What is jQuery?

jQuery is a lightweight, "write less, do more", JavaScript library.
The purpose of jQuery is to make it much easier to use JavaScript on your website.
jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.
jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.
The jQuery library contains the following features:

- HTML/DOM manipulation
- CSS manipulation
- HTML event methods
- Effects and animations
- AJAX
- Utilities

Why jQuery?

There are lots of other JavaScript frameworks out there, but jQuery seems to be the most popular, and also the most extendable.
Many of the biggest companies on the Web use jQuery, such as:

- Google
- Microsoft
- IBM
- Netflix

How to add jquery on your web page

There are several ways to start using jQuery on your web site. You can:

1. Download the jQuery library from jQuery.com
2. Include jQuery from a CDN, like Google

Downloading jQuery

There are two versions of jQuery available for downloading:

- Production version - this is for your live website because it has been minified and compressed
- Development version - this is for testing and development (uncompressed and readable code)

Both versions can be downloaded from jQuery.com.The jQuery library is a single JavaScript file, and you reference it with the HTML <script> tag (notice that the <script> tag should be inside the <head> section):
Eg.

```
<head>
<script src="jquery-3.2.1.min.js"></script>
</head>
```

jQuery CDN

If you don't want to download and host jQuery yourself, you can include it from a CDN (Content Delivery Network).

Both Google and Microsoft host jQuery. To use jQuery from Google or Microsoft, use one of the following:

From Google CDN:

```
<head>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
</head>
```

From Microsoft CDN:

```
<head>
<script src="https://ajax.aspnetcdn.com/ajax/jQuery/jquery-3.2.1.min.js"></script>
</head>
```

jQuery Syntax

The jQuery syntax is tailor-made for selecting HTML elements and performing some action on the element(s).

Basic syntax is: $(selector).action()

$ sign: A $ sign to define/access jQuery
(selector): A (selector) to "query (or find)" HTML elements
jQuery Action(): A jQuery action() to be performed on the element(s)

Examples:

$(this).hide() - hides the current element.

$("p").hide() - hides all <p> elements.

$(".test").hide() - hides all elements with class="test".

$("#test").hide() - hides the element with id="test".

The Document Ready Event

You might have noticed that all jQuery methods in our examples, are inside a document ready event:

```
$(document).ready(function(){

   // jQuery methods go here...

});
```

(OR)

```
$(function(){

   // jQuery methods go here...

});
```

jQuery Selectors

jQuery selectors are one of the most important parts of the jQuery library.jQuery selectors allow you to select and manipulate HTML element(s).jQuery selectors are used to "find" (or select) HTML elements based on their name, id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors.

All selectors in jQuery start with the dollar sign and parentheses: $().

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

```
$("p")
```

Example
When a user clicks on a button, all <p> elements will be hidden:

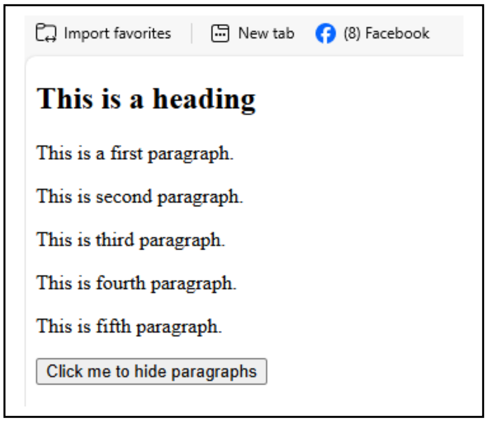
```
$(document).ready(function(){
    $("button").click(function(){
        $("p").hide();
    });
});
```

Example:

```
<!DOCTYPE html>
<html>
<head>
<script src="jquery-3.7.1.min.js"></script>
<script>
$(document).ready(function(){//code runs only after the HTML document (DOM) is fully loaded
  //shorthand for binding an event that ensures the code inside it doesn't execute until the DOM is ready.
    $("button").click(function(){//function() call when user press button
    $("p").hide();
  });
});
</script>
</head>
<body>

<h2>This is a heading</h2>

<p>This is a first paragraph.</p>
<p>This is second paragraph.</p>
<p>This is third paragraph.</p>
```

```
<p>This is fourth paragraph.
<p>This is fifth paragraph.</p>
</p>

<button>Click me to hide paragraphs</button>

</body>
</html>
```

Output:



This is a heading

This is a first paragraph.

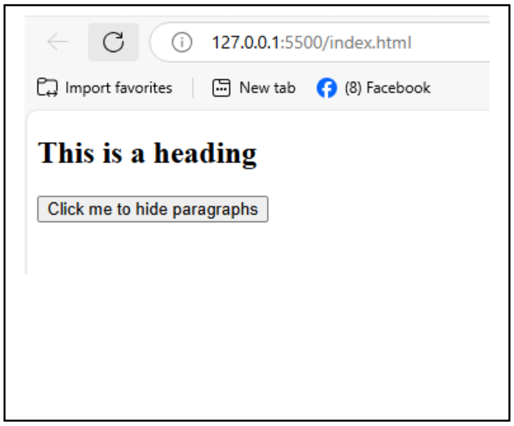
This is second paragraph.

This is third paragraph.

This is fourth paragraph.

This is fifth paragraph.

Click me to hide paragraphs



This is a heading

Click me to hide paragraphs

The #id Selector

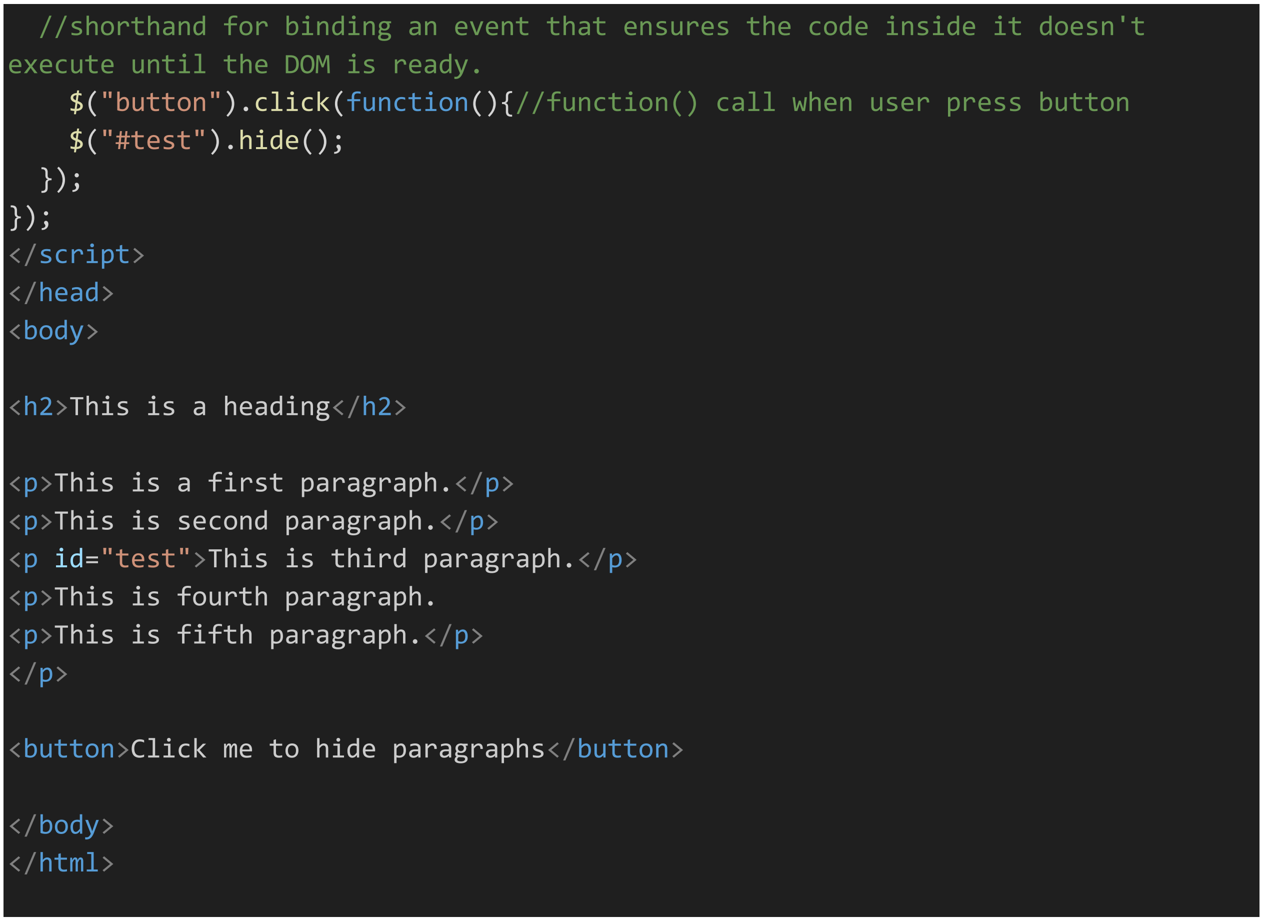
The jQuery #id selector uses the id attribute of an HTML tag to find the specific element.
An id should be unique within a page, so you should use the #id selector when you want to find a single, unique element.
To find an element with a specific id, write a hash character, followed by the id of the HTML element:

```
$("#test")
```

Example
When a user clicks on a button, the element with id="test" will be hidden:

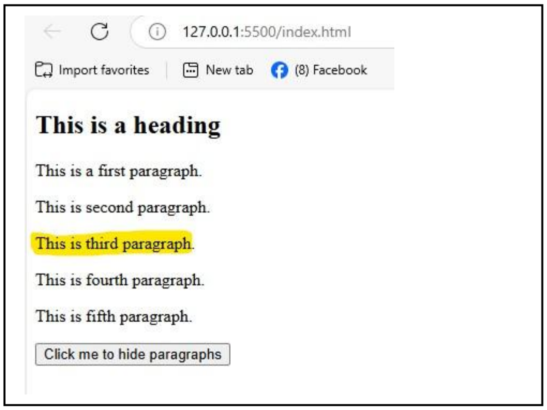
Eg.

```
<!DOCTYPE html>
<html>
<head>
<script src="jquery-3.7.1.min.js"></script>
<script>
$(document).ready(function(){//code runs only after the HTML document (DOM) is fully loaded
```



```
  //shorthand for binding an event that ensures the code inside it doesn't
execute until the DOM is ready.
    $("button").click(function(){//function() call when user press button
    $("#test").hide();
  });
});
</script>
</head>
<body>

<h2>This is a heading</h2>

<p>This is a first paragraph.</p>
<p>This is second paragraph.</p>
<p id="test">This is third paragraph.</p>
<p>This is fourth paragraph.
<p>This is fifth paragraph.</p>
</p>

<button>Click me to hide paragraphs</button>

</body>
</html>
```

Output:



This is a heading

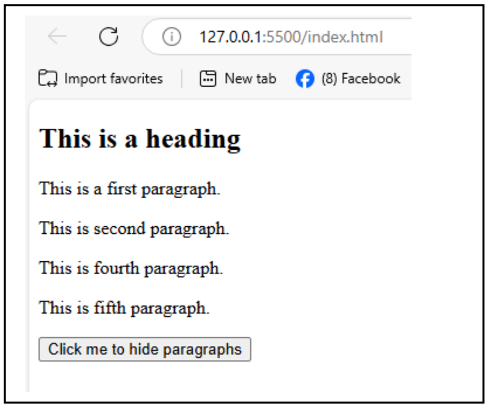
This is a first paragraph.

This is second paragraph.

This is third paragraph.

This is fourth paragraph.

This is fifth paragraph.



This is a heading

This is a first paragraph.

This is second paragraph.

This is fourth paragraph.

This is fifth paragraph.

The .Class Selector

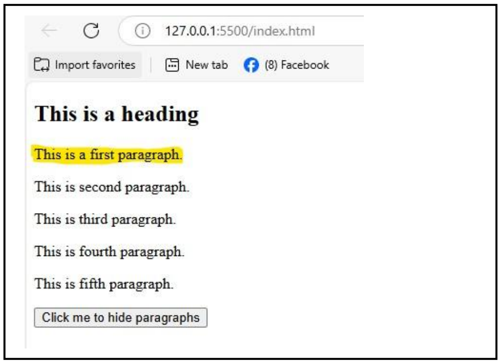
- The jQuery `.class` selector finds elements with a specific class.
- To find elements with a specific class, write a period character, followed by the name of the class:

```
$(".test")
```

Example:

```
<!DOCTYPE html>
<html>
<head>
<script src="jquery-3.7.1.min.js"></script>
<script>
$(document).ready(function(){//code runs only after the HTML document (DOM) is
fully loaded
  //shorthand for binding an event that ensures the code inside it doesn't
execute until the DOM is ready.
    $("button").click(function(){//function() call when user press button
    $(".test").hide();
  });
});
</script>
</head>
<body>

<h2>This is a heading</h2>

<p class="test">This is a first paragraph.</p>
<p>This is second paragraph.</p>
<p>This is third paragraph.</p>
<p>This is fourth paragraph.
<p>This is fifth paragraph.</p>
</p>

<button>Click me to hide paragraphs</button>

</body>
</html>
```

Output:



This is a heading

This is a first paragraph.

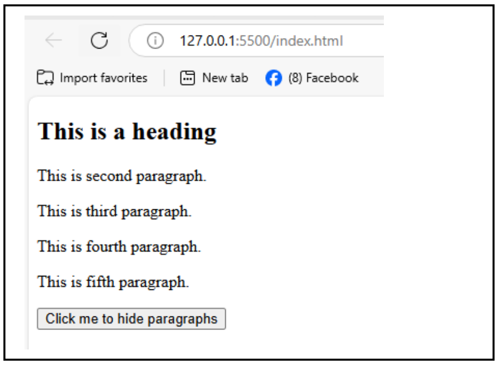
This is second paragraph.

This is third paragraph.

This is fourth paragraph.

This is fifth paragraph.

Click me to hide paragraphs



This is a heading

This is second paragraph.

This is third paragraph.

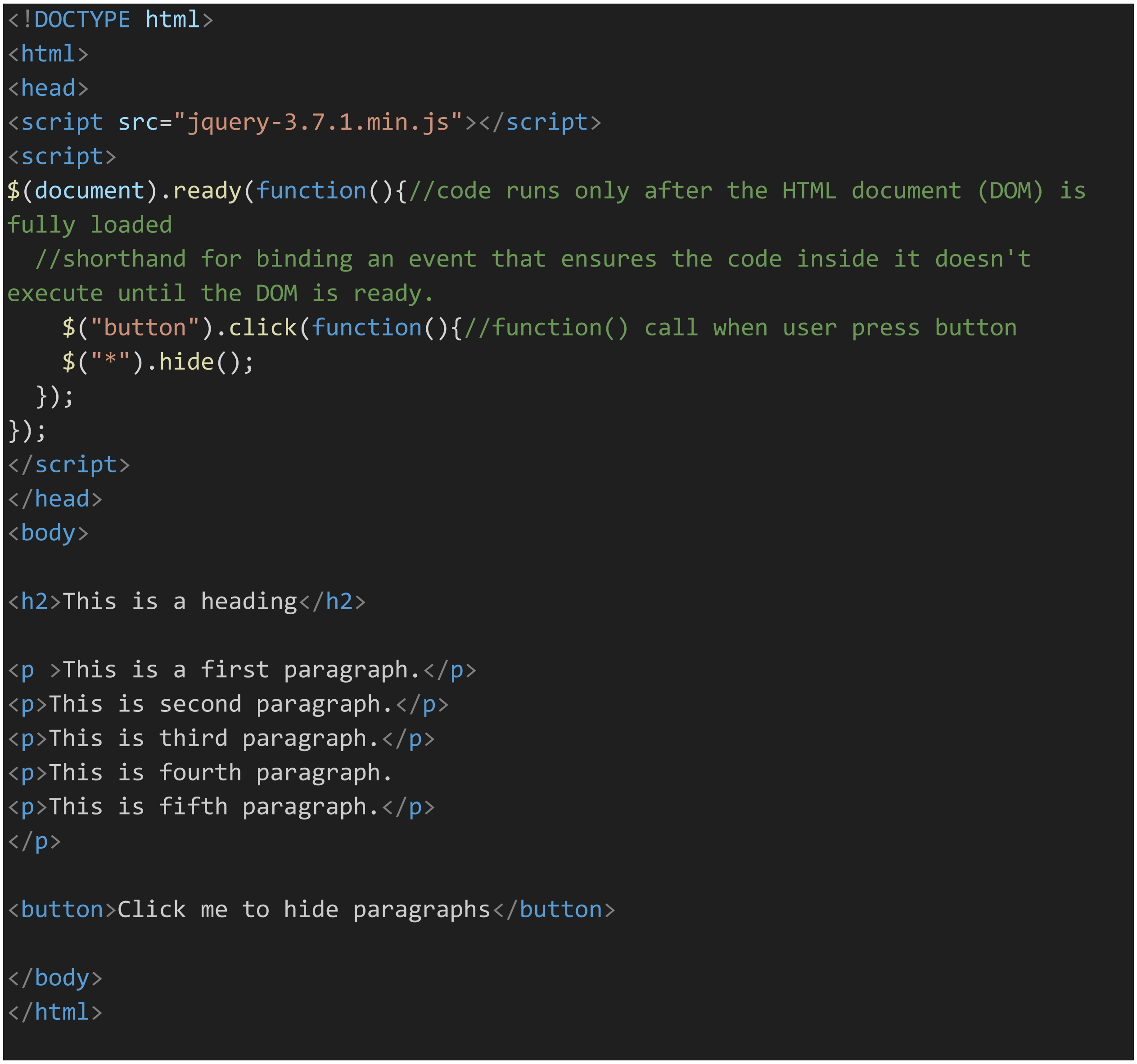
This is fourth paragraph.

This is fifth paragraph.

Click me to hide paragraphs

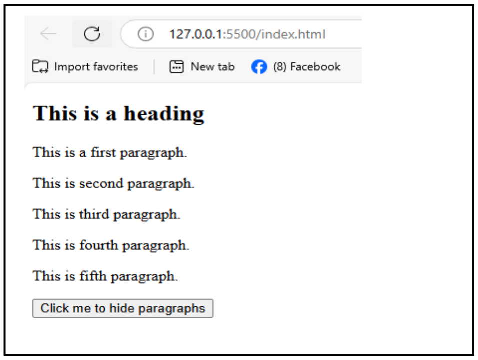
The *(Universal Selector)

- It is used to select all element.



```
<!DOCTYPE html>
<html>
<head>
<script src="jquery-3.7.1.min.js"></script>
<script>
$(document).ready(function(){//code runs only after the HTML document (DOM) is fully loaded
  //shorthand for binding an event that ensures the code inside it doesn't execute until the DOM is ready.
    $("button").click(function(){//function() call when user press button
    $("*").hide();
  });
});
</script>
</head>
<body>

<h2>This is a heading</h2>

<p >This is a first paragraph.</p>
<p>This is second paragraph.</p>
<p>This is third paragraph.</p>
<p>This is fourth paragraph.
<p>This is fifth paragraph.</p>
</p>

<button>Click me to hide paragraphs</button>

</body>
</html>
```

Output:



This is a heading

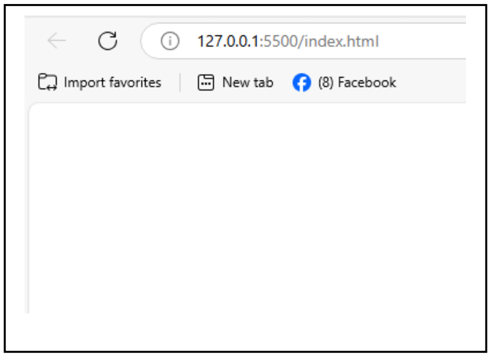
This is a first paragraph.

This is second paragraph.

This is third paragraph.

This is fourth paragraph.

This is fifth paragraph.



More jQuery Selector

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

Some Common Functions used in jQuery

1. **html():** This method is used to change the entire content of the selected elements. It replaces the selected element content with new contents.
2. **text():** This method is used to set or return the text content of the selected elements. To return content, when this method is used to return content, it returns the combined text content of all matched elements without the HTML markup. To set content, when this method is used to set content, it overwrites the content of all matched element.
3. **val():** There are two usage of jQuery val() method. It is used to get current value of the first element in the set of matched elements. It is used to set the value of every matched elements.
4. **css():** The jQuery css() method is used to get (return) or set style properties or values for selected elements. It facilitates you to get one or more style properties.
   jQuery css() method provides two ways:
   - ❖ Return a CSS property: It is used to get the value of a specified CSS property.
   - ❖ Set a CSS property: This property is used to set a specific value for all matched element.
5. **hide():** The jQuery hide method is used to hide the selected elements.
6. **show():** The jQuery show method is used to show the selected elements.

7. **toggle():** The jQuery toggle() is a special type of method which is used to toggle between the hide() and show() method. It shows the hidden elements and hides the shown element.

jQuery Event and Effect

jQuery Methods are inside a Document ready event for easy reading of code.

Syntax:

```
$(document).ready(function(){
//jQuery method
});
```

This is to check and stop the jquery before the document is finished loading. This method also allows you to have JavaScript code before the body of your document, in the head section.

What are Events?

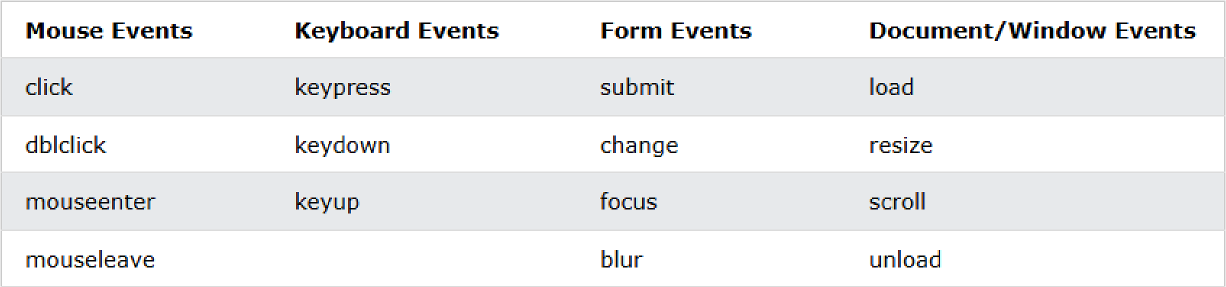
- All the different visitors' actions that a web page can respond to are called events.
- An event represents the precise moment when something happens.

Examples:

- moving a mouse over an element
- selecting a radio button
- clicking on an element

The term "fires/fired" is often used with events. Example: "The keypress event is fired, the moment you press a key".

Here are some common DOM events:



Mouse Events	Keyboard Events	Form Events	Document/Window Events
click	keypress	submit	load
dblclick	keydown	change	resize
mouseenter	keyup	focus	scroll
mouseleave		blur	unload

jQuery Effects:

- Some other jQuery effects are:

Animate()	It is used to runs a custom animation on the selected element.
clearQueue()	It is used to remove all remaining queued functions on the selected elements.
delay()	It is used to set a delay for all queued functions on the selected elements.
dequeue()	It is used to remove the next function from the queue, and then executes the function.
fadeIn()	Fades in the selected elements.
fadeout()	Fades out in the selected elements.
fadeTo()	Fades in / out the selected elements to a given opacity.
fadeToggle()	Toggle between the fadeIn() and fadeOut() methods.
finish()	Stops, removes and completes all queued animations for the selected elements.
hide()	Hides the selected elements.
queue()	Shows the queued functions on the selected elements.
show()	Show the selected elements.
slideDown()	Slides-down(shows) the selected elements.
slideToggle()	Toggles between the slideUp() and slideDown() methods.
slideUp()	Slides-up (hides) the selected elements.
stop()	Stops the currently running animation for the selected elements.
toggle()	Toggles between the hide() and show() methods.