jQuery – JavaScript library

Samkeun Kim <skim@hknu.ac.kr>

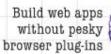
http://cyber.hknu.ac.kr/



A Brain-Friendly Guide



Quickly implement complex HTML forms





Write your

own custom jQuery functions



Put animation and Ajax to use in your web pages

E 3

Add interactivity to your web pages in just a few lines of code

Getting Started with jQuery: Web Page Action



You want web page power

You already know how to build great-looking web pages with clean, valid HTML and CSS. But **static web pages just don't cut it anymore—people want a responsive web page.** They want action, animation, interaction, and lots of cool effects.

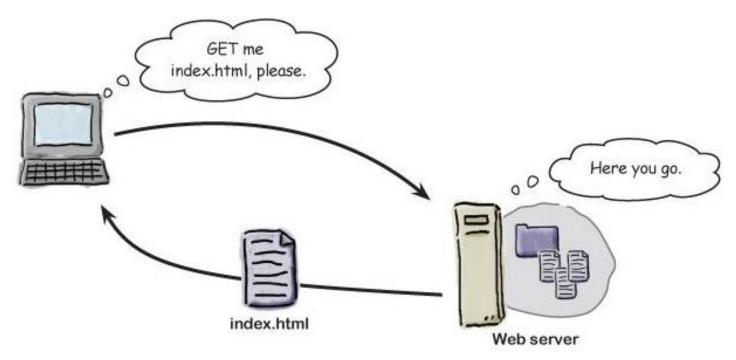


HTML and CSS are fine, but...

Plain old HTML and CSS are good for giving your page structure and style.

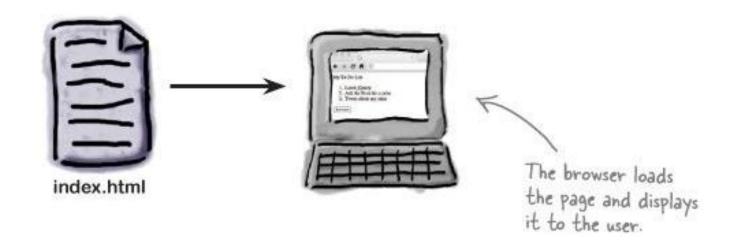
Once you have a rendered HTML page, it's there, but it's static.

1. Browser requests a web page from a server when someone types a web address into the browser's URL bar.



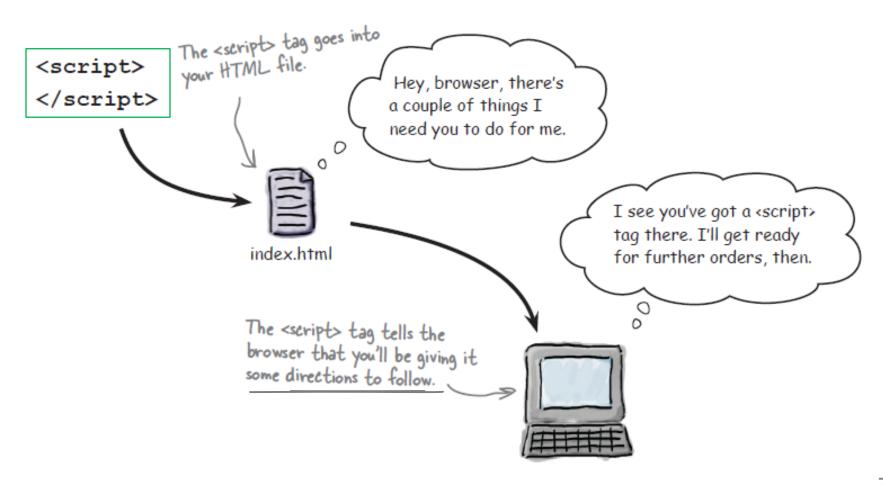
HTML and CSS are fine, but...

- 2. Server finds the requested file and sends them to the browser
- 3. Browser displays a rendered HTML page based on the file sent from the server



...you need the power of script

To change your web pages on the fly, without reloading, you need to talk to your browser. How do you pull that off? With an HTML tag known as <script>.



...you need the power of script

But how do I give the browser directions? That seems kinda unusual...



Great question. Remember that HTML is a markup language that handles document structure.

And cascading style sheets (CSS) control the look and feel and position of those elements.

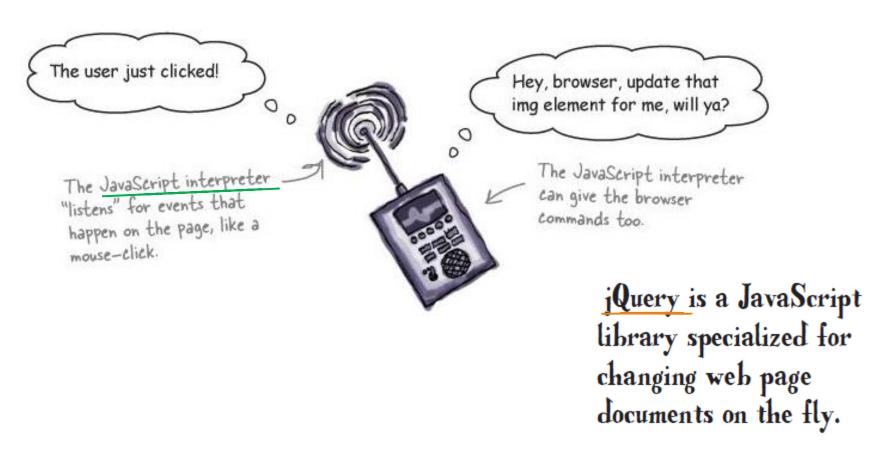
HTML and CSS control how a web page is built and displayed, but neither of them can add behavior to the web page.

What we need for that is a **scripting language**.

What we need is jQuery.

Enter jQuery (and JavaScript)!

Every browser comes with a built-in JavaScript interpreter that takes the directions you write in between the <script> tags and translates those directions into different kinds of action on the web page



jQuery's CDN or Download

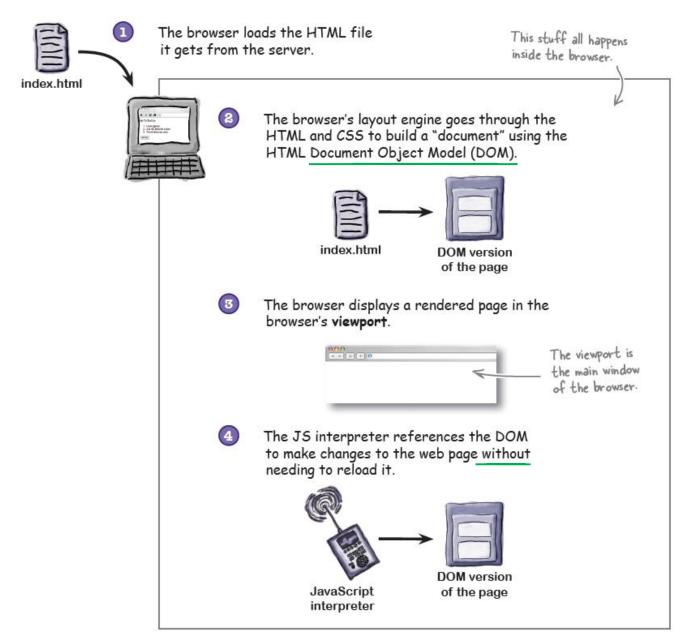
jQuery's CDN or Download: https://code.jquery.com/
jQuery 3.x
jQuery Core 3.4.1
<script src="https://code.jquery.com/jquery-3.4.1.js"></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script

Downloading jQuery:

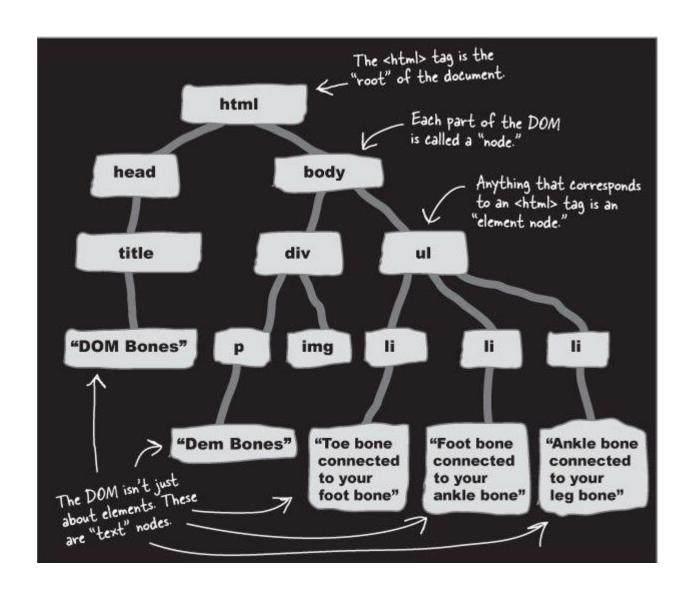
http://jquery.com/download/

예: 적절한 디렉토리에 저장 => <script src="저장된 디렉토리/jquery-3.4.1.min.js"></script>

Look into the browser



Hidden structure of a web page



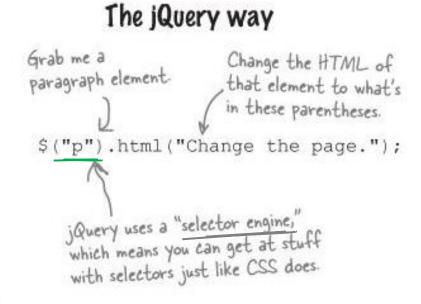


jQuery makes the DOM less scary

jQuery keeps DOM simple.

Don't forget: jQuery is JavaScript, but a much more approachable version.

The raw JavaScript way I'm talking to the document (aka the big D in DOM). document.getElementsByTagName("p") [0].innerHTML = "Change the page."; Get me the seroth element. Set the HTML inside that element.....to this stuff.



Let's say we want to change the HTML inside of **five paragraph elements** on our page:

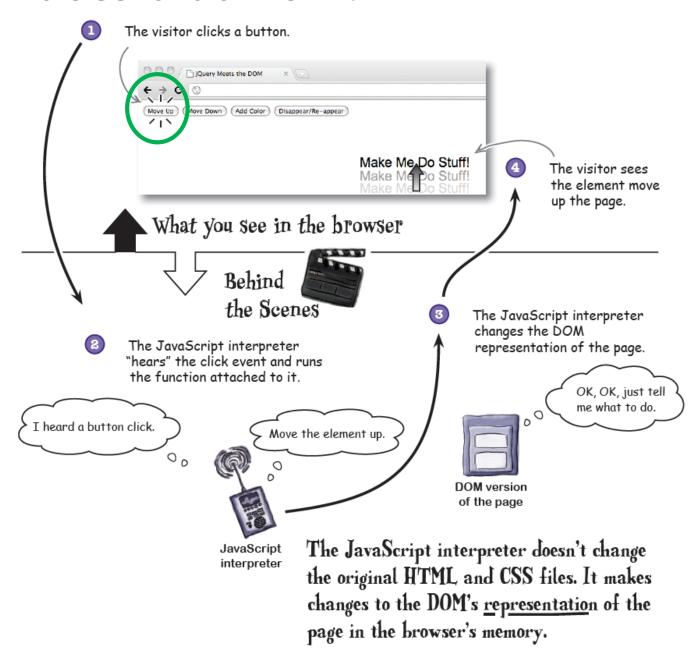
One of jQuery's main strengths is that it allows you to work with the DOM without having to know every little thing about it. Underneath it all, JavaScript is doing the heavy lifting.

READY BAKE CODE

jQ_meets_DOM.html

```
1 <!DOCTYPE html>
 2 <html><head> <title>jQuery Meets the DOM</title>
 3 <style>
 4 #change_me {position: absolute; top: 100px; left: 400px; font: 24px arial;}
 5 #move_up #move_down #color #disappear {padding: 5px;}
 6 ⊟</stvle>
     <script src=scripts/jquery-1.5.2.min.js></script>
   </head>
 9 ⊟<body>
        <button id="move_up">Move Up</button>
10
        <button id="move down">Move Down</button>
11
        <button id="color">Add Color</button>
12
        <button id="disappear">Disappear/Re-appear</putton>
13
14
        <div id="change me">Make Me Do Stuff!</div>
15
16 ⊟<script>
        $(document).ready(function() {
17 ⊟
            $("#move_up").click( function() {
18 FI
                    $("#change_me").animate({top:30},200);
19
            });//end move up
20
            $("#move_down").click( function() {
21 ⊟
                    $("#change_me").animate({top:500},2000);
22
            });//end move down
23
            $("#color").click( function() {
24 ⊟
                    $("#change me").css("color", "purple");
25
            });//end color
26
            $("#disappear").click( function() {
27 H
                    $("#change_me").toggle('slow');
28
            });//end disappear
29
        });//end doc ready
30
31 </script>
32 </body>
33 </html>
```

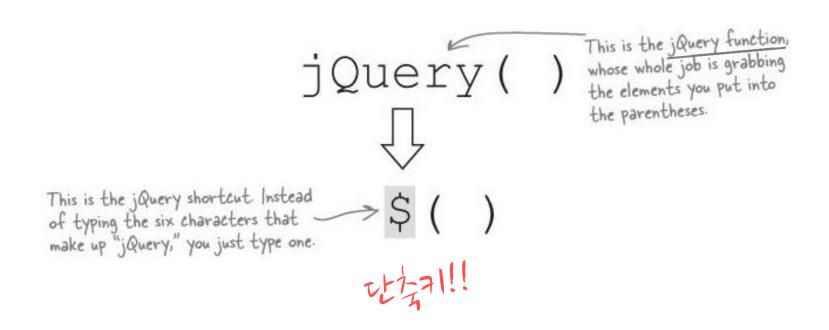
How does that work?



Introducing the jQuery function

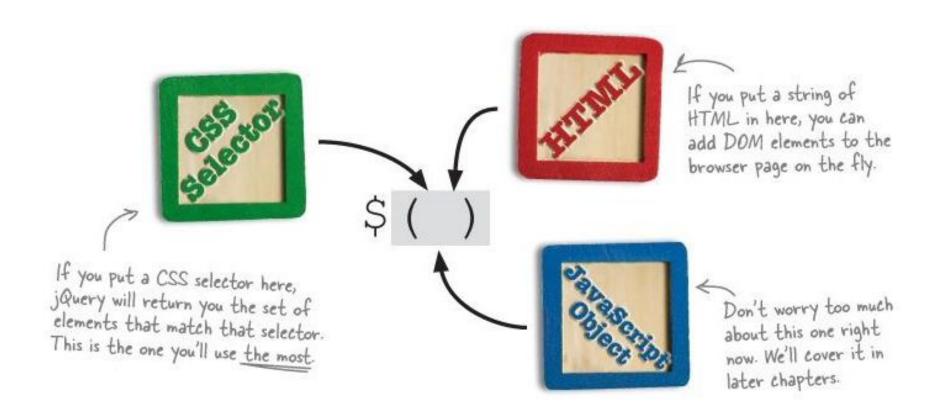
The dollar sign with the parentheses is the shorter name of the jQuery function.

This shortcut saves us from writing "jQuery()" <u>every time we want to call the jQuery</u> <u>function</u>. jQuery function is also often referred to as the jQuery wrapper.

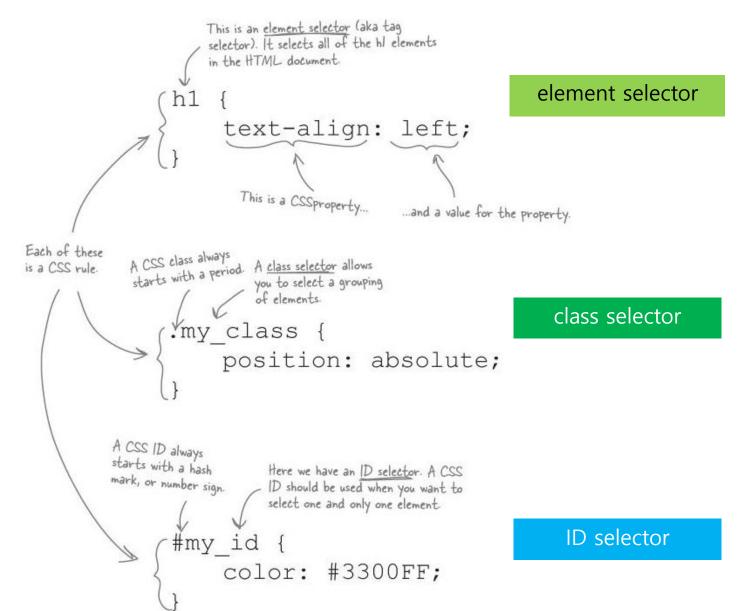


The short name and the long name point to the same thing:

the big code block known as jQuery. Throughout this book, we'll use the shortcut. Here are **three different things** you can put into the jQuery function.



jQuery selects elements the same way CSS does

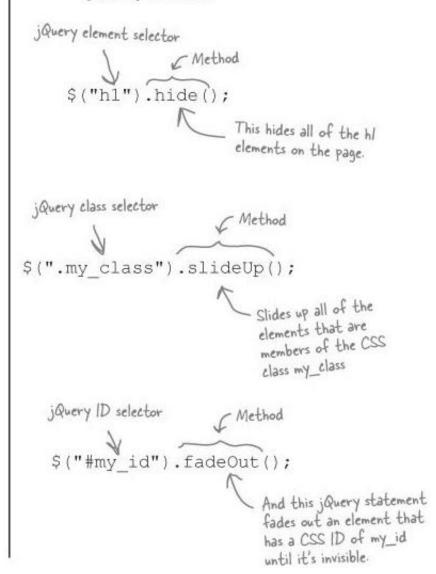


Style, meet script

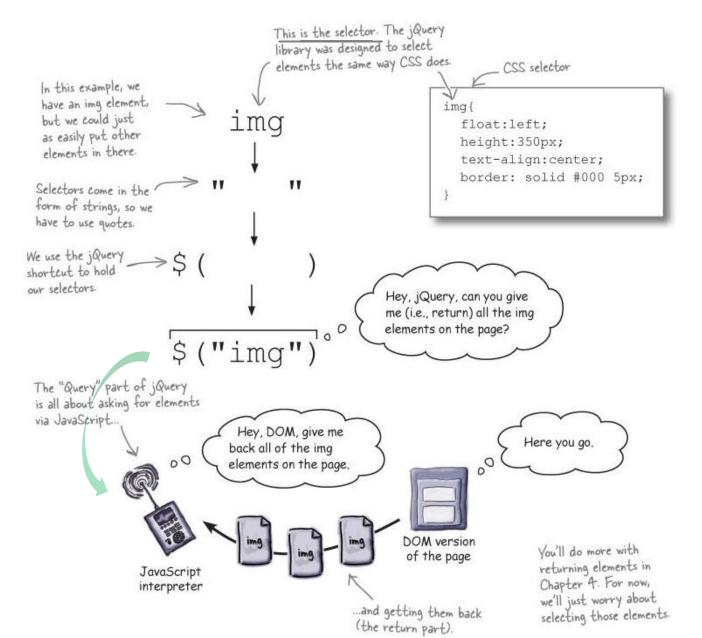
CSS selector

```
Element selector
h1
      text-align: left;
Class selector
.my class{
       position: absolute;
ID selector
#my id
      color: #3300FF;
};
```

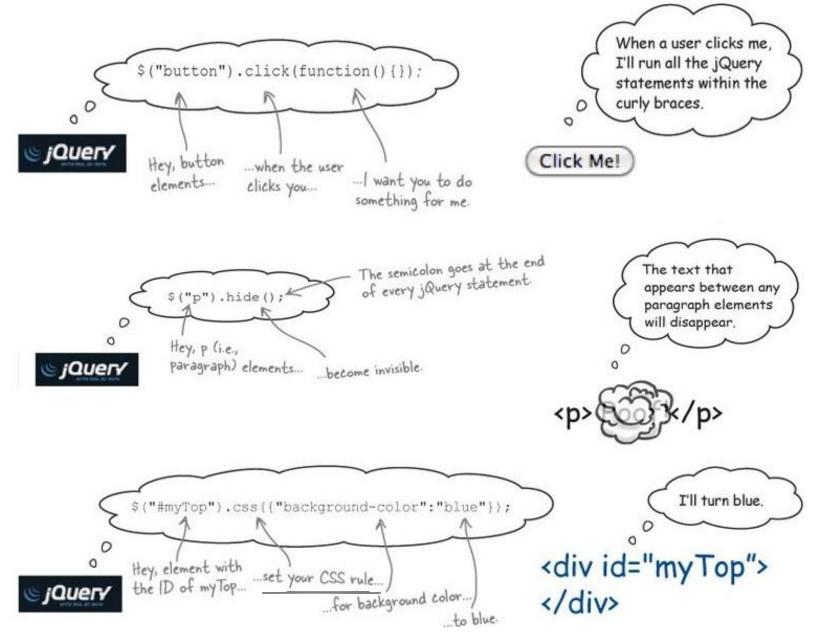
jQuery selector



jQuery selectors at your service



jQuery in translation



jQuery Selectors

element Selector

- The jQuery element selector selects elements based on the element name.
- You can select all elements on a page like this:

```
$("p")

$(document).ready(function(){
   $("button").click(function(){
      $("p").hide();
   });
});
```

Try it yourself >>

#id Selector

- jQuery #id selector uses the id attribute of an HTML tag to find the specific element
- id should be unique within a page, so you should use the #id selector when you want to find a single, unique element

```
$("#test")

$(document).ready(function(){
    $("button").click(function(){
        $("#test").hide();
     });
});
```

Try it yourself >>

.class Selector

- jQuery class selector finds elements with a specific class
- To find elements with a specific class, write a period character, followed by the name of the class:

```
$(".test")

$(document).ready(function(){
    $("button").click(function(){
        $(".test").hide();
    });
});
```

Try it yourself >>

More Examples of jQuery Selectors

Syntax	Description	Example
\$("*")	Selects all elements	Try it
\$(this)	Selects the current HTML element	Try it
\$("p.intro")	Selects all elements with class="intro"	Try it
\$("p:first")	Selects the first element	Try it
\$("ul li:first")	Selects the first element of the first 	Try it
\$("ul li:first-child")	Selects the first element of every 	Try it
\$("[href]")	Selects all elements with an href attribute	Try it
\$("a[target='_blank']")	Selects all <a> elements with a target attribute value equal to "_blank"	Try it
\$("a[target!='_blank']")	Selects all <a> elements with a target attribute value NOT equal to "_blank"	Try it
\$(":button")	Selects all <button> elements and <input/> elements of type="button"</button>	Try it
\$("tr:even")	Selects all even elements	Try it
\$("tr:odd")	Selects all odd elements	Try it

실습과제 18-1

P.15의 jQ_meets_DOM.html을 수행하시오.

Your first jQuery gig



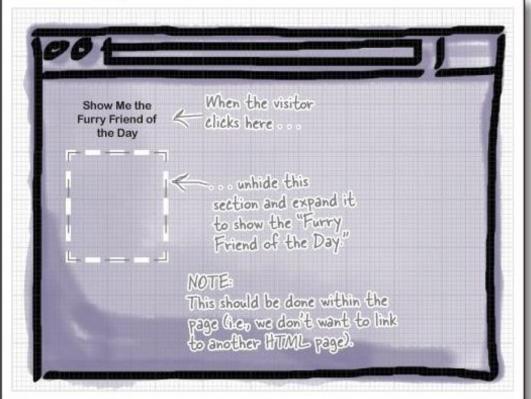
We need to power up last year's page. Right now, the visitor clicks on a button and a picture pops up, but it doesn't stay on the page. We want the picture to appear when the user clicks and go away when they click again.

Josh from Marketing wants more interactivity.

0

And his manager wants richer visual effects.

Also, the furry friend picture just pops up. Can you make it slide slower and sort of fade in as it does?

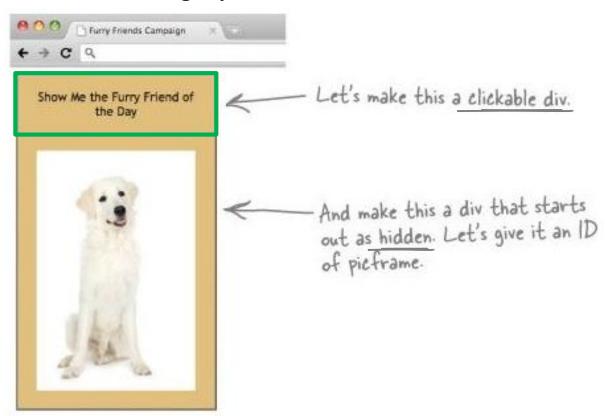




Your first jQuery gig

Revisit your requirements

 Marketing wants an image to slide down and fade in when people click on the "Show Me the Furry Friend of the Day" section of the page. What changes to the HTML and CSS might you need to make?



Set up your HTML and CSS files

```
<!DOCTYPE html>
<html><head>
    <title>Furry Friends Campaign</title>
    <link rel="stylesheet" type="text/css" href="styles/my style.css">
  </head>
  <bodv>
    <div id="clickMe">Show Me the Furry Friend of the Day</div>
    <div id="picframe">
     <img src="images/furry_friend.jpg";</pre>
   </div>
   <script src="https://code.jquery.com/jquery-3.4.1.js"></script>
    <script>
                                                         Nest the
      $ (document) . ready (function() {
                                                        furry_friend.jpg image
         $("#clickMe").click(function() {
                                                         inside the pictrame.
         });
      });
    </script>
  </body>
</html>
```

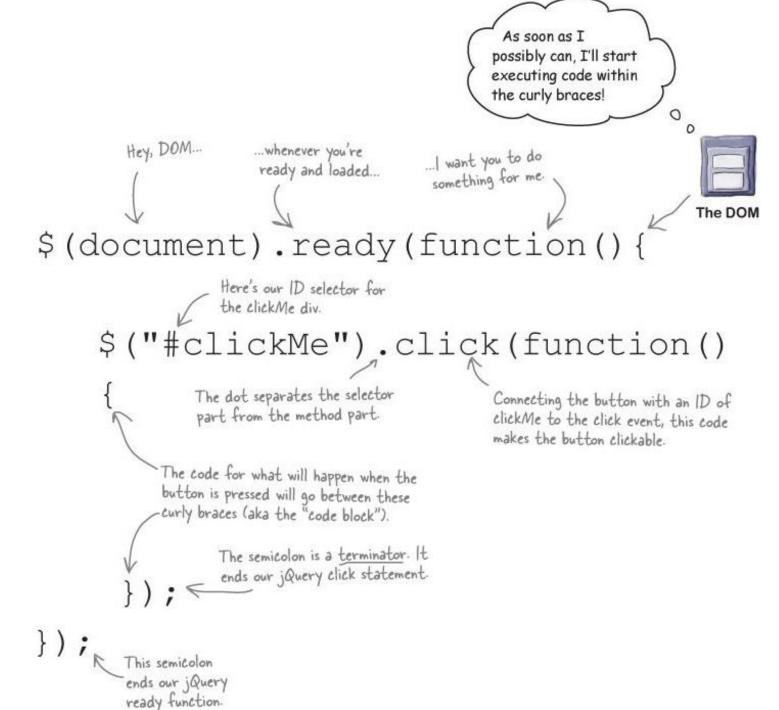
This makes a clickable div, and we'll style it in the CSS file below so it has the same look and feel a the picframe div.

Here's the picframe div that will slide open to show the furry friend picture

index.html

```
This styles the clickMe div so
#clickMe {
                                                 that so it has the same look
    background: #D8B36E;
                                                 and feel as the picframe div.
    padding: 20px;
    text-align: center;
    width: 205px;
    display: block;
    border: 2px solid #000;
}
                                                   Set the picframe selector to "display: none" so that it won't
#picframe {
    background: #D8B36E;
    padding: 20px;
                                                    show when the page loads.
    width: 205px;
    display: none;
    border: 2px solid #000;
```

my_style.css





You're right. Our HTML and CSS are ready; now we need some jQuery.

We want the **picframe div** to slide and to fade.

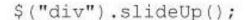
Fortunately, the jQuery folks have built effects that let us control both of these rich visual actions: **slides** and **fades**.

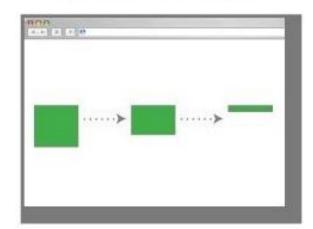
Let's just start sliding and fading first.

Slide on in...

The first effect we'll implement is having the image slide into view, which is one of the things the marketing team manager wants to have happen.

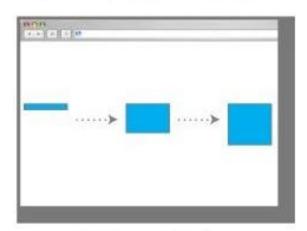
There are three ways to deal with **sliding**:





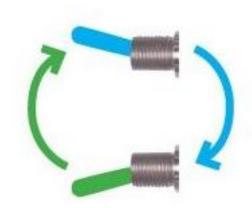
The slidelly method changes the height property of the element until it's O, and then hides the element.

\$("div").slideDown();



The slideDown method changes the height property of the element from O to whatever it's set to in the CSS style.

\$("div").slideToggle();

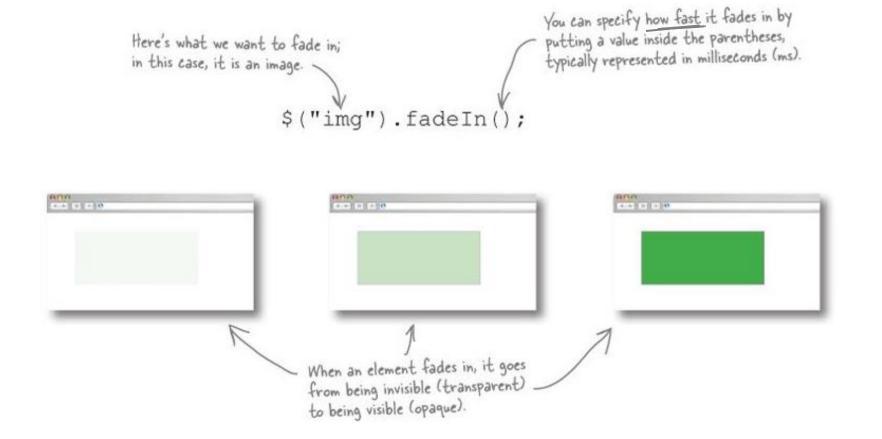


The slide Toggle action says, "If it's up, slide it down; if it's down, slide it up."

May the fade be with you

We also want the image to gradually appear, going from invisible to fully visible. Again, jQuery has a method for that, and that method is called a **fade**.

The fade methods are pretty similar to what you just saw for sliding: you have **FadeIn**, **FadeOut**, **FadeTo**, **and FadeToggle**. For now, let's just use FadeIn, which gives us control over the opacity and transparency properties of HTML elements.

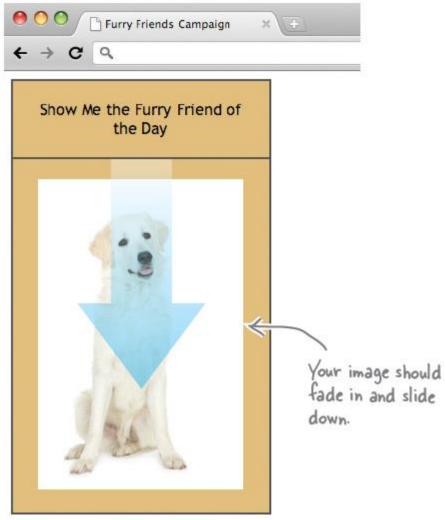


```
<!DOCTYPE html>
<html>
  <head>
    <title>Furry Friends Campaign</title>
    <link rel="stylesheet" type="text/css" href="styles/my style.</pre>
css">
  </head>
  <body>
    <div id="clickMe">Show me the Furry Friend of the Day</div>
    <div id="picframe">
     <img src="images/furry friend.jpg">
    </div>
     <script src="https://code.jquery.com/jquery-3.3.1.js"></script>
    <script>
                                                   In jQuery, it's important to
                                                   sequence our effects in such a
       $ (document).ready(function() {
                                                  way that they don't run over
          $("#clickMe").click(function() {
                                                   one another. We'll deal with this
                                                   issue throughout the book.
                $("img").fadeIn(1000);
                $("#picframe").slideToggle("slow");
              We run the fade effect
               on our image first.
                                      We added some extra stuff in the parentheses to juice up the effects.
       });
                                      We'll look at these in more depth in
    </script>
                                      Chapter 5.
  </body>
</html>
```

That's it?



http://ksamkeun.dothome.co.kr/wp/jqu ery/ch01/ch01-jpg-css.zip



실습과제 18-2

First jQuery gig 예제를 구현하시오.

Selectors and methods: Grab and go



Jump for Joy needs your help

You receive an email from your friend, who is a professional portrait photographer.

She wants to roll out a "Jump for Joy" promotion that allows users to win deals on a package of prints. She needs your help making the promotion work.

From: Emily

Subject: Jump for Joy Promotion!

Hey,

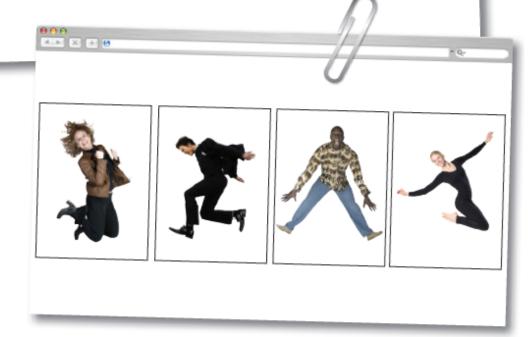
I saw your tweet that you're doing more interactive web work these days, so I was hoping you could help me with making some interactive stuff for the "Jump for Joy" promotion on my website. I'd like to give my visitors a chance to receive a discount off their purchase before they check out, to encourage them to click around the site some more (and hopefully buy more as a result!).

The page should have four sections with one of four images per section. I need a message that says "Your Discount is" that displays a random discount amount (between 5 and 10 percent). When a user clicks on one of the sections, the message should appear below the image in that section. If a user clicks again, I'd like to get rid of the last message and display a new one.

I've attached a mockup of how I want it to look.

Think you can help??

Emily



What are the project requirements?

To-Do List:

1. The page should have four sections with one of four "jump for joy" images per section.

2. The sections should be clickable.

- 3. We need a message that says "Your Discount is" along with a random discount amount (between 5 and 10 percent).
- 4. When a user clicks on one of the sections, the message should appear below the image in that section.

 각 섹션 클릭 => 할인율 표시
- 5. If a user clicks again, get rid of the last message and make a new one.

다시 클릭 => 새 할인율 표시

Add the following items to the page and check them off as you're done:

- A tag to include the jQuery library.
- A <div> tag with the ID of header.
- A <div> tag with the ID of main.
- Inside each of the four div elements inside of the main div, put a different

index.html

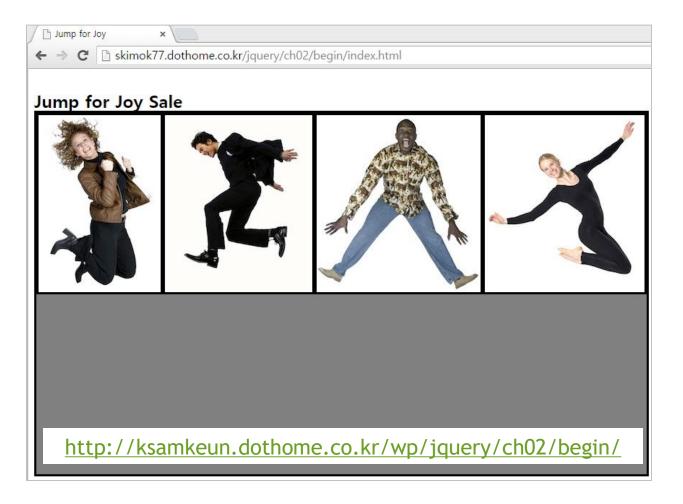
• image (get the images here: http://ksamkeun.dothome.co.kr/wp/jquery/ch02/ch02-images.zip

```
<html>
  <head>
    <title>Jump for Joy</title>
   <link href="styles/my style.css" rel="stylesheet">
  </head>
  <body>
     <h2>Jump for Joy Sale</h2>
  </div>
      <div><img src="images/jumpl.jpg"/></div>
      <div>
     <div> </div>
    </div>
<script > </script> </body>
</html>
```

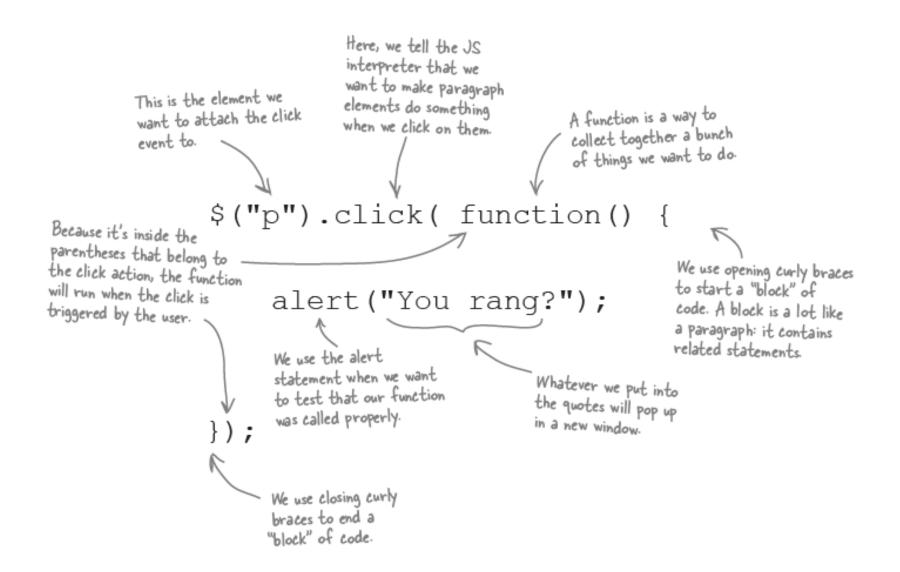
```
div{
    float:left;
    height:245px;
    text-align:left;
    border: solid #0000 3px;
}
#header{
    width:100%;
    border: 0px;
    height:50px;
}
#main{
    background-color: grey;
    height: 500px;
}
```

실습과제 18-3 Test Drive

Open the page up in your favorite browser to make sure everything's working. This will give us an opportunity to note how we want the page to function.



A click event up close



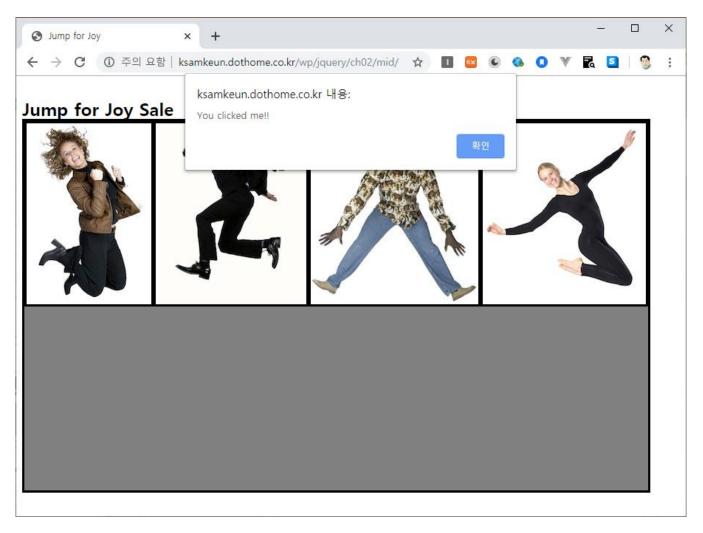
Add the click method to your page

Update your HTML file to include this script. Don't forget to put it **inside** a <script> tag!

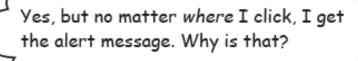
The alert function calls up a window in your browser with a message inside it. We'll use it whenever we want to see the results of things we've added to code like variables and functions.

index.html

실습과제 18-4 Test Drive



http://ksamkeun.dothome.co.kr/wp/jquery/ch02/mid/





Hmmm, that is a problem.

It looks like we've gotten a bit click-happy. Let's take a look at that click event again.

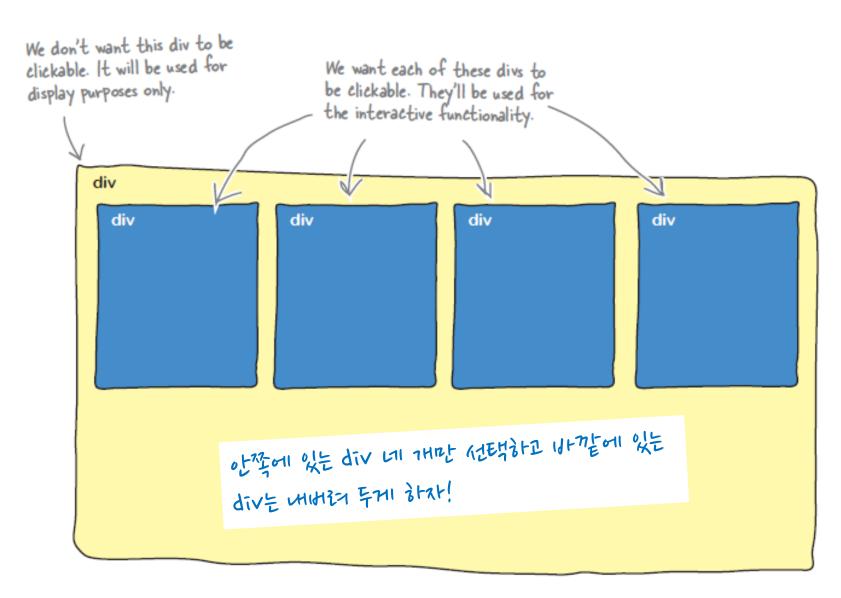
The JS interpreter did exactly what we asked it to do. It selected all the divs...
...and added a click method to each of them.

\$ ("div") . click ();

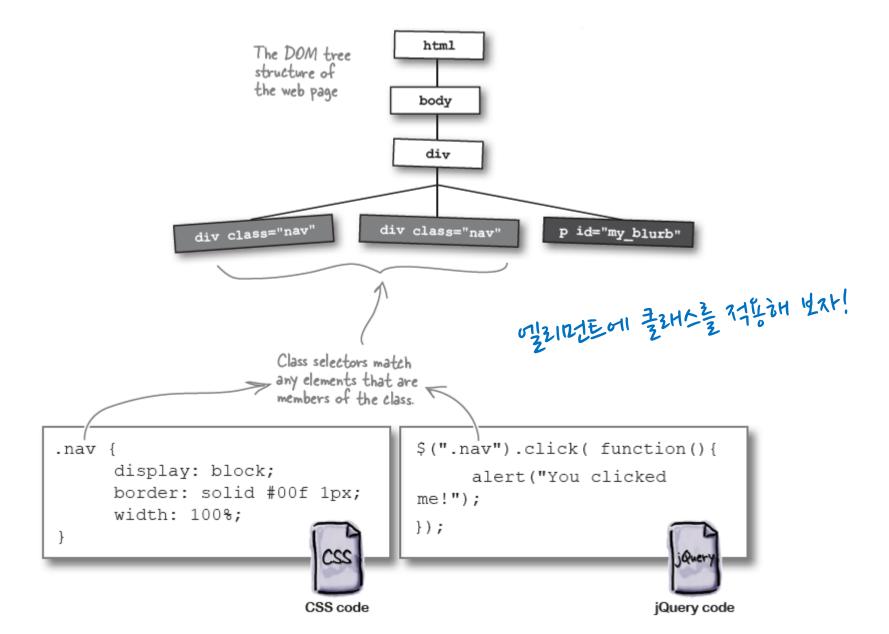
In fact, you don't even have to click on the images to get that message. Our page structure has div elements nested in another div, so when you click on those, the browser thinks you've clicked on both, and you **might get two alerts in that case.**

Clearly, we **need to narrow down** what we're asking jQuery to do here...

Get more specific



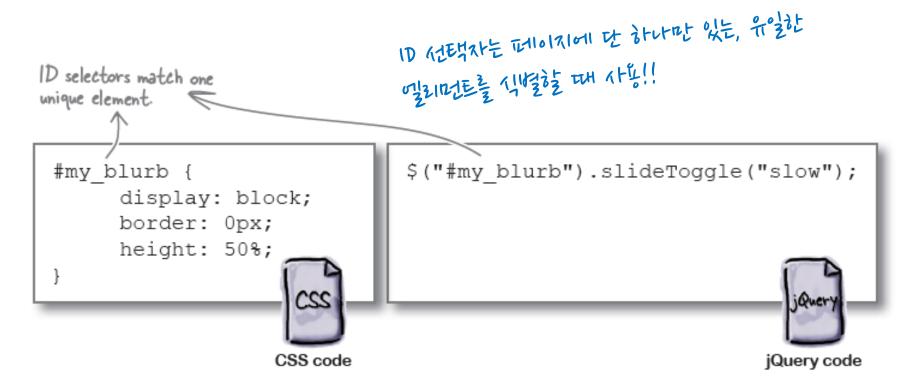
Classing up your elements



ID-entifying elements

An **ID** selector is used to identify a single, unique element on a page. In jQuery, as in CSS, the #symbol is used to identify an ID selector.

IDs are great when you want to get specific with an element, or when there is only going to be one of that kind of element on the page, like a page header or footer.



Wire up your web page

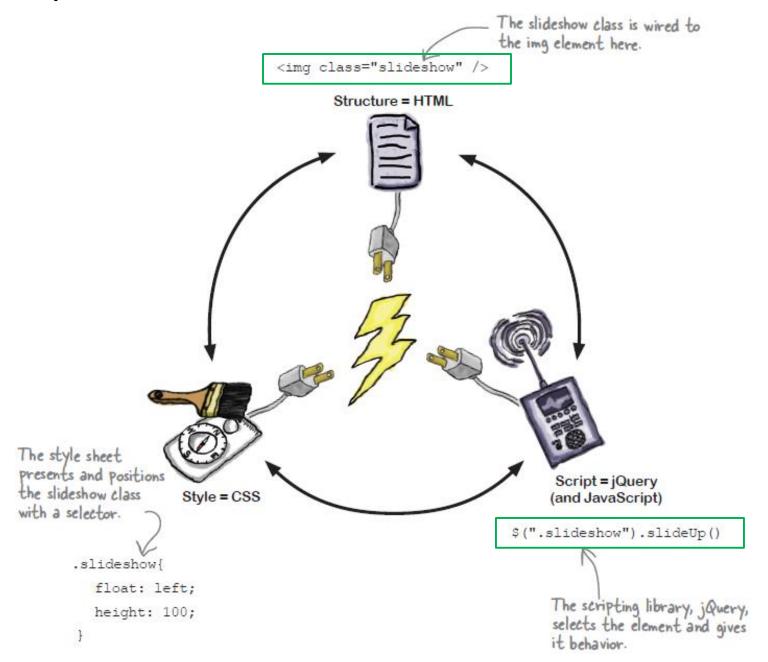
Classes and IDs are common ground for the three layers of a web page that we looked at in Chapter 1: **structure**, **style**, and **script**.

HTML provides the building blocks (i.e., elements and their attributes), or **structure** of the web page.

CSS provides the **style**, or the presentation and position of those elements.

JavaScript and **jQuery** provide the **script** that controls the behavior or function of those elements.

.slideUp() 메소드를 적용할 이미지에 slideshow라는 클래스를 지정했다고 하자:



실습과제 18-5

Add the **guess_box** class to all the div elements that will be used to hide the discount code. Also, update our **selector** to use this class, and add it into our CSS file. And it was the main div element that needed to get its ID attribute back.

index.html

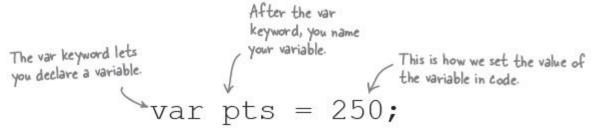
```
<ht.ml>
  <head>
    <title>Jump for Joy</title>
    <link href="styles/my style.css" rel="stylesheet">
  </head>
  <body>
    <div id="header">
      <h2>Jump for Joy Sale</h2>
    </div>
      <div
                               ><img src="images/jump1.jpg"/></div>
                              <imq src="images/jump2.jpg"/></div>
      <div
                              ><img src="images/jump3.jpg"/></div>
      <div
      <div
                              ><img src="images/jump4.jpg"/></div>
    </div>
    <script src="scripts/jquery-1.6.2.min.js"></script>
    <script>
      $(document).ready(function() {
                                   ").click(function() {
          alert("You clicked me.");
        });
      });
    </script>
  </body>
</html>
```

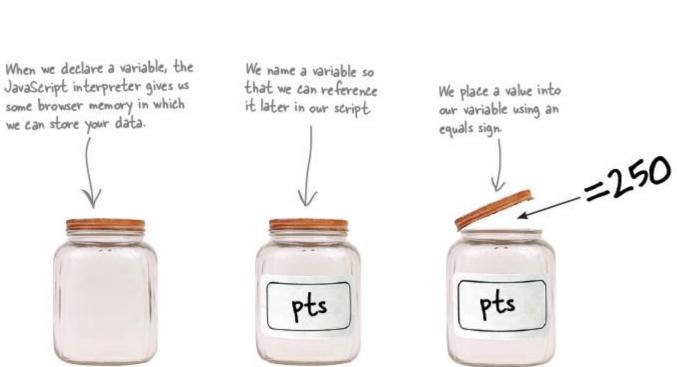
```
div{
  float:left:
  height:245px;
  text-align:left;
  border: solid #000 3px;
#header{
  width:100%;
  border: 0px;
  height:50px;
#main{
  background-color: grey;
  height: 500px;
```

my_style.css

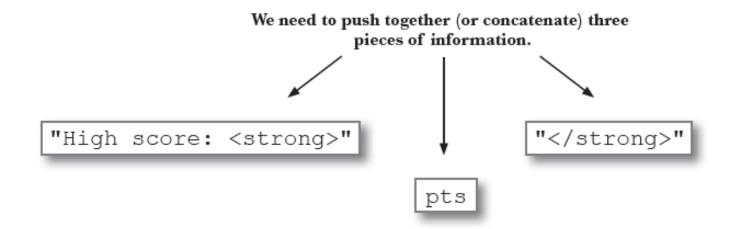
이미지 div 섹션만 클릭될 수 있도록 페이지의 구조와 스타일, 스크립트를 변경하시오.

Creating some storage space

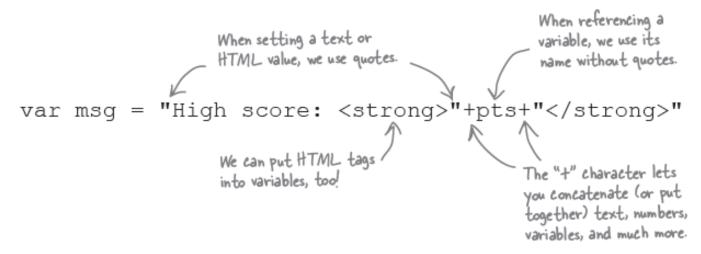




Mix things up with concatenation



Which give us:



Meanwhile, back in the code...

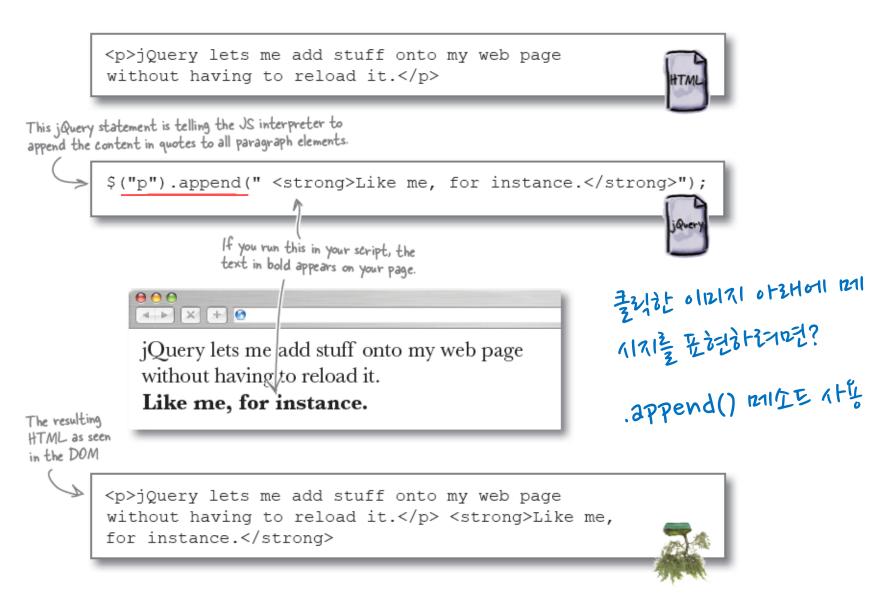
Now that you've got a variable set up to store your concatenated **discount** message, you just need to update what's in between your <script> tags, so let's focus there.

<div class="guess_box">

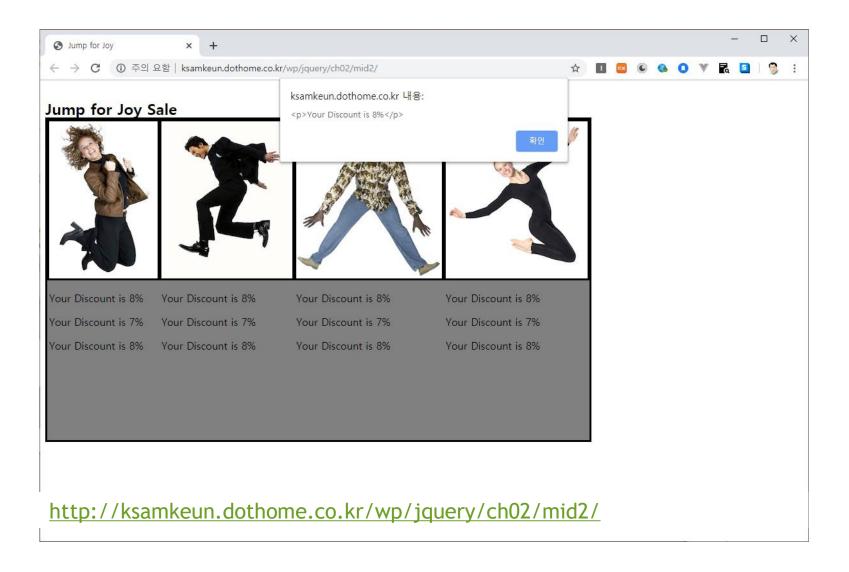
```
<script>
  $(document).ready(function() {
                                                     Create new
                                                     JavaScript
                                                      variables.
    $(".guess box").click( function() {
     var discount = Math.floor((Math.random()*5) + 5);
      var discount msg = "Your Discount is "+ discount +"%";
      alert(discount msg);
                              We put the discount variable
    });
                              in our alert to make sure it's
  });
                              doing what we want it to.
</script>
```

index.html

Insert your message with append



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Everything works great, but...

```
This applied the click method
                                                  so that each member of the
<script>
                                                  quess_box class is clickable.
  $ (document) .ready (function()
     $(".quess box").click( function()
       var discount = Math.floor((Math.random()*5) + 5);
       var discount msg = "Your Discount is "+discount+"%";
       alert(discount msg);
                                                  This is just to test
       $(".guess_box").append(discount_msg); the variable.
                    Our selector is specific enough
    });
  });
                         to grab a class, but we end up
</script>
                         affecting all the divs in the class
```

型社 11号 I div时 这则加州是产村的一社叶.

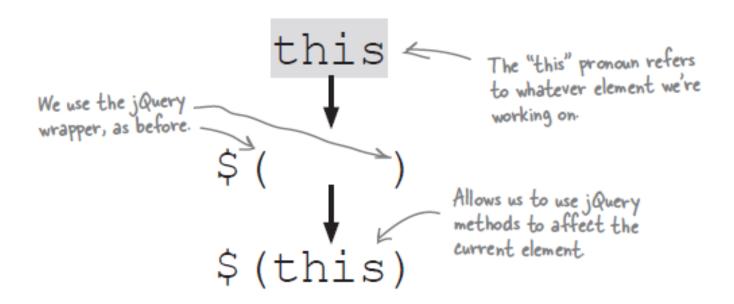
⇒ हैथेर वारण तस्तिमा, हेंग नातार है न वारणार देन निर्माणि?



Wouldn't it be dreamy if there were a simple way to select the div we clicked? But I know it's just a fantasy...

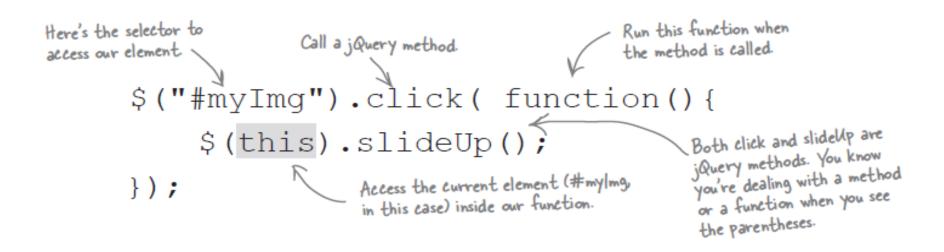
Give me \$(this) one

The \$(this) selector gives us an easy way to point to the **current** element.



It's important to think about \$(this) as context-dependent.

In other words, **\$(this)** means different things **depending on where or when you use it**. One of the best places to use it is within a function that runs **when a jQuery method is called:**



Put \$(this) to work

Let's see if \$(this) can help us solve our problem.

Update your code to use \$(this), as shown in bold below.

```
<script type="text/javascript">
  $ (document).ready(function() {
    $(".guess box").click( function() {
      var discount = Math.floor((Math.random()*5) + 5);
      var discount msg = "Your Discount is "+ discount +"%";
      alert(discount msg);
      $(this).append(discount msg);
                         — Now we're telling our guess
                            boxes to append the discount
    });
                            code only to the one clicked.
  });//end doc ready
</script>
```

Good riddance with remove

1. Here's what it looks like in the browser, and the HTML that creates it.



HTML view

2. And here's the code for the button, which will remove all the list items from your list:

```
$ ("#btnRemove") . click (function () {

$ ("li") . remove ();

});

remove is another

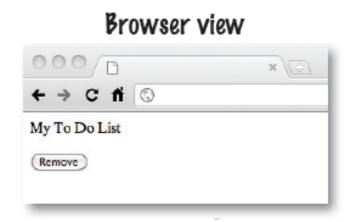
jQuery method. Think

of a jQuery method as

a verb—it's all about

web page action.
```

3. Looking again at the page in the browser and the HTML—after jQuery is finished—we can see that all our list items are gone, even in the HTML!



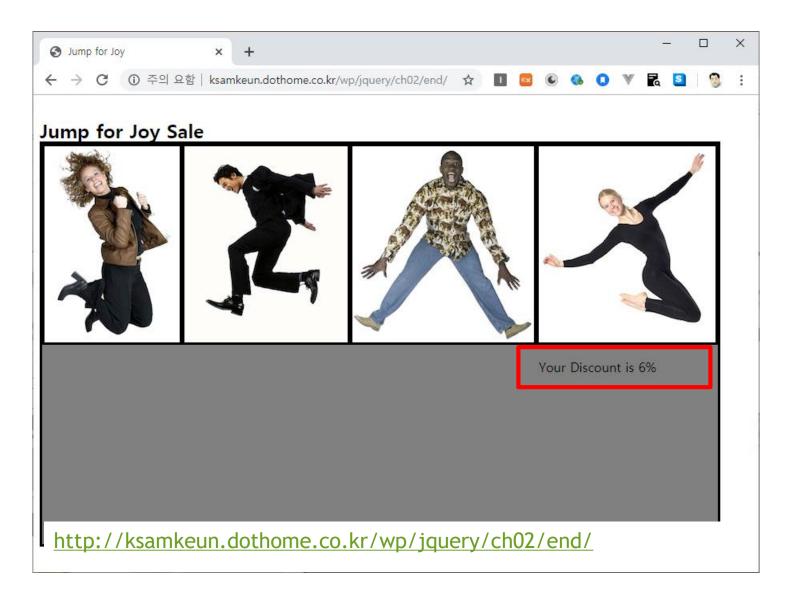


```
<div>My To Do List</div>

<br/>
<button id="btnRemove">
```

Dig down with descendant selectors राया राया राया 計七时期 型等 位野对于 毕 \$("div div p") 经等位时外十十十十 \$ ("div p") Leave a space between the parent element name and child element name. html When you combine class and ID selectors This returns all div elements that with descendant selectors, you can really are children of a div element. get specific, which works great on a body complex HTML page. \$ ("div div") div \$("div p#my blurb") div div p id="my_blurb" img Grabs all img elements that are children of the children of a div element \$("div p") (Would these be Grabs all P elements \$("div div img") that are children of a grand-divs then?) div element

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Q & A



