JavaScript & jQuery Challenges

1 - 20

How To Do These Challenges

As before, try to do the challenges without looking at the answer on the next slide.

There are 20 challenges here, but each challenge is to do the same task with both JavaScript and jQuery, so it is really 10 unique challenges.

Repeating these challenges until you can write the JavaScript and jQuery without looking at the answers will help you learn both JavaScript and jQuery better than just about anything else you can do.

Challenge 1 - JS

Use JavaScript to change the size of the text in the paragraph to 24px.

```
<body>

        <p id="paragraph">Here is a paragraph</p>

        <script>

        </script>

</body>
```

Challenge 1 Answer

Either of these methods would be acceptable.

```
<script>

        document.getElementById("paragraph").style.fontSize = "24px";
        //document.querySelector('#paragraph').style.fontSize = "24px";

</script>
```

Challenge 2 - jQuery

Use jQuery to change the size of the text in the paragraph to 24px.

```
<body>

    <p id="paragraph">Here is a paragraph</p>

    <script>

    </script>

</body>
```

Challenge 2 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $("#paragraph").css("font-size", "24px");

</script>
```

Challenge 3 - JS

Use plain JavaScript to change the font size to 24 pixels and the color to red for the paragraphs inside the div, but not the one outside the div.

```html
<p>Don't change this paragraph</p>

<div id="main">
      <p>change this paragraph.</p>
      <p>change this paragraph too.</p>
      <p>And change this last paragraph.</p>
</div>

<script>

</script>
```

Challenge 3 Answer

```
<script>

    var parasToChange = document.querySelectorAll("#main p");

    for (var i = 0; i < parasToChange.length; i++) {
        parasToChange[i].style.fontSize = "24px";
        parasToChange[i].style.color = "red";
    }

</script>
```

Challenge 4 - jQuery

Use jQuery to change the font size to 24 pixels and the color to red for the paragraphs inside the div, but not the one outside the div.

```
<p>Don't change this paragraph</p>

<div id="main">
     <p>change this paragraph.</p>
     <p>change this paragraph too.</p>
     <p>And change this last paragraph.</p>
</div>

<script>

</script>
```

Challenge 4 Answer

```html
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>
    $("#main p").css("font-size", "24px").css("color", "red");
    //$("#main p").css({ "font-size": "24px", "color": "red" });
</script>
```

You could use either the chaining of the css() method or pass
in an object with multiple settings.

Challenge 5 - JS

Use JavaScript to change the font size and color of the last paragraph in the div without affecting any of the other paragraphs.

```html
<p>don't change this paragraph</p>

<div id="main">
    <p>don't change this paragraph</p>
    <p>don't change this paragraph</p>
    <p>Change this last paragraph</p>
</div>
```

Challenge 5 Answer

```
<script>

        var lastPara = document.querySelector("#main p:last-of-type");

        lastPara.style.fontSize = "36px";
        lastPara.style.color = "red";

</script>
```

Challenge 6 - jQuery

Use jQuery to change the font size and color of the last paragraph in the div without affecting any of the other paragraphs.

```html
<p>don't change this paragraph</p>

<div id="main">
    <p>don't change this paragraph</p>
    <p>don't change this paragraph</p>
    <p>Change this last paragraph</p>
</div>
```

Challenge 6 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script>

    $("#main p:last-of-type").css({ "font-size": "36px", "color": "red" });

</script>
```

Or this will work too…

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script>

    $("#main p").last().css({ "font-size": "36px", "color": "red" });

</script>
```

Challenge 7 - JS

Use JavaScript to change the color of every other paragraph inside the div to red.

```html
<p>don't change this paragraph</p>

<div id="main">
    <p>Here is paragraph one</p>
    <p>Here is paragraph two</p>
    <p>Here is paragraph three</p>
    <p>Here is paragraph four</p>
    <p>Here is paragraph five</p>
    <p>Here is paragraph six</p>
    <p>Here is paragraph seven</p>
    <p>Here is paragraph eight</p>
    <p>Here is paragraph nine</p>
    <p>Here is paragraph ten</p>
    <p>Here is paragraph eleven</p>
    <p>Here is paragraph twelve</p>
</div>
```

Challenge 7 Answer

```
<script>

    var parasInMain = document.querySelectorAll("#main p:nth-child(even)");

    for (var i = 0; i < parasInMain.length; i++) {
        parasInMain[i].style.color = "red";
    }

</script>
```

Challenge 8 - jQuery

Use jQuery to change the color of every other paragraph inside the div to red.

```
<p>don't change this paragraph</p>

<div id="main">
    <p>Here is paragraph one</p>
    <p>Here is paragraph two</p>
    <p>Here is paragraph three</p>
    <p>Here is paragraph four</p>
    <p>Here is paragraph five</p>
    <p>Here is paragraph six</p>
    <p>Here is paragraph seven</p>
    <p>Here is paragraph eight</p>
    <p>Here is paragraph nine</p>
    <p>Here is paragraph ten</p>
    <p>Here is paragraph eleven</p>
    <p>Here is paragraph twelve</p>
</div>
```

Challenge 8 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script>

    $("#main p").even().css("color", "red");

</script>
```

Challenge 9 - JS

Use JavaScript to change the color of paragraph that contains "Llamas and Chickens!" to red.

```html
<p>don't change this paragraph</p>

<div id="main">
    <p>Here is paragraph one</p>
    <p>Here is paragraph two</p>
    <p>Here is paragraph three</p>
    <p>Here is paragraph four</p>
    <p>Here is paragraph five</p>
    <p>Llamas and Chickens!</p>
    <p>Here is paragraph seven</p>
    <p>Here is paragraph eight</p>
    <p>Here is paragraph nine</p>
    <p>Here is paragraph ten</p>
    <p>Here is paragraph eleven</p>
    <p>Here is paragraph twelve</p>
</div>
```

Challenge 9 Answer

```
<script>

    var parasInMain = document.querySelectorAll("#main p");

    for (var i = 0; i < parasInMain.length; i++) {
        if (parasInMain[i].innerHTML == "Llamas and Chickens!") {
            parasInMain[i].style.color = "red";
        }
    }

</script>
```

Challenge 10 - jQuery

Use jQuery to change the color of paragraph that contains "Llamas and Chickens!" to red.

```html
<p>don't change this paragraph</p>

<div id="main">
    <p>Here is paragraph one</p>
    <p>Here is paragraph two</p>
    <p>Here is paragraph three</p>
    <p>Here is paragraph four</p>
    <p>Here is paragraph five</p>
    <p>Llamas and Chickens!</p>
    <p>Here is paragraph seven</p>
    <p>Here is paragraph eight</p>
    <p>Here is paragraph nine</p>
    <p>Here is paragraph ten</p>
    <p>Here is paragraph eleven</p>
    <p>Here is paragraph twelve</p>
</div>
```

Challenge 10 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script>

    $("#main p:contains(Llamas and Chickens!)").css("color", "red");

</script>
```

Challenge 11 - JS

Use JavaScript to put a click handler on the links in the navigation.

When one of those links is clicked, an alert should come up that says "clicked!".

Use const/let instead of var to declare variables for the rest of the challenges.

The link to google should be unaffected.

```
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 11 Answer

```
<script>

    const navLinks = document.querySelectorAll("nav ul li a");

    for (let i = 0; i < navLinks.length; i++) {
        //navLinks[i].onclick = function () { alert("clicked!") };
        navLinks[i].addEventListener("click", function () { alert("clicked") });
    }

</script>
```

You can use either the onclick event property or
the addEventListener method.

Challenge 12 - jQuery

Use jQuery to put a click handler on the links in the navigation.

When one of those links is clicked, an alert should come up that says "clicked!".

The link to google should be unaffected.

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 12 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $("nav ul li a").click(function () { alert("clicked!"); });

</script>
```

Challenge 13 - JS

Use JavaScript to put a click handler on the links in the navigation.

When one of those links is clicked, an alert should come up that has the text of the link inside of it. For example, if you click link two, the alert box should say "link two".

The link to google should be unaffected.

Hint: use the "this" keyword.

```
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 13 Answer

```html
<script>

    const navLinks = document.querySelectorAll("nav ul li a");

    for (let i = 0; i < navLinks.length; i++) {
        //navLinks[i].onclick = function(){ alert( this.innerHTML) };
        navLinks[i].addEventListener("click", function () { alert(this.innerHTML) });
    }

</script>
```

Challenge 14 - jQuery

Use jQuery to put a click handler on the links in the navigation.

When one of those links is clicked, an alert should come up that has the text of the link inside of it. For example, if you click link two, the alert box should say "link two".

The link to google should be unaffected.

Hint: use the "this" keyword.

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 14 Answer

```html
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $("nav ul li a").click(function () { alert($(this).html()); });

</script>
```

Challenge 15 - JS

Use JavaScript to put a click handler on the links in the navigation.

When one of those links is clicked, change the color of the text inside the link to red.

The link to google should be unaffected.

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 15 Answer

```
<script>

    const navLinks = document.querySelectorAll("nav ul li a");

    for (let i = 0; i < navLinks.length; i++) {
        navLinks[i].addEventListener("click", function () {
            this.style.color = "red";
        });
    }

</script>
```

Challenge 16 - jQuery

Use jQuery to put a click handler on the links in the navigation.

When one of those links is clicked, change the color of the text inside the link to red.

The link to google should be unaffected.

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p>Here is a paragraph with a <a
href="http://google.com">link to google</a> in
it</p>
```

Challenge 16 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $("nav ul li a").click(function () {

        $(this).css("color", "red");

    });

</script>
```

Challenge 17 - JS

Use JavaScript to put a click handler on the links in the navigation.

When one of those links is clicked, change the text in the paragraph below to say "You clicked" and the text from the link.

So if link two were clicked, it would say "You clicked link two".

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p id="paragraph">Click a link to change this
paragraph</p>
```

Challenge 17 Answer

```
<script>

    const navLinks = document.querySelectorAll("nav ul li a");

    for (let i = 0; i < navLinks.length; i++) {

        navLinks[i].addEventListener("click", function () {
            const thisLink = this.innerHTML;
            document.getElementById("paragraph").innerHTML = `You clicked ${thisLink}`;
        });
    }

</script>
```

Challenge 18 - jQuery

Use jQuery to put a click handler on the links in the navigation.

When one of those links is clicked, change the text in the paragraph below to say "You clicked" and the text from the link.

So if link two were clicked, it would say "You clicked link two".

```html
<nav>
    <ul>
        <li><a href="#">link one</a></li>
        <li><a href="#">link two</a></li>
        <li><a href="#">link three</a></li>
        <li><a href="#">link four</a></li>
        <li><a href="#">link five</a></li>
    </ul>
</nav>

<p id="paragraph">Click a link to change this
paragraph</p>
```

Challenge 18 Answer

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $("nav ul li a").click(function () {

        const thisLink = $(this).html();

        $("#paragraph").html(`You clicked ${thisLink}`);

    });

</script>
```

Challenge 19 - JS

When the user clicks a link, have it turn the appropriate paragraph below red. The rest of the paragraphs should be black.

Use JavaScript

```html
<nav>
    <ul>
        <li><a href="#" id="link1">link one</a></li>
        <li><a href="#" id="link2">link two</a></li>
        <li><a href="#" id="link3">link three</a></li>
        <li><a href="#" id="link4">link four</a></li>
        <li><a href="#" id="link5">link five</a></li>
    </ul>
</nav>

<p id="paralink1">Looks like you clicked the first link in the list</p>
<p id="paralink2">Looks like you clicked the second link in the list</p>
<p id="paralink3">Looks like you clicked the third link in the list</p>
<p id="paralink4">Looks like you clicked the fourth link in the list</p>
<p id="paralink5">Looks like you clicked the fifth link in the list</p>
```

Challenge 19 Answer

```
<script>

    const navLinks = document.querySelectorAll("nav ul li a");
    const paragraphs = document.querySelectorAll("p");

    for (let i = 0; i < navLinks.length; i++) {
        navLinks[i].addEventListener("click", function () {

            const paraNumber = "#para" + this.id; //constructs a string like this: "#paralink3"

            for (let i = 0; i < paragraphs.length; i++) {
                paragraphs[i].style.color = "black"; //Loop through and make all paras black
            }

            const thisParagraph = document.querySelector(paraNumber);
            thisParagraph.style.color = "red"; //change just the one paragraph red

        });
    }
</script>
```

Challenge 20 - jQuery

When the user clicks a link, have it turn the appropriate paragraph below red. The rest of the paragraphs should be black.

Use jQuery

```html
<nav>
    <ul>
        <li><a href="#" id="link1">link one</a></li>
        <li><a href="#" id="link2">link two</a></li>
        <li><a href="#" id="link3">link three</a></li>
        <li><a href="#" id="link4">link four</a></li>
        <li><a href="#" id="link5">link five</a></li>
    </ul>
</nav>

<p id="paralink1">Looks like you clicked the first link in the list</p>
<p id="paralink2">Looks like you clicked the second link in the list</p>
<p id="paralink3">Looks like you clicked the third link in the list</p>
<p id="paralink4">Looks like you clicked the fourth link in the list</p>
<p id="paralink5">Looks like you clicked the fifth link in the list</p>
```

Challenge 20 Answer

```html
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script>

   $("nav ul li a").click(function () {

      const paraNumber = "#para" + $(this).attr("id"); // constructs #paralink3 for example
      $("p").css("color", "black");
      $(paraNumber).css("color", "red");

   });

</script>
```