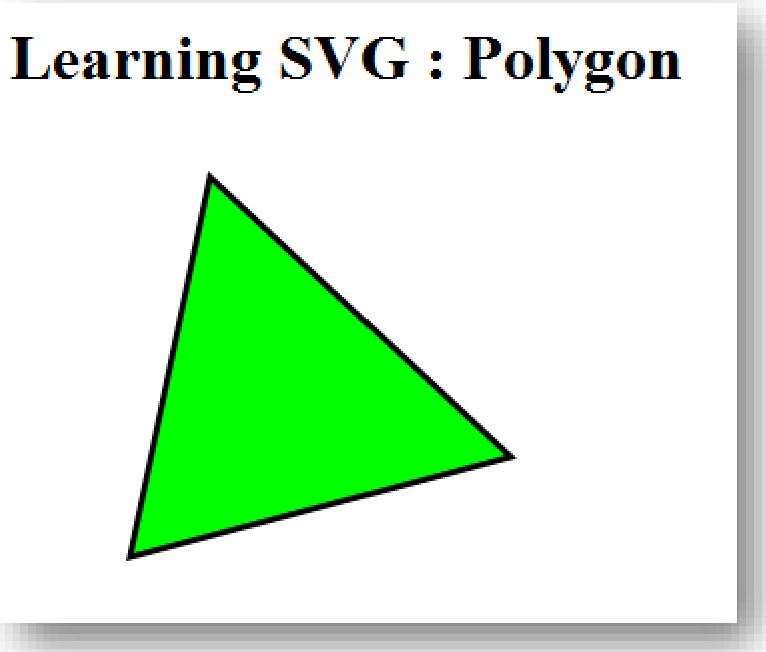
Learning SVG : Polyline



Learning SVG : Polyline

다각형(ploygon) 예제 - 1

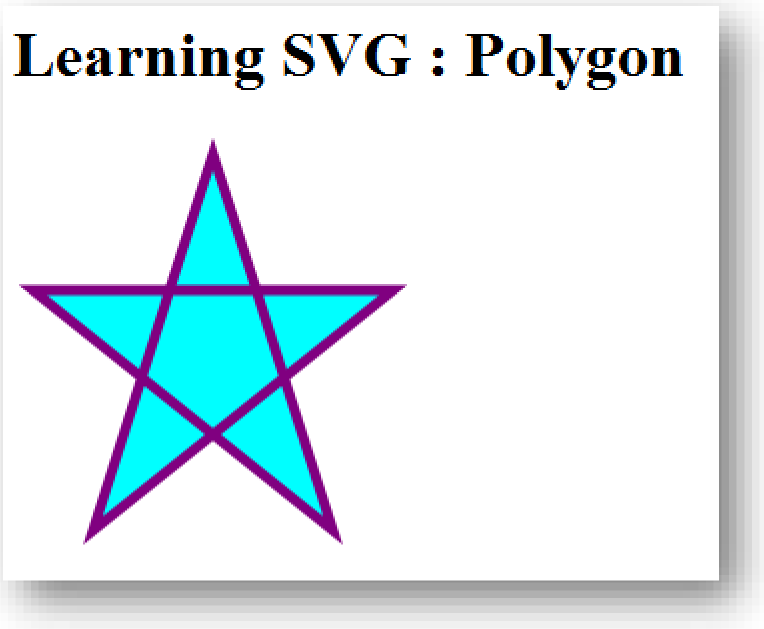
```
<svg height="250" width="500">
   <polygon points="100,20 250,160 60,210"
         style="fill: lime; stroke: black; stroke-width: 3" />

</svg>
```



Learning SVG : Polygon

다각형 예제 - 2

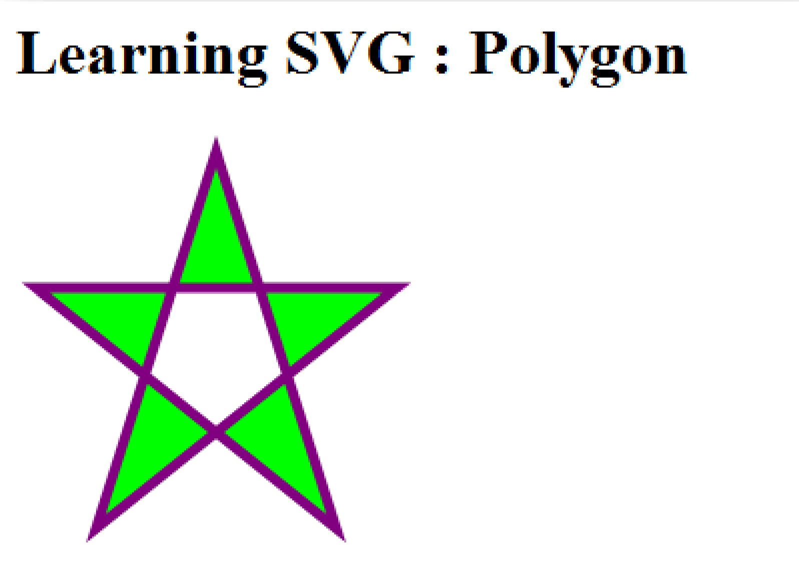
```
<svg height="210" width="500">

  <polygon points="100,10 40,198 190,78 10,78 160,198"
  style="fill:aqua;stroke:purple;stroke-width:5;fill-rule:nonzero;" />

</svg>
```



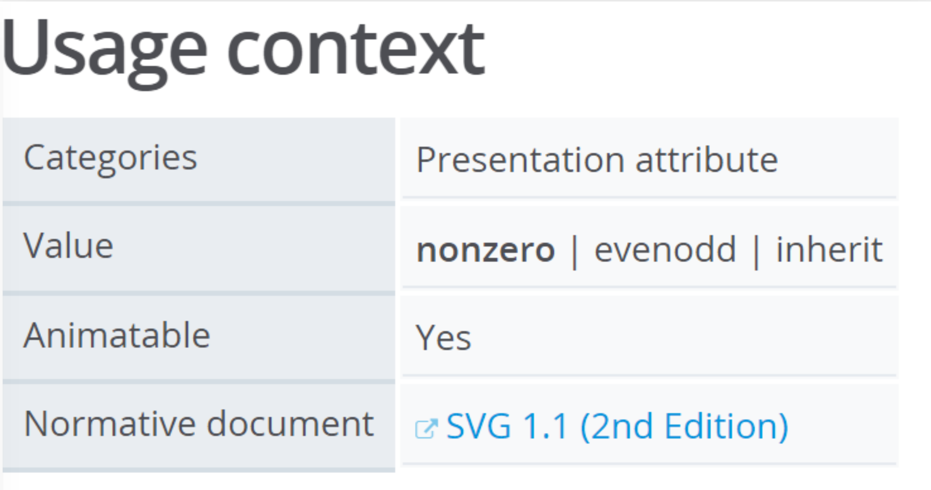
Learning SVG : Polygon

다각형 예제 - 3

```
<svg height="210" width="500">

  <polygon points="100,10 40,198 190,78 10,78 160,198"
  style="fill:aqua;stroke:purple;stroke-width:5;fill-rule:evenodd;" />

</svg>
```



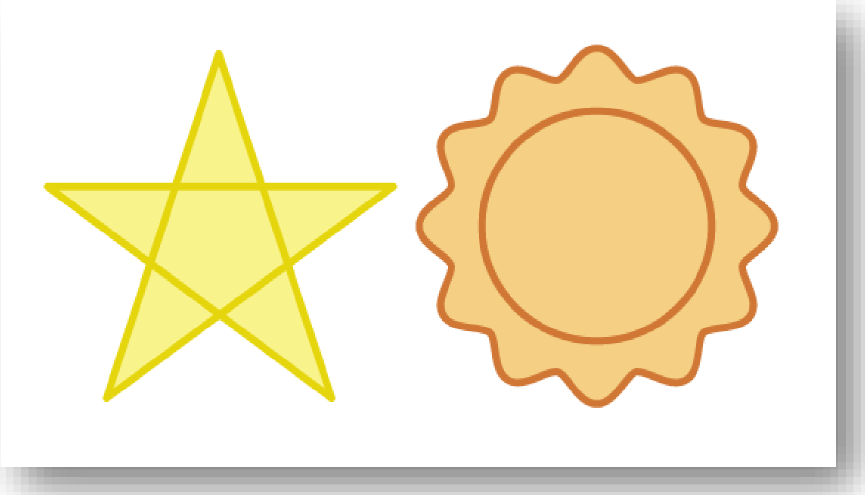
Learning SVG : Polygon



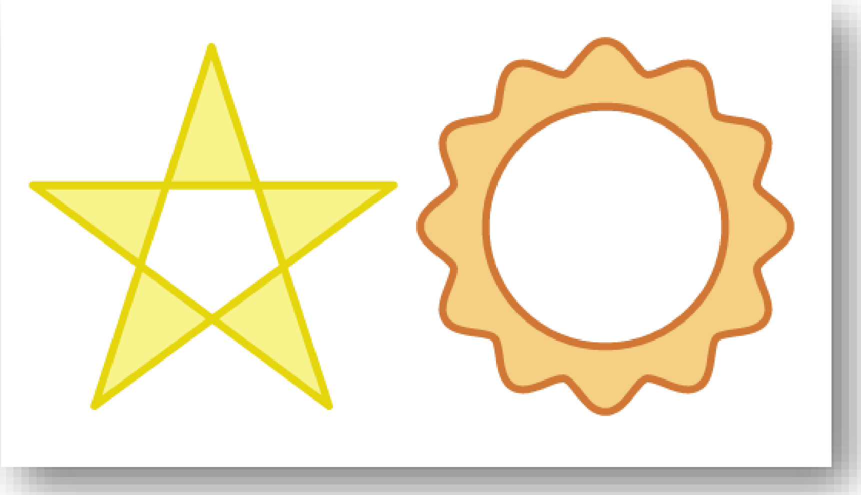
Usage context

Categories	Presentation attribute
Value	**nonzero** | evenodd | inherit
Animatable	Yes
Normative document	SVG 1.1 (2nd Edition)

fill-rule: nonzero vs. evenodd



nonzero



evenodd

Understanding the SVG fill-rule Property

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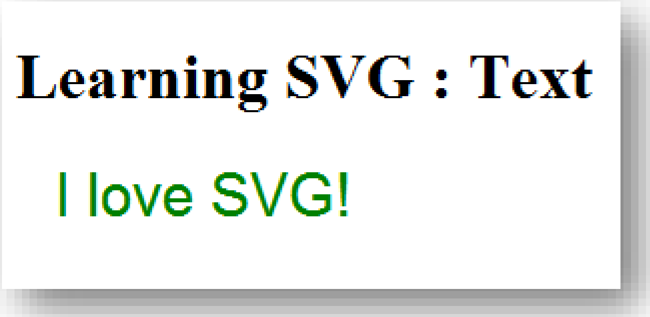
텍스트 예제 - 1

```
<svg>
    <text x="20" y="30"
        font-family="Arial" font-size="30" fill="green">
              I love SVG!
    </text>
</svg>
```

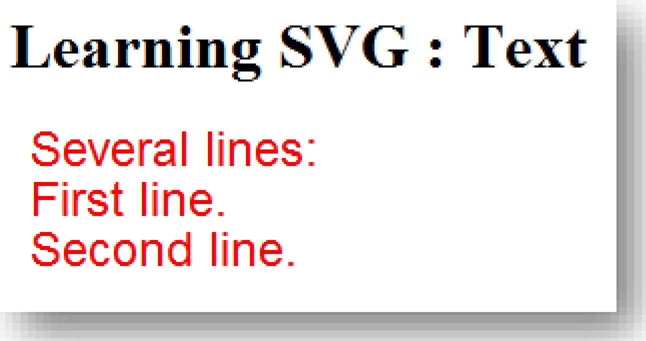


Learning SVG : Text

I love SVG!

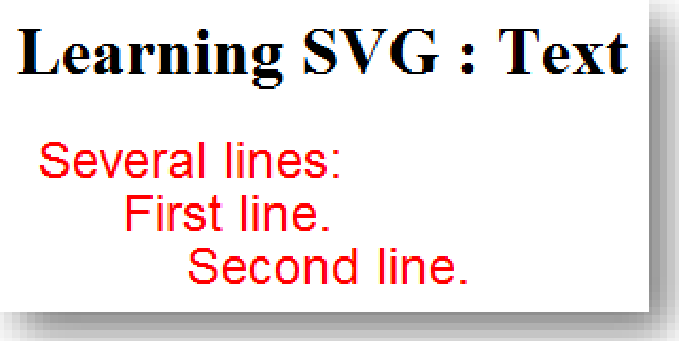
텍스트 예제 - 2

```
<svg height="300" width="300">
  <text x="10" y="20" style="fill:red; font-family: Arial; font-size: 24">
  Several lines:
    <tspan x="10" y="45">First line.</tspan>
    <tspan x="10" y="70">Second line.</tspan>
  </text>
</svg>
```



Learning SVG : Text

Several lines:
First line.
Second line.

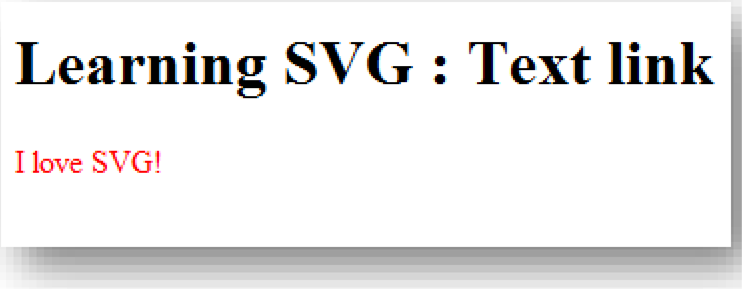


Learning SVG : Text

Several lines:
First line.
Second line.

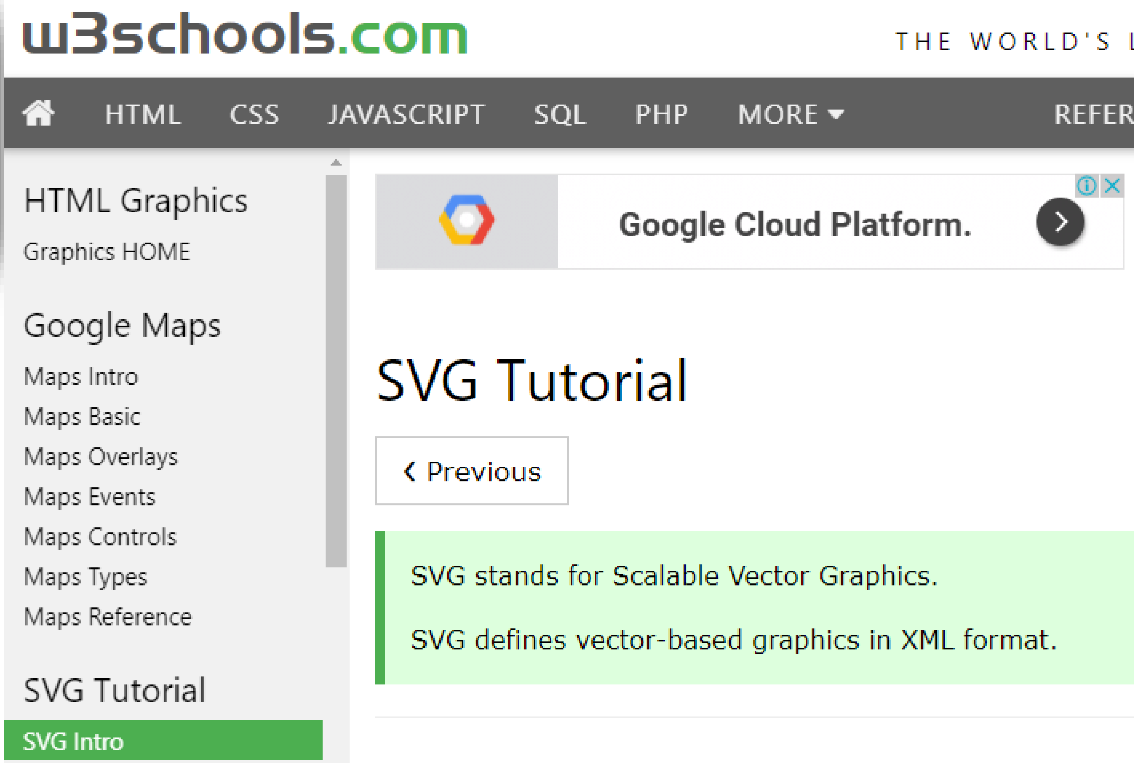
텍스트 (link) 예제 - 3

```
<svg height="30" width="200">
  <a xlink:href="https://www.w3schools.com/graphics/svg_intro.asp">
    <text x="0" y="15" fill="red">I love SVG!</text>
  </a>
</svg>
```



Learning SVG : Text link

I love SVG!



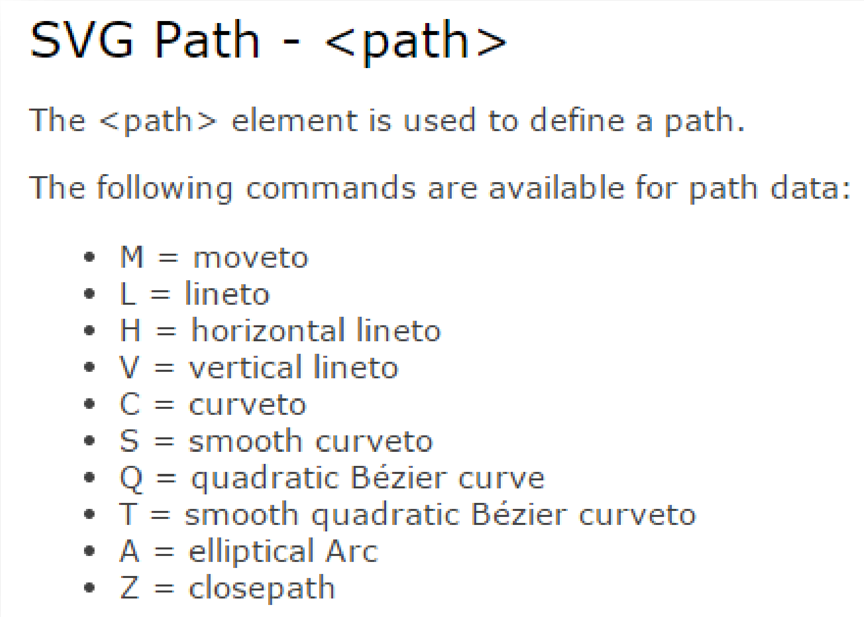
SVG Tutorial

SVG stands for Scalable Vector Graphics.

SVG defines vector-based graphics in XML format.

Path - 1

```
<svg height="210" width="400">
  <path d="M150 0 L75 200 L225 200 Z" />
</svg>
```

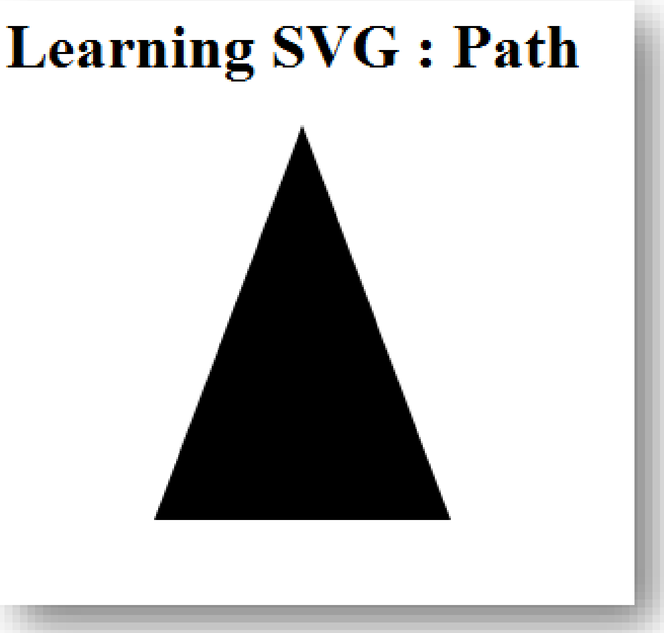


SVG Path - <path>

The <path> element is used to define a path.

The following commands are available for path data:

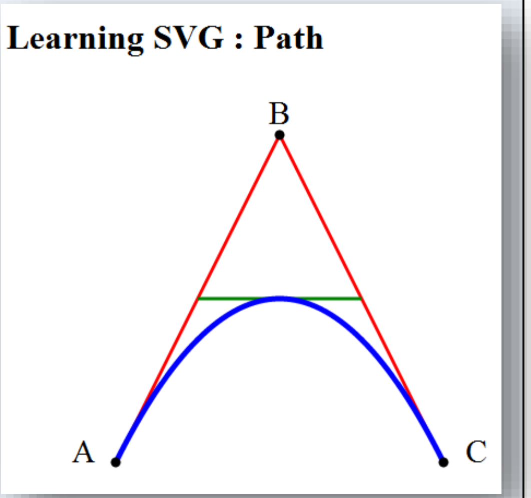
- M = moveto
- L = lineto
- H = horizontal lineto
- V = vertical lineto
- C = curveto
- S = smooth curveto
- Q = quadratic Bézier curve
- T = smooth quadratic Bézier curveto
- A = elliptical Arc
- Z = closepath



Learning SVG : Path

Path - 2 : Berzier curve

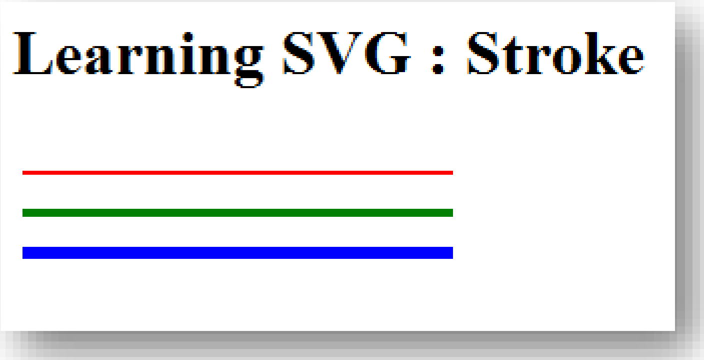
```
<svg height="400" width="450">
  <path id="lineAB" d="M 100 350 l 150 -300" stroke="red"
  stroke-width="3" fill="none" />
  <path id="lineBC" d="M 250 50 l 150 300" stroke="red"
  stroke-width="3" fill="none" />
  <path d="M 175 200 l 150 0" stroke="green" stroke-width="3"
  fill="none" />
  <path d="M 100 350 q 150 -300 300 0" stroke="blue"
  stroke-width="5" fill="none" />
  <!-- Mark relevant points -->
  <g stroke="black" stroke-width="3" fill="black">
    <circle id="pointA" cx="100" cy="350" r="3" />
    <circle id="pointB" cx="250" cy="50" r="3" />
    <circle id="pointC" cx="400" cy="350" r="3" />
  </g>
  <!-- Label the points -->
  <g font-size="30" font="sans-serif" fill="black" stroke="none"
  text-anchor="middle">
    <text x="100" y="350" dx="-30">A</text>
    <text x="250" y="50" dy="-10">B</text>
    <text x="400" y="350" dx="30">C</text>
  </g>
</svg>
```



Learning SVG : Path

Stroke property - 1

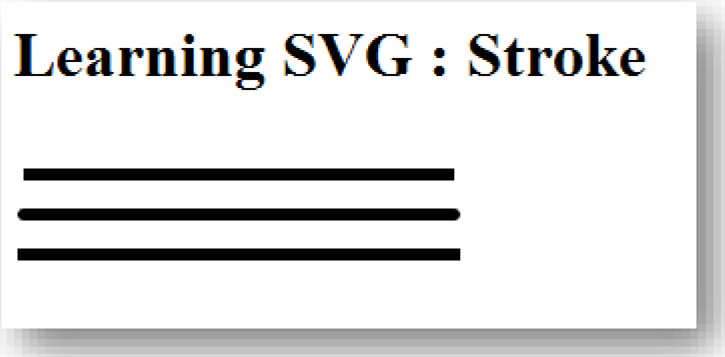
```
<svg height="80" width="300">
  <g fill="none" stroke="black">
    <path stroke="red" stroke-width="2" d="M5 20 l 215 0" />
    <path stroke="green" stroke-width="4" d="M5 40 l 215 0" />
    <path stroke="blue" stroke-width="6" d="M5 60 l 215 0" />
  </g>
</svg>
```



Learning SVG : Stroke

Stroke property - 2

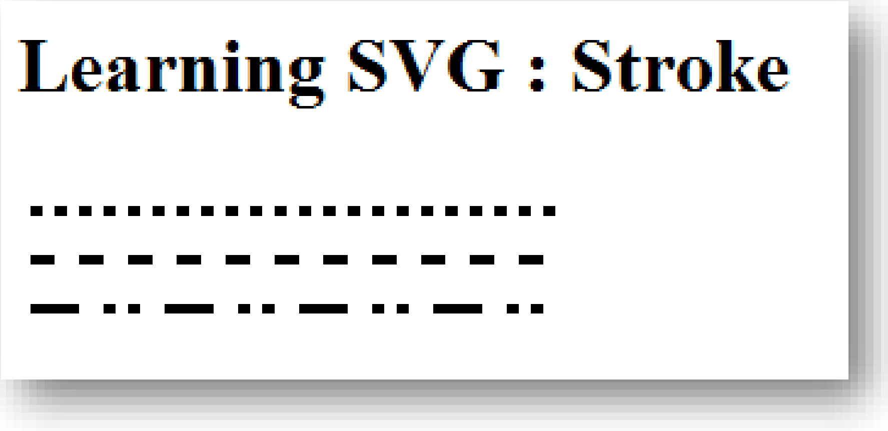
```
<svg height="80" width="300">
 <g fill="none" stroke="black" stroke-width="6">
  <path stroke-linecap="butt" d="M5 20 l 215 0" />
  <path stroke-linecap="round" d="M5 40 l 215 0" />
  <path stroke-linecap="square" d="M5 60 l 215 0" />
 </g>
</svg>
```



Learning SVG : Stroke

Stroke property - 3

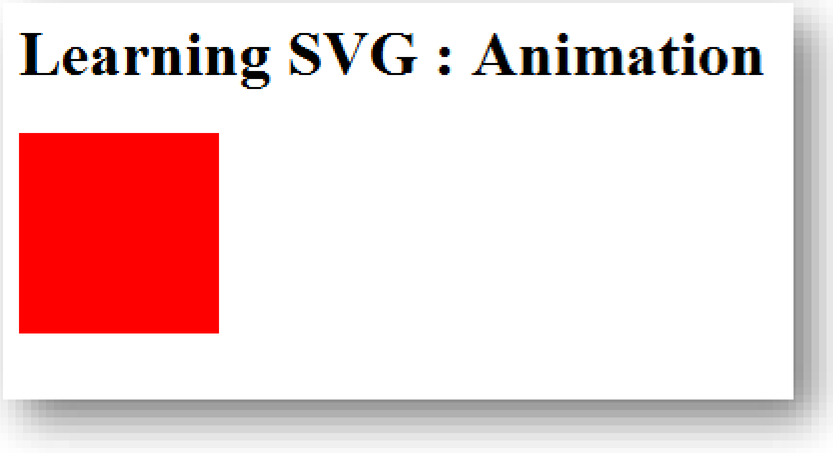
```
<svg height="80" width="300">
  <g fill="none" stroke="black" stroke-width="4">
    <path stroke-dasharray="5,5" d="M5 20 l 215 0" />
    <path stroke-dasharray="10,10" d="M5 40 l 215 0" />
    <path stroke-dasharray="20,10,5,5,5,10" d="M5 60 l 215 0" />
  </g>
</svg>
```



Learning SVG : Stroke

애니메이션 - 1

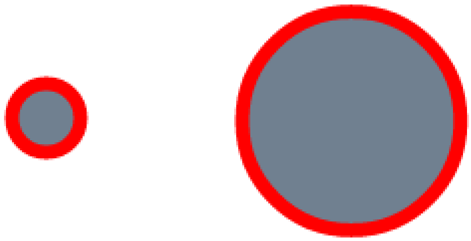
```
<svg>
    <rect width="100" height="100" fill="red">
        <animate attributeName="height" from="0" to="100" dur="10s" />
    </rect>
</svg>
```

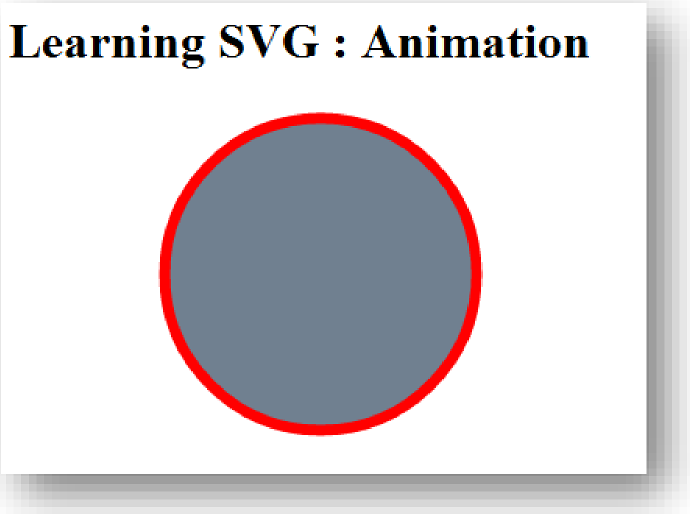


Learning SVG : Animation

애니메이션 - 2

```
<svg width="400" height="300">
    <circle r="100" cx="200" cy="110" fill="slategrey" stroke="#f00"
        stroke-width="7">
        <animate attributeName="r" from="0" to="100" dur="5s" />
        <animate attributeName="cx" from="100" to="200" dur="5s" />
    </circle>
</svg>
```





Learning SVG : Animation

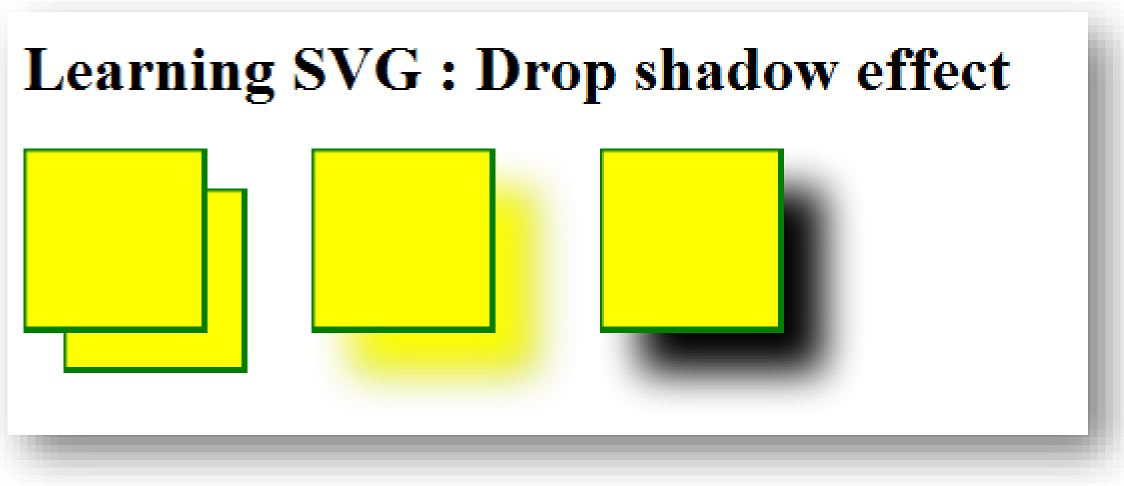
filter – drop shadow

```
<svg height="140" width="140">
  <defs>
    <filter id="f1" x="0" y="0" width="200%" height="200%">
      <feOffset result="offOut" in="SourceGraphic" dx="20" dy="20" />
      <feBlend in="SourceGraphic" in2="offOut" mode="normal" />
    </filter>
  </defs>
  <rect width="90" height="90" stroke="green" stroke-width="3"  fill="yellow" filter="url(#f1)" />
</svg>

<svg height="140" width="140">
  <defs>
    <filter id="f2" x="0" y="0" width="200%" height="200%">
      <feOffset result="offOut" in="SourceGraphic" dx="20" dy="20" />
      <feGaussianBlur result="blurOut" in="offOut" stdDeviation="10" />
      <feBlend in="SourceGraphic" in2="blurOut" mode="normal" />
    </filter>
  </defs>
  <rect width="90" height="90" stroke="green" stroke-width="3"  fill="yellow" filter="url(#f2)" />
</svg>
```

filter – drop shadow

```
<svg height="140" width="140">
 <defs>
   <filter id="f3" x="0" y="0" width="200%" height="200%">
     <feOffset result="offOut" in="SourceAlpha" dx="20" dy="20" />
     <feGaussianBlur result="blurOut" in="offOut" stdDeviation="10" />
     <feBlend in="SourceGraphic" in2="blurOut" mode="normal" />
   </filter>
  </defs>
  <rect width="90" height="90" stroke="green" stroke-width="3"  fill="yellow" filter="url(#f3)" />
</svg>
```

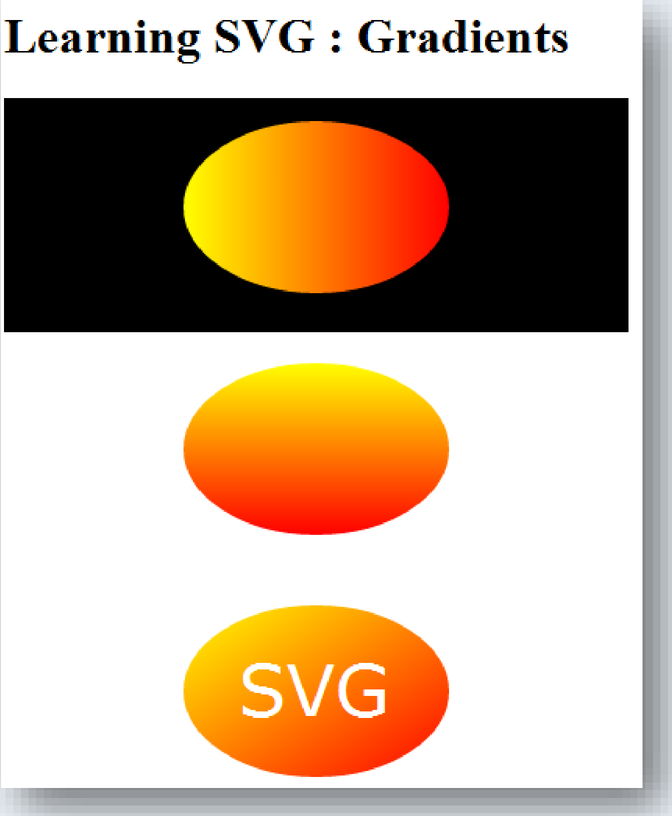


Learning SVG : Drop shadow effect

SourceAlpha
This keyword represents the graphics elements that were the original input into the ‘filter’ element. SourceAlpha has all of the same rules as SourceGraphic except that only the alpha channel is used.

Gradient : linear

```
<svg height="150" width="400" style="background-color:#000">
  <defs>
    <linearGradient id="grad1" x1="0%" y1="0%" x2="100%" y2="0%">
      <stop offset="0%" style="stop-color:rgb(255,255,0);stop-opacity:1" />
      <stop offset="100%" style="stop-color:rgb(255,0,0);stop-opacity:1" />
    </linearGradient>
  </defs>
  <ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad1)" />
</svg>
<svg height="150" width="400">
  <defs>
    <linearGradient id="grad2" x1="0%" y1="0%" x2="0%" y2="100%">
      <stop offset="0%" style="stop-color:rgb(255,255,0);stop-opacity:1" />
      <stop offset="100%" style="stop-color:rgb(255,0,0);stop-opacity:1" />
    </linearGradient>
  </defs>
  <ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad2)" />
</svg>
<svg height="150" width="400">
  <defs>
    <linearGradient id="grad3" x1="0%" y1="0%" x2="100%" y2="100%">
      <stop offset="0%" style="stop-color:rgb(255,255,0);stop-opacity:1" />
      <stop offset="100%" style="stop-color:rgb(255,0,0);stop-opacity:1" />
    </linearGradient>
  </defs>
  <ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad3)" />
  <text fill="#ffffff" font-size="45" font-family="Verdana" x="150" y="86">
  SVG</text>
</svg>
```

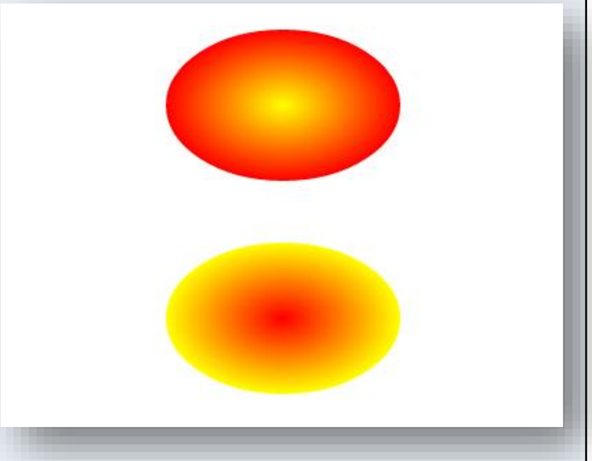


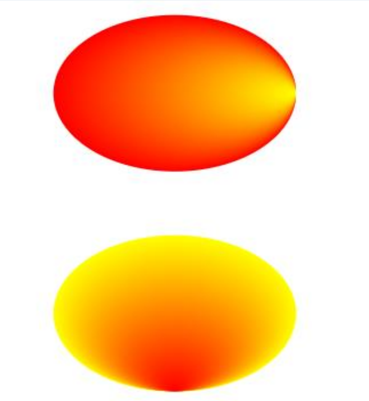
Learning SVG : Gradients

Gradient : radial

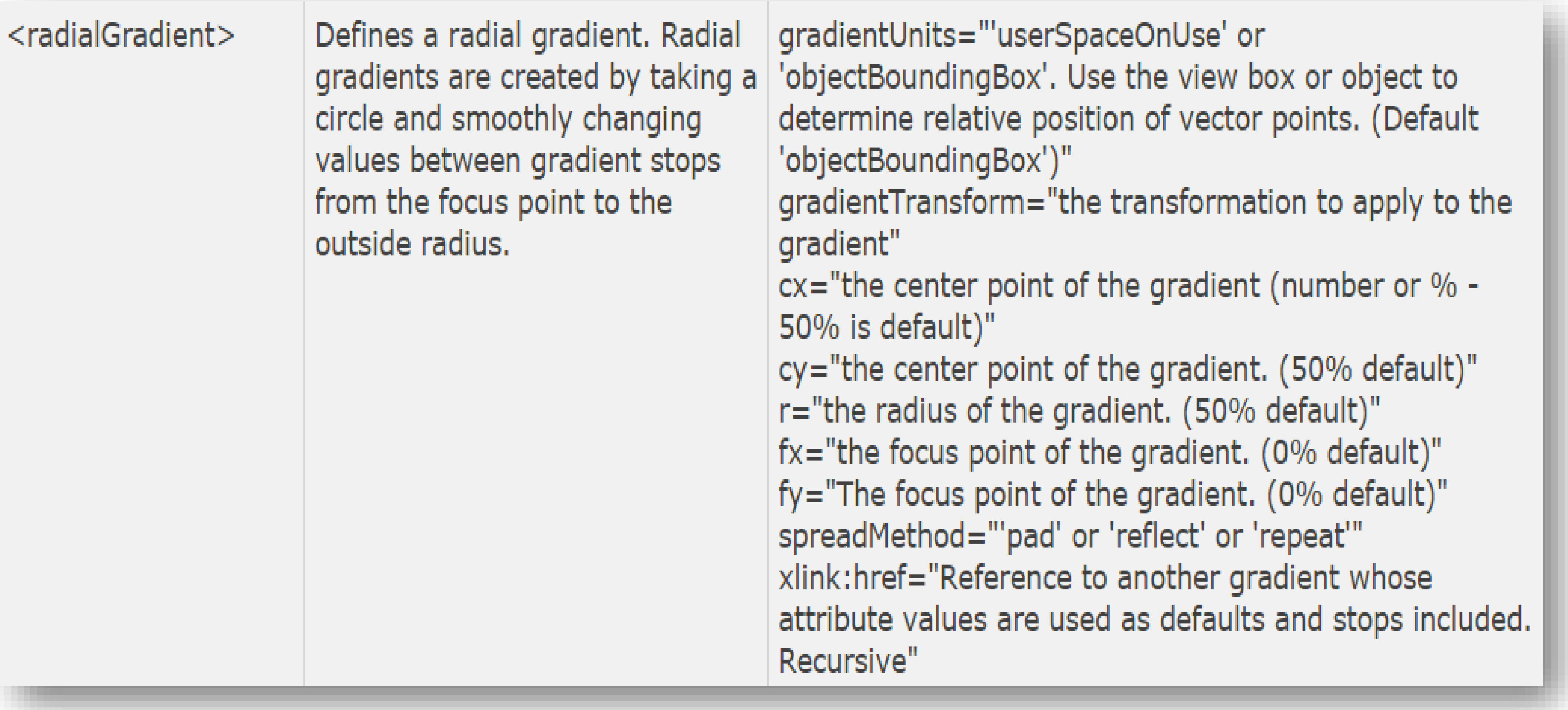
```
<svg height="150" width="500">
  <defs>
    <radialGradient id="grad4" cx="50%" cy="50%" r="50%" fx="50%" fy="50%">
      <stop offset="0%" style="stop-color:rgb(255,255,0);
      stop-opacity:1" />
      <stop offset="100%" style="stop-color:rgb(255,0,0);stop-opacity:1" />
    </radialGradient>
  </defs>
  <ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad4)" />
</svg>

<svg height="150" width="500">
  <defs>
    <radialGradient id="grad5" cx="50%" cy="50%" r="50%" fx="50%" fy="50%">
      <stop offset="0%" style="stop-color:rgb(255,0,0);
      stop-opacity:1" />
      <stop offset="100%" style="stop-color:rgb(255,255,0);stop-opacity:1" />
    </radialGradient>
  </defs>
  <ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad5)" />
</svg>
```





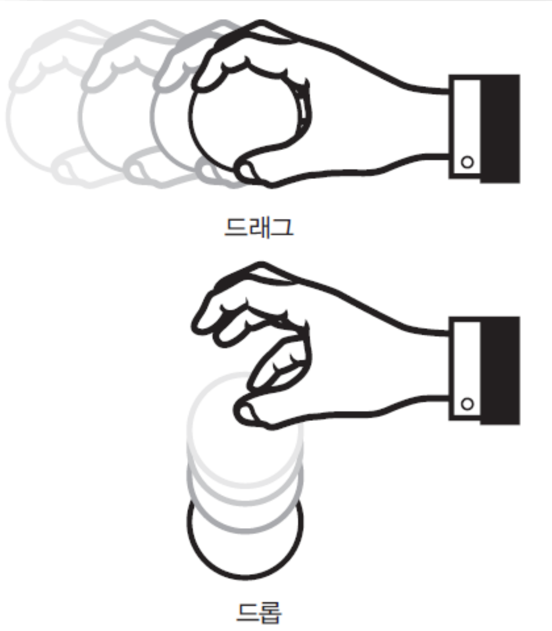
Gradient : radial (help)



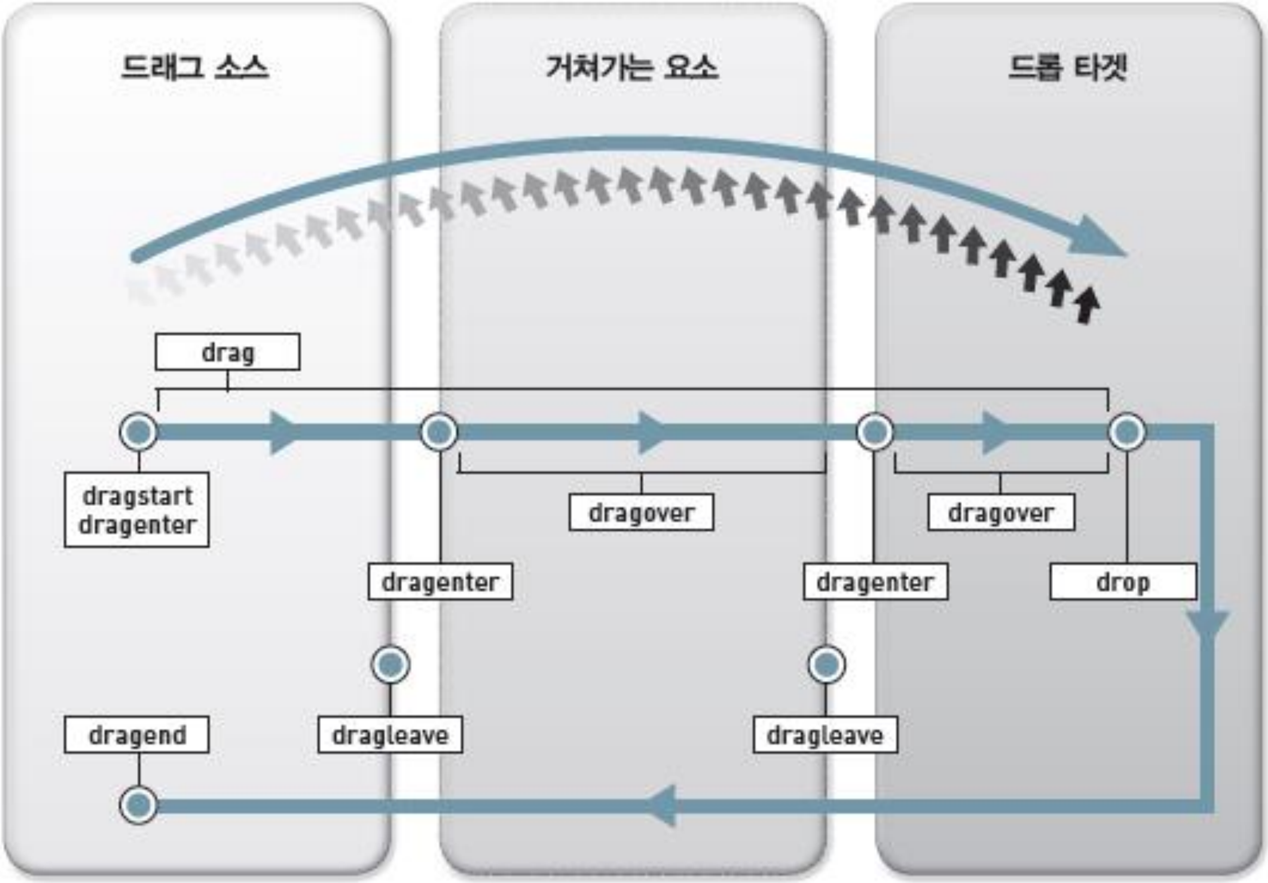
<radialGradient>	Defines a radial gradient. Radial gradients are created by taking a circle and smoothly changing values between gradient stops from the focus point to the outside radius.	gradientUnits="'userSpaceOnUse' or 'objectBoundingBox'. Use the view box or object to determine relative position of vector points. (Default 'objectBoundingBox')" gradientTransform="the transformation to apply to the gradient" cx="the center point of the gradient (number or % - 50% is default)" cy="the center point of the gradient. (50% default)" r="the radius of the gradient. (50% default)" fx="the focus point of the gradient. (0% default)" fy="The focus point of the gradient. (0% default)" spreadMethod="'pad' or 'reflect' or 'repeat'" xlink:href="Reference to another gradient whose attribute values are used as defaults and stops included. Recursive"

드래그와 드롭 (Drag & drop)

- □ **드래그(drag)와 드롭(drop)** - 윈도우에서 아주 많이 사용하는 사용자 인터페이스 중의 하나
- □ 객체를 마우스로 끌어서 다른 객체에 놓는 것
- □ HTML5 표준



발생하는 이벤트


드래그 소스
거쳐가는 요소
드롭 타겟
drag
dragstart
dragenter
dragenter
dragover
dragenter
dragover
drop
dragleave
dragleave
dragend

D&D 예제 – 1.1

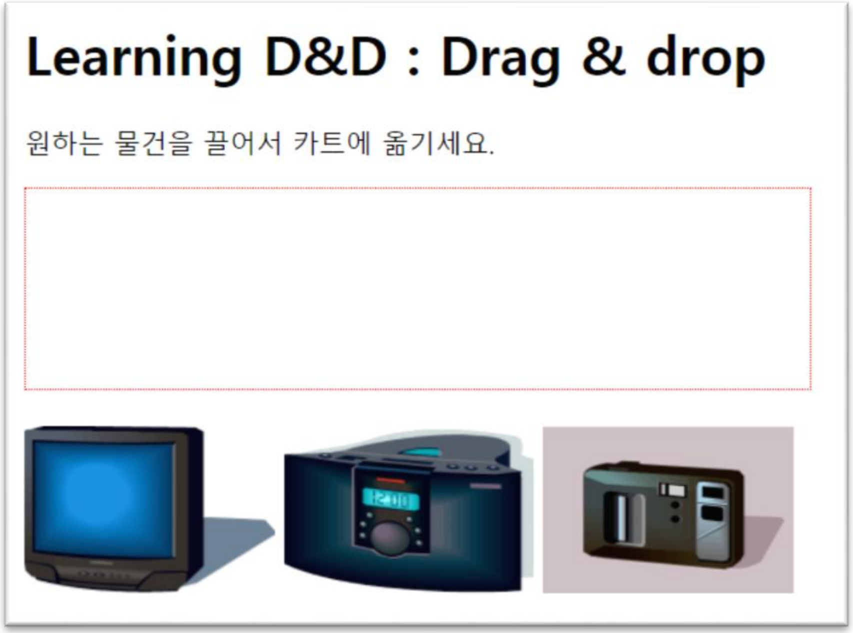
```
<!DOCTYPE HTML>
<html>
<head>
   <style>
      #shopping_cart {
         width: 450px;
         height: 100px;
         padding: 10px;
         border: 1px dotted red;
      }
   </style>
   <script>
      function allowDrop(e) {
         e.preventDefault();
      }

      function handleDragStart(e) {
         e.dataTransfer.effectAllowed = 'move';
         e.dataTransfer.setData("Text", e.target.id);
      }
```

D&D 예제 – 1.2

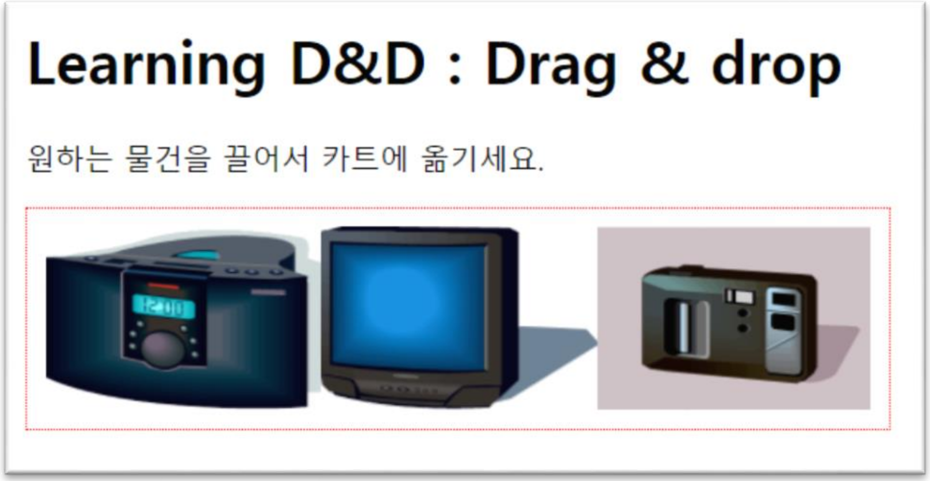
```
        function handleDrop(e) {
            e.preventDefault();
            var src = e.dataTransfer.getData("Text");
            e.target.appendChild(document.getElementById(src));
        }
    </script>
</head>
<body>
    <p>원하는 물건을 끌어서 카트에 옮기세요.</p>
    <div id="shopping_cart"
  ondrop="handleDrop(event)" ondragover="allowDrop(event)"></div>
    <br>
    <img id="img1" src= "media/tv.png" draggable="true"
  ondragstart="handleDragStart(event)"  width="150" height="100">
    <img id="img2" src= "media/audio.png" draggable="true"
  ondragstart="handleDragStart(event)"  width="150" height="100">
    <img id="Img3" src= "media/camera.png"     draggable="true"
  ondragstart="handleDragStart(event)"  width="150" height="100">
</body>
</html>
```

실행 결과



Learning D&D : Drag & drop

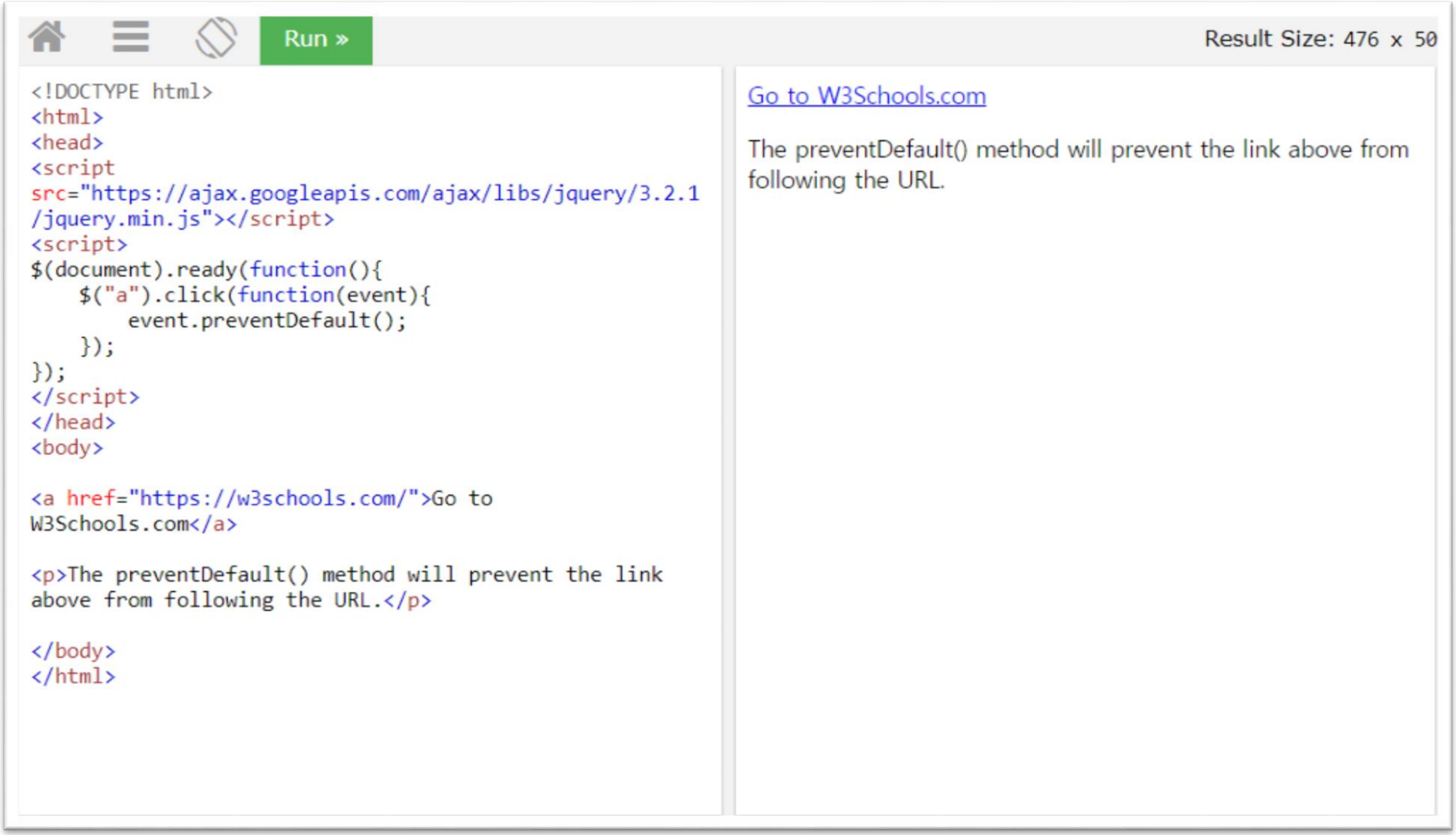
원하는 물건을 끌어서 카트에 옮기세요.



Learning D&D : Drag & drop

원하는 물건을 끌어서 카트에 옮기세요.

Usage of preventDefault()



```
<!DOCTYPE html>
<html>
<head>
<script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1
/jquery.min.js"></script>
<script>
$(document).ready(function(){
    $("a").click(function(event){
        event.preventDefault();
    });
});
</script>
</head>
<body>

<a href="https://w3schools.com/">Go to
W3Schools.com</a>

<p>The preventDefault() method will prevent the link
above from following the URL.</p>

</body>
</html>
```

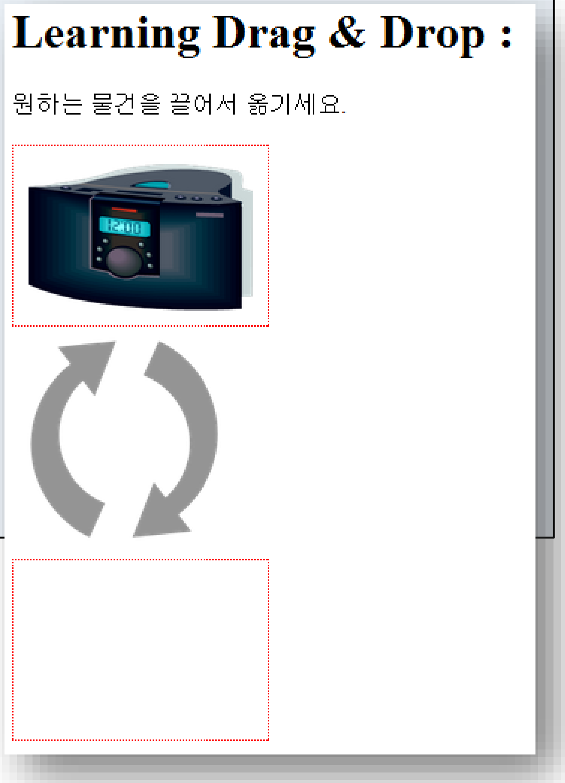
Go to W3Schools.com

The preventDefault() method will prevent the link above from following the URL.

D&D 예제 - 2

```
<style>
        #shopping_cart1, #shopping_cart2 {
            width: 150px;
            height: 100px;
            padding: 10px;
            border: 1px dotted red;
        }

 </style>
```



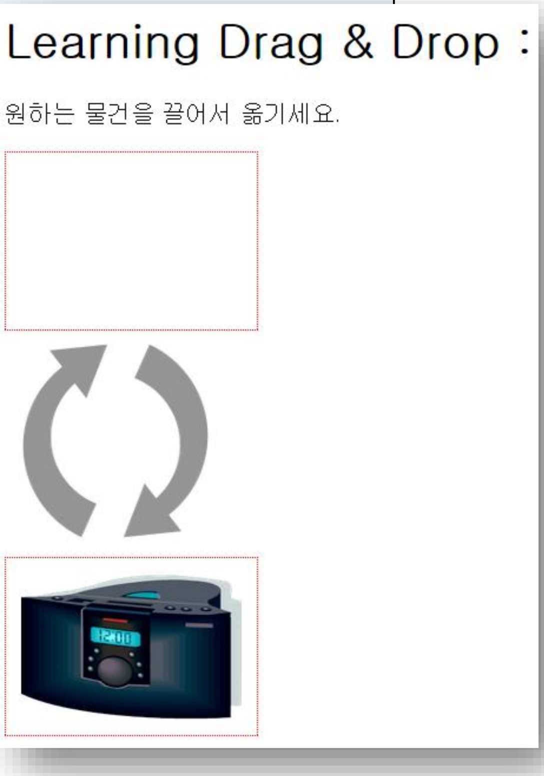
Learning Drag & Drop :

원하는 물건을 끌어서 옮기세요.

D&D 예제 - 2

```
<p>원하는 물건을 끌어서 옮기세요.</p>

<div id="shopping_cart1"
  ondrop="handleDrop(event)" ondragover="allowDrop(event)">
  <img id="img2" src= "media/audio.png" draggable="true"
  ondragstart="handleDragStart(event)"
  width="150" height="100">
  </div>
  <img id="arrow" src= "media/arrow.png"
  width="150" height="150"/>
<div id="shopping_cart2"
  ondrop="handleDrop(event)" ondragover="allowDrop(event)">
</div>
```



Learning Drag & Drop :

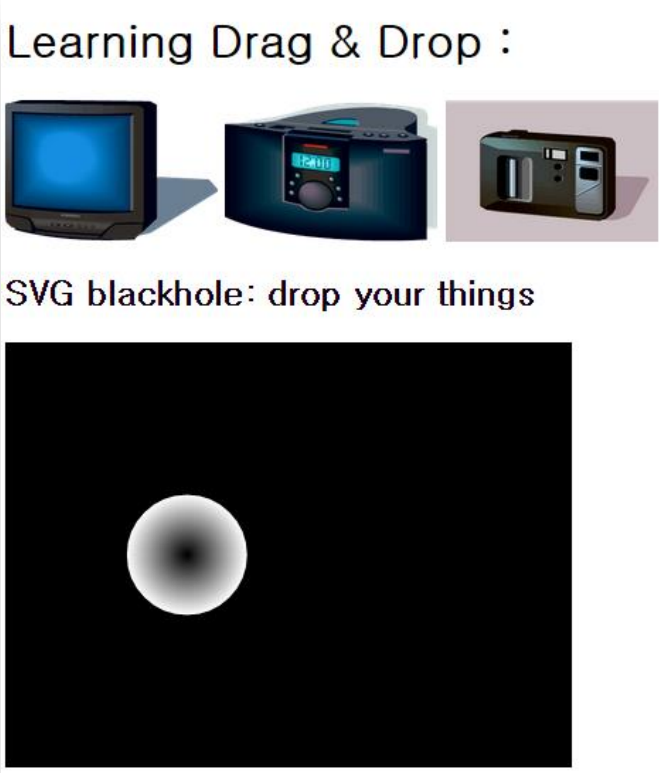
원하는 물건을 끌어서 옮기세요.

By default, data/elements cannot be dropped in other elements. To allow a drop, we must prevent the default handling of the element. This is done by calling the event.preventDefault() method for the ondragover event.

도전과제

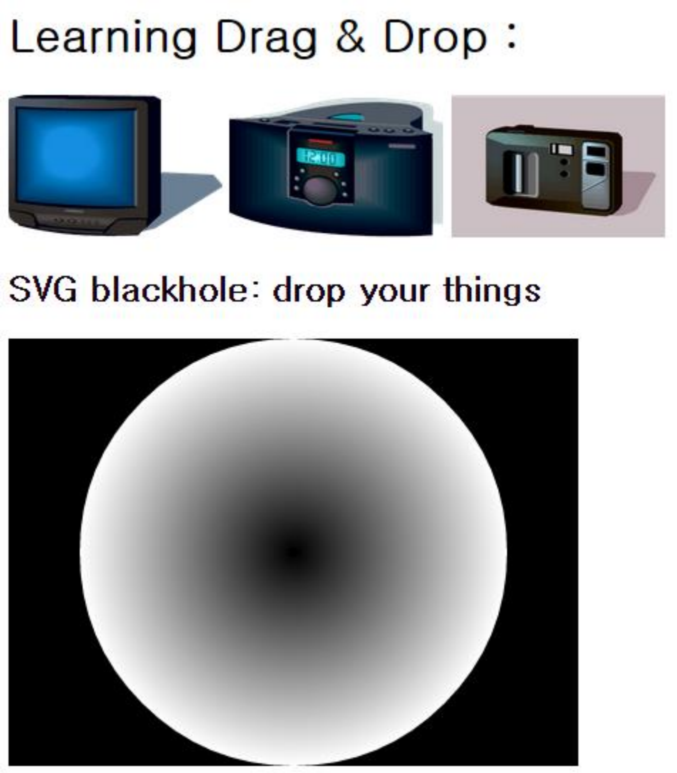
1. 아래 그림과 같이 애니메이션으로 black hole SVG를 만드시오.
2. Black hole은 그래디언트를 적용해서 제작.
3. Black hole SVG를 드롭 존으로 설정하시오.
4. 여러가지 물건들을 사라지게 프로그래밍하시오.

Html 파일을 **MSnn_SVG_DD.html** 로 저장하시오.



Learning Drag & Drop :

SVG blackhole: drop your things



Learning Drag & Drop :

SVG blackhole: drop your things

과제08. msnn_rpt08.zip

[실습과제08] black hole SVG with D&D

[1] black hole SVG 제작.
[2] Drag&drop 프로그래밍 추가.
[3] 파일명: MSnn_SVG_DD.html
[4] 가점: SVG 제작 및 javascript 프로그래밍 적용 능력.

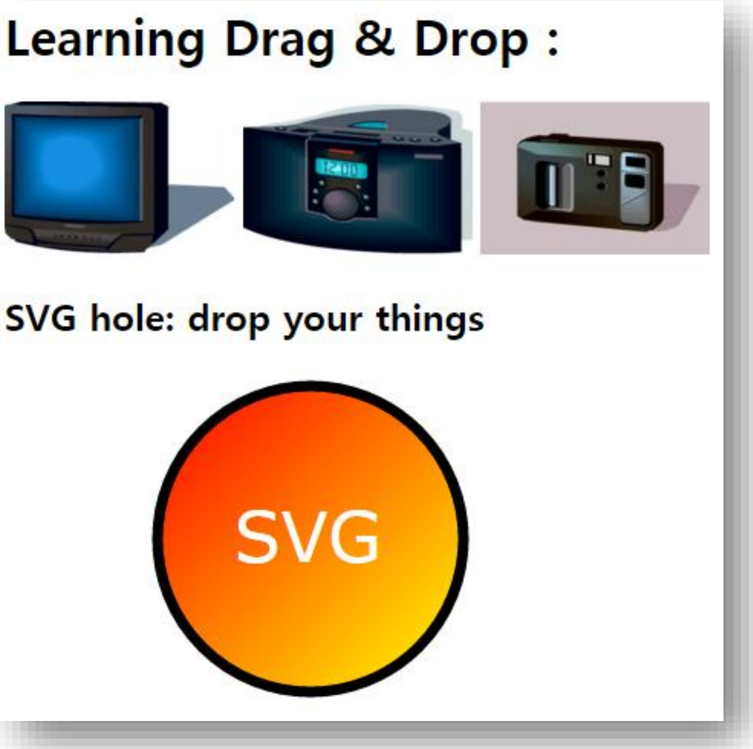
****   MSnn_SVG_DD.html 파일 및 관련 파일(image 등..)을
MSnn_Rpt08.zip 으로 압축해서 제출하시오.

[제출파일] msnn_rpt08.zip (11월7일 오후 6시 마감)

html 파일과 사용된 그림을 압축하여 이메일로 "msnn_rpt08" 제목으로 제출

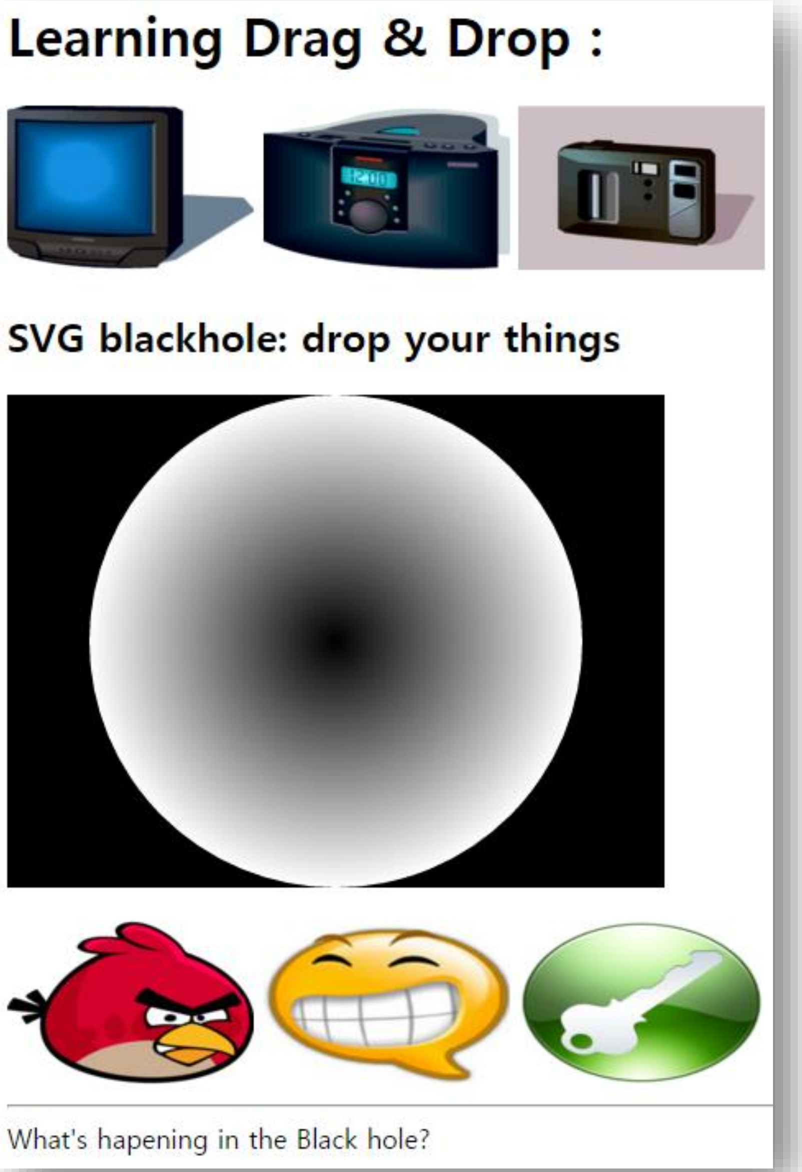
Email : chaos21c@gmail.com

Possible Result



Learning Drag & Drop :

SVG hole: drop your things

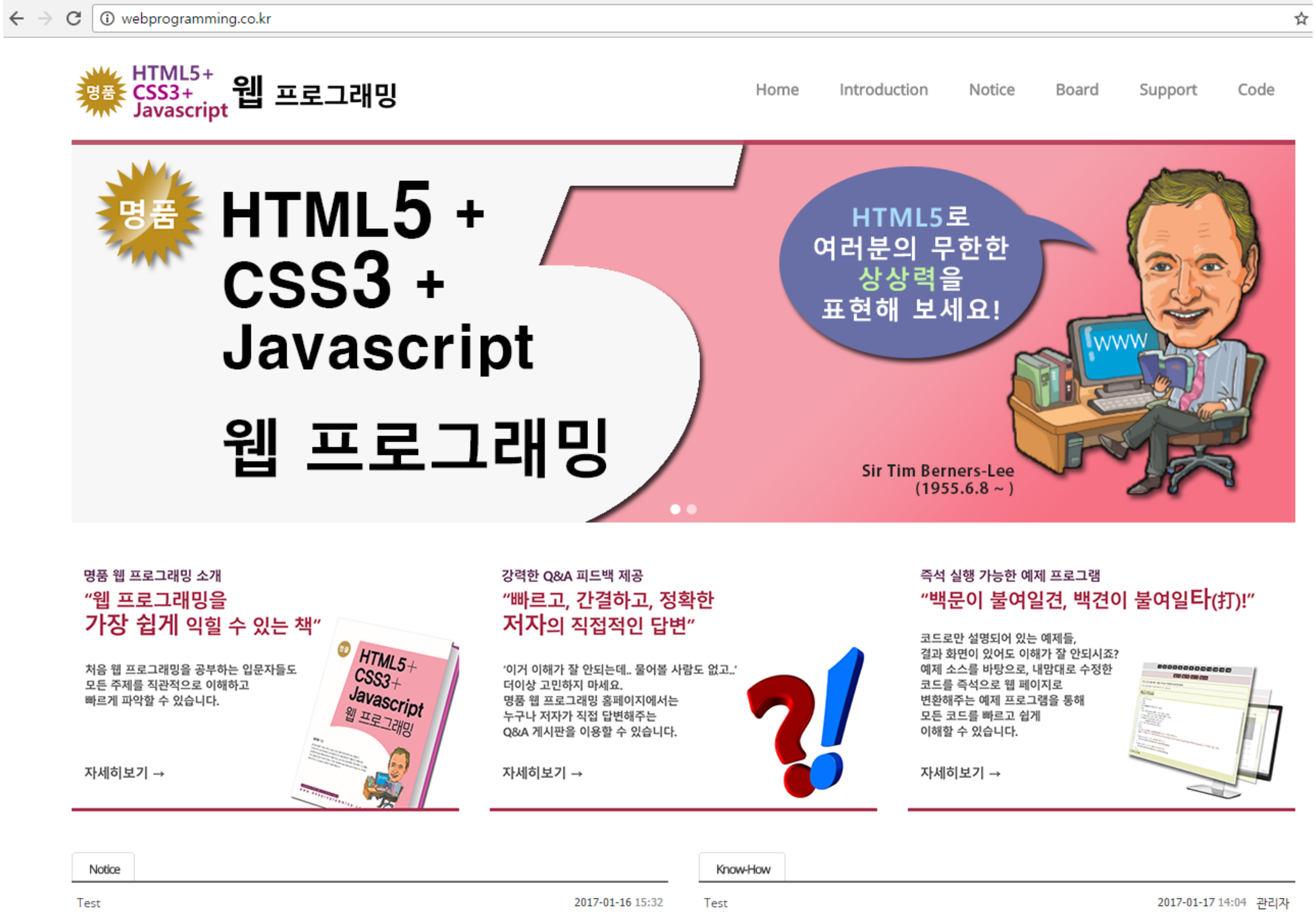


Learning Drag & Drop :

SVG blackhole: drop your things

What's hapening in the Black hole?

교재 WEB 강의 소개



webprogramming.co.kr

명품 HTML5+ CSS3+ Javascript 웹 프로그래밍

Home Introduction Notice Board Support Code

명품 HTML5 + CSS3 + Javascript 웹 프로그래밍

HTML5로 여러분의 무한한 상상력을 표현해 보세요!

www

Sir Tim Berners-Lee
(1955.6.8 ~)

명품 웹 프로그래밍 소개

"웹 프로그래밍을 가장 쉽게 익힐 수 있는 책"

처음 웹 프로그래밍을 공부하는 입문자들도
모든 주제를 직관적으로 이해하고
빠르게 파악할 수 있습니다.

자세히보기 →

강력한 Q&A 피드백 제공

"빠르고, 간결하고, 정확한 저자의 직접적인 답변"

'이거 이해가 잘 안되는데.. 물어볼 사람도 없고..'
더이상 고민하지 마세요.
명품 웹 프로그래밍 홈페이지에서는
누구나 저자가 직접 답변해주는
Q&A 게시판을 이용할 수 있습니다.

자세히보기 →

즉석 실행 가능한 예제 프로그램

"백문이 불여일견, 백견이 불여일타(打)!"

코드로만 설명되어 있는 예제들,
결과 화면이 있어도 이해가 잘 안되시죠?
예제 소스를 바탕으로, 내맘대로 수정한
코드를 즉석으로 웹 페이지로
변환해주는 예제 프로그램을 통해
모든 코드를 빠르고 쉽게
이해할 수 있습니다.

자세히보기 →

Notice

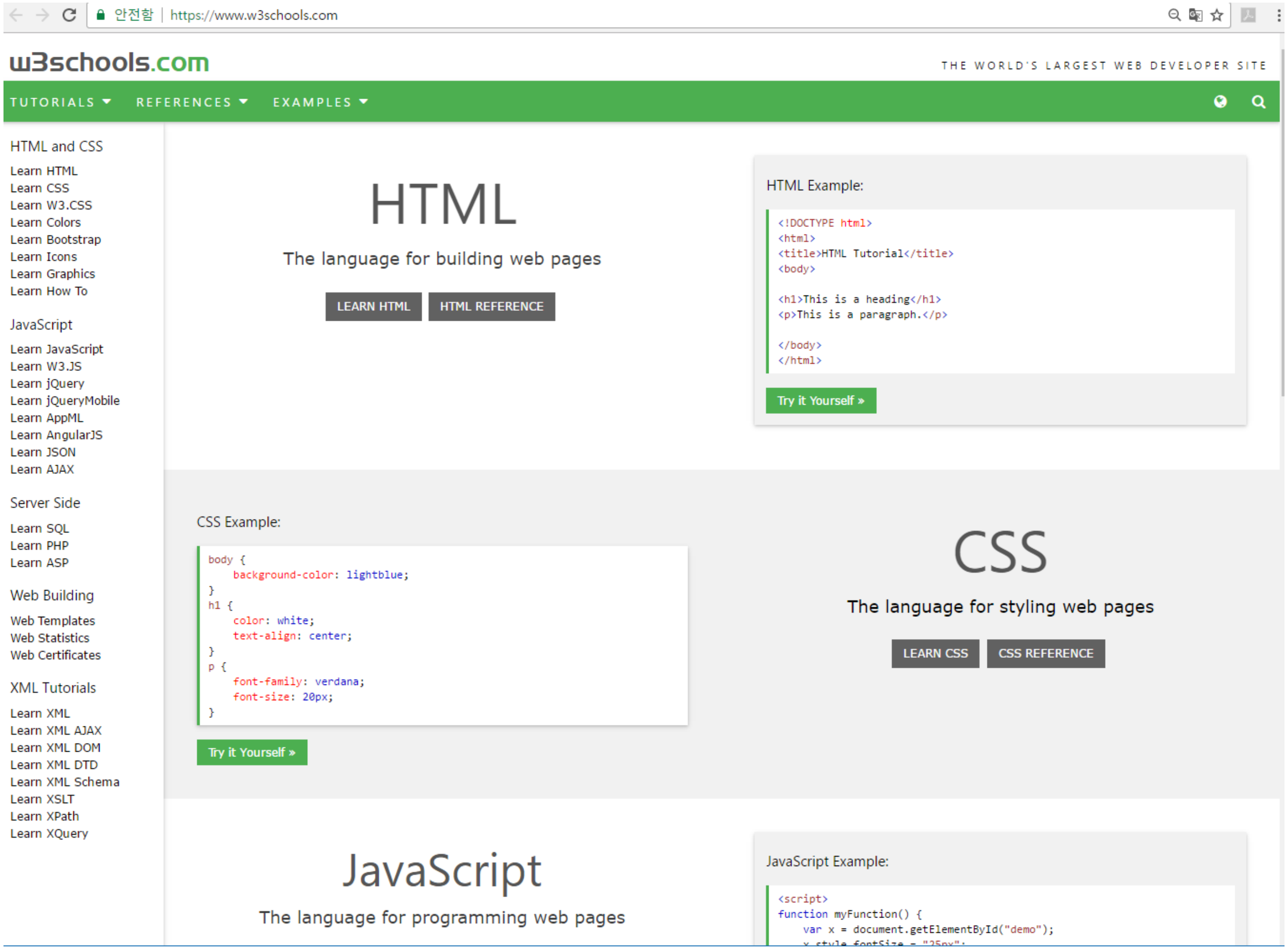
Test 2017-01-16 15:32

Know-How

Test 2017-01-17 14:04 관리자

http://webprogramming.co.kr

관련 WEB 강의 소개 – w3schools.com



HTML and CSS

- Learn HTML
- Learn CSS
- Learn W3.CSS
- Learn Colors
- Learn Bootstrap
- Learn Icons
- Learn Graphics
- Learn How To

JavaScript

- Learn JavaScript
- Learn W3.JS
- Learn jQuery
- Learn jQueryMobile
- Learn AppML
- Learn AngularJS
- Learn JSON
- Learn AJAX

Server Side

- Learn SQL
- Learn PHP
- Learn ASP

Web Building

- Web Templates
- Web Statistics
- Web Certificates

XML Tutorials

- Learn XML
- Learn XML AJAX
- Learn XML DOM
- Learn XML DTD
- Learn XML Schema
- Learn XSLT
- Learn XPath
- Learn XQuery

HTML

The language for building web pages

HTML Example:

```
<!DOCTYPE html>
<html>
<title>HTML Tutorial</title>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

CSS Example:

```
body {
    background-color: lightblue;
}
h1 {
    color: white;
    text-align: center;
}
p {
    font-family: verdana;
    font-size: 20px;
}
```

CSS

The language for styling web pages

JavaScript

The language for programming web pages

JavaScript Example:

```
<script>
function myFunction() {
    var x = document.getElementById("demo");
    x.style.fontSize = "25px";
```

http://www.w3schools.com