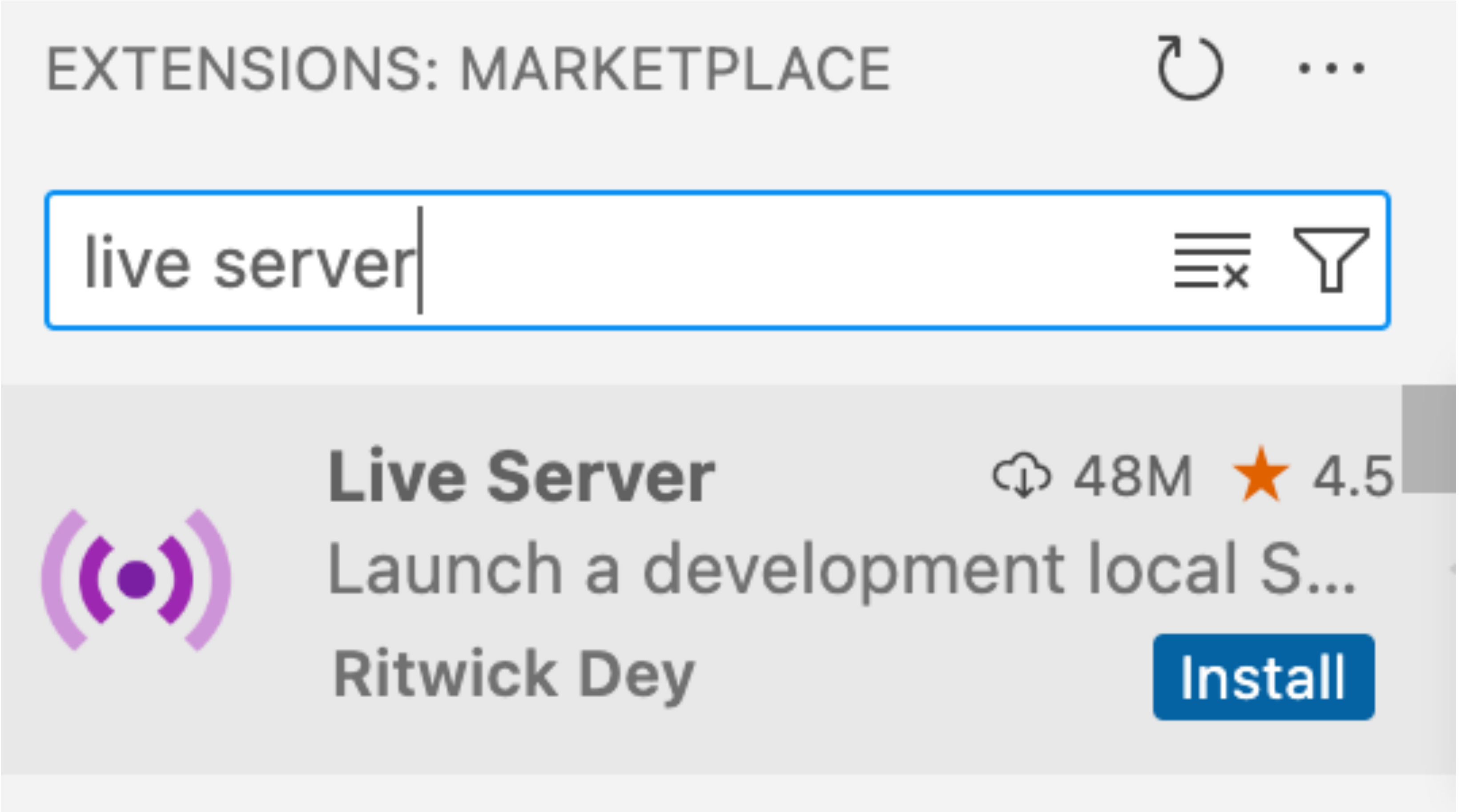
Random Quote Generator using JavaScript & Bootstrap

Arya Trivedi - http://aryablogs.com

Installation (make sure you Visual Code and Live Server extension installed)



EXTENSIONS: MARKETPLACE

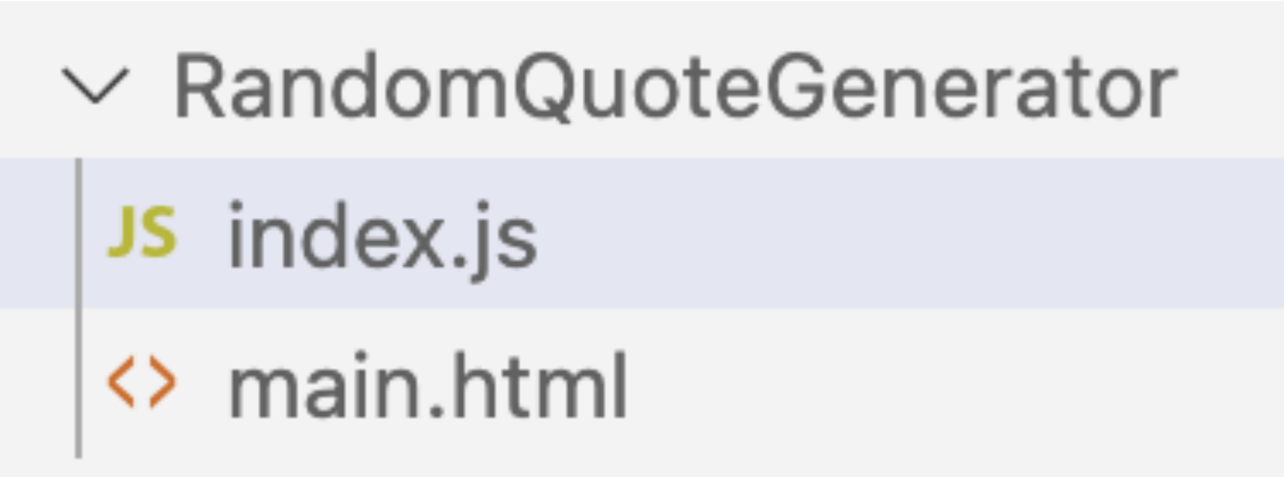
live server

Live Server 48M ★ 4.5

Launch a development local S...

Ritwick Dey

Make sure you have visual source code installed and extension called “live server” also installed



RandomQuoteGenerator

index.js

main.html

Create an empty project like this and create two empty files inside the folder.

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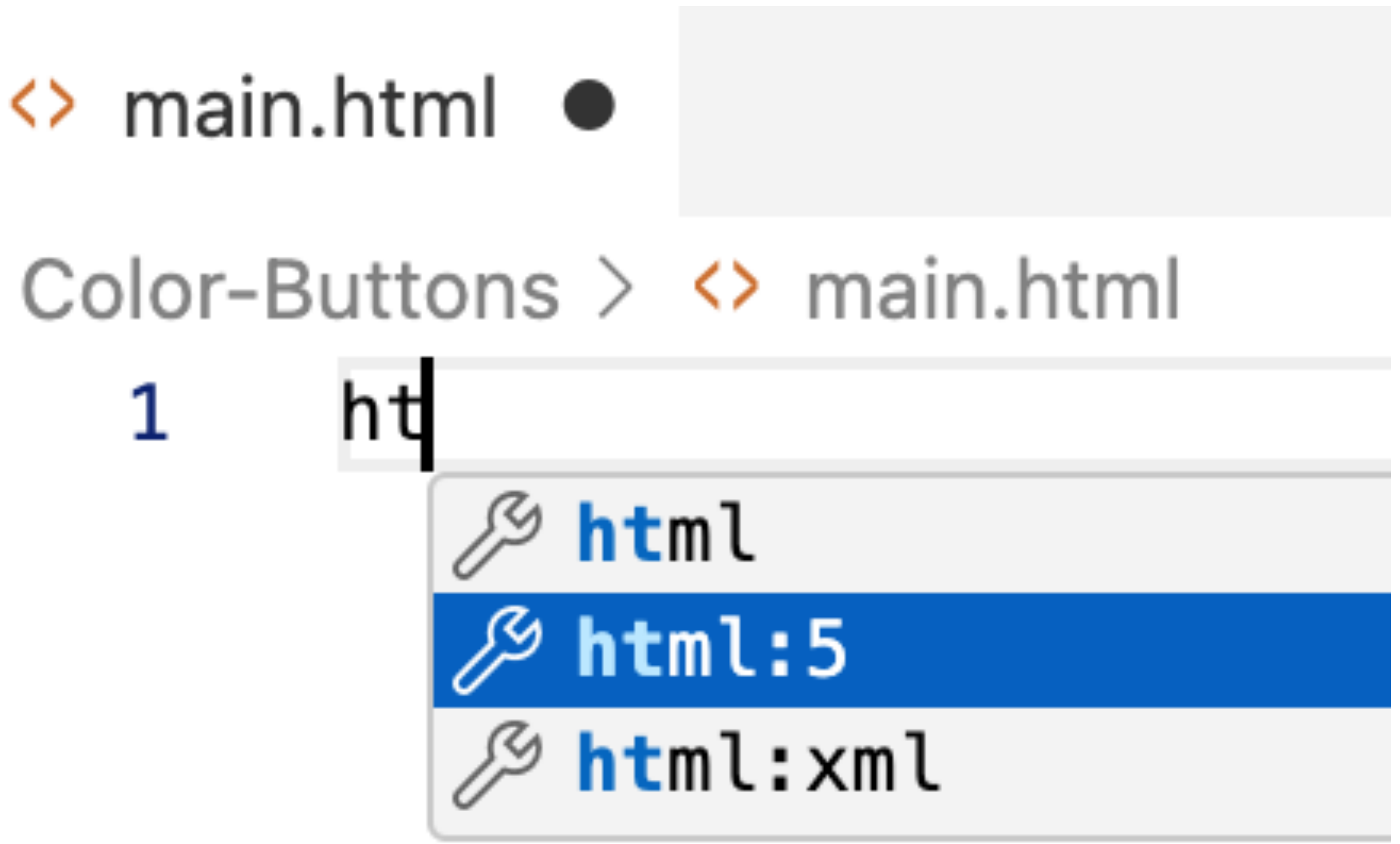
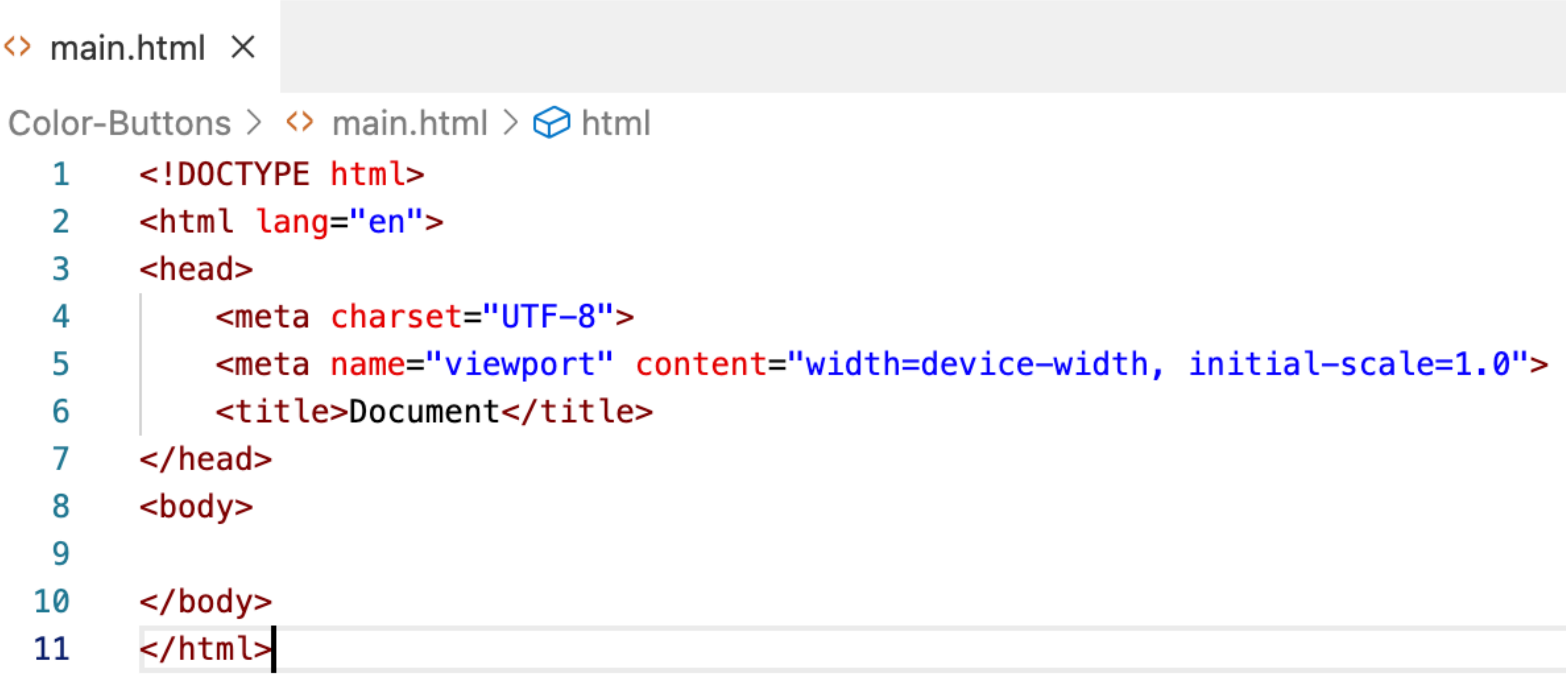
Build the HTML Page



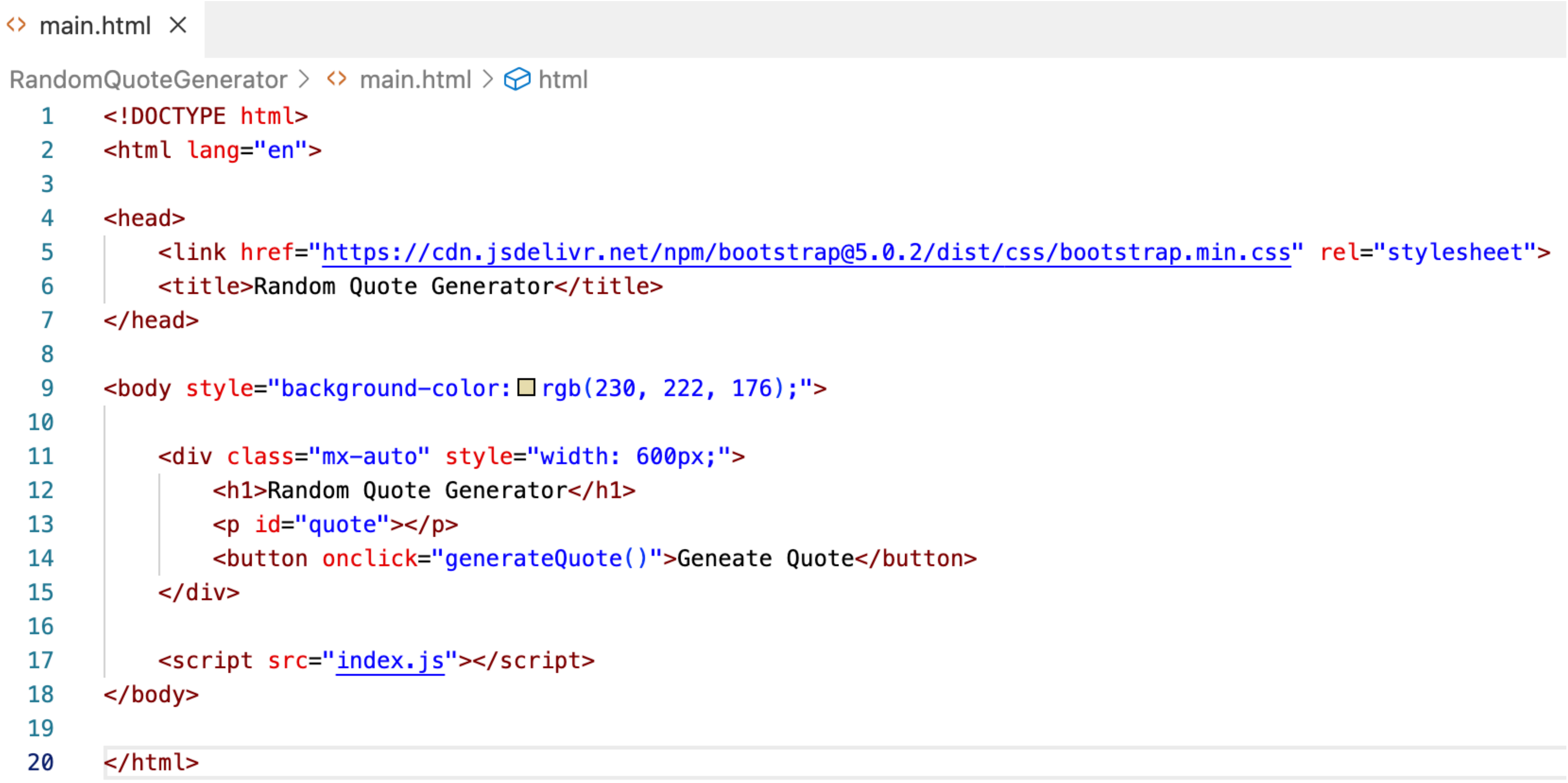
```
ht
```

Inside main.html file, use a tag html:5, and this will create a basic HTML page as shown below.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>

</body>
</html>
```

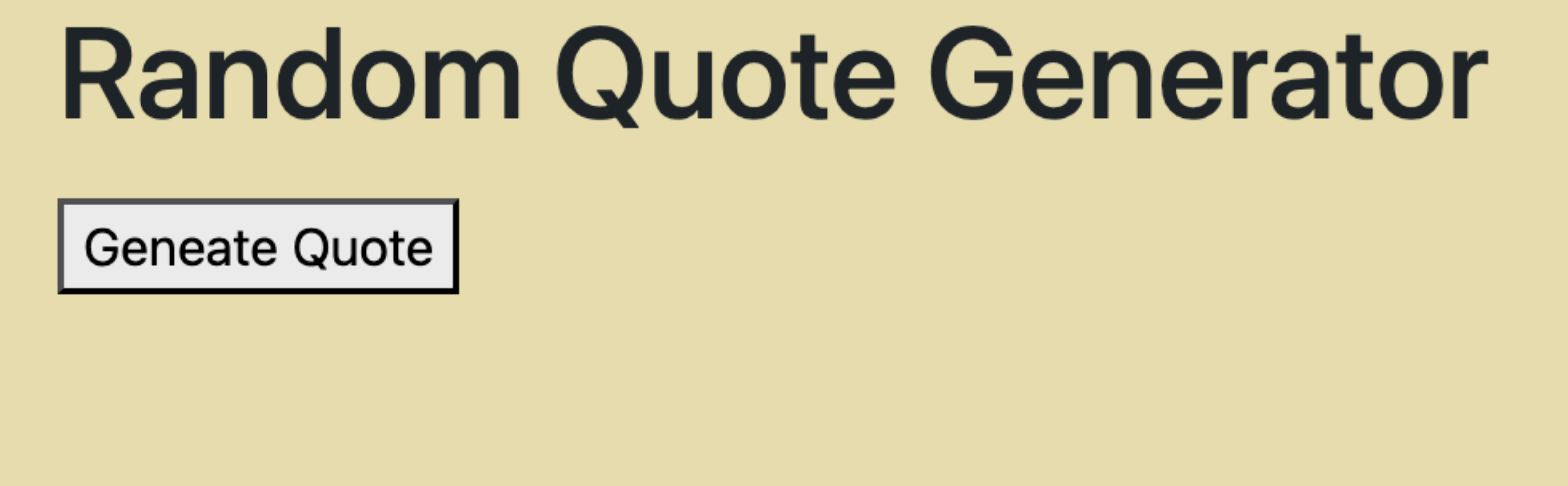
Update the page



```html
<!DOCTYPE html>
<html lang="en">

<head>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">
    <title>Random Quote Generator</title>
</head>

<body style="background-color: rgb(230, 222, 176);">

    <div class="mx-auto" style="width: 600px;">
        <h1>Random Quote Generator</h1>
        <p id="quote"></p>
        <button onclick="generateQuote()">Geneate Quote</button>
    </div>

    <script src="index.js"></script>
</body>

</html>
```

Update the HTML code a shown with head and body tag to keep things simple. Include the bootstrap library as shown. Next press "Go Live" button at the bottom of your VS Code, this will open a new chrome web page for you as shown below.

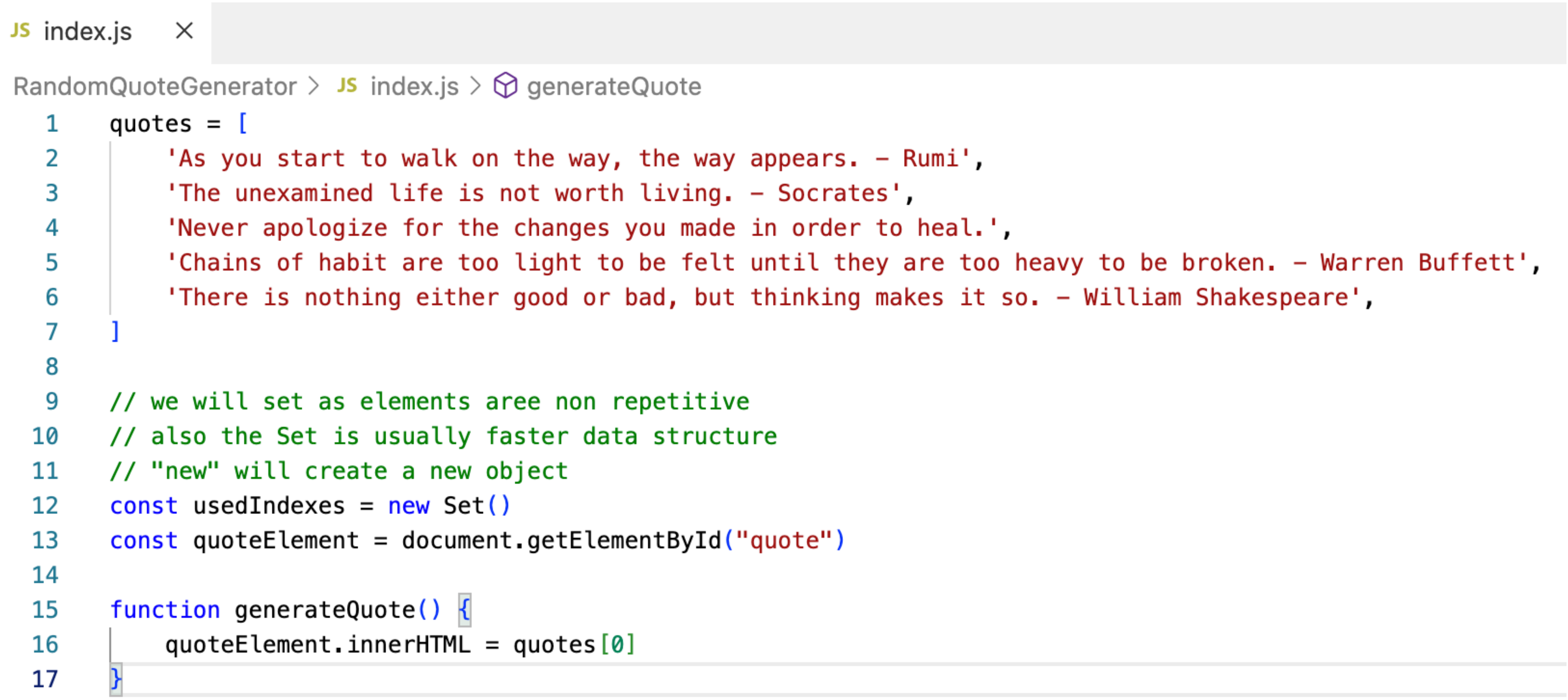
Update the page



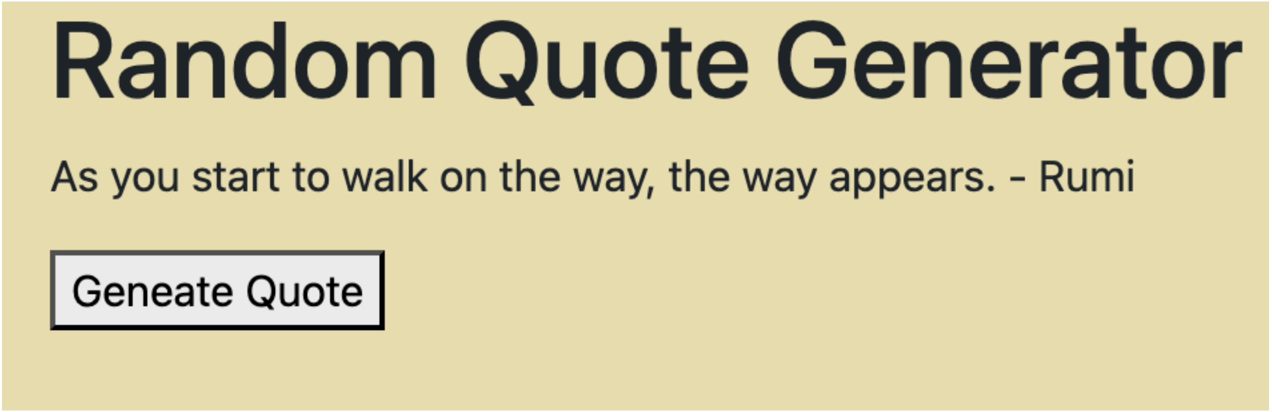
Random Quote Generator

When you view the page, this type of background color and button will appear, you can play around and change the appearance.

Update the JavaScript



```javascript
quotes = [
    'As you start to walk on the way, the way appears. - Rumi',
    'The unexamined life is not worth living. - Socrates',
    'Never apologize for the changes you made in order to heal.',
    'Chains of habit are too light to be felt until they are too heavy to be broken. - Warren Buffett',
    'There is nothing either good or bad, but thinking makes it so. - William Shakespeare',
]

// we will set as elements aree non repetitive
// also the Set is usually faster data structure
// "new" will create a new object
const usedIndexes = new Set()
const quoteElement = document.getElementById("quote")

function generateQuote() {
    quoteElement.innerHTML = quotes[0]
}
```



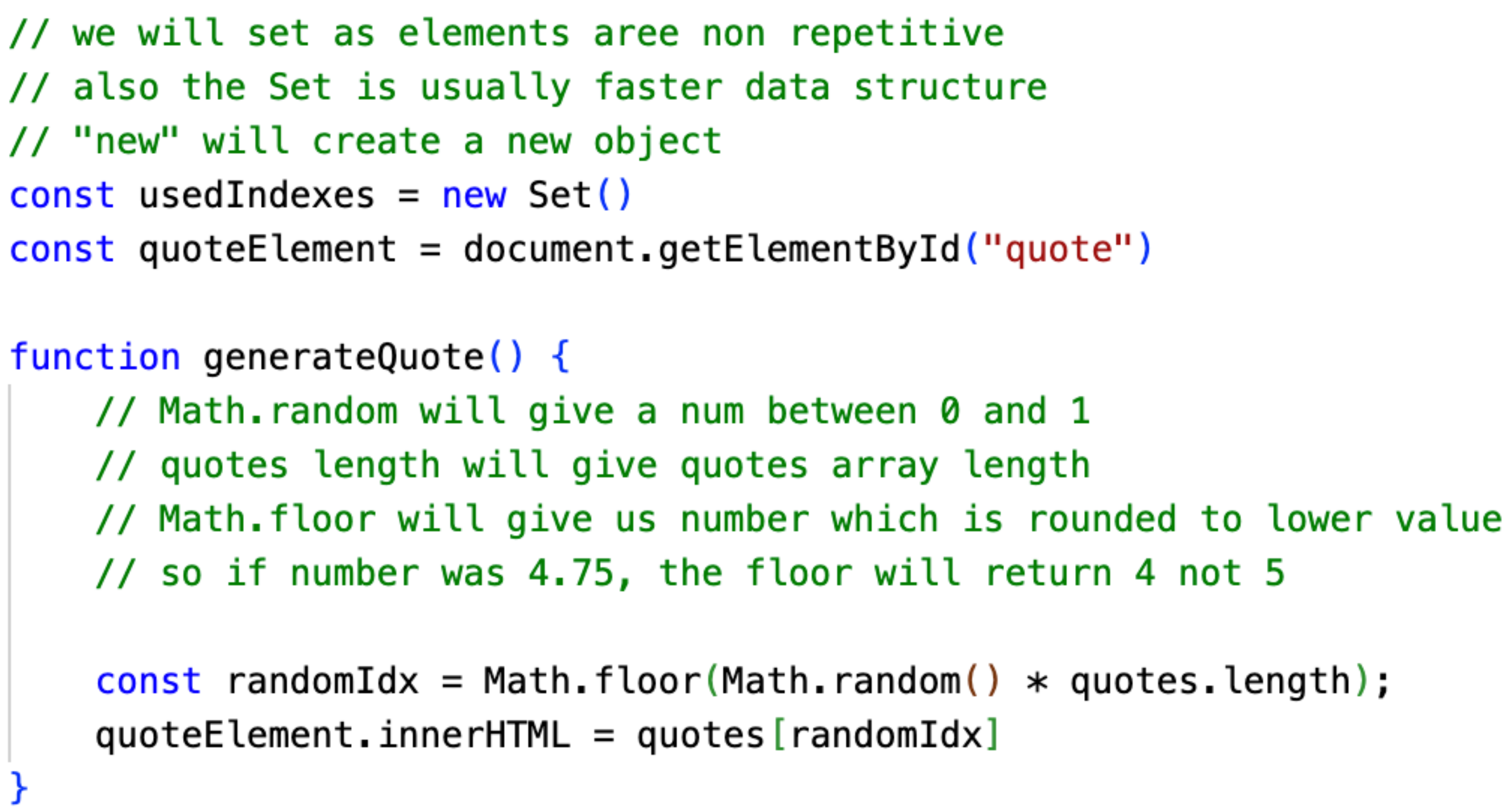
Random Quote Generator

As you start to walk on the way, the way appears. - Rumi

In our JavaScript file, we need to first build an array of sentences, or quotes as shown. We have 5 quotes, you can have as many quotes in this array as you like.

Next, we have an empty set object, this will be used to store unique quotes and avoid duplication. Then we will have a random quote generator function, this will just set the inner HTML of our quote element with the first value of our quote element.

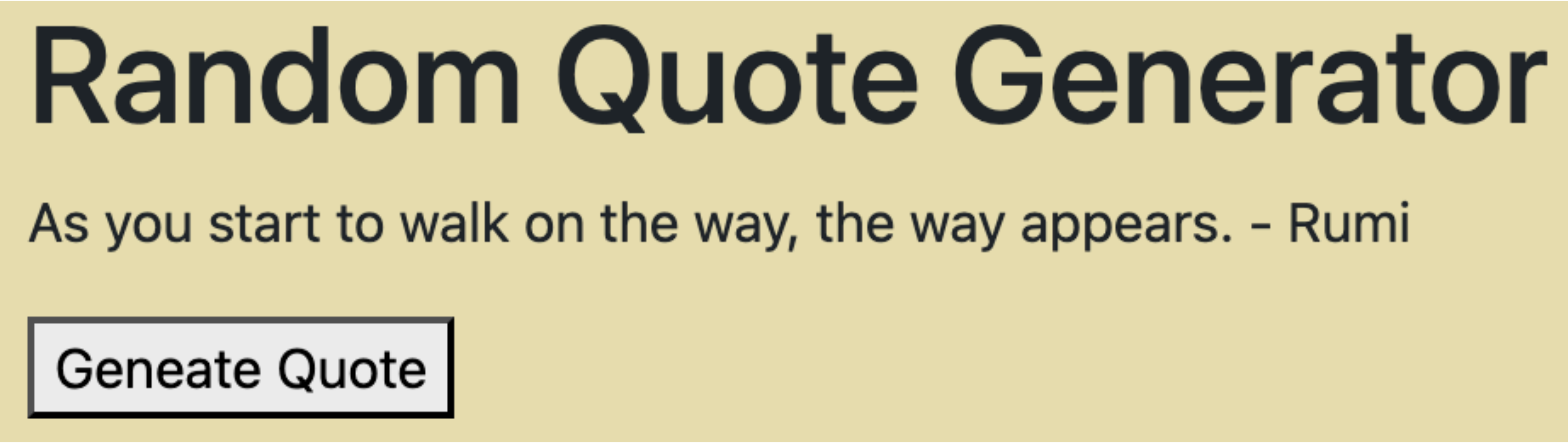
Update the JavaScript



```javascript
// we will set as elements aree non repetitive
// also the Set is usually faster data structure
// "new" will create a new object
const usedIndexes = new Set()
const quoteElement = document.getElementById("quote")

function generateQuote() {
    // Math.random will give a num between 0 and 1
    // quotes length will give quotes array length
    // Math.floor will give us number which is rounded to lower value
    // so if number was 4.75, the floor will return 4 not 5

    const randomIdx = Math.floor(Math.random() * quotes.length);
    quoteElement.innerHTML = quotes[randomIdx]
}
```



Random Quote Generator

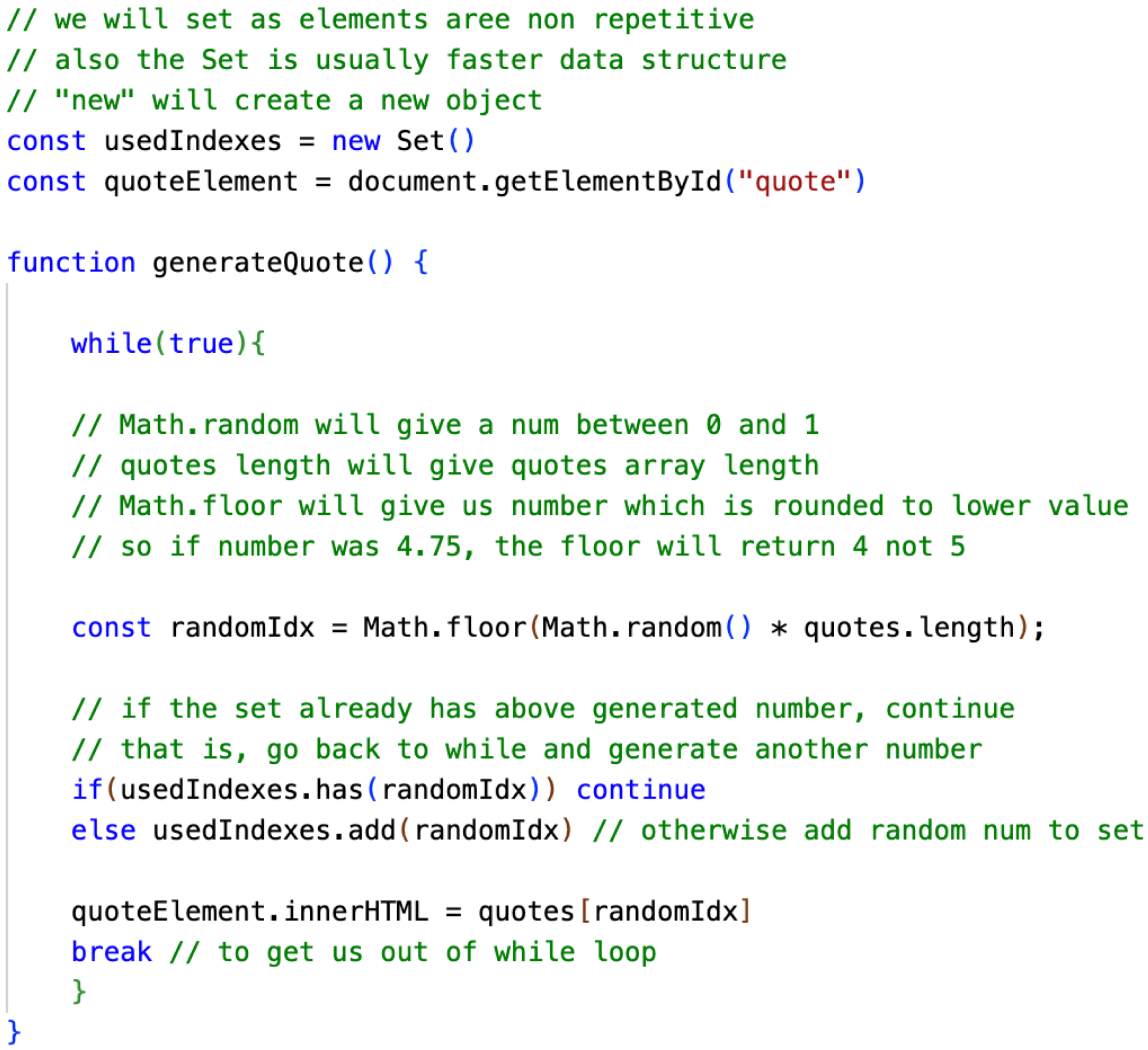
As you start to walk on the way, the way appears. - Rumi

Next we want to generate a random quote. For this we use Math.random() to give us a number between 0 and 1, a decimal value. We multiply that value with the length of our quotes array shown before. We take that value and take the floor of the number. Which is basically rounding to lower value.

Let's imagine we get a number 0.9999 from Math.random() function. Our array length is 5, so if we multiply the two, our resultant will be 4.9995, and floor value of that is 4.

Carefully notice, we are using quotes.length and not (quotes.length -1) as array starts with zero. The reason is Math.random() will always return a value between 0 and 1 but it will never will be 1, otherwise we have array out of index error.

Update the JavaScript



```
// we will set as elements aree non repetitive
// also the Set is usually faster data structure
// "new" will create a new object
const usedIndexes = new Set()
const quoteElement = document.getElementById("quote")

function generateQuote() {

    while(true){

    // Math.random will give a num between 0 and 1
    // quotes length will give quotes array length
    // Math.floor will give us number which is rounded to lower value
    // so if number was 4.75, the floor will return 4 not 5

    const randomIdx = Math.floor(Math.random() * quotes.length);

    // if the set already has above generated number, continue
    // that is, go back to while and generate another number
    if(usedIndexes.has(randomIdx)) continue
    else usedIndexes.add(randomIdx) // otherwise add random num to set

    quoteElement.innerHTML = quotes[randomIdx]
    break // to get us out of while loop
    }
}
```

To have non repetitive quotes, we will use our set that we have declared earlier. We have now a continuous while loop which is infinite loop, unless we hit the break.

What also we have added is a mechanism to check if the randomly generated index is in the set, if its there, then go back to top of loop and generate another number, if not, then add that number to the set.

This will work till we have seen all the quote once. After that we will be in an infinite loop and eventually our browser will run of memory. To fix this issue, we need to check the length of our set and quotes, if they are equal that means user has seen all the quotes and reset the set object, which we will do next.

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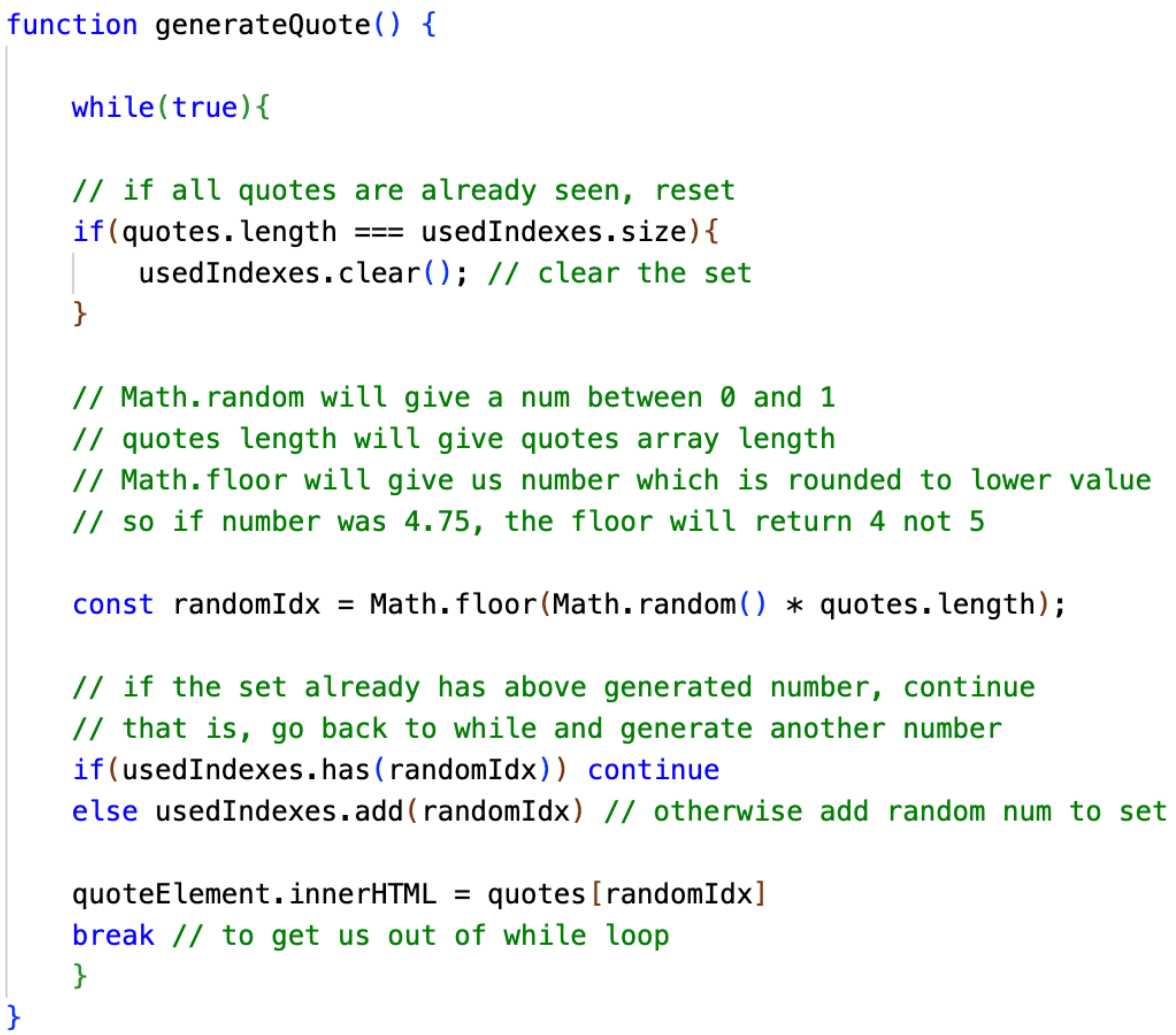
Update the JavaScript



```
function generateQuote() {

    while(true){

    // if all quotes are already seen, reset
    if(quotes.length === usedIndexes.size){
        usedIndexes.clear(); // clear the set
    }

    // Math.random will give a num between 0 and 1
    // quotes length will give quotes array length
    // Math.floor will give us number which is rounded to lower value
    // so if number was 4.75, the floor will return 4 not 5

    const randomIdx = Math.floor(Math.random() * quotes.length);

    // if the set already has above generated number, continue
    // that is, go back to while and generate another number
    if(usedIndexes.has(randomIdx)) continue
    else usedIndexes.add(randomIdx) // otherwise add random num to set

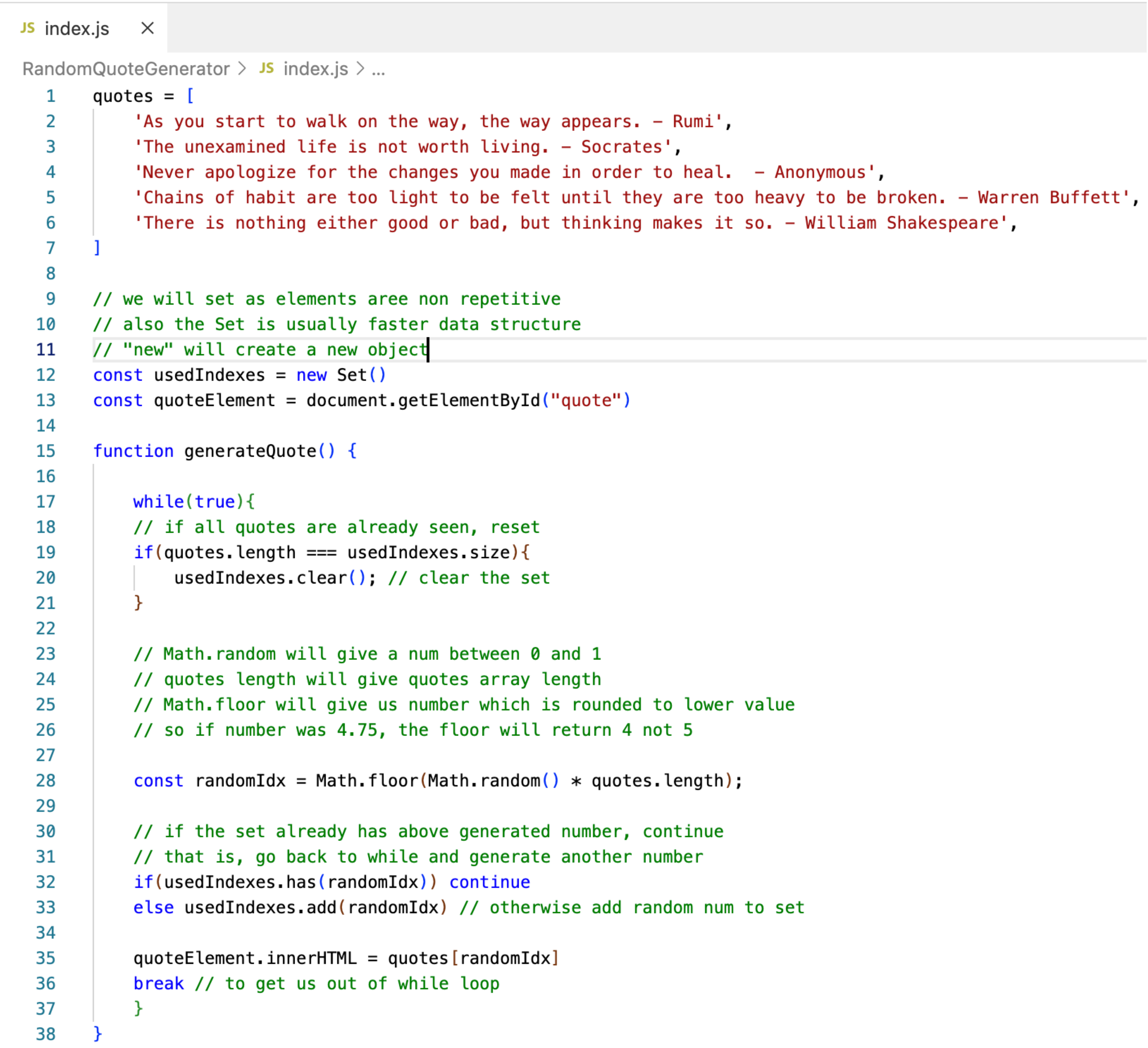
    quoteElement.innerHTML = quotes[randomIdx]
    break // to get us out of while loop
    }
}
```

To fix the error, we now have a check at the top of our function while loop, which checks if the quote length and set size is same, clear the set.

There are other ways of doing this, but using the set is one of the fastest ways to implement and make sure user doesn't see a duplicate quote till all the quotes have been seen once before.

Play around and test it out, we should see all quote once before we see a reset.

Full code



```
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    'Never apologize for the changes you made in order to heal.  - Anonymous',
    'Chains of habit are too light to be felt until they are too heavy to be broken. - Warren Buffett',
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    quoteElement.innerHTML = quotes[randomIdx]
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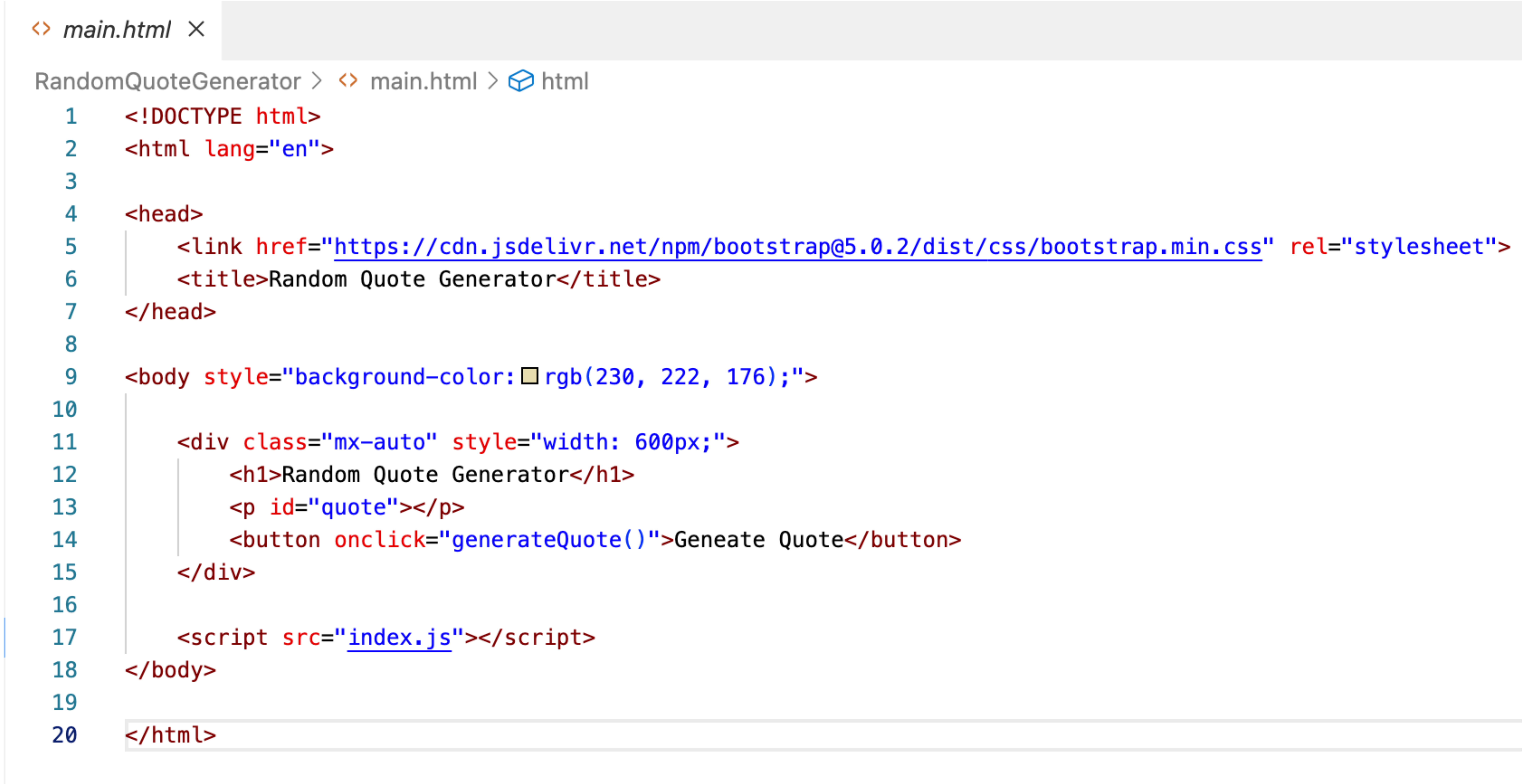
```

Full code



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    </div>

    <script src="index.js"></script>
</body>

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```

Thank you !!!