

JavaScript Engineer Challenge (gradient)

Without using any external libraries, create a Gradient object in JavaScript, which has a constructor that takes as arguments: an element (container in which to make a gradient) and an array of stop values (0 meaning black, 255 meaning white).

For example:

```
var element = document.getElementById('gradient');  
var gradient = new Gradient(element, [0, 255]);
```

Using the provided html file, your Gradient object should inject a series of divs into the given element, such that an evenly distributed monochromatic radial gradient is created that fits the container. It can be assumed that the container element will always be square.

Your response should **not** use CSS3 Gradients. ie. Do not use `-webkit-radial-gradient`.

Your class should implement the following methods:

draw() - (re)draws the gradient.

clear() - clears the gradient.

pop() - removes and returns the last stop.

push(stop1, ..., stopN) - appends given stops to the end of the gradient.

shift() - removes and returns the first stop.

unshift(stop1, ..., stopN) - appends given stops to the beginning of the gradient.


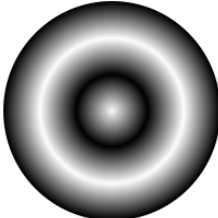
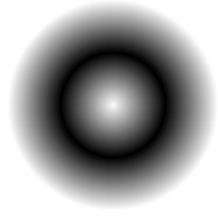
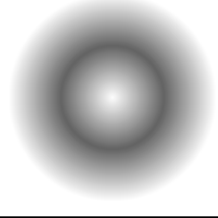
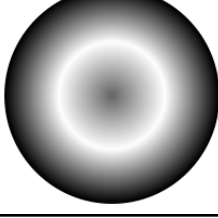
reverse() - reverse the order of all stops.

map(callback) - modifies the gradient by calling the callback for every stop.

sort([callback]) - sorts the stops (via an optional comparison callback)

This implementation only needs to function in the latest versions of Chrome or Safari.

Hint: To create circles, you may want to look into the `border-radius` css property.

Code	Result
<pre>var gradient = new Gradient(element, [0, 255]);</pre>	
<pre>gradient.push(0, 255);</pre>	
<pre>gradient.shift();</pre>	
<pre>gradient.map(function(stop){ return Math.min(255, stop + 100); });</pre>	
<pre>gradient.unshift(0); gradient.pop();</pre>	
<pre>gradient.clear();</pre>	

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8">
  <title>Inkling Gradient Challenge</title>
  <style type="text/css" media="screen">
    * {
      margin: 0;
      padding: 0;
    }

    #gradient {
      position: relative;
      margin: 0 auto;
      width: 400px;
      height: 400px;
    }

    #gradient div {
      position: absolute;
    }

  </style>
</head>
<body>
  <div id="gradient"></div>

  <script type="text/javascript" charset="utf-8">

    // YOUR CODE GOES HERE.

  </script>
</body>
</html>
```