

"소극적인 노력은 고생이다. 적극적인 노력은 훈련이다."

Getting to Know HTML5: Welcome to Webville

Samkeun Kim skim@hknu.ac.kr

<http://cyber.hknu.ac.kr/>

Check out this tired, worn out, seen-better-days HTML

headfirstlounge.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
  "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <meta http-equiv="content-type" content="text/html; charset=UTF-8">
    <title>Head First Lounge</title>
    <link type="text/css" rel="stylesheet" href="lounge.css">
    <script type="text/javascript" src="lounge.js"></script>
  </head>
  <body>
    <h1>Welcome to Head First Lounge</h1>
    <p>
      
    </p>
    <p>
      Join us any evening for refreshing <a href="elixirs.html">elixirs</a>,
      conversation and maybe a game or two of Tap Tap Revolution.
      Wireless access is always provided; BYOWS (Bring Your Own Web Server).
    </p>
  </body>
</html>
```

← This is all just normal HTML 4.01 from the Head First Lounge, which you might remember from Head First HTML (and if not, don't worry, you don't need to).

실습과제 1-1 headfirstlounge.html

Head First Lounge

x

+

—

□

×

← → ↺ ⓘ localhost:8090/wp/hfhtml5/ch1/headfirstlounge.html

☆

!

EX

☾

📄

🌐

📖

▼

🔍

S

CORS

👤

⋮

Welcome to Head First Lounge



Join us any evening for refreshing [elixirs](#), conversation and maybe a game or two of Tap Tap Revolution. Wireless access is always provided; BYOWS (Bring Your Own Web Server).



```
<script type="text/javascript" src="lounge.js"></script>
```

With HTML5, **JavaScript** is now the **standard** and **default scripting language**

So you can **remove the type attribute** from your script tags too.

New script tag without the type attribute:

```
<script src="lounge.js"></script>
```

Don't worry if you don't know a lot about the script tag yet, we'll get there...

Or if you have some **inline** code, you can just write your script like this:

```
<script>
```

```
    var youRock = true;
```

```
</script>
```

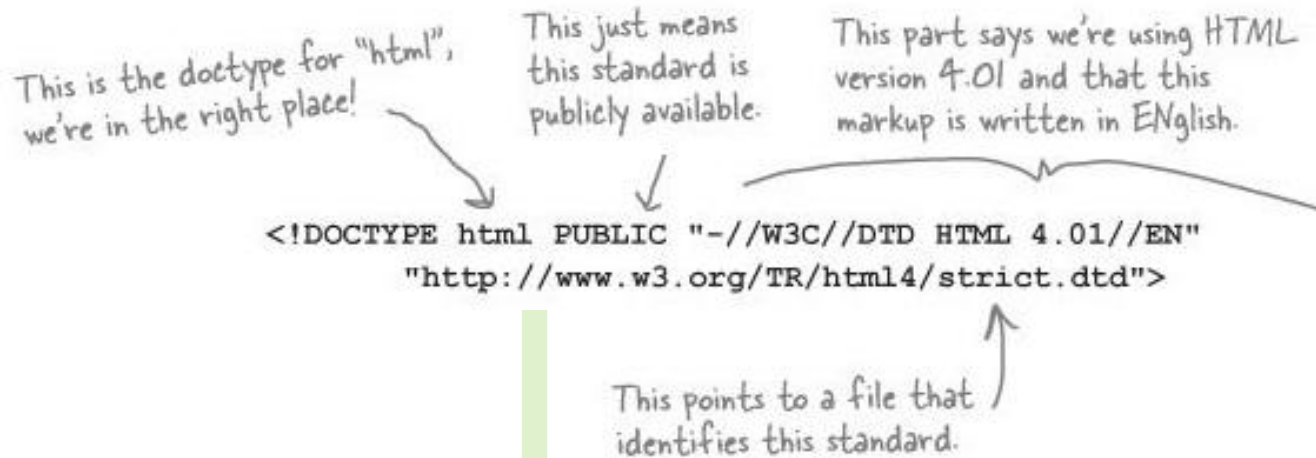
← All your JavaScript goes here.

← We'll talk more about JavaScript in a bit.

JUST **THREE** EASY STEPS upgrade it to **HTML5**



Here's the old **HTML 4.01** version of the doctype:



Here's the amazing part: the new doctype for **HTML5** is simply:

`<!doctype html>`



STEP 2

`<meta http-equiv="content-type" content="text/html; charset=UTF-8">`



`<meta charset="utf-8">`

↑ BEFORE (HTML 4)

← AFTER (HTML5)

STEP 3

`<link type="text/css" rel="stylesheet" href="lounge.css">`



`<link rel="stylesheet" href="lounge.css">`

← Old skool

← HTML5

HTML5 is a **superset** of HTML 4.01

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>Head First Lounge</title>
    <meta http-equiv="content-type" content="text/html; charset=UTF-8">
    <link type="text/css" rel="stylesheet" href="lounge.css">
    <script type="text/javascript" src="lounge.js"></script>
  </head>
```

`<!doctype html>` ← The doctype...

```
<html>
  <head>
    <title>Head First Lounge</title>
```

Here are the four lines we changed to make our Head First Lounge web page officially HTML5.

`<meta charset="utf-8">` ← ... the meta tag...

`<link rel="stylesheet" href="lounge.css">` ← ... the link tag...

`<script src="lounge.js"></script>` ← ... and the script tag.

```
</head>
```

```
<body>
```

```
  <h1>Welcome to Head First Lounge</h1>
```

```
  <p>
```

```
    
```

```
  </p>
```

```
  <p>
```

```
    Join us any evening for refreshing <a href="elixirs.html">elixirs</a>,
    conversation and maybe a game or two of Tap Tap Revolution.
```

```
    Wireless access is always provided; BYOWS (Bring Your Own Web Server).
```

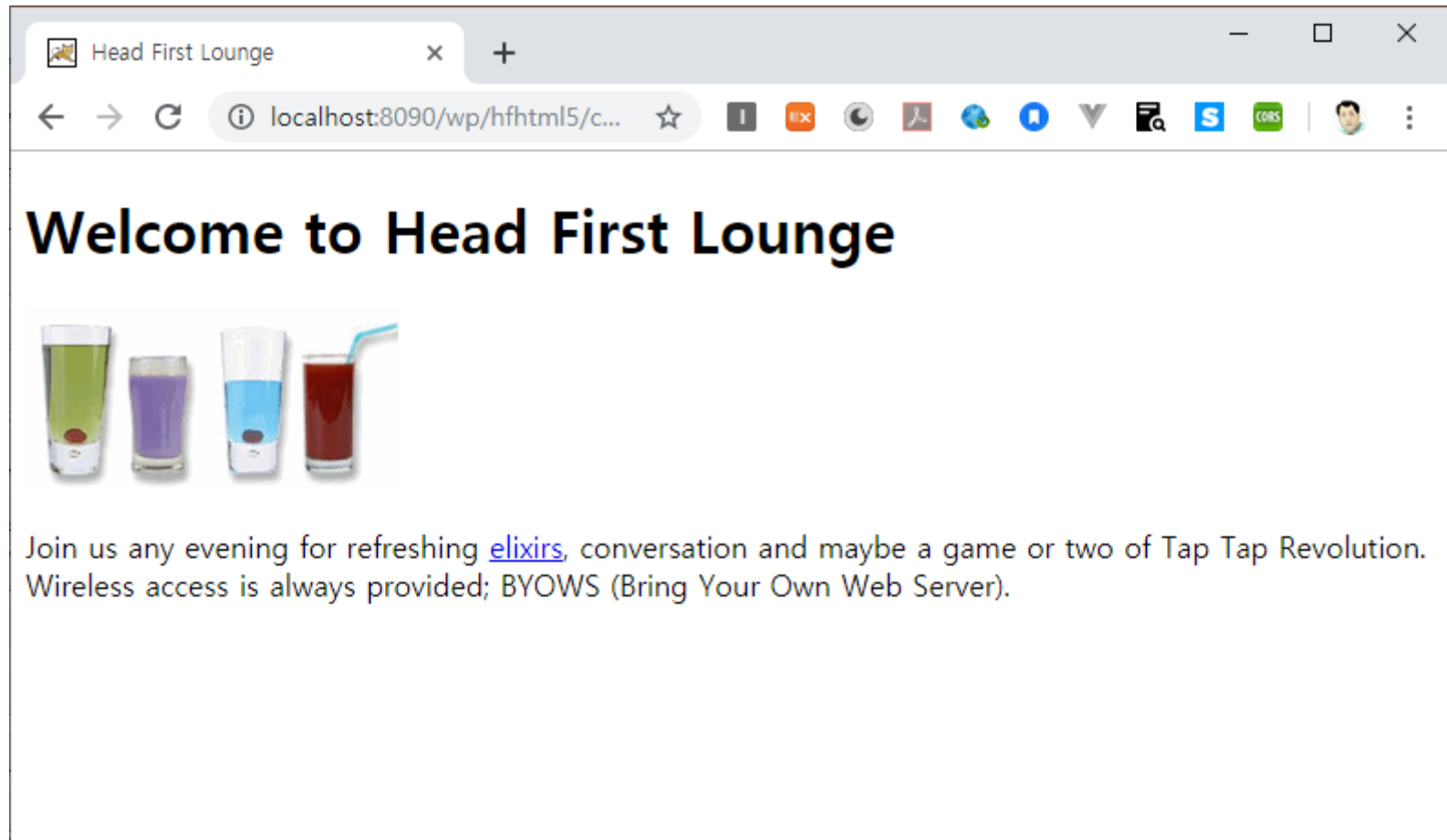
```
  </p>
```

```
</body>
```

```
</html>
```

```
href="elixirs.html">elixirs</a>,
f Tap Tap Revolution.
OWS (Bring Your Own Web Server).
```

실습과제 1-2 lounge5.html



How HTML5 really works...

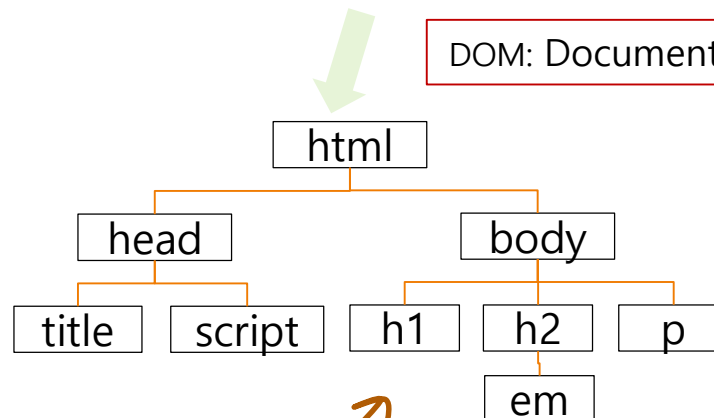
1. 브라우저가 HTML markup과 CSS style로 구성된 문서를 loading한다.



With HTML5 the markup has **some improvements**.

2. 브라우저가 페이지를 로딩하면서 HTML markup의 모든 엘리먼트를 포함하는 내부 모델(DOM) 생성

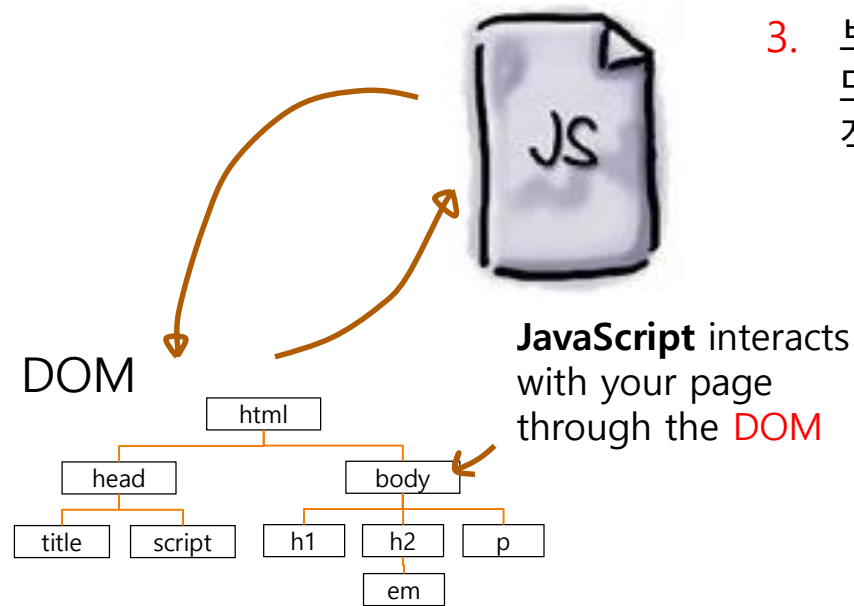
DOM: Document Object Model



For each element in your HTML, the browser **creates an object** that represents it and places it in a tree-like structure with all the other elements...

The page's style comes from CSS3, which has been **expanded** from CSS2 to include many common idioms.

3. 브라우저가 페이지를 로딩할 때 JavaScript 코드 또한 로딩된다. JS 코드는 페이지 로딩이 완료된 직후에 실행되기 시작한다.



Using JavaScript, you can **interact** with your page by manipulating the DOM, react to user Or browser-generated events, or make use of all the **new APIs**

4. API는 앱을 구축하는데 필요한 audio, video, 2D drawing with the canvas, local storage 등에 접근할 수 있게 해준다. API를 이용하기 위해서는 JavaScript가 필요하다.

APIs, otherwise known as **Application Programming Interfaces**, expose a set of objects, methods, and properties that we can use to access all the functionality of these technologies.

Meet the JavaScript APIs



HTML Archaeology

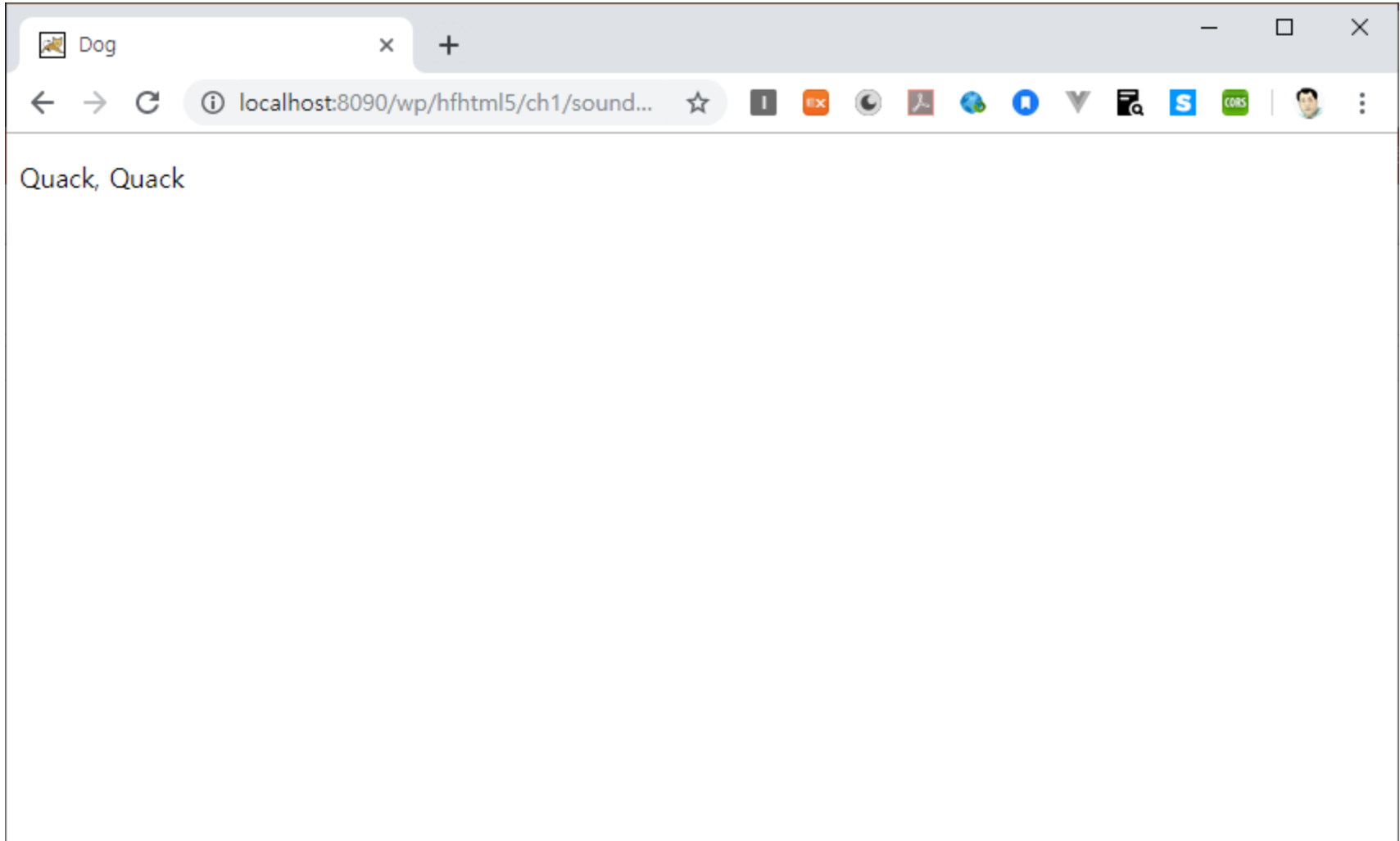


We did some digging and found **some code embedded** in an **HTML** page.

```
<script>
  var walksLike = "duck";
  var soundsLike = document.getElementById("soundslike");
  if (walksLike == "dog") {
    soundsLike.innerHTML = "Woof! Woof!";
  } else if (walksLike == "duck") {
    soundsLike.innerHTML = "Quack, Quack";
  } else {
    soundsLike.innerHTML = "Crickets...";
  }
</script>
```

A hint: document represents the entire HTML page, and getElementById probably has something to do with HTML elements and ids.

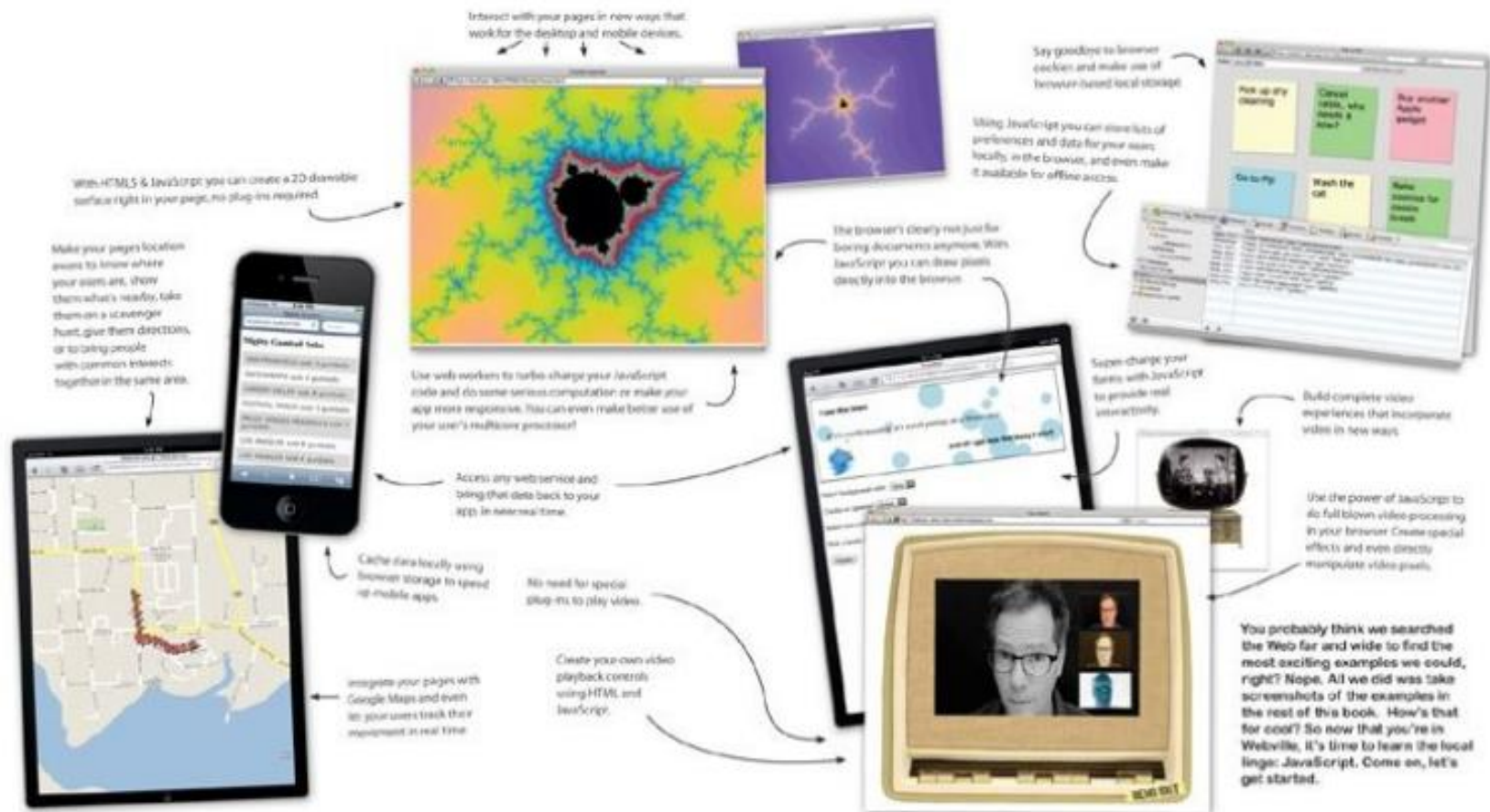
실습과제 1-3 soundslike.html



What can you do with JavaScript?

JavaScript opens up a whole new universe of **expression** and **functionality** to your web pages.

Let's look at just a few things you might do with **JavaScript** and **HTML5**...



Writing Serious JavaScript

```
var drink = "Energy Drink";  
var lyrics = "";  
var cans = 99;
```

Substitute your
favorite drink here.

```
while (cans > 0) {  
    lyrics = lyrics + cans + " cans of "  
        + drink + " on the wall <br>";  
    lyrics = lyrics + cans + " cans of "  
        + drink + "<br>";  
    lyrics = lyrics + "Take one down, pass it around,<br>";  
  
    if (cans > 1) {  
        lyrics = lyrics + (cans-1) + " cans of "  
            + drink + " on the wall <br>";  
    }  
  
    else {  
        lyrics = lyrics + "No more cans of "  
            + drink + " on the wall <br>";  
    }  
  
    cans = cans - 1;  
}  
  
document.write(lyrics);
```



Writing Serious JavaScript Revisited...

Walk through the code again and see if you were on the mark. At this point you just want to get a feel for the code; we'll be stepping through everything in detail soon enough.




```

var drink = "Energy Drink";

var lyrics = "";

var cans = 99;

while (cans > 0) {

    lyrics = lyrics + cans + " cans of "

        + drink + " on the wall <br>";

    lyrics = lyrics + cans + " cans of "

        + drink + "<br>";

    lyrics = lyrics + "Take one down, pass it around,<br>";

    if (cans > 1) {

        lyrics = lyrics + (cans-1) + " cans of "

            + drink + " on the wall <br>";

    }

    else {

        lyrics = lyrics + "No more cans of "

            + drink + " on the wall <br>";

    }

    cans = cans - 1;

}

document.write(lyrics);

```

Declare a variable, and assign it a value of "Energy Drink".

Declare another variable and assign it the empty string value.

Declare another variable and assign it a number value, 99.

This is a while loop. It says, while the number of cans is greater than 0, do everything between the curly brackets. Stop when there are no cans left.

Add the next line of the song to the variable lyrics, using the string concatenation operator "+".

End the line with a HTML line break.

Do it again—after all that's how the song goes, right?

Add the next verse, again using concatenation.

If there's still a can left (that is, the value of cans is greater than 1)...

... add the last line.

otherwise, there are no cans left...

... so add "No more cans" to the end of lyrics.

Reduce the number of cans left by 1

We've stored all the lines to the song in the variable lyrics, so now we tell the web page to write it, which just means the string is added to the page so you can see the song.

실습과제 1-4 99energy.html

```
<!doctype html>
<html>
  <head>
    <meta charset="utf-8">
    <title>My First JavaScript</title>
  </head>
  <body>
    <script>
    </script>
  </body>
</html>
```

The <script> and </script> tags surround the JavaScript code. They tell the page that what's in them is JavaScript, not HTML.

And type the JavaScript code from the previous page in here.

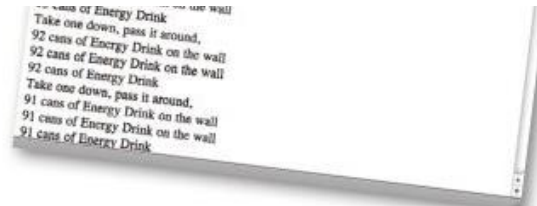
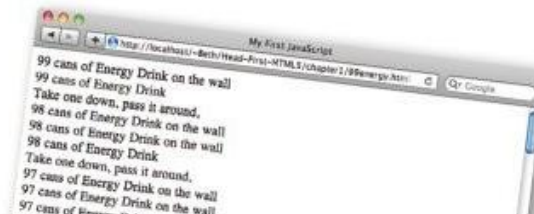
실습과제 제출 모령 참고!!

Here's our test run of this code. The code creates the entire lyrics for the 99 bottles cans of beer energy drink on the wall and writes the text into the browser document.

실제로 실행하여 결과화면을 캡처하여 제출!!

주의) 출력화면 캡처 시 URL 부분이

localhost:8080/~ 으로 표시되어야 함.





We've talked about a bunch of things including HTML markup, JavaScript APIs, a "family of technologies" and CSS3. What exactly is HTML5? It can't just be the markup everyone is so excited about...

We will give you our **unofficial** answer:

HTML5

Markup + JavaScript APIs + CSS = ~~Crazy~~ Delicious

실습과제 1-5 Compiler vs Interpreter

Compiler와 Interpreter를 정의하고 각각의 장단점을 비교하시오.

⇒ **실습환경 구축**

Q & A

