jQuery

intro

PHP web development 2020/2021

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jQuery

Introducing jQuery

jQuery

- an **open-source** JavaScript library
- not the only one JS library
- but the most popular and widly used
- provides
  - cross-browser compatibality
  - **simpler syntax**
    - DOM elements are easier to select and traverse
    - easier to create elements
    - easier to manage events
    - easier to handle Ajax requests

Introducing jQuery

Why is jQuery so popular?

Why is jQuery so popular?

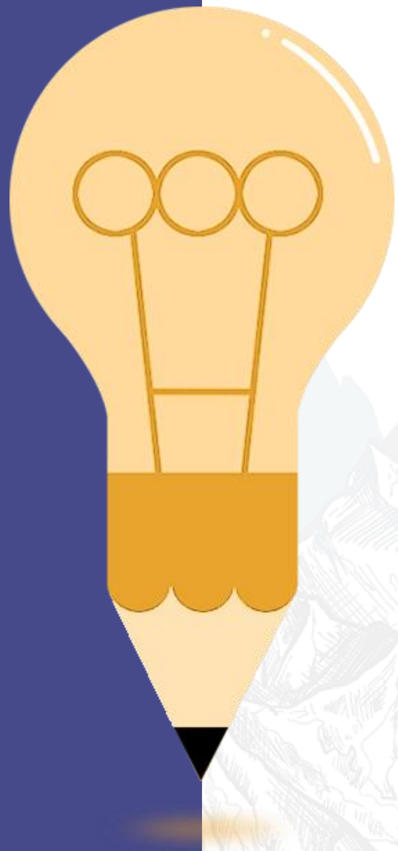
- jQuery is easy to study
- jQuery easy to expand
- jQuery is light
- A lot of developers contribute to jQuery features development and maintanence

Using jQuery won`t be enough -

you will still need to use vanilla JavaScipt!

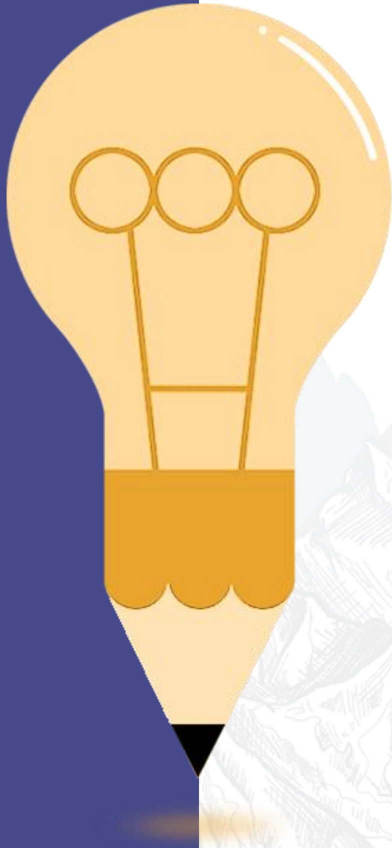
Ways to add jQuery to a project

Ways of adding jQuery to a project



1. Download jQuery files and link them to the project
2. Use a CDN /preferable/

Useful resources



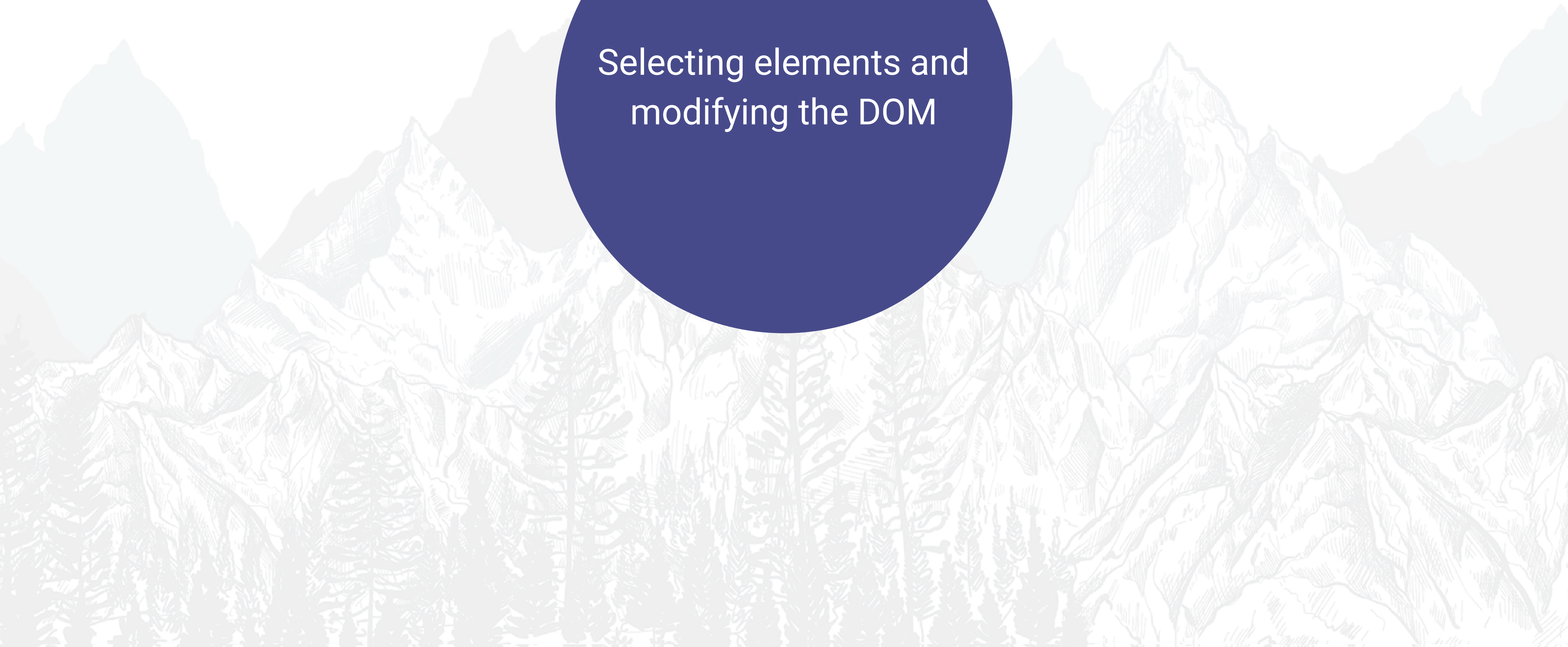
https://jquery.com/

Zak Ruvalcaba, Anne Boehm - **Murach's jQuery, Nth edition** (Training & Reference)

Ray Nicholus, Beyond jQuery

Jason Lengstorf, Keith Wald - Pro PHP and jQuery (2nd Edition) (The Expert's Voice in Web Development) - 2016

Selecting elements and modifying the DOM



Selecting elements and modifying the DOM

Selecting elements from the DOM resembles the JS DOM element selection

jQuery(selector) = $(selector)

full version short version

select element

//by tag

$("div")

//by id

$("#navigation")

//by class selectors

$(".menu-item")

//by combination of

$("ul.menu li")

Selecting elements and modifying the DOM

Calling methods

- select elements to call a method on

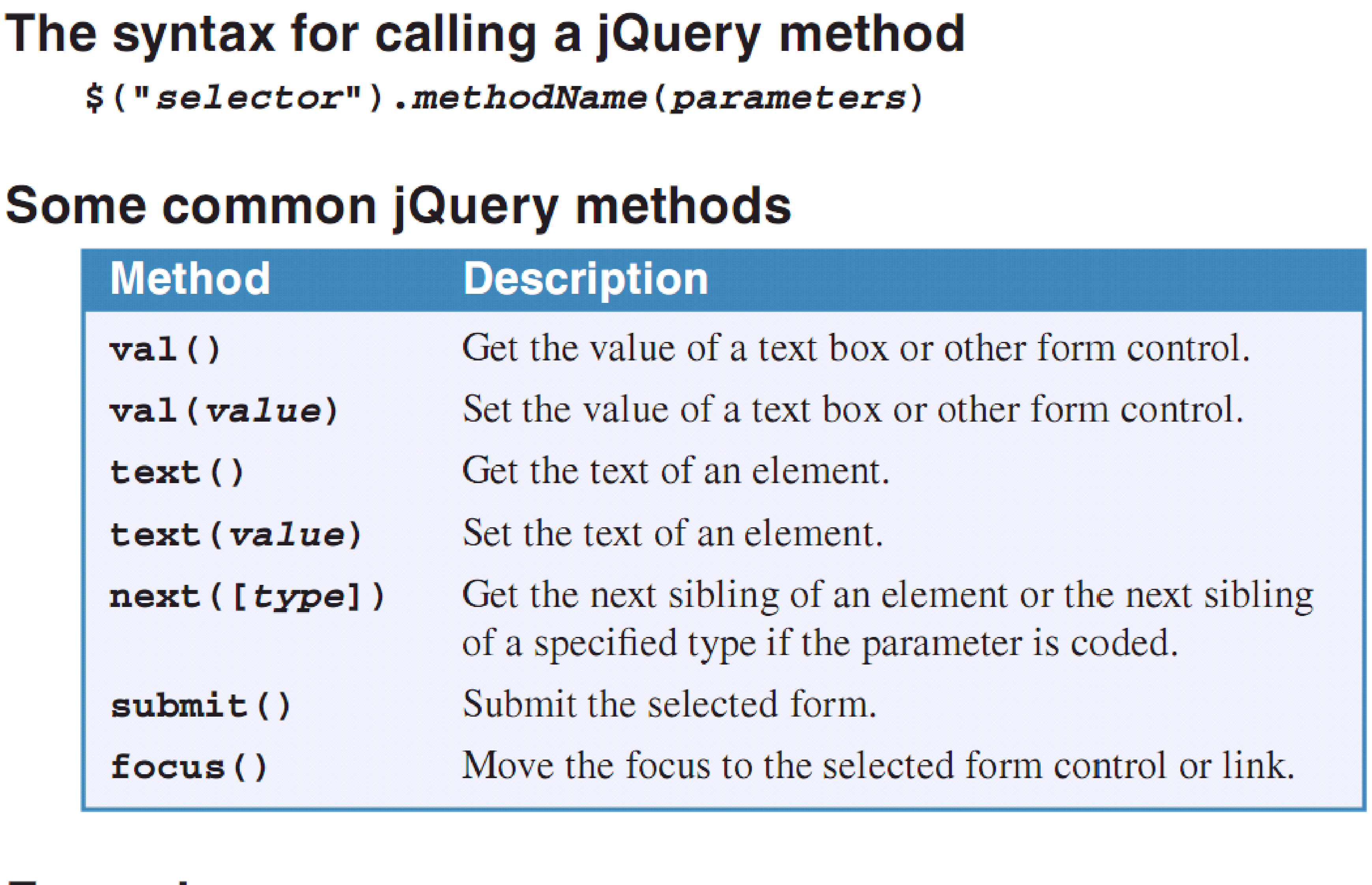
```
let element = $(‘selector’);
```

- call a method -

```
element.methodName(parameter);
```

Almost always the selection returns **a collection** of elements!

Selecting elements and modifying the DOM



The syntax for calling a jQuery method

```
$("selector").methodName(parameters)
```

Some common jQuery methods

Method	Description
`val()`	Get the value of a text box or other form control.
`val(value)`	Set the value of a text box or other form control.
`text()`	Get the text of an element.
`text(value)`	Set the text of an element.
`next([type])`	Get the next sibling of an element or the next sibling of a specified type if the parameter is coded.
`submit()`	Submit the selected form.
`focus()`	Move the focus to the selected form control or link.

Traversing the DOM

Traversing the DOM

- select element /get a jQuery object to apply the jQuery methods on/

  let element = $(selector);

Then use the jQuery object properties for

Next and previous siblings, Parents and children

let **nextSibling** = element.**next([selector])**

//next sibling

let **prevSibling** = element.**prev([selector])**

//previous sibling

nextSibling, prevSibling - new jQuery object are returned

Traversing the DOM

nextSibling, prevSibling - new jQuery object are returned

If a jQuery object - you can apply jQuery object`s methods!

Else - you will get an error!

Traversing the DOM

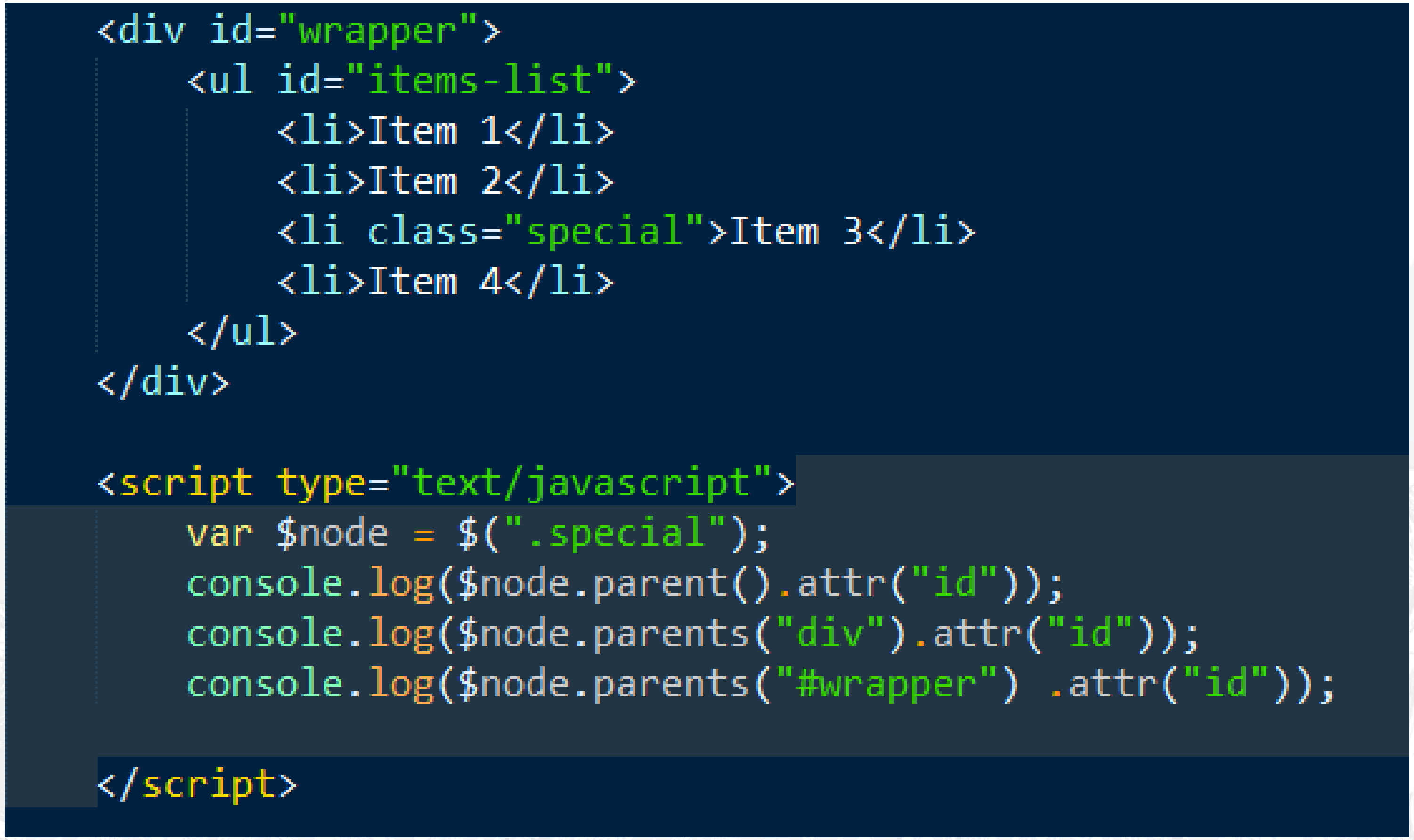
element.**parent([selector])**

//returns the immediate parent of each of the element the method is applied to

element.**parents(selector)**

//returns the parent that is selected with the given selector

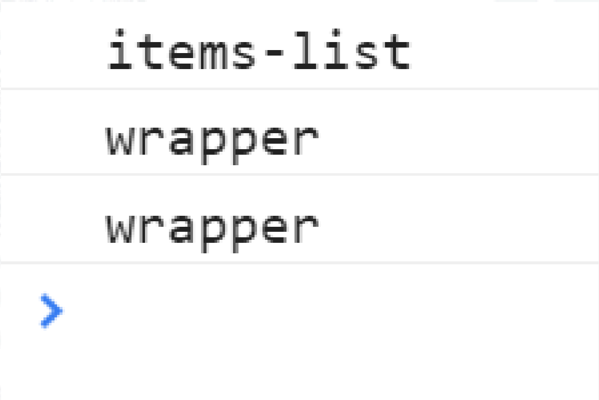
Traversing the DOM



```
<div id="wrapper">
    <ul id="items-list">
        <li>Item 1</li>
        <li>Item 2</li>
        <li class="special">Item 3</li>
        <li>Item 4</li>
    </ul>
</div>

<script type="text/javascript">
    var $node = $(".special");
    console.log($node.parent().attr("id"));
    console.log($node.parents("div").attr("id"));
    console.log($node.parents("#wrapper") .attr("id"));

</script>
```



```
items-list
wrapper
wrapper
>
```

Add/Remove elements

Add/remove elements

jQuery.appendTo()/prependTo()

jQuery stands for the jQuery object -

the element from the DOM selected or created using jQuery

Using JS document.getElement…

document.querySelect…

document.createElement….

methods won`t create (a) jQuery object/s!

Add/remove elements

create an element - a jQuery object

```
let hElement = $(‘<h1>header</h1>’)
```

create elements - jQuery objects

```
let multipleElements = $("<ul><li>Hello</li></ul>")
```

Add/remove elements

```
jQuery.appendTo()/prependTo()

$("<ul><li>Hello</li></ul>").appendTo("body");
```

```
jQuery.append()/prepend()

$("body").prepend("<h1>header</h1>");
```

Add/remove elements

```
<div class="container">

       <div class="inner">

             <p>First Paragraph</p>

             <p>Second Paragraph</p>

       </div>

  </div>
```

```
$(‘p’).remove();
   //will remove all p-elements from the document
$(‘.inner’).remove();
```

jQuery objects

jQuery objects

The jQuery objects
have more
methods and properties than
JavaScript DOM objects.

addClass(), removeClass(), toogleClass()

on(event, callback) //for events listening and handling

animate(), fadeIn(), etc…

jQuery objects

jQuery methods
for changing
the DOM elements

jQuery.**css("color", "#f3f")**

jQuery.**html()**

returns the innerHTML

jQuery.**html(content)**

sets the innerHTML

jQuery.**text(content)**

sets and escapes the innerHTML

jQuery events

jQuery events

jQuery has methods

for adding **on()**

and removing events **off()**

```
function onButtonClick(){
        $(".selected").removeClass("selected");
        $(this).addClass("selected");
      }

$("a.button").on("click", onButtonClick);
```

$(this) is the **event target**

jQuery events

jQuery.**preventDefault()**
used to stop the default behaviour of an element when an event is triggered.

Clicking *submit button,* ***submits*** *the form.*
Clicking *a tag, leads to its* ***href*** *or* ***reloads*** *the page when href is missing.*

To be able to validate form data with JS before submition -

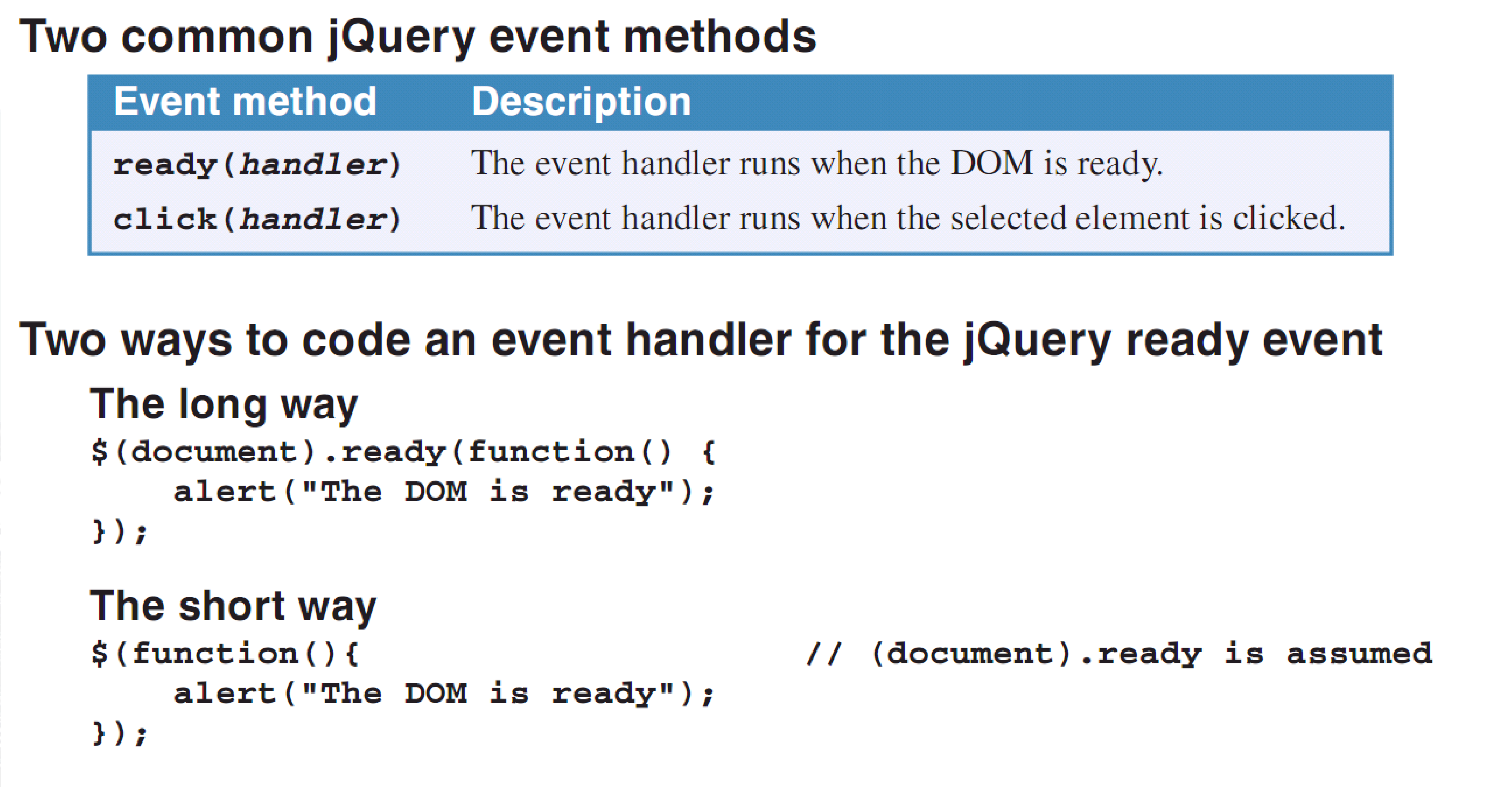
submitButton.**preventDefault()**

To use an a-element for a slider control button -

aElement.**preventDefault()**

in the event handler methods.

jQuery events



Two common jQuery event methods

Event method	Description
`ready(handler)`	The event handler runs when the DOM is ready.
`click(handler)`	The event handler runs when the selected element is clicked.

Two ways to code an event handler for the jQuery ready event

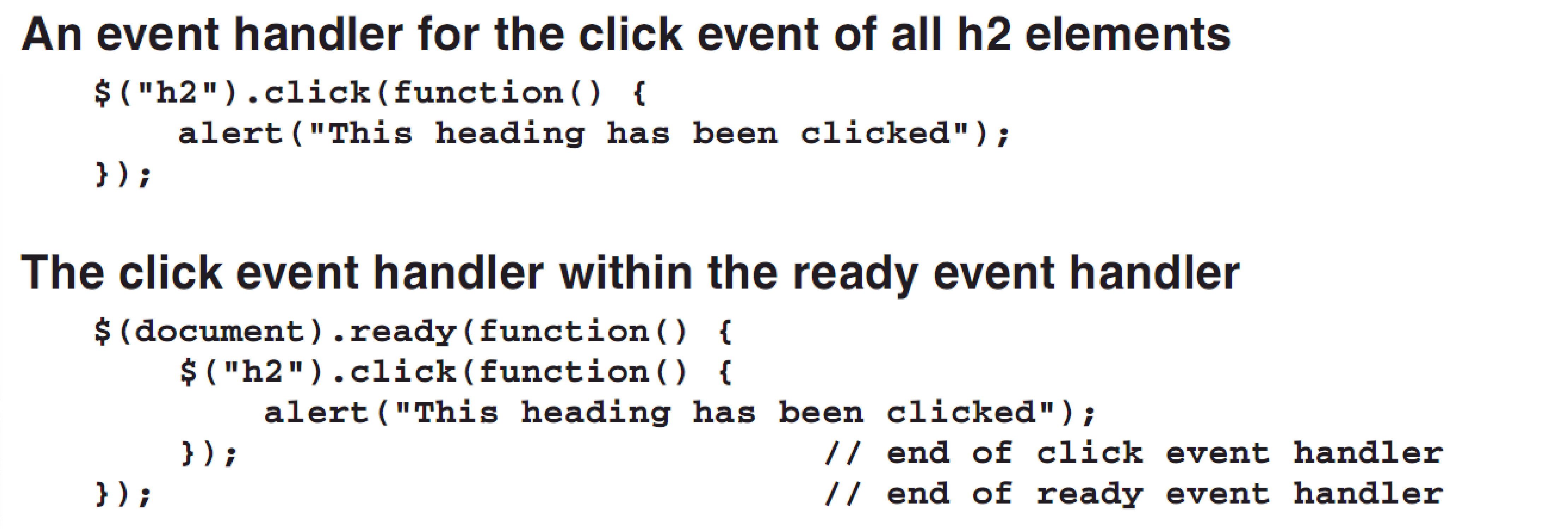
The long way

```
$(document).ready(function() {
    alert("The DOM is ready");
});
```

The short way

```
$(function(){                        // (document).ready is assumed
    alert("The DOM is ready");
});
```

jQuery events

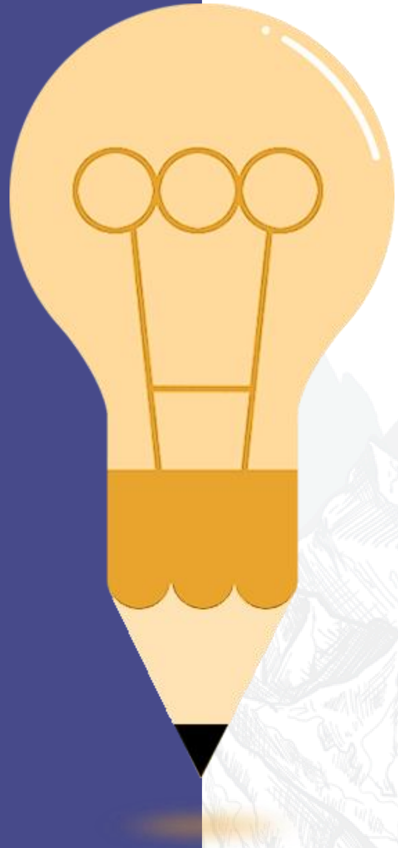


An event handler for the click event of all h2 elements

```
$("h2").click(function() {
    alert("This heading has been clicked");
});
```

The click event handler within the ready event handler

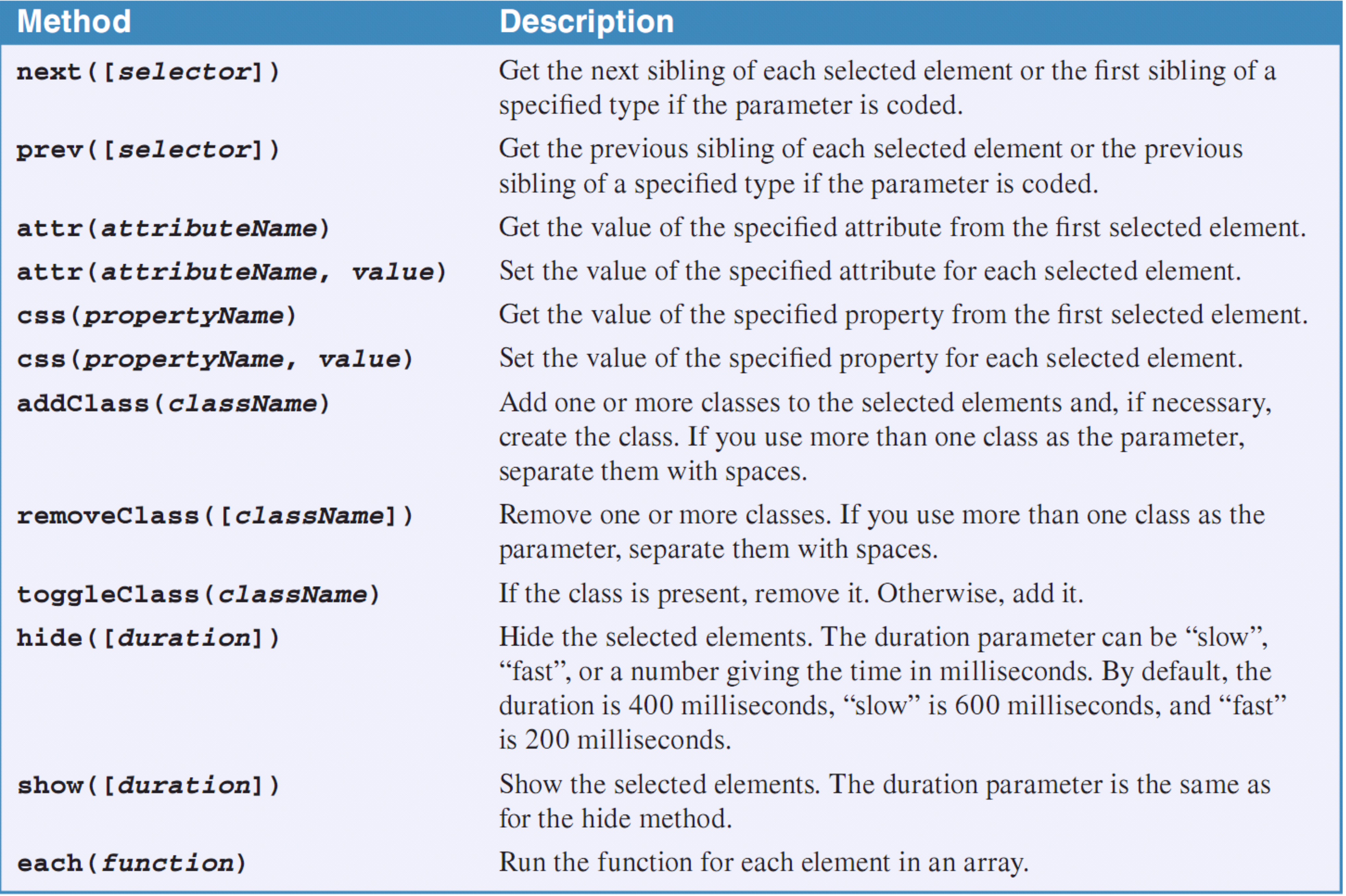
```
$(document).ready(function() {
    $("h2").click(function() {
        alert("This heading has been clicked");
    });                           // end of click event handler
});                               // end of ready event handler
```



click() won`t work on elements that **do not exist** in the DOM when the document is loaded in the browser /elements created and added to the DOM afterwards/.

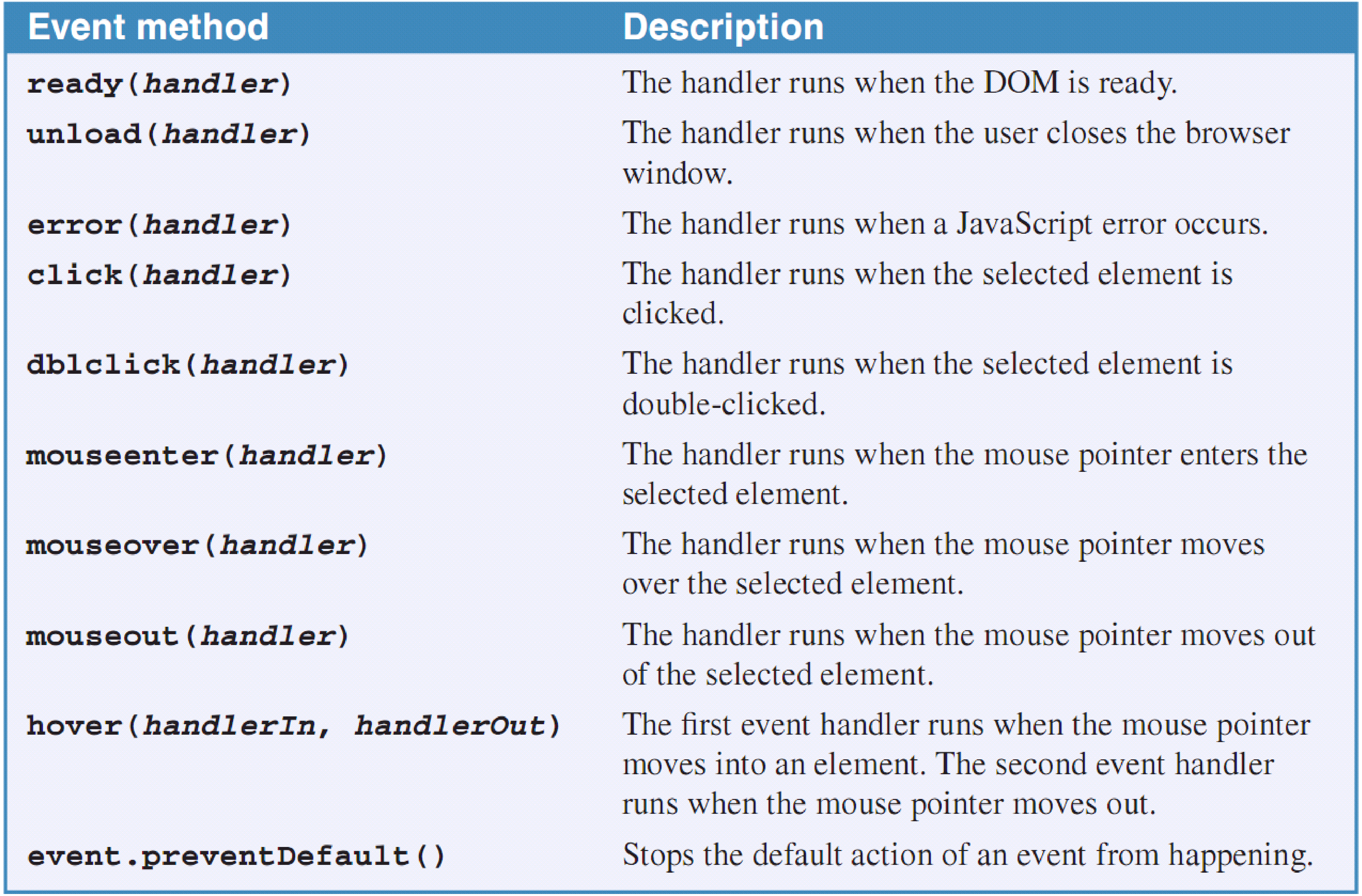
Always use **on()** instead on element(s) that **are part of the DOM** when the document is **initially loaded in the browser.**

A summary of the most useful jQuery methods



Method	Description
`next([selector])`	Get the next sibling of each selected element or the first sibling of a specified type if the parameter is coded.
`prev([selector])`	Get the previous sibling of each selected element or the previous sibling of a specified type if the parameter is coded.
`attr(attributeName)`	Get the value of the specified attribute from the first selected element.
`attr(attributeName, value)`	Set the value of the specified attribute for each selected element.
`css(propertyName)`	Get the value of the specified property from the first selected element.
`css(propertyName, value)`	Set the value of the specified property for each selected element.
`addClass(className)`	Add one or more classes to the selected elements and, if necessary, create the class. If you use more than one class as the parameter, separate them with spaces.
`removeClass([className])`	Remove one or more classes. If you use more than one class as the parameter, separate them with spaces.
`toggleClass(className)`	If the class is present, remove it. Otherwise, add it.
`hide([duration])`	Hide the selected elements. The duration parameter can be “slow”, “fast”, or a number giving the time in milliseconds. By default, the duration is 400 milliseconds, “slow” is 600 milliseconds, and “fast” is 200 milliseconds.
`show([duration])`	Show the selected elements. The duration parameter is the same as for the hide method.
`each(function)`	Run the function for each element in an array.

A summary of the most useful jQuery event methods



Event method	Description
`ready(handler)`	The handler runs when the DOM is ready.
`unload(handler)`	The handler runs when the user closes the browser window.
`error(handler)`	The handler runs when a JavaScript error occurs.
`click(handler)`	The handler runs when the selected element is clicked.
`dblclick(handler)`	The handler runs when the selected element is double-clicked.
`mouseenter(handler)`	The handler runs when the mouse pointer enters the selected element.
`mouseover(handler)`	The handler runs when the mouse pointer moves over the selected element.
`mouseout(handler)`	The handler runs when the mouse pointer moves out of the selected element.
`hover(handlerIn, handlerOut)`	The first event handler runs when the mouse pointer moves into an element. The second event handler runs when the mouse pointer moves out.
`event.preventDefault()`	Stops the default action of an event from happening.

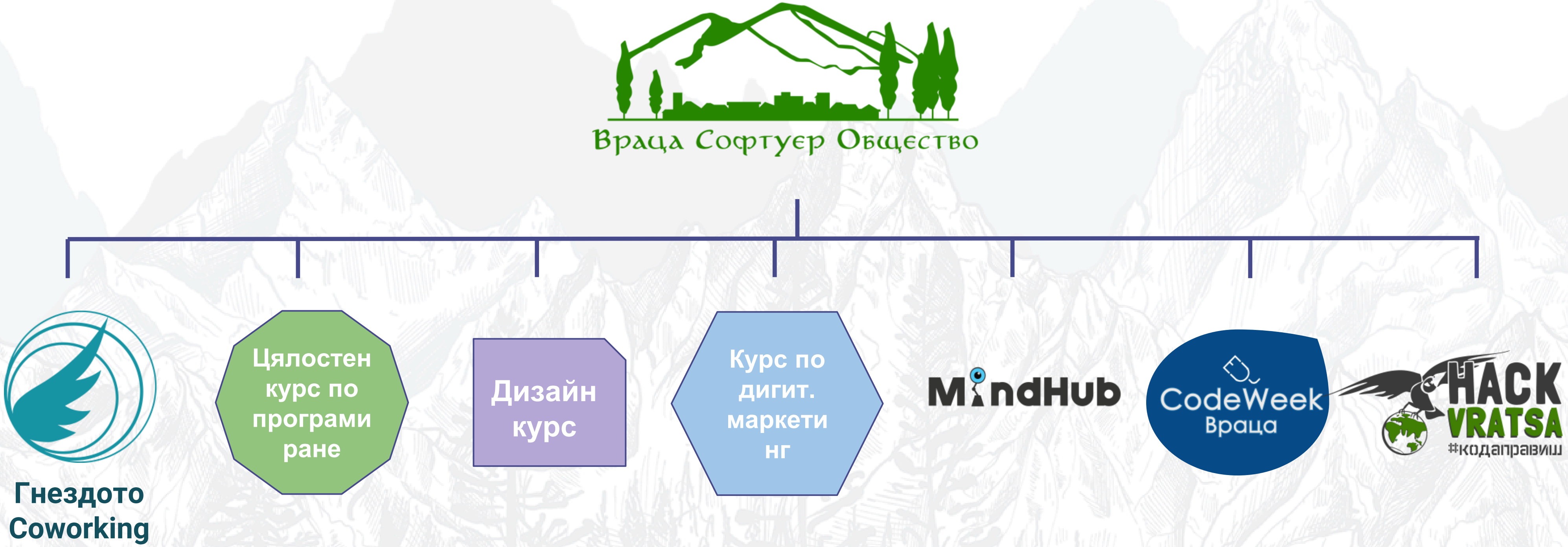
jQuery chaining methods

jQuery chaining methods

jQuery methods always return a result or this
So you can chain jQuery methods -
the **next method** is applied on **the result of the previous method.**

```
$('<button>')
        .addClass('btn-success')
        .html('Click me for success')
        .on('click', onSuccessButtonClick)
        .appendTo(document.body);
```

Questions?



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