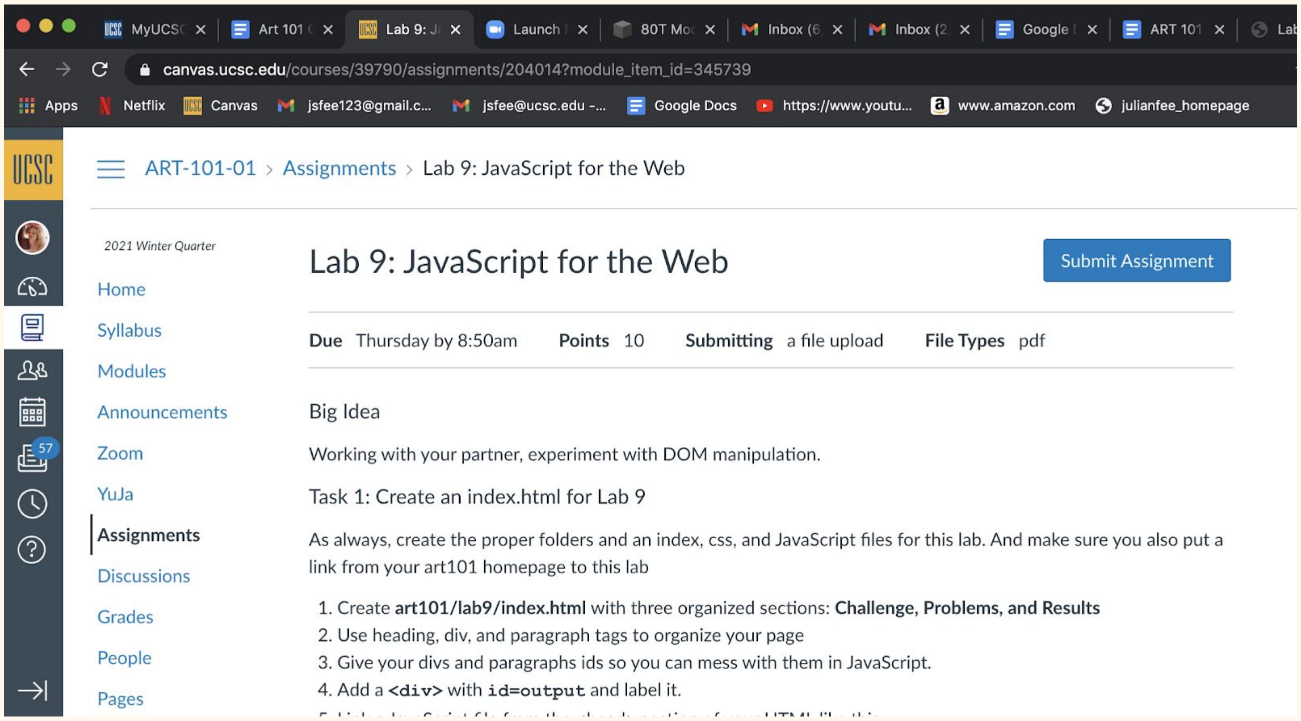
Lab 9
Javascript for the Web

By Becky Phillips (b), Sarah Matilda Krulder (c), Julian Fee (c)


canvas.ucsc.edu/courses/39790/assignments/204014?module_item_id=345739
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Lab 9: JavaScript for the Web

Due Thursday by 8:50am **Points** 10 **Submitting** a file upload **File Types** pdf

Big Idea

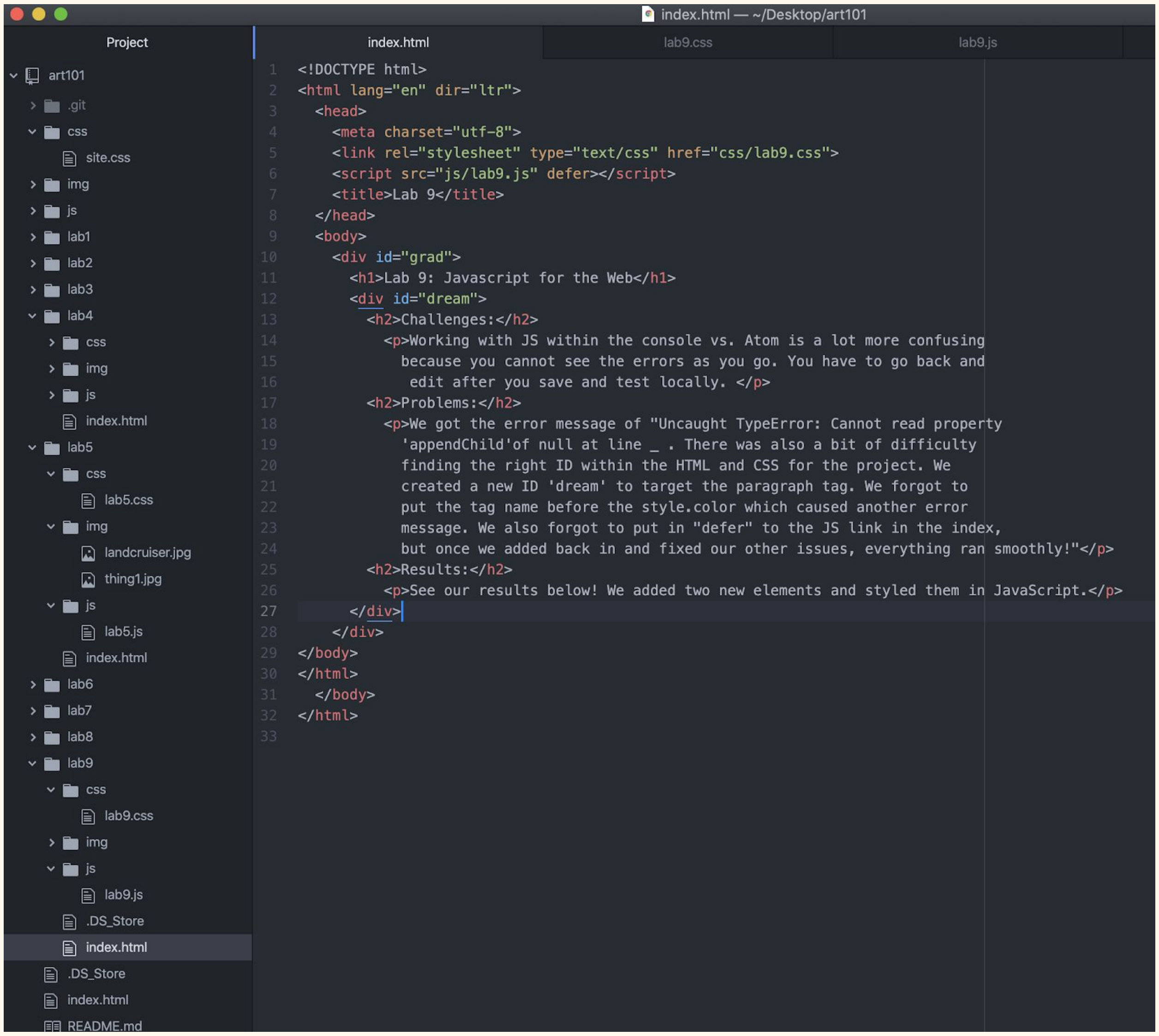
Working with your partner, experiment with DOM manipulation.

Task 1: Create an index.html for Lab 9

As always, create the proper folders and an index, css, and JavaScript files for this lab. And make sure you also put a link from your art101 homepage to this lab

1. Create **art101/lab9/index.html** with three organized sections: **Challenge, Problems, and Results**
2. Use heading, div, and paragraph tags to organize your page
3. Give your divs and paragraphs ids so you can mess with them in JavaScript.
4. Add a `<div>` with `id=output` and label it.

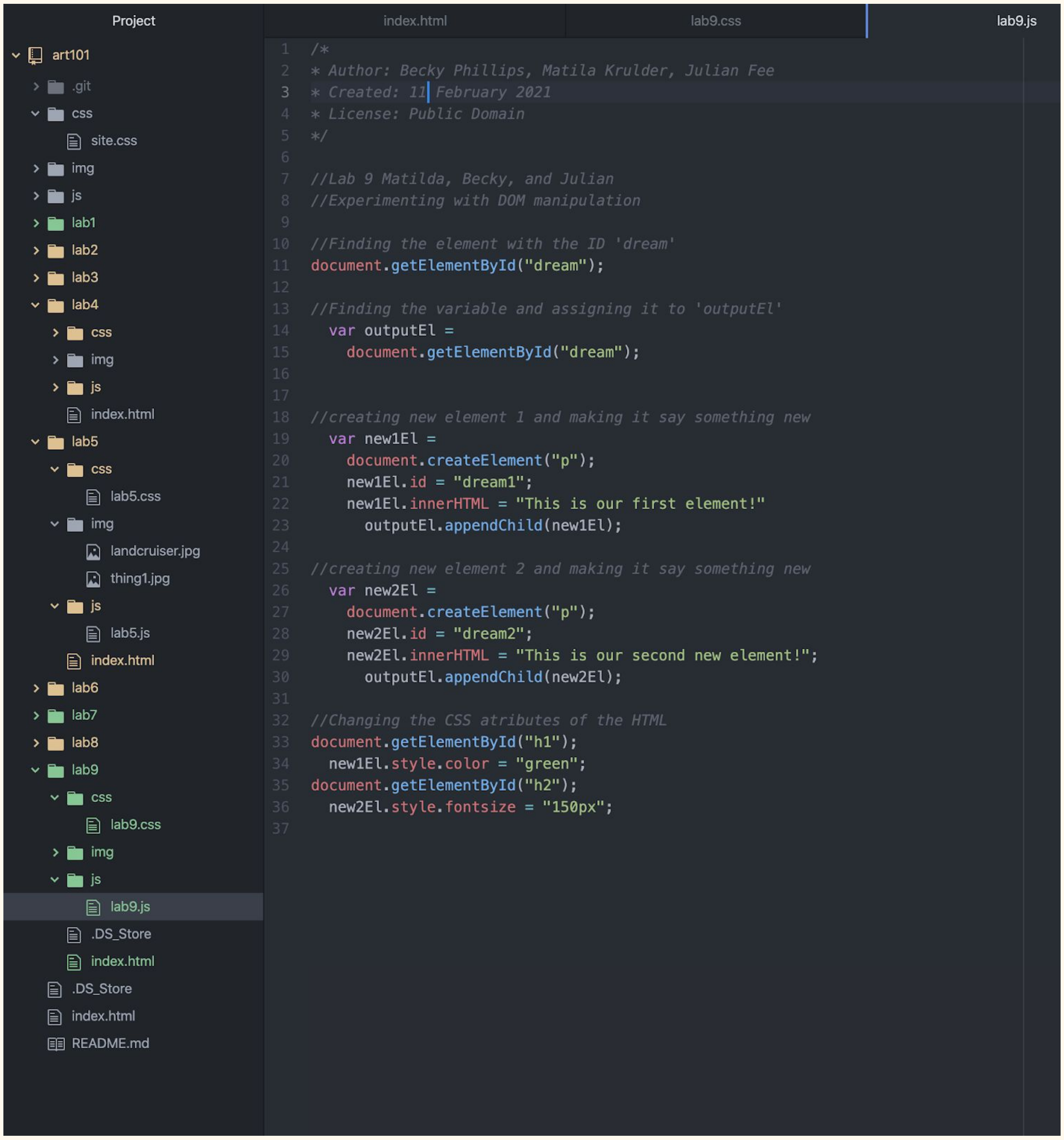
Task 1: Create an index.html for Lab 9



```html
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <link rel="stylesheet" type="text/css" href="css/lab9.css">
    <script src="js/lab9.js" defer></script>
    <title>Lab 9</title>
  </head>
  <body>
    <div id="grad">
      <h1>Lab 9: Javascript for the Web</h1>
      <div id="dream">
        <h2>Challenges:</h2>
          <p>Working with JS within the console vs. Atom is a lot more confusing
            because you cannot see the errors as you go. You have to go back and
             edit after you save and test locally. </p>
        <h2>Problems:</h2>
          <p>We got the error message of "Uncaught TypeError: Cannot read property
            'appendChild'of null at line _ . There was also a bit of difficulty
            finding the right ID within the HTML and CSS for the project. We
            created a new ID 'dream' to target the paragraph tag. We forgot to
            put the tag name before the style.color which caused another error
            message. We also forgot to put in "defer" to the JS link in the index,
            but once we added back in and fixed our other issues, everything ran smoothly!"</p>
        <h2>Results:</h2>
          <p>See our results below! We added two new elements and styled them in JavaScript.</p>
      </div>
    </div>
</body>
</html>
  </body>
</html>
```

(Our HTML in Atom.)

Task 2: Create a JavaScript file



```
/*
* Author: Becky Phillips, Matila Krulder, Julian Fee
* Created: 11 February 2021
* License: Public Domain
*/

//Lab 9 Matilda, Becky, and Julian
//Experimenting with DOM manipulation

//Finding the element with the ID 'dream'
document.getElementById("dream");

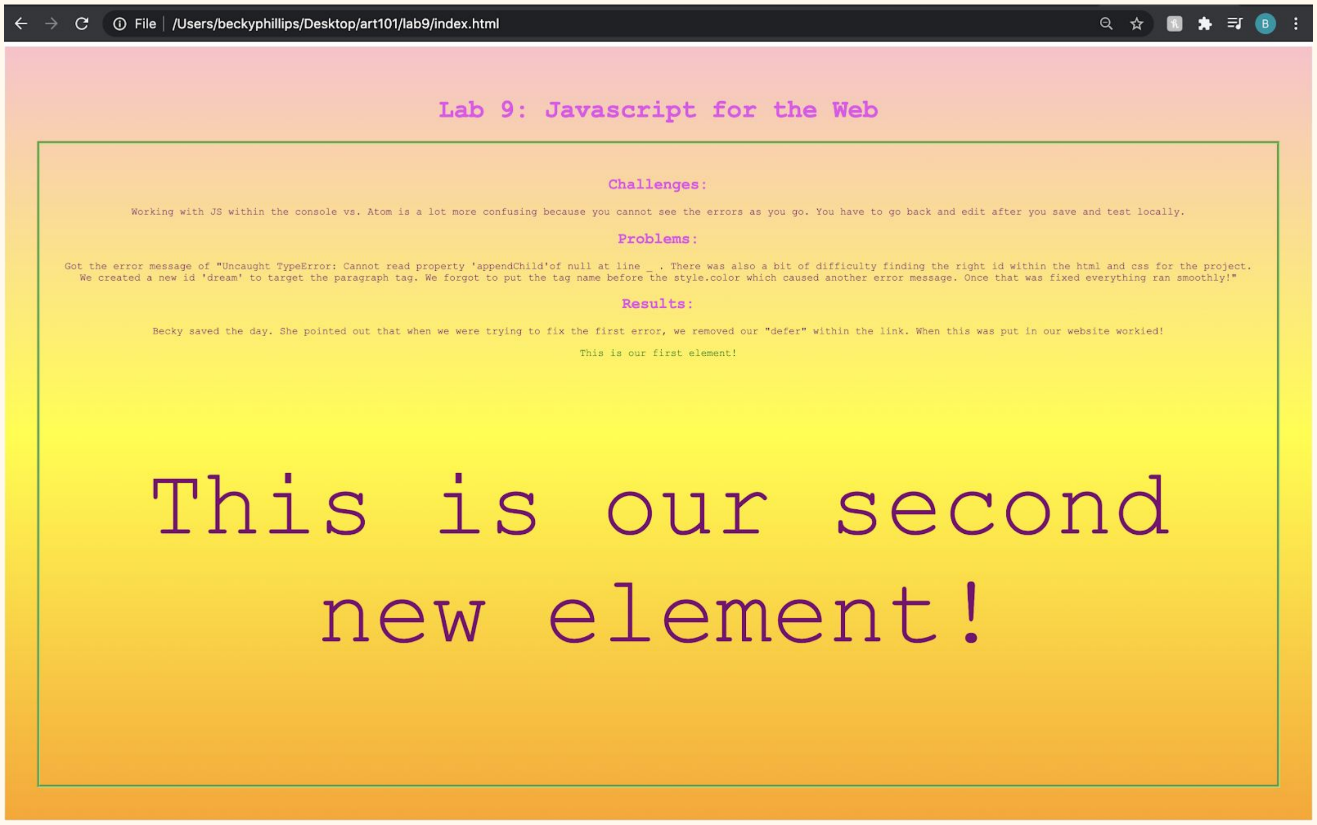
//Finding the variable and assigning it to 'outputEl'
  var outputEl =
    document.getElementById("dream");


//creating new element 1 and making it say something new
  var new1El =
    document.createElement("p");
    new1El.id = "dream1";
    new1El.innerHTML = "This is our first element!"
      outputEl.appendChild(new1El);

//creating new element 2 and making it say something new
  var new2El =
    document.createElement("p");
    new2El.id = "dream2";
    new2El.innerHTML = "This is our second new element!";
      outputEl.appendChild(new2El);

//Changing the CSS atributes of the HTML
document.getElementById("h1");
  new1El.style.color = "green";
document.getElementById("h2");
  new2El.style.fontsize = "150px";
```

(Our JavaScript in Atom.)



File | /Users/beckyphillips/Desktop/art101/lab9/index.html

Lab 9: Javascript for the Web

Challenges:

Working with JS within the console vs. Atom is a lot more confusing because you cannot see the errors as you go. You have to go back and edit after you save and test locally.

Problems:

Got the error message of "Uncaught TypeError: Cannot read property 'appendChild'of null at line _ . There was also a bit of difficulty finding the right id within the html and css for the project. We created a new id 'dream' to target the paragraph tag. We forgot to put the tag name before the style.color which caused another error message. Once that was fixed everything ran smoothly!"

Results:

Becky saved the day. She pointed out that when we were trying to fix the first error, we removed our "defer" within the link. When this was put in our website workied!

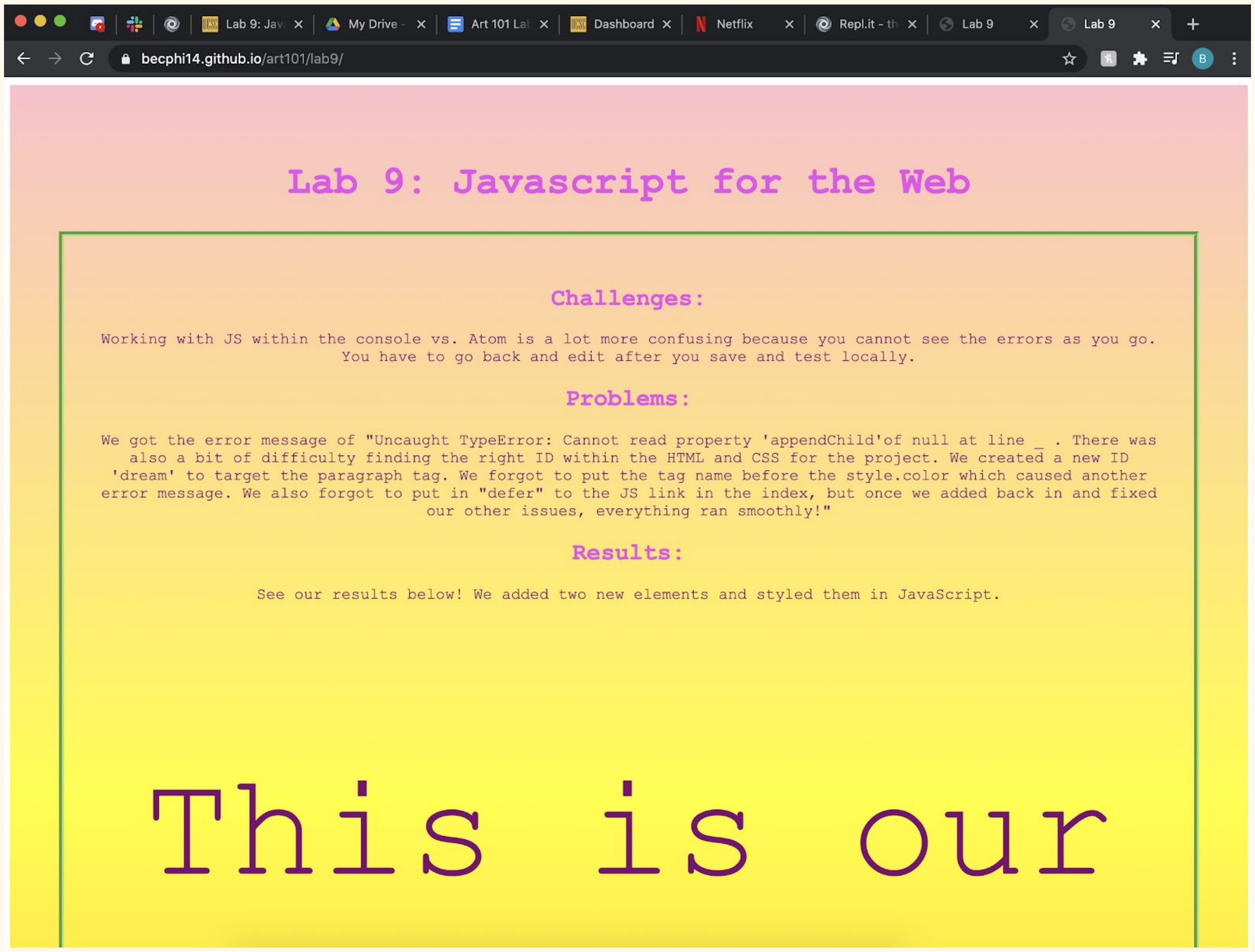
This is our first element!

This is our second new element!

(Our local file opened on a webpage.)

Task 3: Test, Debug, and Upload

Link to published Lab 9 webpage: https://becphi14.github.io/art101/lab9/



Lab 9: Javascript for the Web

Challenges:

Working with JS within the console vs. Atom is a lot more confusing because you cannot see the errors as you go. You have to go back and edit after you save and test locally.

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Results:

See our results below! We added two new elements and styled them in JavaScript.

This is our

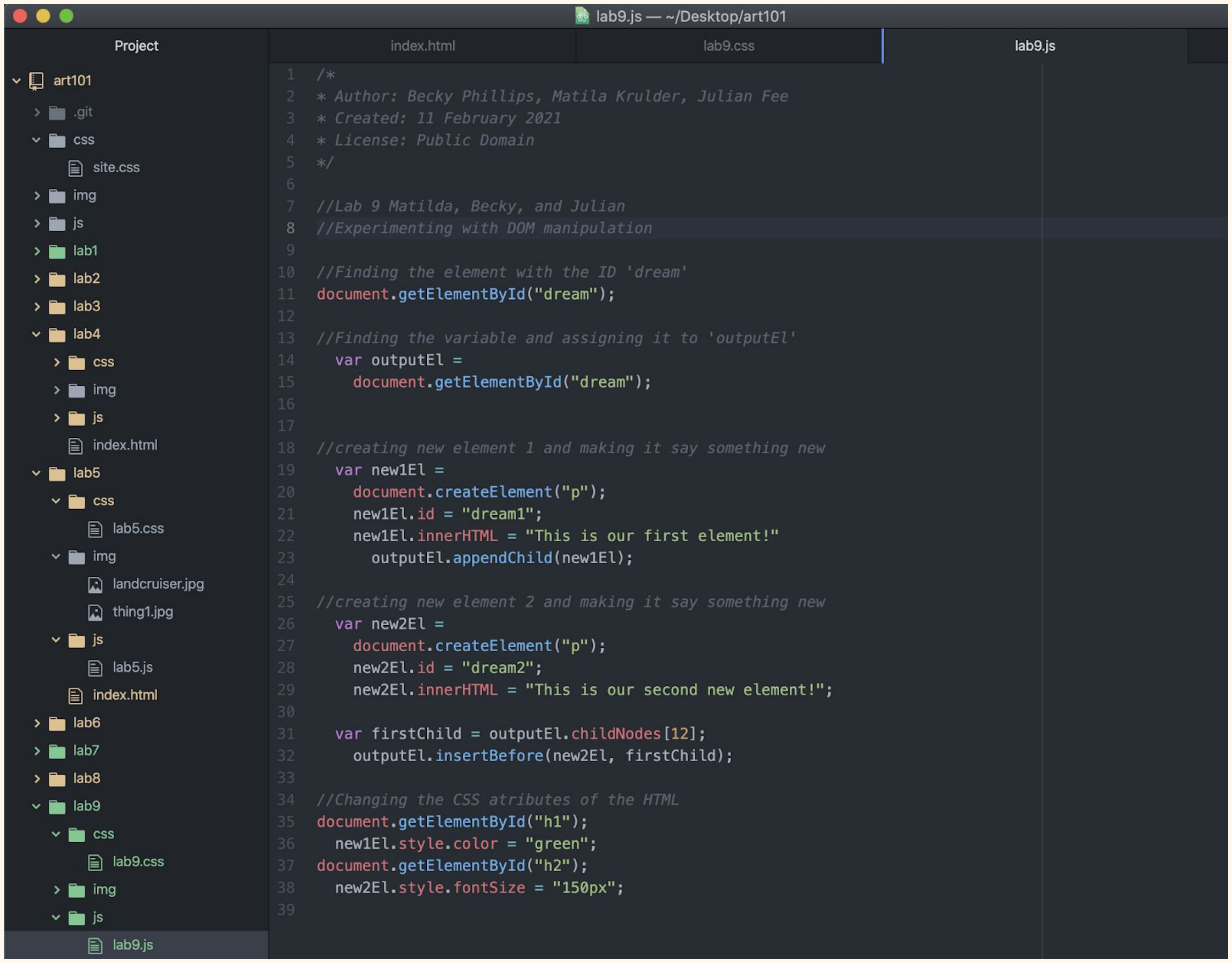
(Published Lab 9 webpage.)

Summary of Efforts:

We met twice on Zoom to work through the lab together. Initially, there were a few problems to work through in JavaScript, including forgetting to add the “defer” tag to make sure that the JavaScript loaded after all of the HTML. Because of this mistake, the appendChild command was not working either, but after fixing the issue, it worked perfectly. We also had a little trouble over the CSS styling task, but simply just had to add the element name to the command: “*new1El*.style.color” for example. As a whole, this lab was not too difficult, and exciting when we got it to work. We were even able to accomplish one of the Bonus tasks down below!

Bonus: Can you add a new element to the top of an element?

Yes We Can!



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    new1El.innerHTML = "This is our first element!"
      outputEl.appendChild(new1El);

//creating new element 2 and making it say something new
  var new2El =
    document.createElement("p");
    new2El.id = "dream2";
    new2El.innerHTML = "This is our second new element!";

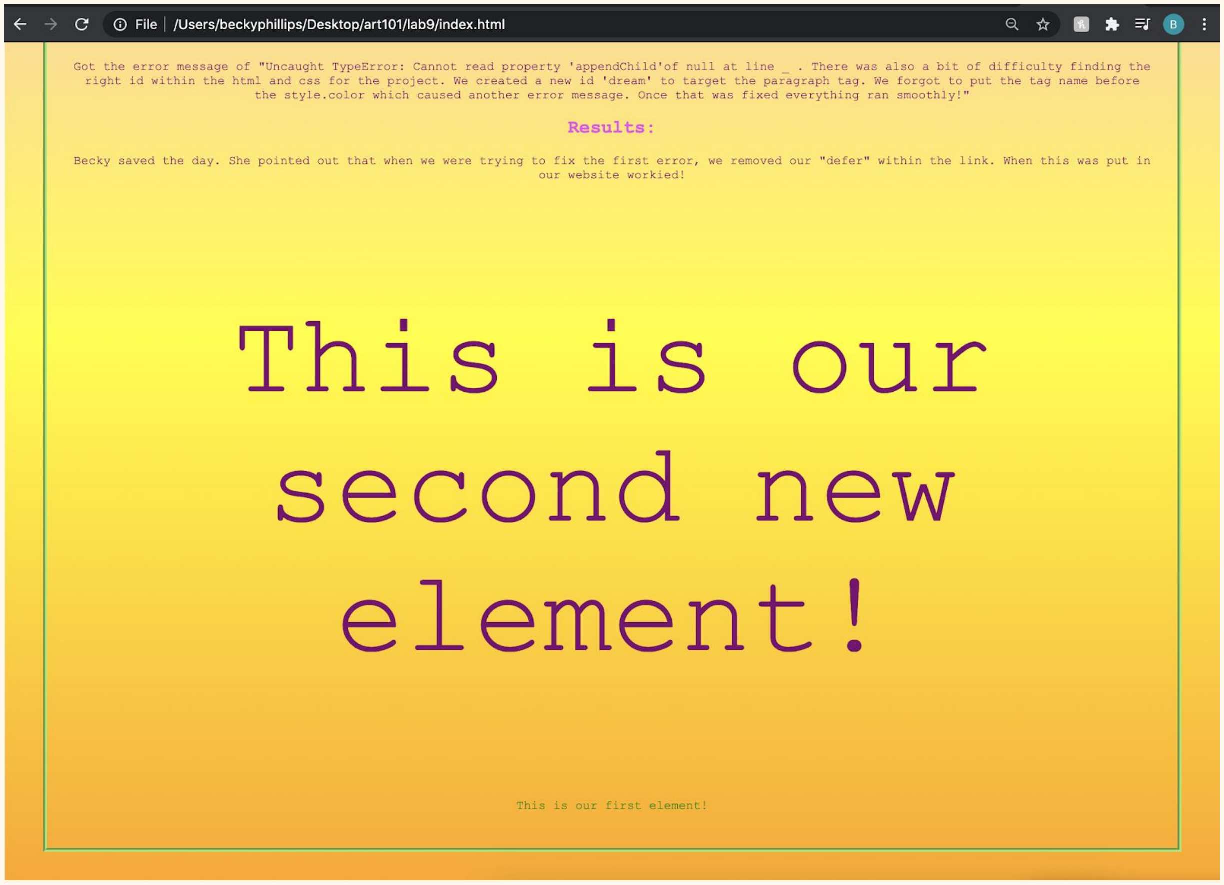
  var firstChild = outputEl.childNodes[12];
    outputEl.insertBefore(new2El, firstChild);

//Changing the CSS atributes of the HTML
document.getElementById("h1");
  new1El.style.color = "green";
document.getElementById("h2");
  new2El.style.fontSize = "150px";

```

(JavaScript for the Bonus task: adding an element ABOVE another.)

In order to add a new element to the top of an element, instead of the bottom, we had to use a different command altogether: insertBefore(). However, in order to specify where to place the new element, we created a new variable called “firstChild,” and defined it as “outputEl.childNodes[12]. This labels the variable as the 13th node (index 12) within outputEl. Next, we did “output.insertBefore(new2El, firstChild),” meaning that we wanted the element new2El to be inserted into the slot before firstChild. See the new placement below!



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Results:

Becky saved the day. She pointed out that when we were trying to fix the first error, we removed our "defer" within the link. When this was put in our website workied!

This is our second new element!

This is our first element!

(Adding a second element above the first one.)