

# Getting Started with JavaScript

## Class 1 Course Content

### Preparation

#### GOALS

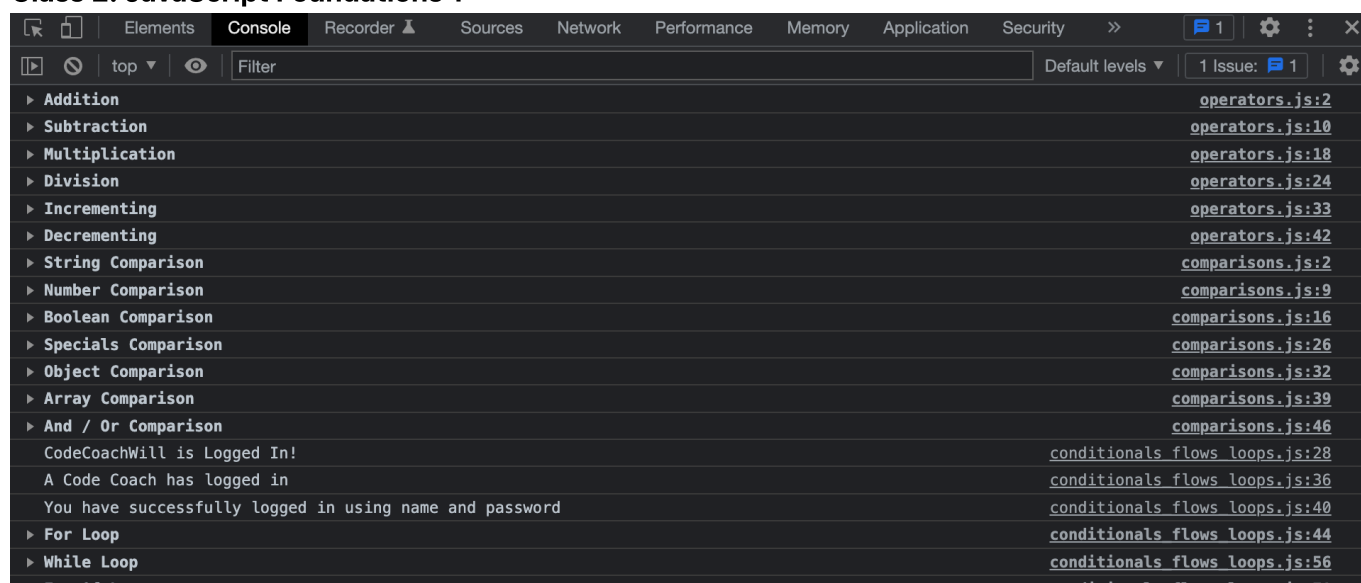
By the end of this lesson, you will be able to:

1. **Grasp the primary purpose of JavaScript**
2. **Setup our tools and developer environment**
3. **Build our first JavaScript project**

## Class 1: JavaScript Hello World



## Class 2: JavaScript Foundations 1

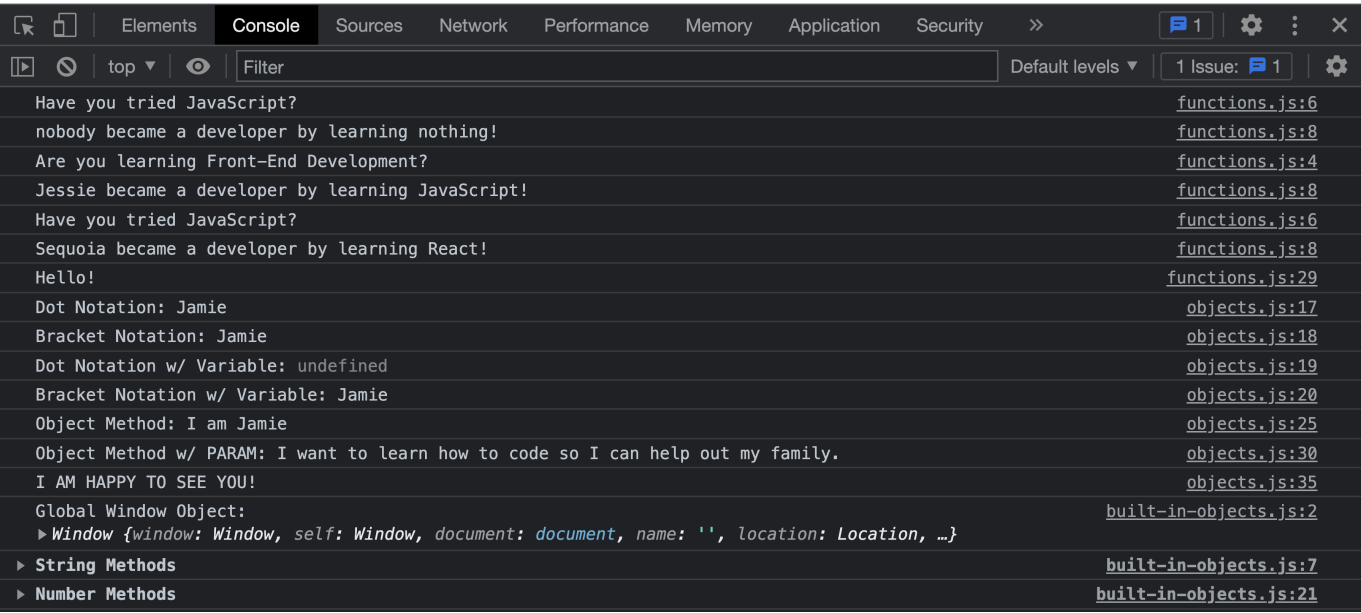


Class 3: JavaScript Foundations 2

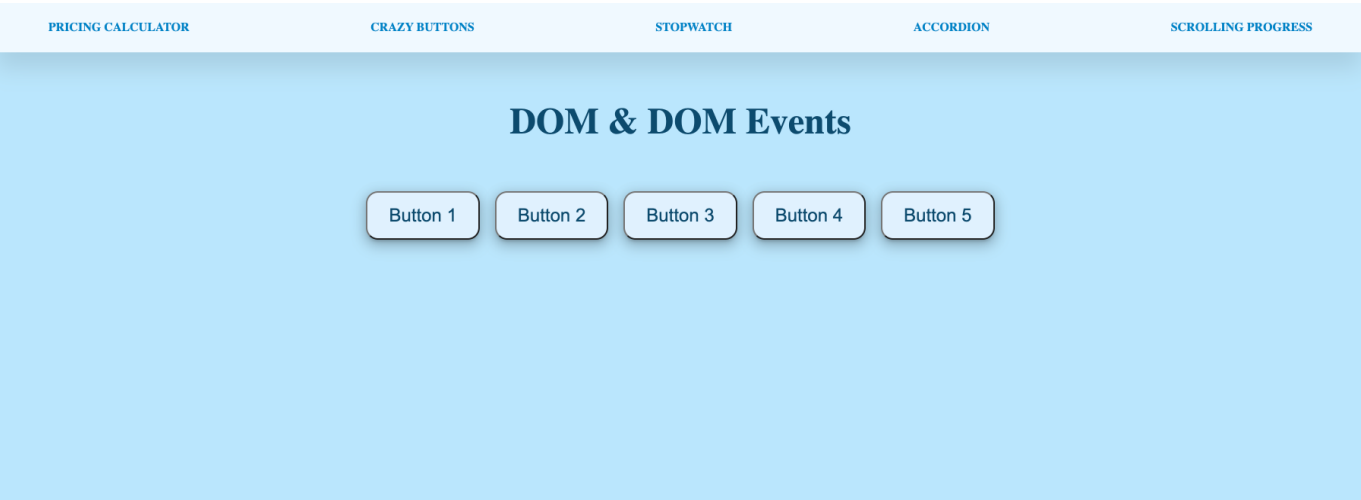
Practice JavaScript Foundations!

Click the button and check the console in your developer tools.

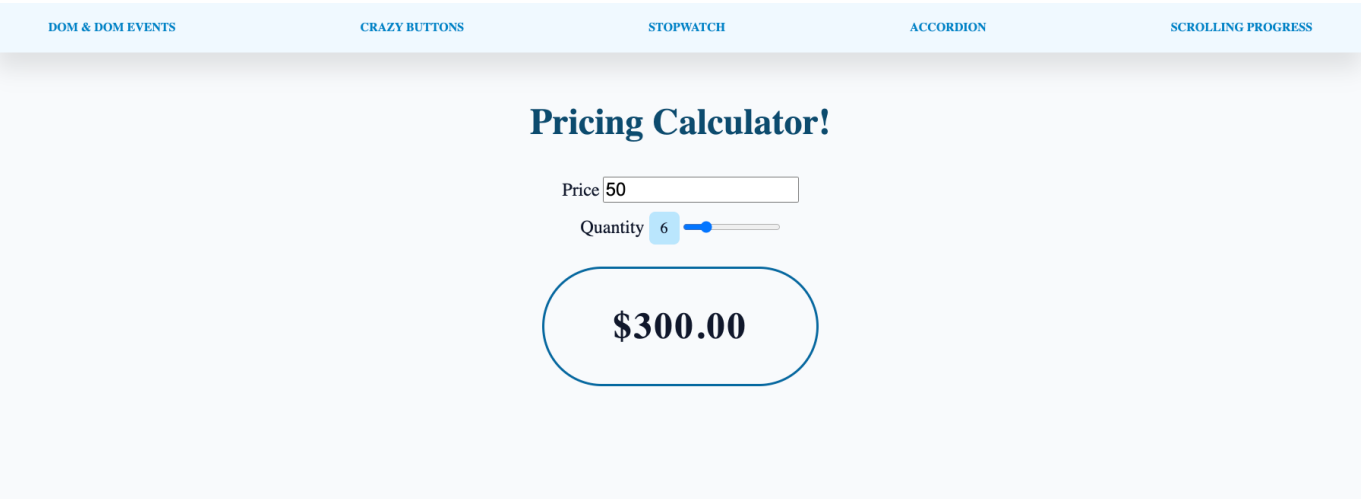
Get my Score



Class 4: JavaScript DOM



Class 4: JavaScript Pricing Calculator



Class 4: JavaScript Crazy Buttons

DOM & DOM EVENTS

PRICING CALCULATOR

STOPWATCH

ACCORDION

SCROLLING PROGRESS

### Crazy Buttons!

Can You Click Me?

Class 4: JavaScript Stopwatch

DOM & DOM EVENTS

PRICING CALCULATOR

CRAZY BUTTONS

ACCORDION

SCROLLING PROGRESS

### Stopwatch!

00 : 03

Start

Stop

Reset

Class 4: JavaScript Accordion Menu

DOM & DOM EVENTS

PRICING CALCULATOR

CRAZY BUTTONS

STOPWATCH

SCROLLING PROGRESS

### JS Accordion!

▼ What is HTML?  
HTML (Hyper-Text Markup Language) is the standard markup language for documents designed to be displayed inside a web browser.

▶ What is CSS?

▶ What is JavaScript?

Class 4: JavaScript Scrolling Progress

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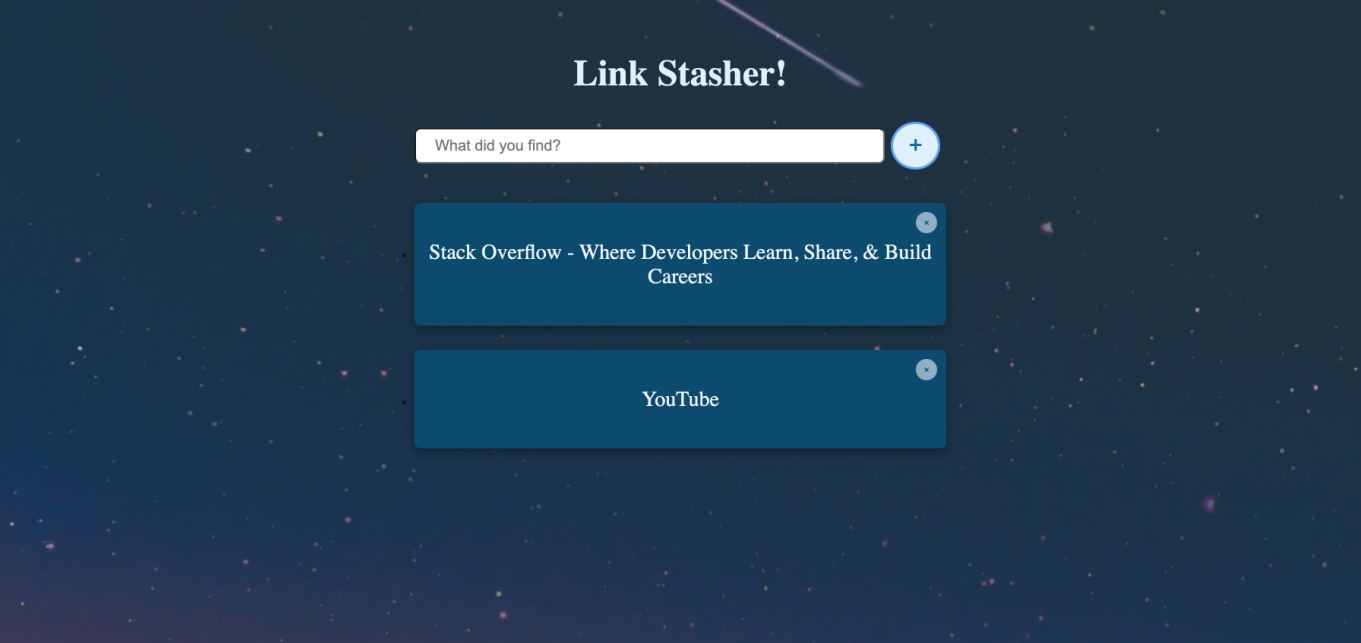
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Class 5: JavaScript Bookmark Application








Class 6: JavaScript Essential Concepts

				Filter	Default levels ▾	1 Issue:  1	
whoAmI: Will						variables.js:49	
whatIsMyValue Before	undefined					scope.js:6	
whatIsMyValue After	5					scope.js:8	
testVariable inside function:	Locally Initialized					scope.js:19	
testVariable outside function:	Globally Initialized					scope.js:26	
isListening:	true					scope.js:38	
someVar inside function:	10					hoisting.js:8	
someVar after function:	undefined					hoisting.js:13	
Still Works!						hoisting.js:26	
highVar:	99					hoisting.js:27	
midVar:	undefined					hoisting.js:28	

## Class 7: JavaScript Intermediate Concepts

  top  Filter	Default levels ▾	1 Issue:  1 
myVariable inside inner function: Outer Function Scoped Variable	<a href="#">closures.js:7</a>	
basicWelcome: John! Welcome.	<a href="#">closures.js:28</a>	
friendlyWelcome: John! So glad to see you again!	<a href="#">closures.js:29</a>	
myBalance after creation: 100	<a href="#">closures.js:55</a>	
myBalance after \$99 deposit: 199	<a href="#">closures.js:59</a>	
myBalance after \$12 withdrawl: 187	<a href="#">closures.js:63</a>	
bestState: Missouri	<a href="#">objects-and-arrays.js:26</a>	
whenWasThisObjCreated: Wed Jan 19 2022 08:10:50 GMT-0600 (Central Standard Time)	<a href="#">objects-and-arrays.js:29</a>	
Calling a method on an object . . . these are the same thing as functions but inside an object	<a href="#">objects-and-arrays.js:20</a>	
student: ▶ Object	<a href="#">objects-and-arrays.js:42</a>	
firstItem: 1	<a href="#">objects-and-arrays.js:52</a>	
lastItem: ▶ Object	<a href="#">objects-and-arrays.js:55</a>	
myArr2: ▶ Array(3)	<a href="#">objects-and-arrays.js:59</a>	
myEmptyArr: ▶ Array(100)	<a href="#">objects-and-arrays.js:62</a>	
passingStudents: ▶ Array(5)	<a href="#">objects-and-arrays.js:77</a>	
students after being registered: ▶ Array(7)	<a href="#">objects-and-arrays.js:81</a>	
studentsByGrade: ▶ Array(7)	<a href="#">objects-and-arrays.js:85</a>	
classClown: ▶ Object	<a href="#">objects-and-arrays.js:89</a>	
students w/ added grade point: ▶ Array(7)	<a href="#">objects-and-arrays.js:93</a>	
hasAnyFailingStudents (some): true	<a href="#">objects-and-arrays.js:97</a>	
hasAllFailingStudents (every): false	<a href="#">objects-and-arrays.js:101</a>	
'this' in Global Scope: ▶ Window	<a href="#">this-keyword.js:3</a>	
'this' in Implicit Scope (Function Dec): ▶ Array(3)	<a href="#">this-keyword.js:10</a>	
'this' in Implicit Scope (ES6): undefined	<a href="#">this-keyword.js:13</a>	
'this' in Explicit Scope: Borgov	<a href="#">this-keyword.js:21</a>	
'this' in Constructor Scope: Codefi	<a href="#">this-keyword.js:37</a>	

## Class 8: JavaScript Advanced Concepts

  top  Filter	Default levels ▾	1 Issue:  1 
▼ <b>Module Pattern</b>	<a href="#">design-patterns.js:19</a>	
Counter.counter: undefined	<a href="#">design-patterns.js:20</a>	
currCount after incrementing: 1	<a href="#">design-patterns.js:25</a>	
currCount after reset: 0	<a href="#">design-patterns.js:28</a>	
▼ <b>Builder Pattern</b>	<a href="#">design-patterns.js:70</a>	
result 1: 4	<a href="#">design-patterns.js:71</a>	
result 2: -0.75	<a href="#">design-patterns.js:72</a>	
▼ <b>Facade Pattern</b>	<a href="#">design-patterns.js:126</a>	
Processor Freeze Success	<a href="#">design-patterns.js:111</a>	
Ram Load Success	<a href="#">design-patterns.js:116</a>	
Processor Jump Success	<a href="#">design-patterns.js:118</a>	
Processor Execute Success	<a href="#">design-patterns.js:121</a>	
▼ <b>Composites Pattern</b>	<a href="#">design-patterns.js:180</a>	
Team members list: ▶ Array(2)	<a href="#">design-patterns.js:181</a>	
▼ <b>Synchronous Coding</b>	<a href="#">callbacks-and-promises.js:11</a>	
THE BUS! Welp, I missed the bus!	<a href="#">callbacks-and-promises.js:4</a>	
Coded all day successfully!	<a href="#">callbacks-and-promises.js:7</a>	
done: Here is your data	<a href="#">callbacks-and-promises.js:46</a>	
▼ <b>Fibonacci</b>	<a href="#">memoization.js:8</a>	
TenthFibonacciNumber: 55	<a href="#">memoization.js:26</a>	
fibonacciMemoHOF: 55	<a href="#">memoization.js:53</a>	
▼ <b>Rest Operator</b>	<a href="#">spread-vs-rest.js:3</a>	
args: ▶ Array(4)	<a href="#">spread-vs-rest.js:6</a>	
testCalculation: 16	<a href="#">spread-vs-rest.js:17</a>	
▼ <b>Spread Operator</b>	<a href="#">spread-vs-rest.js:25</a>	
completeListOfStudents: ▶ Array(8)	<a href="#">spread-vs-rest.js:26</a>	
Live reload enabled.	<a href="#">index.html:49</a>	
PROMISES: ▶ Array(500)	<a href="#">async-await.js:6</a>	
ASYNC/AWAIT: ▶ Array(500)	<a href="#">async-await.js:17</a>	

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## TERMINOLOGY

- **JavaScript:** *JavaScript* is one of the core programming languages of the Web. Over 97% of websites use JavaScript to add interactivity and functionality to their page. You can use JavaScript to build interactive websites, mobile apps, backend APIs, desktop applications, and even machine learning projects!
  - **DevTools:** *DevTools* are the tools built directly into the browser, providing developers the ability to diagnose problems quickly, check network performance, write simple scripts, inspect the web page, and more.
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## Walkthrough

### STEP 1: JAVASCRIPT COURSE OVERVIEW

**Aim:** View the applications and projects we will be building



| <https://codefi-bootcamp-class-4.netlify.app/> |

- ☐ **Walkthrough Class 4 Projects**
  - [View Class 4 Projects Online Here](#)

| <https://codefi-bootcamp-class-5.netlify.app/> |

- ☐ **Walkthrough Class 5 Project**
    - [View Class 5 Project Online Here](#)
- 

### STEP 2: SETTING UP OUR TOOLS

**Aim:** Play around with the Chrome DevTools



| <https://www.google.com> |

- ☐ **Open up the Chrome Developer Tools**
  - Walkthrough the different tabs and give a brief overview of their function



| *Dev Tools Elements Tab* |

- ☐ **Change Google Search button text**
  - Use the element selector and click on the word "Google Search"
  - Change the input value to "Bing Search"
  - Change the input background-color to "red"



| Dev Tools Console Tab |

- ☐ **Create a variable that stores the value of an expression**

```
const myVariable = 2 * 4;  
console.log(myVariable);
```



**Check:** Refresh the page and mix it up!

- Make the background a different color
- Change the navbar links
- Try to create a new variable and place it on the page
- Be creative and explore

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## STEP 3: JAVASCRIPT HELLO WORLD

**Aim:** Create a "Hello World" App using JavaScript



| ~Starter Code/index.html |

- ☐ **Create HTML Boilerplate Code**
  - Fill out the Title
  - Add Comments for Metadata, main content, and Javascript
  - Add a link to the stylesheet

```
<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <!-- * META DATA * -->  
    <meta charset="UTF-8" />  
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />  
    <meta name="viewport" content="width=device-width, initial-  
scale=1.0" />  
  
    <!-- Links -->  
    <link rel="stylesheet" href="./styles.css" />  
  
    <!-- Title -->  
    <title>Hello World JavaScript</title>  
  </head>  
  
  <body>
```

```
<!-- * MAIN CONTENT * -->

<!-- * JAVASCRIPT * -->

</body>
</html>
```



- ☐ **Add the Main HTML Content**

- Create a `<section></section>` element with a class of "container"
- Create an `<h1></h1>` element inside the `<section></section>` tags
- Create an `<h2></h2>` element with a class of "heading-two" below the `<h1></h1>`
- Create a `<button></button>` with a class of "btn-primary" below the `<h2></h2>`

```
<!-- * MAIN CONTENT * -->
<section class="container">
  <h1>Hello World!</h1>
  <h2 class="heading-two">Welcome to the Codefi Coding Bootcamp!</h2>

  <button class="btn-primary">Click Me to Update the Background!
</button>
</section>
```

- Open up your file on "LiveServer"



| Chrome DevTools Console Tab |

- ☐ **Alter the Heading's Content & Color**

- Create a new variable `const myHeading` and set it equal to the first `<h1>` tag using `querySelector()`
- Use the `.innerText` property on the `myHeading` variable to change the text content to "JavaScript Hello World"
- Use the `.style.color` property selector to change the `myHeading` variable to "blue"

```
// Selects the first "h1" tag in the document
const myHeading = document.querySelector("h1");

// Changes the inner text content of the heading we selected
myHeading.innerText = "JavaScript Hello World";

// Changes the text color of the heading we selected
myHeading.style.color = "blue";
```





- ☐ **Move the JavaScript Code to the HTML File**
  - Add `<script></script>` tags at the bottom of the `<body></body>` in the HTML file
  - Inside the script tag, create a variable that represents the `<h1></h1>` on the document by selecting the tag
  - Inside the script tag, create another variable that represents the `<h2></h2>` on the document by selecting its class name
  - Change the `.innerText` of the variable representing the `<h1>` to say "JavaScript Hello World!"
  - Change the `.style.color` of the variable representing the `<h2>` to be the hex color code of "#134e4a"

```
<script>
// Selects the first <h1> element
const headingOne = document.querySelector("h1");

// Selects the element with a class name of "heading-two"
const headingTwo = document.querySelector(".heading-two");

// Changes the "headingOne" variable's text content
headingOne.innerText = "Updated Hello World From JavaScript!";

// Changes the "headingTwo" variable's text color
headingTwo.style.color = "#134e4a";
</script>
```



- ☐ **Change the Background on Button Click Event**
  - As an attribute on the HTML `<button></button>` tag, create an `onclick="changeBackground()"` function call
  - Inside the script tag, create yet another variable that represents the `<body></body>` on the document by selecting the tag
  - Create the `changeBackground()` function at the bottom of the script file that selects the `bodyEl` variable and changes the `.style.backgroundColor` to the hex value "#0c4a6e"
  - Because the text is hardly visible, change the color of the `headingOne` variable to "#f0f9ff" and the `headingTwo` variable to "#7dd3fc" after the button is clicked

```
<script>
// Selects the first <h1> element
const headingOne = document.querySelector("h1");

// Selects the element with a class name of "heading-two"
const headingTwo = document.querySelector(".heading-two");

// Selects the body element
const bodyEl = document.querySelector("body");
```

```
// Changes the "headingOne" variable's text content
headingOne.innerText = "Updated Hello World From JavaScript!";

// Changes the "headingTwo" variable's text color
headingTwo.style.color = "#134e4a";

// Change the body's background color, and the text color on click
function updateColors() {
  bodyEl.style.backgroundColor = "#0c4a6e";
  headingOne.style.color = "#f0f9ff";
  headingTwo.style.color = "#7dd3fc";
}
</script>
```



- ☐ **Move the JavaScript Code a Dedicated File**
  - Create a new JavaScript file in the main folder titled `main.js`
  - Copy the code inside the script and paste it into the file
  - Add an `src` property on the `<script>` tag and link it to the file we just created.

```
// Selects the first <h1> element
const headingOne = document.querySelector("h1");

// Selects the element with a class name of "heading-two"
const headingTwo = document.querySelector(".heading-two");

// Selects the body element
const bodyEl = document.querySelector("body");

// Changes the "headingOne" variable's text content
headingOne.innerText = "Updated Hello World From JavaScript!";

// Changes the "headingTwo" variable's text color
headingTwo.style.color = "#134e4a";

// Change the body's background color, and the text color on click
function updateColors() {
  bodyEl.style.backgroundColor = "#0c4a6e";
  headingOne.style.color = "#f0f9ff";
  headingTwo.style.color = "#7dd3fc";
}
```



### Check: Ensure All the Code Still Works

- Try clicking the button and see if the background and text indeed do change

- Walk over the code one line at a time... do you understand how everything is working?
- 
- 

## Review

### ACCOMPLISHMENTS

Congratulations yet again! 🎉 🎊

Feel proud that **you learned something new and valuable today.**

Learning to code is a journey, and you are taking the necessary steps to improve your skills and opportunities for the future.

*Good on you!*

Specifically, we learned how to:

- Better understand the role and function of JavaScript in Web Development
  - How to run JavaScript code in the Dev Tools, HTML file, and as a dedicated JS file
  - Change the background color of the body with a click of a button
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### RESOURCES

[Javascript Introduction for Beginners \(Video\)](#)

[An Introduction to JavaScript \(Article\)](#)

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