JavaScript Event Challenges

22 - 30

Challenge 22

Make an HTML file with a paragraph and a button. When you click the button, make the paragraph turn green.

For now put <script> tags at the bottom of the page, before the closing </body> tag.

```html
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 22</title>
</head>

<body>

    <h1>JavaScript Event Challenges: Challenge 22</h1>
    <p>Here is a paragraph of text</p>
    <button>Turn Green Dammit!</button>

</body>
</html>
```

Challenge 22 Answer

Either of these, or something like these are acceptable:

```
<script>

    var pTag = document.querySelector('p');
    var btn = document.querySelector('button');

    btn.addEventListener('click', function(){

        pTag.style.color = "green";

    });

</script>
```

```
<script>

    var pTag = document.querySelector('p');
    var btn = document.querySelector('button');

    btn.onclick = function(){
        pTag.style.color = "green";
    }

</script>
```

Challenge 23

Add a few more paragraphs. When you click the button, all the paragraphs turn green.

```html
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 23</title>
</head>

<body>

    <h1>JavaScript Event Challenges: Challenge 23</h1>
    <p>Here is a paragraph of text</p>
    <p>Here is another paragraph of text</p>
    <p>Here is a third paragraph of text</p>
    <button>Turn Them All Green Dammit!</button>

</body>
</html>
```

Challenge 23 Answer

Hopefully you got something like this. Using
the onclick property is acceptable too.

```html
<script>

    var pTags = document.querySelectorAll('p');
    var btn = document.querySelector('button');

    btn.addEventListener('click', function(){

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

    });

</script>
```

Challenge 24

Change the HTML so that there is a div around one paragraph. Make it so that when you click the button a new paragraph is added to the div, with the text, "A new paragraph" in it.

You may need to go back to the slides on changing the DOM to see how to do this.

```html
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 24</title>
</head>

<body>

    <h1>JavaScript Event Challenges: Challenge 24</h1>
    <div>
        <p>Here is the first paragraph of text</p>
    </div>
    <button>Add a paragraph</button>

</body>
</html>
```

Challenge 24 Answer

Hopefully you got something like this. Using
the onclick property is acceptable too.

```html
<script>

    var divTag = document.querySelector('div');
    var btn = document.querySelector('button');

    btn.addEventListener('click', function(){

        var newP = document.createElement('p');
        var pText = document.createTextNode('A new paragraph');
        newP.appendChild(pText);
        divTag.appendChild(newP);

    });

</script>
```

Challenge 25

For this challenge, add an additional button that removes the last paragraph from the div.

```html
<h1>JavaScript Event Challenges: Challenge 25</h1>
<div>
    <p>Here is the first paragraph of text</p>
</div>
<button>Add a paragraph</button>
<button>Remove Paragraph</button>
```

Challenge 25 Answer

There are a few ways to do this one...

Much of the script is the same as with #24, but a few things have changed and a new event handler has been added.

```javascript
var divTag = document.querySelector('div');
var btnAdd = document.querySelectorAll('button')[0];
var btnDelete = document.querySelectorAll('button')[1];

btnAdd.addEventListener('click', function(){

    var newP = document.createElement('p');
    var pText = document.createTextNode('A new paragraph');
    newP.appendChild(pText);
    divTag.appendChild(newP);

});

btnDelete.addEventListener('click', function(){
    var allPs = document.querySelectorAll('p');
    divTag.removeChild(divTag.children[allPs.length-1]);
});
```
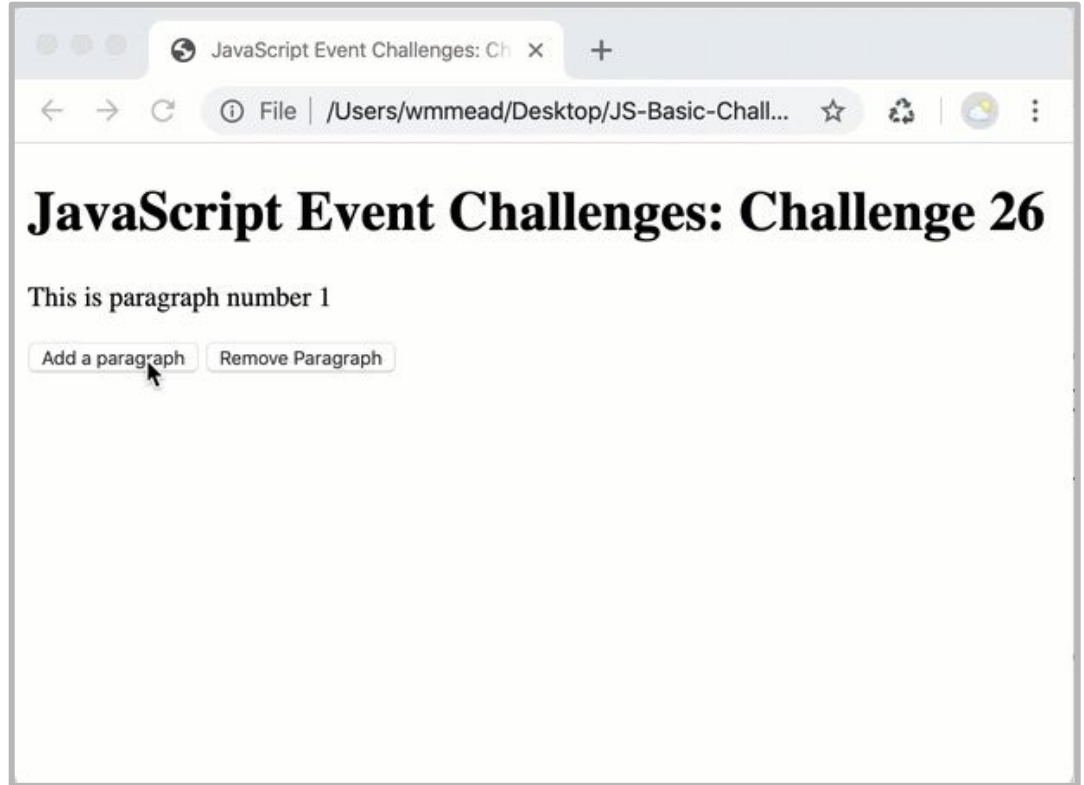
Challenge 26

For this challenge, change the first paragraph so that it says, "This is paragraph number 1".

Each time the user presses the add paragraph button, the number at the end of the statement increments.

When the user clicks the remove paragraph button, it functions as normal, but alerts the user if they try to delete the last paragraph.

Challenge 26 Answer

Did you come up with something like this? Your's might be little different.

```javascript
var divTag = document.querySelector('div');
var btnAdd = document.querySelectorAll('button')[0];
var btnDelete = document.querySelectorAll('button')[1];
var numOfPs = 1;

btnAdd.addEventListener('click', function(){
    numOfPs++;
    var newP = document.createElement('p');
    var pText = document.createTextNode(
        `This is paragraph number ${numOfPs}`);
    newP.appendChild(pText);
    divTag.appendChild(newP);
});

btnDelete.addEventListener('click', function(){
    if(numOfPs > 1){
        divTag.removeChild(divTag.children[numOfPs-1]);
        numOfPs--;
    }
    else {
        alert("don't delete the last paragraph!");
    }
});
```

Challenge 27

Add a form. When the user submits a number, change the size of the font for the h1 to be equal to the number they submitted in pixels.

If no number is entered, or something other than a number is entered, alert that the user must enter a number.

To make this work you will have to prevent the default behavior for the form submission.

```html
<h1>JavaScript Event Challenges: Challenge 27</h1>

<form>
    <label>Enter a number <input type="text"></label>
    <input type="submit" value="send number">
</form>
```

Challenge 27 Answer

```html
<script>

    var h1Tag = document.querySelector('h1');
    var formTag = document.querySelector('form');

    formTag.addEventListener('submit', function(event){

        event.preventDefault();
        var myNum = parseInt(document.querySelector('input').value);

        if(myNum){
            h1Tag.style.fontSize = myNum + "px";
        }
        else {
            alert('please enter a number');
        }
    });

</script>
```

Challenge 28

For this challenge, create the HTML and CSS on the right. Then write a script that when you hover the mouse over the div, it adds the class "big".

Write a second event handler for when the mouse goes off the div, it removes the class "big".

```html
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 28</title>
    <style>
        div {
            width: 50px;
            height: 50px;
            background-color: rgb(255,0,0);
            transition: all 2s;
        }

        .big {
            width: 200px;
            height: 200px;
            background-color: rgb(0,0,255);
            border-radius: 50%;
            transition: all 2s;
        }
    </style>
</head>

<body>

    <h1>JavaScript Event Challenges: Challenge 28</h1>

    <div></div>
```

Challenge 28 Answer

The ability to add and remove classes on the fly is very powerful.

```html
<script>

    var divTag = document.querySelector('div');

    divTag.addEventListener('mouseover', function(){
        divTag.className="big";
    });

    divTag.addEventListener('mouseout', function(){
        divTag.removeAttribute('class');
    });

</script>
```

Challenge 29 Markup

Create the HTML & CSS as shown.

Write a script that changes the class on the body tag for each 500 pixels the user scrolls. At 500px down the page the body gets class two, and at 1000 it gets class three, etc.

You can use if/else statements, but try using a switch statement!

```
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 29</title>
    <style>
        body { height: 3000px; }
        .one { background-color:beige; transition: all 3s; }
        .two { background-color: blueviolet; transition: all 3s; }
        .three { background-color: coral; transition: all 3s; }
        .four { background-color: cornflowerblue; transition: all 3s; }
        .five { background-color: darkgoldenrod; transition: all 3s;}
    </style>
</head>

<body class="one">

    <h1>JavaScript Event Challenges: Challenge 29</h1>
    <p>Scroll Down!</p>
```

Challenge 29

The browser should look like this as you scroll on this challenge...
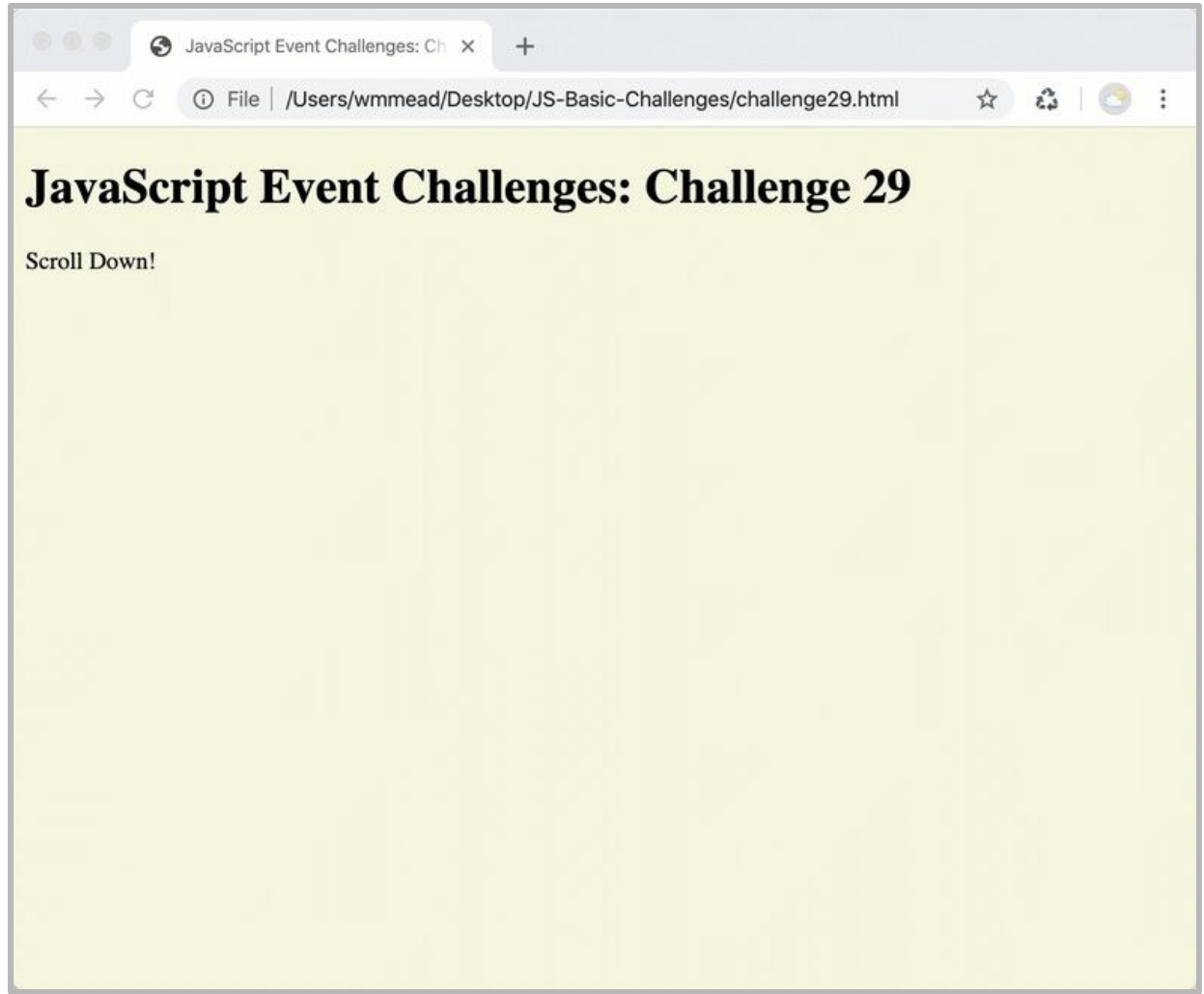
Challenge 29 Answer

Considering everything going on, this script is not too complex.

```
<script>

    var pageTop;
    var bodyTag = document.querySelector('body');

    window.addEventListener('scroll', function(){

        pageTop = window.pageYOffset;

        switch(true){
            case pageTop < 500: bodyTag.className="one"; break;
            case pageTop < 1000: bodyTag.className="two"; break;
            case pageTop < 1500: bodyTag.className="three"; break;
            case pageTop < 2000: bodyTag.className="four"; break;
            default: bodyTag.className="five";
        }

    });

</script>
```

Challenge 30

Change the HTML and CSS to this, then write a script that changes the class on the body tag based on the key that was pressed.

If someone presses a different key, give them a nasty alert message.

Use the switch statement again.

```html
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>JavaScript Event Challenges: Challenge 30</title>
    <style>
        .one { background-color:beige; transition: all 3s; }
        .two { background-color: blueviolet; transition: all 3s; }
        .three { background-color: coral; transition: all 3s; }
        .four { background-color: cornflowerblue; transition: all 3s; }
        .five { background-color: darkgoldenrod; transition: all 3s;}
    </style>
</head>

<body class="one">

    <h1>JavaScript Event Challenges: Challenge 30</h1>
    <p>Press the B key to turn the page beige</p>
    <p>Press the V key to turn the page blueviolet</p>
    <p>Press the C key to turn the page coral</p>
    <p>Press the F key to turn the page cornflowerblue</p>
    <p>Press the G key to turn the page darkgoldenrod</p>
```

Challenge 30 Answer

I hope you have had fun with these, and that some of them spark your imagination for interactions you can create!

```
<script>

    var bodyTag = document.querySelector('body');

    document.addEventListener('keydown', function(event){

        var keyPressed = event.which;

        switch(keyPressed){
            case 66: bodyTag.className="one"; break;
            case 86: bodyTag.className="two"; break;
            case 67: bodyTag.className="three"; break;
            case 70: bodyTag.className="four"; break;
            case 71: bodyTag.className="five"; break;
            default: alert("You didn't press one of the specified keys!");
        }

    });

</script>
```