

9.2 Selectors

Basic selectors

The `$()` function is used to select DOM elements using selectors. A **selector** is a string that is crafted to match specific DOM elements. Once an element is selected, other jQuery methods can be used to add and remove CSS classes or properties from the selected element, show or hide the selected element, etc. The jQuery method **`addClass()`** is used to add a CSS class to selected elements as illustrated in the animation below.

PARTICIPATION ACTIVITY

9.2.1: Adding classes to all paragraphs.

**Start**☐ 2x speed

```
<!DOCTYPE html>
<html lang="en">
<title>jQuery Example</title>
<script src="https://code.jquery.com/jquery-3.5.1.min.js"></script>
<style>
  .important { color: red; }
</style>

<p id="hello" class="important">Hello, jQuery!</p>
<p class="important">This stuff is great!</p>

<script>
  let $allParas = $("p");
  $allParas.addClass("important");
</script>
</html>
```

Hello, jQuery!
This stuff is great!

\$allParas [`<p>`,`<p>`]

Captions ^

1. The browser renders the webpage.
2. `$("p")` selects all `<p>` elements.
3. The `addClass("important")` method adds the "important" class to both paragraphs.
4. Changes to the DOM cause the browser to update the rendered webpage, making both paragraphs use a red font.

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A web developer can select elements and call jQuery methods to perform operations on the selected elements in a single line of code. The figure below selects and removes the "important" class from all paragraphs using the jQuery method **`removeClass()`**, which removes a class from a selected element.

Example 9.2.1: Using `$()` and `removeClass()` on a single line.

```
// Select all paragraphs, then remove the "important" class from all of
them
$("p").removeClass("important");
```

[Feedback?](#)

Three common ways exist to select elements: by element, ID, or class. The jQuery syntax for selecting by element, ID, and class is similar to CSS selector syntax.

Table 9.2.1: Basic jQuery selectors.

Selector Type	Example	Explanation
Element	<code>\$("p")</code>	Selects all <code><p></code> elements
ID	<code>\$("#hello")</code>	Selects the element with <code>id="hello"</code>
Class	<code>\$(".important")</code>	Selects all elements with <code>class="important"</code>

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ACTIVITY**

9.2.2: Using basic selectors.



1) Which line of code selects all `<h2>` elements in a document?

- ☐ `$("<h2>")`
- ☐ `$("#h2")`
- ☒ `$("h2")`

Correct

The equivalent code is

`$(document.getElementsByTagName("h2"))`

2) Which line of code adds the class "crazy" to the element with ID "game"?

- ☒ `$("#game").addClass("crazy");`
- ☐ `$(".game").addClass("crazy");`
- ☐ `$("game").addClass("crazy");`

Correct

The "#" is used for selecting by ID.



3) Which line of code removes the class "crazy" from all elements currently using the "crazy" class?

- ☐ `$(".crazy").removeClass(".crazy");`
- ☒ `$(".crazy").removeClass("crazy");`
- ☐ `$("div").removeClass("crazy");`

Correct

The elements using the "crazy" class are selected, then the "crazy" class is removed from the elements.



4) Which line of code removes the "crazy" class from all `<div>` elements currently using the "crazy" class and adds the "crazy" class to all `<div>` elements currently not using the "crazy" class?

- ☐ `$("div").removeClass("crazy");`
☐ `$("div").addClass("crazy");`
☒ `$("div").toggleClass("crazy");`

Correct

`toggleClass()` is very handy for adding/removing classes.



5) Which line of code adds the classes "crazy" and "completed" in the most efficient manner to all `<p>` elements?

- ☒ `$("p").addClass("crazy").addClass("completed");`
☐ `$("p").addClass("crazy + completed")`
☐ `$("p").addClass("crazy");`
☐ `$("p").addClass("completed");`

Correct

Chaining jQuery method calls is a common way to perform operations on the same set of selected elements. A single call to `addClass()` also works:

```
$("p").addClass("crazy completed")
```

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Additional selectors

Additional jQuery selectors provide more sophisticated selection of DOM elements:

- **Attribute selector** - Selects elements based on an element attribute.
- **Basic filter selector** - Selects elements based on a variety of properties.
- **Child filter selector** - Selects child elements based on location or other properties.
- **Content filter selector** - Selects elements based on an element's contents.
- **Hierarchy selector** - Selects elements based on an element's location within the DOM hierarchy.

The table below shows examples of each additional jQuery selector type.

Table 9.2.2: Additional jQuery selectors.

Selector Type	Example	Explanation
Attribute	<code>\$("span[id]")</code>	Selects all <code></code> that have an <code>id</code> attribute
Attribute	<code>\$("a[href\$='.pdf']")</code>	Selects all <code><a></code> with <code>href</code> attributes ending in <code>.pdf</code>
Basic filter	<code>\$("p:first")</code>	Selects the first <code><p></code> element
Basic filter	<code>\$("tr:even")</code>	Selects the first, third, fifth, etc. table rows (zero-indexed)
Basic filter	<code>\$("li:eq(1)")</code>	Selects the second <code></code> element (index <code>n</code>)

Selector Type	Example	Explanation
Child filter	<code>\$("li:last-child")</code>	Selects the last <code></code> in each group
Content filter	<code>\$("p:contains('bye')")</code>	Selects all <code><p></code> that contain the word "bye"
Hierarchy	<code>\$("li span")</code>	Selects all <code></code> that are descendants of <code></code>

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9.2.3: Using additional selectors.



Given the HTML below, what elements are selected with each jQuery selector?

```
<h2>About Me</h2>
<p id="intro">Hello, my name is <strong>Jamie</strong>!</p>
<p class="books">My favorite books:</p>
<ol>
  <li>Animal Farm</li>
  <li>1984</li>
  <li>Oh... I forgot the name!</li>
</ol>
<div>One of my favorite quotes from <strong>Robert Wilensky</strong>:
  <blockquote>
    We've all heard that a million monkeys banging on a million typewriters
    will eventually reproduce the entire works of Shakespeare. Now, thanks
    to the Internet, we know this is <strong>not true</strong>.
  </blockquote>
</div>
```

1) `$("div strong")`

- ☐ `Jamie`
- ☐ and `Robert Wilensky`
- ☐ `Robert Wilensky`
- ☐ `Robert Wilensky` and `not true`

Correct

Both `` elements are descendants of a `<div>`.



2) `$("li:first")`

- ☒ `Animal Farm`
- ☐ `Oh... I forgot the name!`
- ☐ All `` elements

Correct

Only the first `` is selected.



3) `$("li:eq(2)")`

- ☐ `1984`

Correct

- ☒ `Oh... I forgot the name!`
- ☐ All `` elements

The "2" in `eq(2)` selects the element at index 2, which is the third ``.

4) `$("div[class]")`

- ☐ `<p class="books">...</p>`
- ☐ `<div>One of...</div>`
- ☒ Nothing

Correct

No `<div>` elements exist with a class attribute, so an empty list is returned.

5) `$("p:contains('name')")`

- ☐ Both `<p>` elements
- ☒ `<p id="intro">...</p>`
- ☐ Nothing

Correct

`<p id="intro">...</p>` is the only `<p>` that contains the word "name".

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9.2.4: Selector practice.



The following webpage is rendered using a combination of HTML, CSS, and JavaScript. Try making the following JavaScript modifications so that the rendered webpage matches the expected webpage. Do not modify the HTML or CSS.

1. Modify the jQuery so that only the even `` elements have the "highlight" class.
2. Add a jQuery method call to remove the "border" class from the first `<p>`.
3. Add a jQuery method call to add the "border" class to the second `<p>`.

HTML

CSS

JavaScript

```
1 $("li").addClass("highlight");  
2
```

Render webpage

Reset code

Your webpage

Highest-Grossing Films

Films adjusted for inflation as of 2019:

1. *Gone with the Wind* (1939)
2. *Avatar* (2009)
3. *Titanic* (1997)
4. *Star Wars* (1977)
5. *Avengers: Endgame* (2019)

Gone with the Wind is the oldest movie to rank in the top 10 list of highest-grossing

Expected webpage

Highest-Grossing Films

Films adjusted for inflation as of 2019:

1. *Gone with the Wind* (1939)
2. *Avatar* (2009)
3. *Titanic* (1997)
4. *Star Wars* (1977)
5. *Avengers: Endgame* (2019)

Gone with the Wind is the oldest movie to rank in the top 10 list of highest-grossing films.

► View solution

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CHALLENGE
ACTIVITY

9.2.1: jQuery selectors.



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[Jump to level 1](#)

Using jQuery, remove class "highlight" from the even-indexed <p> tags (note: zero-indexed).

SHOW EXPECTED

HTML

CSS

JavaScript

```
1
2 /* Your solution goes here */
3 $("p:even").removeClass("highlight");
```



1



2



3



4

1

2

3



4

[Check](#)[Next](#)

Done. Click any level to practice more. Completion is preserved.



✓ Does the first <p> have the "highlight" class?

Yours  Does the second <p> have the "highlight" class?Yours  Does the third <p> have the "highlight" class?Yours  Does the fourth <p> have the "highlight" class?Yours  Does the fifth <p> have the "highlight" class?Yours **Your webpage**

First paragraph

Second paragraph

Third paragraph

Fourth paragraph

Fifth paragraph

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Exploring further:

- [jQuery selectors](#)

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this
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